

	sq. km	sq. mi	FIA Plots
Area of Region	11,800	4,556.0	389

**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	Scenario	Scenario	Scenario	SHIFT	SHIFT				
				High	26	Increase	RCP45	RCP85	Very Good	10	13	Likely	3	3	
Ash	3			Medium	32	53	No Change	15	8	Good	16	21	Infill	10	11
Hickory	8			Low	35	10	Decrease	23	20	Fair	13	14	Migrate	4	10
Maple	5	Abundant	7	FIA	5		New	14	14	Poor	14	6			
Oak	15	Common	20				Unknown	12	12	Very Poor	11	10			
Pine	2	Rare	43							FIA Only	3	3			
Other	37	Absent	19							Unknown	7	7			
	<b>70</b>		<b>89</b>		<b>91</b>	<b>89</b>		<b>91</b>	<b>91</b>		<b>74</b>	<b>74</b>		<b>17</b>	<b>24</b>

**Potential Changes in Climate Variables**

**Temperature (°F)**

	Scenario	2009	2039	2069	2099	
Annual Average	CCSM45	58.4	60.2	62.1	62.5	
	CCSM85	58.4	60.6	63.0	65.9	
	GFDL45	58.4	61.6	63.3	64.4	
	GFDL85	58.4	61.3	64.1	67.9	
	HAD45	58.4	60.9	63.7	65.2	
	HAD85	58.4	61.1	65.7	69.3	
Growing Season (May—Sep)	CCSM45	73.4	75.3	76.9	77.6	
	CCSM85	73.4	75.9	78.3	81.9	
	GFDL45	73.4	77.4	79.3	81.3	
	GFDL85	73.4	77.3	80.5	85.3	
	HAD45	73.4	76.3	79.1	80.5	
	HAD85	73.4	76.7	82.6	85.8	
Coldest Month (Average)	CCSM45	35.1	37.4	38.6	38.9	
	CCSM85	35.1	37.8	38.7	40.4	
	GFDL45	35.1	39.1	39.5	39.5	
	GFDL85	35.1	36.5	38.1	38.7	
	HAD45	35.1	36.0	38.3	38.4	
	HAD85	35.1	37.6	39.5	41.2	
Warmest Month (Average)	CCSM45	79.5	81.4	82.3	82.6	
	CCSM85	79.5	82.1	83.0	84.8	
	GFDL45	79.5	84.4	85.5	86.8	
	GFDL85	79.5	84.1	85.7	89.3	
	HAD45	79.5	82.8	84.5	85.1	
	HAD85	79.5	83.9	87.3	88.5	

**Precipitation (in)**

	Scenario	2009	2039	2069	2099	
Annual Total	CCSM45	50.5	49.0	52.6	51.2	
	CCSM85	50.5	50.5	53.1	53.4	
	GFDL45	50.5	53.9	58.3	55.0	
	GFDL85	50.5	54.7	60.7	60.1	
	HAD45	50.5	49.8	53.9	54.9	
	HAD85	50.5	54.9	48.4	51.7	
Growing Season (May—Sep)	CCSM45	21.0	19.5	20.0	19.8	
	CCSM85	21.0	20.4	19.0	19.8	
	GFDL45	21.0	22.5	22.8	22.7	
	GFDL85	21.0	22.9	25.3	24.0	
	HAD45	21.0	20.2	20.7	20.3	
	HAD85	21.0	21.6	16.6	17.2	

