

	sq. km	sq. mi	FIA Plots
Area of Region	8,541.5	3,297.9	101

**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	22	Increase	26	26	Very Good	4	3	Likely	6	6
Hickory	4			Medium	34	51	No Change	8	9	Good	21	22	Infill	13	12
Maple	5	Abundant	0	Low	29	14	Decrease	18	17	Fair	8	9	Migrate	11	10
Oak	10	Common	19	FIA	7		New	28	29	Poor	6	5		30	28
Pine	4	Rare	40				Unknown	11	10	Very Poor	11	8			
Other	34	Absent	31							FIA Only	3	3			
	<b>59</b>		<b>90</b>		<b>91</b>	<b>87</b>		<b>91</b>	<b>91</b>	Unknown	4	3			
											<b>57</b>	<b>53</b>			

**Potential Changes in Climate Variables**

**Temperature (°F)**

	Scenario	2009	2039	2069	2099	
Annual Average	CCSM45	53.3	55.1	57.2	57.5	
	CCSM85	53.3	55.4	57.9	60.9	
	GFDL45	53.3	58.7	58.8	59.9	
	GFDL85	53.3	56.5	60.0	64.0	
	HAD45	53.3	55.9	59.1	60.6	
HAD85	53.3	55.9	59.9	64.5		
Growing Season (May—Sep)	CCSM45	69.5	71.4	73.2	73.6	
	CCSM85	69.5	71.6	74.0	77.7	
	GFDL45	69.5	75.6	75.8	77.2	
	GFDL85	69.5	73.4	77.3	81.6	
	HAD45	69.5	72.4	75.3	77.2	
HAD85	69.5	71.9	76.5	81.5		
Coldest Month	CCSM45	29.1	31.1	32.6	33.1	
	CCSM85	29.1	31.5	32.7	34.5	
	GFDL45	29.1	32.4	33.2	33.9	
	GFDL85	29.1	32.2	33.5	35.2	
	HAD45	29.1	30.5	32.8	33.1	
HAD85	29.1	31.3	33.1	35.4		
Warmest Month	CCSM45	75.5	77.7	78.7	78.8	
	CCSM85	75.5	77.9	79.6	81.4	
	GFDL45	75.5	78.5	80.3	81.5	
	GFDL85	75.5	79.7	81.9	84.7	
	HAD45	75.5	78.9	80.4	81.5	
HAD85	75.5	78.7	81.3	84.6		

**Precipitation (in)**

	Scenario	2009	2039	2069	2099	
Annual Total	CCSM45	47.0	49.9	52.0	55.2	
	CCSM85	47.0	50.6	53.1	57.6	
	GFDL45	47.0	52.6	56.3	56.3	
	GFDL85	47.0	50.2	56.0	58.1	
	HAD45	47.0	49.9	51.0	50.8	
HAD85	47.0	52.9	49.5	52.5		
Growing Season (May—Sep)	CCSM45	21.4	25.2	25.9	27.8	
	CCSM85	21.4	24.2	25.8	27.2	
	GFDL45	21.4	23.0	24.4	25.7	
	GFDL85	21.4	22.0	24.3	25.2	
	HAD45	21.4	23.1	21.4	20.6	
HAD85	21.4	23.2	20.4	20.5		

