

	sq. km	sq. mi	FIA Plots
Area of Region	8,300.0	3,204.6	188

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	3			High	15	24	Increase	28	36	Very Good	10	12	Likely	1	2
Hickory	6			Medium	27	38	No Change	10	5	Good	18	21	Infill	11	10
Maple	5	Abundant	3	Low	27	9	Decrease	17	14	Fair	10	10	Migrate	1	4
Oak	10	Common	24	FIA	5		New	8	9	Poor	7	5		13	16
Pine	2	Rare	33				Unknown	11	10	Very Poor	7	5			
Other	34	Absent	12					74	74	FIA Only	2	2			
	60		72		74	71				Unknown	6	5			
											60	60			

Potential Changes in Climate Variables

Temperature (°F)

	Scenario	2009	2039	2069	2099	
Annual Average	CCSM45	57.2	59.1	61.0	61.4	
	CCSM85	57.2	59.6	62.0	65.0	
	GFDL45	57.2	61.0	62.3	63.3	
	GFDL85	57.2	60.1	62.9	66.9	
	HAD45	57.2	59.7	62.5	64.0	
	HAD85	57.2	59.9	64.6	68.1	
Growing Season (May—Sep)	CCSM45	72.6	74.7	76.3	77.0	
	CCSM85	72.6	75.5	77.8	81.5	
	GFDL45	72.6	77.4	78.7	80.7	
	GFDL85	72.6	76.5	79.7	84.7	
	HAD45	72.6	75.4	78.0	79.5	
	HAD85	72.6	75.8	81.5	84.7	
Coldest Month (Average)	CCSM45	33.3	35.5	36.7	37.2	
	CCSM85	33.3	36.2	37.1	38.8	
	GFDL45	33.3	37.4	37.8	37.7	
	GFDL85	33.3	35.1	36.5	37.2	
	HAD45	33.3	34.2	36.7	36.7	
	HAD85	33.3	36.0	38.0	39.7	
Warmest Month (Average)	CCSM45	78.8	81.0	82.0	82.4	
	CCSM85	78.8	82.1	82.9	84.8	
	GFDL45	78.8	83.7	85.0	86.4	
	GFDL85	78.8	83.5	85.0	88.8	
	HAD45	78.8	81.9	83.6	84.3	
	HAD85	78.8	83.0	86.2	87.5	

Precipitation (in)

	Scenario	2009	2039	2069	2099	
Annual Total	CCSM45	46.1	44.4	47.0	46.1	
	CCSM85	46.1	45.3	47.2	47.2	
	GFDL45	46.1	49.5	52.3	49.7	
	GFDL85	46.1	49.8	56.5	55.3	
	HAD45	46.1	46.2	49.1	50.0	
	HAD85	46.1	49.7	44.2	47.1	
Growing Season (May—Sep)	CCSM45	21.4	19.3	19.9	19.7	
	CCSM85	21.4	20.5	19.0	19.6	
	GFDL45	21.4	23.2	22.9	23.0	
	GFDL85	21.4	23.1	26.3	24.6	
	HAD45	21.4	21.0	21.4	21.5	
	HAD85	21.4	22.4	17.5	18.4	