**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
white oak	Quercus alba	WDH	Medium	93.2	1402.8	16.8	Sm. dec.	Sm. dec.	High	Abundant	Good	Good			1	1
shortleaf pine	Pinus echinata	WDH	High	57.6	1123.4	19.5	Sm. inc.	Sm. inc.	Medium	Abundant	Very Good	Very Good			1	2
northern red oak	Quercus rubra	WDH	Medium	81.4	772.4	10.6	Sm. dec.	Sm. dec.	High	Abundant	Good	Good			1	3
post oak	Quercus stellata	WDH	High	82.2	618.7	8.5	Lg. inc.	Lg. inc.	High	Abundant	Very Good	Very Good			1	4
eastern redcedar	Juniperus virginiana	WDH	Medium	72.9	568.9	8.5	Sm. inc.	Sm. inc.	Medium	Abundant	Very Good	Very Good			1	5
black hickory	Carya texana	NDL	High	90.7	561.1	6.6	No change	No change	Medium	Abundant	Good	Good			1	6
black oak	Quercus velutina	WDH	High	83.1	543.7	7.7	Sm. dec.	Sm. dec.	Medium	Abundant	Fair	Fair			0	7
mockernut hickory	Carya alba	WDL	Medium	84.7	403.3	5.3	Sm. inc.	Sm. inc.	High	Common	Very Good	Very Good			1	8
blackgum	Nyssa sylvatica	WDL	Medium	84.7	348.0	4.6	No change	No change	High	Common	Good	Good			1	9
sweetgum	Liquidambar styraciflua	WDH	High	52.5	305.2	6.1	Sm. inc.	Lg. inc.	Medium	Common	Good	Very Good			1	10
winged elm	Ulmus alata	WDL	Medium	79.7	232.0	3.1	Sm. inc.	Lg. inc.	Medium	Common	Good	Very Good			1	11
red maple	Acer rubrum	WDH	High	69.5	229.7	3.6	Sm. inc.	Sm. inc.	High	Common	Very Good	Very Good			1	12
flowering dogwood	Cornus florida	WDL	Medium	78	129.5	1.9	No change	No change	Medium	Common	Fair	Fair			1	13
florida maple	Acer barbatum	NSL	Low	32.2	123.2	4.2	Sm. dec.	Sm. dec.	High	Common	Fair	Fair			1	14
loblolly pine	Pinus taeda	WDH	High	5.9	116.3	19.6	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good	Infill ++	Infill ++	1	15
black cherry	Prunus serotina	WDL	Medium	62.7	113.2	2.2	Lg. inc.	Lg. inc.	Low	Common	Good	Good			1	16
white ash	Fraxinus americana	WDL	Medium	54.2	104.2	2.3	Sm. inc.	Sm. inc.	Low	Common	Fair	Fair			1	17
shagbark hickory	Carya ovata	WSL	Medium	22.9	93.7	4.1	Lg. dec.	Lg. dec.	Medium	Common	Poor	Poor			0	18
southern red oak	Quercus falcata	WDL	Medium	37.3	92.3	2.9	Lg. inc.	Lg. inc.	High	Common	Very Good	Very Good			1	19
bitternut hickory	Carya cordiformis	WSL	Low	39	80.9	2.9	Sm. dec.	Sm. dec.	High	Common	Fair	Fair			1	20
American beech	Fagus grandifolia	WDH	High	14.4	79.8	5.5	Lg. dec.	Sm. dec.	Medium	Common	Poor	Poor	Infill +	Infill +	0	21
sassafras	Sassafras albidum	WDL	Low	41.5	73.4	2.1	Sm. inc.	Lg. inc.	Medium	Common	Good	Very Good			1	22
American elm	Ulmus americana	WDH	Medium	38.1	69.9	2.4	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	23