**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	62.5	317.5	16.4	Sm. dec.	Lg. dec.	High	Common	Fair	Fair			1	1
red maple	Acer rubrum	WDH	High	77.9	276.6	13.2	No change	No change	High	Common	Good	Good			1	2
white ash	Fraxinus americana	WDL	Medium	52.3	270.8	15.3	Sm. dec.	Sm. dec.	Low	Common	Poor	Poor			0	3
black walnut	Juglans nigra	WDH	Low	51.1	224.5	12.8	Sm. dec.	Sm. dec.	Medium	Common	Poor	Poor			0	4
black cherry	Prunus serotina	WDL	Medium	73.2	170.8	9.0	No change	No change	Low	Common	Poor	Poor			0	5
green ash	Fraxinus pennsylvanica	WSH	Low	18.7	136.2	17.1	Sm. dec.	Sm. dec.	Medium	Common	Poor	Poor			0	6
black oak	Quercus velutina	WDH	High	37.4	120.3	10.4	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	7
Norway maple	Acer platanoides	NSL	FIA	25.7	99.1	10.7	Unknown	Unknown	NA	Common	NNIS	NNIS			0	8
chestnut oak	Quercus prinus	NDH	High	34.8	98.3	6.3	Sm. inc.	No change	High	Common	Very Good	Good			1	9
northern red oak	Quercus rubra	WDH	Medium	41.3	89.1	6.6	Sm. inc.	Sm. inc.	High	Common	Very Good	Very Good			1	10
boxelder	Acer negundo	WSH	Low	32.4	88.9	7.1	No change	No change	High	Common	Good	Good			1	11
black locust	Robinia pseudoacacia	NDH	Low	18.7	86.5	11.6	No change	No change	Medium	Common	Fair	Fair			1	12
mockernut hickory	Carya alba	WDL	Medium	26.6	79.6	7.0	Sm. inc.	Sm. inc.	High	Common	Very Good	Very Good			1	13
eastern white pine	Pinus strobus	WDH	High	11.7	57.4	13.3	Lg. dec.	Very Lg. dec.	Low	Common	Very Poor	Lost			0	14
sweet birch	Betula lenta	NDH	High	19.5	55.3	7.4	Lg. dec.	Lg. dec.	Low	Common	Very Poor	Very Poor			0	15
American elm	Ulmus americana	WDH	Medium	26.9	53.4	4.3	Sm. inc.	Sm. inc.	Medium	Common	Good	Good	Infill ++	Infill ++	1	16
shagbark hickory	Carya ovata	WSL	Medium	15.2	53.0	7.0	No change	No change	Medium	Common	Fair	Fair	Infill +	Infill +	1	17
eastern redcedar	Juniperus virginiana	WDH	Medium	18.7	52.8	11.6	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	18
silver maple	Acer saccharinum	NSH	Low	12.6	52.1	10.4	No change	No change	High	Common	Good	Good	Infill ++	Infill ++	1	19
swamp white oak	Quercus bicolor	NSL	Low	2.3	39.8	17.0	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			2	20
white oak	Quercus alba	WDH	Medium	24.3	39.1	6.3	Lg. inc.	Lg. inc.	High	Rare	Good	Good			1	21
sassafras	Sassafras albidum	WSL	Low	56.9	39.0	4.4	Sm. inc.	Sm. inc.	Medium	Rare	Fair	Fair			1	22
black willow	Salix nigra	NSH	Low	3.5	38.0	10.8	Sm. dec.	No change	Low	Rare	Very Poor	Very Poor			0	23
blackgum	Nyssa sylvatica	WDL	Medium	33.1	36.8	4.2	Lg. inc.	Lg. inc.	High	Rare	Good	Good			1	24
sugar maple	Acer saccharum	WDH	High	18.7	34.6	5.6	Lg. inc.	Lg. inc.	High	Rare	Good	Good	Infill ++	Infill ++	1	25
American beech	Fagus grandifolia	WDH	High	35.5	26.0	2.6	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			1	26
ailanthus	Ailanthus altissima	NSL	FIA	16.3	25.6	6.9	Unknown	Unknown	NA	Rare	NNIS	NNIS			0	27
sweetgum	Liquidambar styraciflua	WDH	High	12.4	24.5	23.4	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++	1	28
scarlet oak	Quercus coccinea	WDL	Medium	16	22.4	3.0	Lg. inc.	Sm. inc.	Medium	Rare	Good	Fair	Infill ++	Infill +	1	29
paulownia	Paulownia tomentosa	NSL	FIA	4.6	16.6	55.4	Unknown	Unknown	NA	Rare	NNIS	NNIS			0	30
pin oak	Quercus palustris	NSH	Low	29.2	15.8	7.4	Lg. inc.	Lg. inc.	Low	Rare	Fair	Fair			1	31
pignut hickory	Carya glabra	WDL	Medium	9.4	12.2	2.5	Lg. inc.	Sm. inc.	Medium	Rare	Good	Fair	Infill ++	Infill +	1	32
eastern hemlock	Tsuga canadensis	NSH	High	1.2	11.4	9.7	Lg. dec.	Very Lg. dec.	Low	Rare	Very Poor	Lost			2	33
hackberry	Celtis occidentalis	WDH	Medium	5.7	11.0	8.6	No change	No change	High	Rare	Fair	Fair	Infill +	Infill +	2	34
Osage-orange	Maclura pomifera	NDH	Medium	14	10.2	11.6	Sm. dec.	Lg. dec.	High	Rare	Poor	Poor	Infill +		1	35
bitternut hickory	Carya cordiformis	WSL	Low	15.2	9.7	5.8	Lg. inc.	Lg. inc.	High	Rare	Good	Good			1	36
flowering dogwood	Cornus florida	WDL	Medium	22.2	8.0	1.5	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			1	37
red mulberry	Morus rubra	NSL	Low	4.6	7.7	25.6	Lg. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	38
bigtooth aspen	Populus grandidentata	NSL	Medium	2.3	7.3	3.1	Very Lg. dec.	Very Lg. dec.	Medium	Rare	Lost	Lost			0	39
pitch pine	Pinus rigida	NSH	High	5.9	7.2	10.2	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	40
Norway spruce	Picea abies	NSH	FIA	10.2	7.0	3.9	Unknown	Unknown	NA	Rare	NNIS	NNIS			0	41
American hornbeam; muscley	Carpinus caroliniana	WSL	Low	7	5.8	1.9	Sm. inc.	Lg. inc.	Medium	Rare	Fair	Good			1	42
slippery elm	Ulmus rubra	WSL	Low	5.9	5.6	4.4	No change	Sm. inc.	Medium	Rare	Poor	Fair	Infill +	Infill +	1	43
American basswood	Tilia americana	WSL	Medium	7	4.1	1.5	Sm. dec.	Very Lg. dec.	Medium	Rare	Very Poor	Lost			2	44
eastern cottonwood	Populus deltoides	NSH	Low	4.7	3.9	13.4	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	45
Kentucky coffeetree	Gymnocladus dioicus	NSLX	FIA	1.2	2.5	2.1	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only			0	46