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
white oak	Quercus alba	WDH	Medium	84.3	1093.3	17.6	Sm. dec.	Sm. dec.	High	Abundant	Good	Good			1	1
black oak	Quercus velutina	WDH	High	89.2	1053.5	17.3	No change	Sm. dec.	Medium	Abundant	Good	Fair			1	2
post oak	Quercus stellata	WDH	High	80.7	712.6	12.3	Sm. inc.	Sm. inc.	High	Abundant	Very Good	Very Good			1	3
eastern redcedar	Juniperus virginiana	WDH	Medium	55.4	480.5	11.1	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	4
northern red oak	Quercus rubra	WDH	Medium	77.1	401.8	7.1	Sm. dec.	Sm. dec.	High	Common	Fair	Fair			1	5
shortleaf pine	Pinus echinata	WDH	High	19.3	270.2	14.0	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	6
black hickory	Carya texana	NDL	High	69.9	263.0	4.9	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	7
mockernut hickory	Carya alba	WDL	Medium	67.5	194.6	3.9	Sm. inc.	Sm. inc.	High	Common	Very Good	Very Good			1	8
sassafras	Sassafras albidum	WSL	Low	57.8	177.9	5.2	Sm. dec.	Sm. dec.	Medium	Common	Poor	Poor			0	9
black walnut	Juglans nigra	WDH	Low	59	168.2	4.7	No change	Sm. inc.	Medium	Common	Fair	Good			1	10
blackgum	Nyssa sylvatica	WDL	Medium	50.6	146.5	3.9	Sm. inc.	Sm. inc.	High	Common	Very Good	Very Good			1	11
American elm	Ulmus americana	WDH	Medium	55.4	146.3	4.1	Sm. inc.	Lg. inc.	Medium	Common	Good	Very Good			1	12
chinkapin oak	Quercus muehlenbergii	NSL	Medium	51.8	143.4	3.7	No change	No change	Medium	Common	Fair	Fair			1	13
flowering dogwood	Cornus florida	WDL	Medium	73.5	141.4	3.0	Sm. dec.	No change	Medium	Common	Poor	Fair			1	14
winged elm	Ulmus alata	WDL	Medium	57.8	135.5	3.0	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	15
slippery elm	Ulmus rubra	WSL	Low	59	114.0	3.0	No change	Sm. inc.	Medium	Common	Fair	Good			1	16
blackjack oak	Quercus marilandica	NSL	Medium	44.6	112.2	3.9	Lg. inc.	Lg. inc.	High	Common	Very Good	Very Good			1	17
sycamore	Platanus occidentalis	NSL	Low	30.1	97.0	5.4	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	18
bitternut hickory	Carya cordiformis	WSL	Low	53	96.3	3.3	Sm. inc.	Sm. inc.	High	Common	Very Good	Very Good			1	19
white ash	Fraxinus americana	WDL	Medium	45.8	89.6	3.0	Sm. inc.	Lg. inc.	Low	Common	Fair	Good			1	20
common persimmon	Diospyros virginiana	NSL	Low	15.7	75.9	4.9	Lg. inc.	Lg. inc.	High	Common	Very Good	Very Good			1	21
florida maple	Acer barbatum	NSL	Low	14.5	67.5	6.3	Lg. dec.	Lg. dec.	High	Common	Fair	Fair			1	22
boxelder	Acer negundo	WSH	Low	14.5	61.9	5.8	No change	Lg. inc.	High	Common	Good	Very Good			1	23
black cherry	Prunus serotina	WDL	Medium	43.4	61.6	2.6	Lg. inc.	Lg. inc.	Low	Common	Good	Good			1	24
red maple	Acer rubrum	WDH	High	32.5	56.8	2.9	Lg. inc.	Lg. inc.	High	Common	Very Good	Very Good			1	25
red mulberry	Morus rubra	NSL	Low	43.4	52.9	2.2	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	26
hackberry	Celtis occidentalis	WDH	Medium	38.6	51.9	2.5	Lg. inc.	Lg. inc.	High	Common	Very Good	Very Good			1	27
black locust	Robinia pseudoacacia	NDH	Low	8.4	47.1	5.6	No change	No change	Medium	Rare	Poor	Poor			1	28
silver maple	Acer saccharinum	NSH	Low	1.2	46.1	38.3	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor			0	29
sugar maple	Acer saccharum	WDH	High	16.9	44.9	3.7	Lg. dec.	Sm. dec.	High	Rare	Poor	Poor	Infill +		1	30
blue ash	Fraxinus quadrangulata	NSL	Low	8.4	39.1	8.5	Lg. dec.	Lg. dec.	Low	Rare	Very Poor	Very Poor			0	31
shagbark hickory	Carya ovata	WSL	Medium	19.3	32.8	2.3	No change	No change	Medium	Rare	Poor	Poor			1	32
eastern redbud	Cercis canadensis	NSL	Low	28.9	30.3	1.5	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			1	33
southern red oak	Quercus falcata	WDL	Medium	10.8	24.9	4.8	Lg. inc.	Lg. inc.	High	Rare	Good	Good			1	34
sweetgum	Liquidambar styraciflua	WDH	High	7.2	19.3	5.8	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++	2	35
green ash	Fraxinus pennsylvanica	WSH	Low	9.6	17.9	3.1	Sm. inc.	Sm. inc.	Medium	Rare	Fair	Fair	Infill +	Infill +	1	36
Osage-orange	Maclura pomifera	NDH	Medium	8.4	16.4	7.5	No change	No change	High	Rare	Fair	Fair	Infill +	Infill +	1	37
