

	sq. km	sq. mi	FIA Plots
Area of Region	8,400.0	3,243.3	107

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	26	Increase	20	21	Very Good	2	2	Likely	0	0
Hickory	4			Medium	26	45	No Change	9	11	Good	18	21	Infill	17	16
Maple	5	Abundant	1	Low	31	10	Decrease	19	16	Fair	10	9	Migrate	8	14
Oak	9	Common	19	FIA	7		New	20	21	Poor	6	4			
Pine	4	Rare	35				Unknown	17	16	Very Poor	12	12			
Other	31	Absent	28							FIA Only	3	3			
	55		83		85	81		85	85	Unknown	10	9			
											61	60			

Potential Changes in Climate Variables

Temperature (°F)

	Scenario	2009	2039	2069	2099	
Annual Average	CCSM45	52.7	54.5	56.7	57.0	
	CCSM85	52.7	54.8	57.4	60.5	
	GFDL45	52.7	57.2	58.4	59.6	
	GFDL85	52.7	56.1	59.6	63.8	
	HAD45	52.7	55.4	58.8	60.4	
	HAD85	52.7	55.6	59.8	64.6	
Growing Season (May—Sep)	CCSM45	68.8	70.6	72.5	73.0	
	CCSM85	68.8	70.9	73.6	77.4	
	GFDL45	68.8	74.1	75.6	77.2	
	GFDL85	68.8	73.1	77.1	81.6	
	HAD45	68.8	71.9	75.1	77.1	
	HAD85	68.8	71.7	76.7	82.1	
Coldest Month Average	CCSM45	28.4	30.2	31.9	32.3	
	CCSM85	28.4	30.6	32.0	33.7	
	GFDL45	28.4	31.6	32.4	33.0	
	GFDL85	28.4	31.5	32.7	34.2	
	HAD45	28.4	30.2	32.6	32.7	
	HAD85	28.4	30.8	32.7	34.8	
Warmest Month Average	CCSM45	74.6	76.8	77.8	78.1	
	CCSM85	74.6	77.0	78.9	80.7	
	GFDL45	74.6	77.7	79.7	81.1	
	GFDL85	74.6	79.3	81.6	84.6	
	HAD45	74.6	78.2	80.2	81.5	
	HAD85	74.6	78.5	81.6	85.3	

Precipitation (in)

	Scenario	2009	2039	2069	2099	
Annual Total	CCSM45	42.4	45.4	46.4	49.0	
	CCSM85	42.4	45.8	47.4	52.3	
	GFDL45	42.4	47.4	50.2	50.2	
	GFDL85	42.4	43.9	50.0	51.5	
	HAD45	42.4	45.0	46.1	45.5	
	HAD85	42.4	48.0	44.0	47.7	
Growing Season (May—Sep)	CCSM45	19.2	21.8	22.3	23.3	
	CCSM85	19.2	21.7	22.1	24.0	
	GFDL45	19.2	20.1	20.9	21.2	
	GFDL85	19.2	18.3	20.4	20.8	
	HAD45	19.2	20.3	18.9	18.4	
	HAD85	19.2	20.8	18.1	18.9	