eastern hophornbeam; ironw	Ostrya virginiana	WSL	Low	50.8	66.8	1.4	Sm. inc.	Sm. inc.	High	Common	Very Good	Very Good			1	24
black locust	Robinia pseudoacacia	NDH	Low	29.7	65.1	2.2	Sm. dec.	Sm. dec.	Medium	Common	Poor	Poor			0	25
blackjack oak	Quercus marilandica	NSL	Medium	33.1	62.7	2.6	Lg. inc.	Lg. inc.	High	Common	Very Good	Very Good			1	26
chinkapin oak	Quercus muehlenbergii	NSL	Medium	28.8	55.9	2.5	Sm. dec.	No change	Medium	Common	Poor	Fair			1	27
black walnut	Juglans nigra	WDH	Low	24.6	48.6	2.9	Sm. dec.	No change	Medium	Rare	Very Poor	Poor			1	28
sycamore	Platanus occidentalis	NSL	Low	28	45.8	2.5	Sm. inc.	Lg. inc.	Medium	Rare	Fair	Good			1	29
serviceberry	Amelanchier spp.	NSL	Low	33.9	35.9	1.1	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	30
slippery elm	Ulmus rubra	WSL	Low	28	34.2	1.9	No change	Sm. inc.	Medium	Rare	Poor	Fair			1	31
ashe juniper	Juniperus ashei	NDH	High	2.5	31.5	12.4	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			0	32
common persimmon	Diospyros virginiana	NSL	Low	16.9	29.3	1.7	Lg. inc.	Lg. inc.	High	Rare	Good	Good			1	33
pignut hickory	Carya glabra	WDL	Medium	16.9	26.1	2.0	Sm. inc.	Lg. inc.	Medium	Rare	Fair	Good			1	34
sugar maple	Acer saccharum	WDH	High	9.3	26.1	2.8	Very Lg. dec.	Very Lg. dec.	High	Rare	Lost	Lost			0	35
eastern redbud	Cercis canadensis	NSL	Low	28	24.5	1.0	No change	Sm. inc.	Medium	Rare	Poor	Fair			1	36
green ash	Fraxinus pennsylvanica	WSH	Low	19.5	22.9	1.2	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			1	37
hackberry	Celtis occidentalis	WDH	Medium	17.8	18.0	1.5	Sm. inc.	Lg. inc.	High	Rare	Good	Good			1	38
American basswood	Tilia americana	WSL	Medium	16.1	14.9	1.6	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	39
water oak	Quercus nigra	WDH	High	1.7	11.5	6.8	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++	2	40
honeylocust	Gleditsia triacanthos	NSH	Low	8.5	11.5	2.0	No change	Sm. inc.	High	Rare	Fair	Good			1	41
red mulberry	Morus rubra	NSL	Low	17.8	11.4	1.1	No change	Lg. inc.	Medium	Rare	Poor	Good			1	42
sugarberry	Celtis laevigata	NDH	Medium	7.6	10.9	1.4	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++	1	43
river birch	Betula nigra	NSL	Low	1.7	9.9	5.8	No change	Sm. inc.	Medium	Rare	Poor	Fair	Infill +	Infill +	2	44
American hornbeam; musclev	Carpinus caroliniana	WSL	Low	8.5	8.1	1.0	Sm. inc.	Lg. inc.	Medium	Rare	Fair	Good			1	45
willow oak	Quercus phellos	NSL	Low	3.4	6.3	1.9	No change	Sm. inc.	Medium	Rare	Poor	Fair	Infill +	Infill +	1	46
Nuttall oak	Quercus texana	NSH	Medium	0.8	6.2	7.3	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor			0	47