serviceberry	Amelanchier spp.	NSL	Low	21.7	16.1	0.9	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	38
eastern hophornbeam; ironw	Ostrya virginiana	WSL	Low	20.5	13.4	1.1	Lg. inc.	Lg. inc.	High	Rare	Good	Good			1	39
honeylocust	Gleditsia triacanthos	NSH	Low	12	12.9	1.6	Lg. inc.	Lg. inc.	High	Rare	Good	Good	Infill ++	Infill ++	1	40
American basswood	Tilia americana	WSL	Medium	20.5	12.8	1.8	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	41
Shumard oak	Quercus shumardii	NSL	Low	7.2	11.5	1.6	No change	Sm. inc.	High	Rare	Fair	Good	Infill +	Infill ++	1	42
pignut hickory	Carya glabra	WDL	Medium	7.2	10.8	4.2	No change	Sm. inc.	Medium	Rare	Poor	Fair	Infill +	Infill +	2	43
ashe juniper	Juniperus ashei	NDH	High	1.2	8.5	7.1	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			0	44
loblolly pine	Pinus taeda	WDH	High	1.2	6.1	5.1	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++	2	45
sugarberry	Celtis laevigata	NDH	Medium	4.8	5.2	1.1	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++	2	46
paulownia	Paulownia tomentosa	NSL	FIA	1.2	4.3	3.6	Unknown	Unknown	NA	Rare	NNIS	NNIS			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
ailanthus	Ailanthus altissima	NSL	FIA	7.2	3.0	1.2	Unknown	Unknown	NA	Rare	NNIS	NNIS			0	48
cedar elm	Ulmus crassifolia	NDH	Medium	1.2	3.0	2.5	Lg. inc.	Lg. inc.	Low	Rare	Fair	Fair	Infill +	Infill +	2	49
wild plum	Prunus americana	NSLX	FIA	1.2	2.7	2.3	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only			0	50
white mulberry	Morus alba	NSL	FIA	1.2	2.7	2.2	Unknown	Unknown	NA	Rare	NNIS	NNIS			0	51
butternut	Juglans cinerea	NSLX	FIA	2.4	2.3	1.0	Unknown	Unknown	Low	Rare	FIA Only	FIA Only			0	52
Ohio buckeye	Aesculus glabra	NSL	Low	1.2	1.5	1.2	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	53
overcup oak	Quercus lyrata	NSL	Medium	1.2	1.5	1.2	Very Lg. dec.	Very Lg. dec.	Low	Rare	Lost	Lost			0	54
cittamwood/gum bumelia	Sideroxylon lanuginosum ssp.	NSL	Low	3.6	1.3	0.4	Lg. inc.	Lg. inc.	High	Rare	Good	Good	Infill ++	Infill ++	2	55
pawpaw	Asimina triloba	NSL	Low	1.2	1.1	0.9	Very Lg. dec.	Very Lg. dec.	Medium	Rare	Lost	Lost			0	56
yellow-poplar	Liriodendron tulipifera	WDH	High	4.8	0.9	3.0	Very Lg. dec.	Lg. inc.	High	Rare	Lost	Good			2	57
American hornbeam; muscle	Carpinus caroliniana	WSL	Low	1.2	0.5	0.4	Lg. dec.	Lg. inc.	Medium	Rare	Very Poor	Good			2	58
shellbark hickory	Carya laciniosa	NSL	Low	4.8	0.2	0.6	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	59
cherrybark oak; swamp red o.	Quercus pagoda	NSL	Medium	4.8	0.1	0.5	Lg. dec.	Sm. inc.	Medium	Rare	Very Poor	Fair			0	60
longleaf pine	Pinus palustris	NSH	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			3	61
Virginia pine	Pinus virginiana	NDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			3	62
striped maple	Acer pensylvanicum	NSL	Medium	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	63
pecan	Carya illinoensis	NSH	Low	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat	Likely +	Likely +	3	64
black ash	Fraxinus nigra	WSH	Medium	0	0	0	Unknown	Unknown	Low	Absent	Unknown	Unknown			0	65
bigleaf magnolia	Magnolia macrophylla	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	66
sourwood	Oxydendrum arboreum	NDL	High	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat		Migrate +	3	67
scarlet oak	Quercus coccinea	WDL	Medium	0	0	0	Unknown	New Habitat	Medium	Absent	Unknown	New Habitat		Likely +	3	68
bur oak	Quercus macrocarpa	NDH	Medium	0	0	0	Unknown	Unknown	High	Modeled	Unknown	Unknown			0	69
swamp chestnut oak	Quercus michauxii	NSL	Low	0	0	0	Unknown	Unknown	Medium	Modeled	Unknown	Unknown			0	70
water oak	Quercus nigra	WDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate +	Migrate ++	3	71
chestnut oak	Quercus prinus	NDH	High	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat			3	72
live oak	Quercus virginiana	NDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat		Migrate ++	3	73
black willow	Salix nigra	NSH	Low	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat		Migrate +	3	74