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
chestnut oak	Quercus prinus	NDH	High	50	663.2	24.4	Lg. dec.	Lg. dec.	High	Abundant	Good	Good			1	1
red maple	Acer rubrum	WDH	High	48.8	469.3	14.1	Sm. dec.	Sm. dec.	High	Common	Fair	Fair			1	2
black cherry	Prunus serotina	WDL	Medium	57.1	343.9	11.5	Sm. dec.	Sm. dec.	Low	Common	Poor	Poor			0	3
northern red oak	Quercus rubra	WDH	Medium	57.1	317.7	11.3	No change	No change	High	Common	Good	Good			1	4
blackgum	Nyssa sylvatica	WDL	Medium	46.4	254.0	10.6	Sm. dec.	Sm. dec.	High	Common	Fair	Fair			1	5
white oak	Quercus alba	WDH	Medium	48.8	198.7	8.5	Lg. inc.	Lg. inc.	High	Common	Very Good	Very Good			1	6
white ash	Fraxinus americana	WDL	Medium	52.4	197.2	8.5	No change	No change	Low	Common	Poor	Poor			0	7
black oak	Quercus velutina	WDH	High	45.2	193.3	9.2	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	8
yellow-poplar	Liriodendron tulipifera	WDH	High	33.3	170.3	12.2	Sm. inc.	No change	High	Common	Very Good	Good			1	9
black walnut	Juglans nigra	WDH	Low	23.8	167.7	13.8	Sm. dec.	No change	Medium	Common	Poor	Fair			1	10
black locust	Robinia pseudoacacia	NDH	Low	36.9	154.4	10.4	Sm. dec.	No change	Medium	Common	Poor	Fair			1	11
sweet birch	Betula lenta	NDH	High	23.8	133.3	8.9	Lg. dec.	Lg. dec.	Low	Common	Very Poor	Very Poor			0	12
eastern white pine	Pinus strobus	WDH	High	16.7	130.7	14.3	Lg. dec.	Lg. dec.	Low	Common	Very Poor	Very Poor			0	13
bitternut hickory	Carya cordiformis	WSL	Low	19	126.0	10.7	Sm. dec.	No change	High	Common	Fair	Good	Infill +	Infill ++	1	14
pignut hickory	Carya glabra	WDL	Medium	48.8	113.2	6.3	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	15
ailanthus	Ailanthus altissima	NSL	FIA	34.5	111.8	7.3	Unknown	Unknown	NA	Common	NNIS	NNIS			0	16
sassafras	Sassafras albidum	WSL	Low	44	96.1	4.0	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	17
shagbark hickory	Carya ovata	WSL	Medium	35.7	90.6	6.7	No change	No change	Medium	Common	Fair	Fair	Infill +	Infill +	1	18
hackberry	Celtis occidentalis	WDH	Medium	17.9	65.6	6.6	No change	Sm. inc.	High	Common	Good	Very Good	Infill ++	Infill ++	1	19
scarlet oak	Quercus coccinea	WDL	Medium	21.4	57.8	4.4	Sm. inc.	No change	Medium	Common	Good	Fair	Infill ++	Infill +	1	20
mockernut hickory	Carya alba	WDL	Medium	29.8	48.1	3.8	Lg. inc.	Lg. inc.	High	Rare	Good	Good			1	21
pitch pine	Pinus rigida	NSH	High	7.1	47.7	6.7	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	22
Norway maple	Acer platanoides	NSL	FIA	17.9	45.9	7.5	Unknown	Unknown	NA	Rare	NNIS	NNIS			0	23
eastern redcedar	Juniperus virginiana	WDH	Medium	10.7	44.7	18.5	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++	1	24
Virginia pine	Pinus virginiana	NDH	High	11.9	34.5	7.5	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++	1	25
sugar maple	Acer saccharum	WDH	High	8.3	30.3	6.7	Lg. inc.	Lg. inc.	High	Rare	Good	Good	Infill ++	Infill ++	2	26
red mulberry	Morus rubra	NSL	Low	7.1	21.2	6.2	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			2	27
boxelder	Acer negundo	WSH	Low	21.4	20.9	6.6	Lg. inc.	Lg. inc.	High	Rare	Good	Good	Infill ++	Infill ++	1	28
eastern hemlock	Tsuga canadensis	NSH	High	8.3	15.7	4.1	Sm. dec.	Sm. dec.	Low	Rare	Very Poor	Very Poor			2	29
American beech	Fagus grandifolia	WDH	High	9.5	15.6	2.8	Sm. inc.	Sm. inc.	Medium	Rare	Fair	Fair	Infill +	Infill +	2	30
pin oak	Quercus palustris	NSH	Low	7.1	14.0	8.9	No change	No change	Low	Rare	Very Poor	Very Poor			2	31
American basswood	Tilia americana	WSL	Medium	13.1	12.4	4.7	Sm. inc.	No change	Medium	Rare	Fair	Poor	Infill +	Infill +	1	32
silver maple	Acer saccharinum	NSH	Low	9.5	12.3	20.7	No change	No change	High	Rare	Fair	Fair		Infill +	1	33
American elm	Ulmus americana	WDH	Medium	16.7	12.1	3.4	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++	1	34
slippery elm	Ulmus rubra	WSL	Low	8.3	9.3	2.3	Sm. inc.	Sm. inc.	Medium	Rare	Fair	Fair	Infill +	Infill +	2	35
white mulberry	Morus alba	NSL	FIA	10.7	8.9	6.8	Unknown	Unknown	NA	Rare	NNIS	NNIS			0	36
common persimmon	Diospyros virginiana	NSL	Low	1.2	7.9	6.6	No change	Lg. inc.	High	Rare	Fair	Good	Infill +		2	37
eastern hophornbeam; ironw	Ostrya virginiana	WSL	Low	10.7	7.3	2.7	Lg. inc.	Lg. inc.	High	Rare	Good	Good	Infill ++	Infill ++	2	38
swamp white oak	Quercus bicolor	NSL	Low	6	7.0	9.0	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	39
sycamore	Platanus occidentalis	NSL	Low	1.2	6.9	5.8	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			2	40
pawpaw	Asimina triloba	NSL	Low	6	6.3	3.0	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	41