eastern hophornbeam; ironw	Ostrya virginiana	WSL	Low	5.9	1.9	0.9	Lg. inc.	Lg. inc.	High	Rare	Good	Good	Infill ++	Infill ++	2	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
Virginia pine	Pinus virginiana	NDH	High	1.2	1.5	1.3	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			2	48
chokecherry	Prunus virginiana	NSLX	FIA	1.2	1.5	1.3	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only			0	49
serviceberry	Amelanchier spp.	NSL	Low	5.9	1.2	0.6	Very Lg. dec.	Very Lg. dec.	Medium	Rare	Lost	Lost			0	50
American holly	Ilex opaca	NSL	Medium	4.4	0.8	2.7	Sm. inc.	Lg. inc.	Medium	Rare	Fair	Good	Infill +	Infill ++	2	51
sycamore	Platanus occidentalis	NSL	Low	14	0.8	0.9	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++	1	52
butternut	Juglans cinerea	NSLX	FIA	4.7	0.7	2.4	Unknown	Unknown	Low	Rare	FIA Only	FIA Only			0	53
southern red oak	Quercus falcata	WDL	Medium	4.4	0.7	2.1	Lg. inc.	Lg. inc.	High	Rare	Good	Good			2	54
loblolly pine	Pinus taeda	WDH	High	4.3	0.6	1.8	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			2	55
yellow birch	Betula alleghaniensis	NDL	High	4.7	0.4	1.5	Lg. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	56
gray birch	Betula populifolia	NSL	Low	4.7	0.4	1.4	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	57
laurel oak	Quercus laurifolia	NDH	Medium	4.6	0.4	1.2	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			2	58
swamp chestnut oak	Quercus michauxii	NSL	Low	4.3	0.3	0.8	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			2	59
shortleaf pine	Pinus echinata	WDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Likely +	Likely +	3	60
slash pine	Pinus elliotii	NDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			0	61
longleaf pine	Pinus palustris	NSH	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			3	62
pond pine	Pinus serotina	NSH	Medium	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat	Likely +	Likely +	3	63
bald cypress	Taxodium distichum	NSH	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate +	Migrate +	3	64
pond cypress	Taxodium ascendens	NSH	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			3	65
florida maple	Acer barbatum	NSL	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat			3	66
striped maple	Acer pensylvanicum	NSL	Medium	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	67
yellow buckeye	Aesculus flava	NSL	Low	0	0	0	Unknown	Unknown	Low	Modeled	Unknown	Unknown			0	68
cittamwood/gum bumelia	Sideroxylon lanuginosum ssp.	NSL	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat			0	69
water hickory	Carya aquatica	NSL	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			3	70
pecan	Carya illinoensis	NSH	Low	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat			3	71
black hickory	Carya texana	NDL	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			0	72
sugarberry	Celtis laevigata	NDH	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			3	73
eastern redbud	Cercis canadensis	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate +	Migrate +	3	74
common persimmon	Diospyros virginiana	NSL	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Likely +	Likely +	3	75
silverbell	Halesia spp.	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	76
sweetbay	Magnolia virginiana	NSL	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Likely +	Likely +	3	77
water tupelo	Nyssa aquatica	NSH	Medium	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat	Migrate +	Migrate +	3	78
swamp tupelo	Nyssa biflora	NDH	Medium	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat	Migrate +	Migrate ++	3	79
sourwood	Oxydendrum arboreum	NDL	High	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Migrate +	Migrate +	3	80
redbay	Persea borbonia	NSL	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Migrate +		3	81
cherrybark oak; swamp red o.	Quercus pagoda	NSL	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate +	Migrate +	3	82
overcup oak	Quercus lyrata	NSL	Medium	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat			3	83
blackjack oak	Quercus marilandica	NSL	Medium	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Migrate +	Migrate +	3	84
chinkapin oak	Quercus muehlenbergii	NSL	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate +	Migrate +	3	85
water oak	Quercus nigra	WDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate +	Migrate ++	3	86
willow oak	Quercus phellos	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Likely +	Likely +	3	87
post oak	Quercus stellata	WDH	High	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Likely +	Likely +	3	88
live oak	Quercus virginiana	NDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			0	89
bluejack oak	Quercus incana	NSL	Low	0	0	0	Unknown	New Habitat	Medium	Absent	Unknown	New Habitat			0	90
winged elm	Ulmus alata	WDL	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate +	Migrate ++	3	91