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Common Name	Scientific Name	Range	MR	%Cell	FIAsum	FIAiv	ChngCl45	ChngCl85	Adap	Abund	Capabil45	Capabil85	SHIFT45	SHIFT85	SSO	N
boxelder	Acer negundo	WSH	Low	6.8	5.7	1.5	No change	Sm. inc.	High	Rare	Fair	Good	Infill +	Infill ++	2	48
pawpaw	Asimina triloba	NSL	Low	4.2	5.7	1.4	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	49
northern catalpa	Catalpa speciosa	NSHX	FIA	1.7	5.7	3.3	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only			0	50
cherrybark oak; swamp red o.	Quercus pagoda	NSL	Medium	5.9	4.7	1.5	No change	Sm. inc.	Medium	Rare	Poor	Fair	Infill +	Infill +	2	51
ailanthus	Ailanthus altissima	NSL	FIA	5.1	4.3	2.1	Unknown	Unknown	NA	Rare	NNIS	NNIS			0	52
Shumard oak	Quercus shumardii	NSL	Low	3.4	4.2	1.2	No change	No change	High	Rare	Fair	Fair		Infill +	2	53
cucumbertree	Magnolia acuminata	NSL	Low	2.5	4.1	1.6	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			2	54
swamp chestnut oak	Quercus michauxii	NSL	Low	2.5	4.1	1.6	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	55
water hickory	Carya aquatica	NSL	Medium	0.8	4.1	4.8	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	56
bur oak	Quercus macrocarpa	NDH	Medium	0.8	4.0	4.7	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor			0	57
blue ash	Fraxinus quadrangulata	NSL	Low	2.5	3.1	1.2	Sm. dec.	Sm. dec.	Low	Rare	Very Poor	Very Poor			0	58
silver maple	Acer saccharinum	NSH	Low	1.7	2.8	1.6	No change	No change	High	Rare	Fair	Fair	Infill +	Infill +	2	59
wild plum	Prunus americana	NSLX	FIA	1.7	1.5	0.9	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only			0	60
pecan	Carya illinoensis	NSH	Low	0.8	1.4	1.6	Lg. inc.	Lg. inc.	Low	Rare	Fair	Fair	Infill +	Infill +	2	61
cittamwood/gum bumelia	Sideroxylon lanuginosum ssp.	NSL	Low	2.5	1.1	0.4	Lg. inc.	Lg. inc.	High	Rare	Good	Good			2	62
Kentucky coffeetree	Gymnocladus dioicus	NSLX	FIA	1.7	1.1	0.6	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only			0	63
shellbark hickory	Carya laciniosa	NSL	Low	5.1	1.0	0.6	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	64
overcup oak	Quercus lyrata	NSL	Medium	0.8	0.9	1.0	No change	No change	Low	Rare	Very Poor	Very Poor			0	65
paulownia	Paulownia tomentosa	NSL	FIA	0.8	0.7	0.8	Unknown	Unknown	NA	Rare	NNIS	NNIS			0	66
Osage-orange	Maclura pomifera	NDH	Medium	0.8	0.7	0.8	Sm. dec.	Lg. inc.	High	Rare	Poor	Good			2	67
yellow-poplar	Liriodendron tulipifera	WDH	High	3.4	0.6	3.0	Lg. inc.	Lg. inc.	High	Rare	Good	Good			2	68
American holly	Ilex opaca	NSL	Medium	0.8	0.5	0.6	No change	Lg. inc.	Medium	Rare	Poor	Good			2	69
Ohio buckeye	Aesculus glabra	NSL	Low	0.8	0.4	0.5	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	70
slash pine	Pinus elliotii	NDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat		Migrate ++	3	71
longleaf pine	Pinus palustris	NSH	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate +	Migrate ++	3	72
eastern white pine	Pinus strobus	WDH	High	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat	Migrate +	Migrate +	3	73
Virginia pine	Pinus virginiana	NDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat		Migrate +	3	74
striped maple	Acer pensylvanicum	NSL	Medium	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	75
yellow birch	Betula alleghaniensis	NDL	High	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	76
black ash	Fraxinus nigra	WSH	Medium	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat			3	77
silverbell	Halesia spp.	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	78
southern magnolia	Magnolia grandiflora	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat		Migrate +	3	79
sweetbay	Magnolia virginiana	NSL	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat		Migrate +	3	80
bigleaf magnolia	Magnolia macrophylla	NSL	Low	0	0	0	Unknown	Unknown	Medium	Modeled	Unknown	Unknown			0	81
mountain or Fraser magnolia	Magnolia fraseri	NSL	Low	0	0	0	Unknown	Unknown	Low	Absent	Unknown	Unknown			0	82
sourwood	Oxydendrum arboreum	NDL	High	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Migrate +	Migrate +	3	83
pin cherry	Prunus pensylvanica	NSL	Low	0	0	0	Unknown	Unknown	Medium	Modeled	Unknown	Unknown			0	84
northern pin oak	Quercus ellipsoidalis	NSH	Medium	0	0	0	Unknown	Unknown	High	Absent	Unknown	Unknown			0	85
laurel oak	Quercus laurifolia	NDH	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Likely +	Likely +	3	86
chestnut oak	Quercus prinus	NDH	High	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat		Migrate +	3	87
live oak	Quercus virginiana	NDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate ++	Migrate ++	3	88
bluejack oak	Quercus incana	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat		Migrate +	3	89
black willow	Salix nigra	NSH	Low	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat	Likely +	Likely +	3	90
cedar elm	Ulmus crassifolia	NDH	Medium	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat	Likely +	Likely +	3	91