Table Mountain pine	Pinus pungens	NSL	Low	1.2	5.5	4.6	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor			0	42
serviceberry	Amelanchier spp.	NSL	Low	13.1	5.3	1.0	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	43
American hornbeam; muscle	Carpinus caroliniana	WSL	Low	2.4	2.2	0.9	No change	Lg. inc.	Medium	Rare	Poor	Good	Infill +		2	44
chokecherry	Prunus virginiana	NSLX	FIA	1.2	1.9	1.6	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only			0	45
honeylocust	Gleditsia triacanthos	NSH	Low	1.2	1.6	1.3	No change	Lg. inc.	High	Rare	Fair	Good			2	46
flowering dogwood	Cornus florida	WDL	Medium	15.5	1.4	0.6	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++	1	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
green ash	Fraxinus pennsylvanica	WSH	Low	4.8	0.6	1.8	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			2	48
eastern redbud	Cercis canadensis	NSL	Low	9.5	0.5	0.8	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++	1	49
paulownia	Paulownia tomentosa	NSL	FIA	4.8	0.5	1.7	Unknown	Unknown	NA	Rare	NNIS	NNIS			0	50
white spruce	Picea glauca	NSL	Medium	4.8	0.5	1.5	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	51
swamp chestnut oak	Quercus michauxii	NSL	Low	4.8	0.4	1.4	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	52
quaking aspen	Populus tremuloides	WDH	High	4.8	0.3	1.0	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	53
bear oak; scrub oak	Quercus ilicifolia	NSLX	FIA	4.8	0.2	0.7	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only			0	54
American chestnut	Castanea dentata	NSLX	FIA	4.8	0.1	0.3	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only			0	55
red spruce	Picea rubens	NDH	High	0	0	0	Unknown	Unknown	Low	Absent	Unknown	Unknown			0	56
shortleaf pine	Pinus echinata	WDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate +	Migrate ++	3	57
loblolly pine	Pinus taeda	WDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate ++	Migrate ++	3	58
florida maple	Acer barbatum	NSL	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat		Migrate +	3	59
striped maple	Acer pensylvanicum	NSL	Medium	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	60
mountain maple	Acer spicatum	NSL	Low	0	0	0	Unknown	Unknown	High	Absent	Unknown	Unknown			0	61
yellow birch	Betula alleghaniensis	NDL	High	0	0	0	Unknown	Unknown	Medium	Absent	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
pecan	Carya illinoensis	NSH	Low	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat			3	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			3	66
American holly	Ilex opaca	NSL	Medium	0	0	0	Unknown	Unknown	Medium	Modeled	Unknown	Unknown			0	67
sweetgum	Liquidambar styraciflua	WDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate ++	Migrate ++	3	68
Osage-orange	Maclura pomifera	NDH	Medium	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat		Migrate +	3	69
bigleaf magnolia	Magnolia macrophylla	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	70
sourwood	Oxydendrum arboreum	NDL	High	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Migrate +	Migrate +	3	71
redbay	Persea borbonia	NSL	Low	0	0	0	Unknown	Unknown	High	Absent	Unknown	Unknown			0	72
pin cherry	Prunus pensylvanica	NSL	Low	0	0	0	Unknown	Unknown	Medium	Modeled	Unknown	Unknown			0	73
southern red oak	Quercus falcata	WDL	Medium	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Migrate ++	Migrate ++	3	74
cherrybark oak; swamp red o.	Quercus pagoda	NSL	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat		Migrate +	3	75
overcup oak	Quercus lyrata	NSL	Medium	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat			3	76
blackjack oak	Quercus marilandica	NSL	Medium	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat		Migrate ++	3	77
chinkapin oak	Quercus muehlenbergii	NSL	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate +	Migrate +	3	78
water oak	Quercus nigra	WDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat		Migrate ++	3	79
willow oak	Quercus phellos	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat		Migrate +	3	80
Shumard oak	Quercus shumardii	NSL	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat			3	81
post oak	Quercus stellata	WDH	High	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Migrate ++	Migrate ++	3	82
bluejack oak	Quercus incana	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	83
winged elm	Ulmus alata	WDL	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate +	Migrate ++	3	84
cedar elm	Ulmus crassifolia	NDH	Medium	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat			0	85