

	sq. km	sq. mi	FIA Plots
Area of Region	14,100	5,444.0	505

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	4			High	22	26	Increase	26	33	Very Good	9	11	Likely	1	2
Hickory	5			Medium	27	49	No Change	10	6	Good	18	24	Infill	4	7
Maple	5	Abundant	5	Low	37	14	Decrease	35	32	Fair	15	9	Migrate	2	4
Oak	15	Common	28	FIA	6		New	9	11	Poor	7	9			
Pine	5	Rare	44				Unknown	12	10	Very Poor	20	16			
Other	43	Absent	15							FIA Only	3	3			
	77		92		92	89		92	92	Unknown	6	4			
											78	76			

Potential Changes in Climate Variables

Temperature (°F)

	Scenario	2009	2039	2069	2099	
Annual Average	CCSM45	55.0	56.9	59.3	59.5	
	CCSM85	55.0	57.4	59.9	63.0	
	GFDL45	55.0	57.7	60.4	61.2	
	GFDL85	55.0	58.1	61.5	65.2	
	HAD45	55.0	57.5	60.8	62.1	
Growing Season (May—Sep)	CCSM45	70.0	71.8	74.0	74.5	
	CCSM85	70.0	72.2	74.9	78.9	
	GFDL45	70.0	73.2	76.6	77.8	
	GFDL85	70.0	73.7	78.0	82.0	
	HAD45	70.0	73.2	76.4	78.1	
Coldest Month (Average)	CCSM45	32.0	33.7	35.0	35.4	
	CCSM85	32.0	34.8	35.6	37.2	
	GFDL45	32.0	35.8	35.8	36.4	
	GFDL85	32.0	34.1	35.1	35.9	
	HAD45	32.0	32.3	34.6	34.9	
Warmest Month (Average)	CCSM45	75.2	77.2	78.5	78.7	
	CCSM85	75.2	77.6	79.3	81.1	
	GFDL45	75.2	78.8	80.8	81.6	
	GFDL85	75.2	79.4	82.2	84.4	
	HAD45	75.2	79.2	81.8	82.8	
HAD85	75.2	80.7	85.2	87.3		

Precipitation (in)

	Scenario	2009	2039	2069	2099	
Annual Total	CCSM45	48.6	51.1	55.0	54.4	
	CCSM85	48.6	54.7	55.9	59.6	
	GFDL45	48.6	53.8	55.3	59.2	
	GFDL85	48.6	52.7	56.7	59.7	
	HAD45	48.6	48.2	50.9	51.1	
Growing Season (May—Sep)	CCSM45	21.7	22.3	23.7	23.2	
	CCSM85	21.7	23.7	22.5	23.9	
	GFDL45	21.7	24.4	23.6	24.7	
	GFDL85	21.7	23.2	23.9	24.6	
	HAD45	21.7	21.9	20.4	20.9	
HAD85	21.7	21.7	17.9	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
red maple	Acer rubrum	WDH	High	97.9	1148.4	11.7	Lg. dec.	Lg. dec.	High	Abundant	Good	Good			1	1
yellow-poplar	Liriodendron tulipifera	WDH	High	93.6	1041.8	11.1	Lg. dec.	Lg. dec.	High	Abundant	Good	Good			1	2
white oak	Quercus alba	WDH	Medium	90.8	1041.0	11.5	No change	Sm. dec.	High	Abundant	Very Good	Good			1	3
chestnut oak	Quercus prinus	NDH	High	78.7	728.8	9.3	Sm. dec.	Sm. dec.	High	Abundant	Good	Good			1	4
Virginia pine	Pinus virginiana	NDH	High	62.4	522.5	8.4	Sm. dec.	Sm. dec.	Medium	Abundant	Fair	Fair			0	5
sugar maple	Acer saccharum	WDH	High	79.4	456.0	5.7	Sm. dec.	Sm. dec.	High	Common	Fair	Fair			1	6
scarlet oak	Quercus coccinea	WDL	Medium	77.3	441.0	5.7	Lg. dec.	Lg. dec.	Medium	Common	Poor	Poor			0	7
American beech	Fagus grandifolia	WDH	High	78.7	411.6	5.2	Sm. dec.	Sm. dec.	Medium	Common	Poor	Poor			0	8
pignut hickory	Carya glabra	WDL	Medium	82.3	312.6	3.8	No change	Sm. dec.	Medium	Common	Fair	Poor			1	9
sourwood	Oxydendrum arboreum	NDL	High	85.1	306.1	3.6	Sm. dec.	Lg. dec.	High	Common	Fair	Fair			1	10
black oak	Quercus velutina	WDH	High	69.5	281.2	4.0	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	11
blackgum	Nyssa sylvatica	WDL	Medium	85.8	278.9	3.3	No change	Sm. inc.	High	Common	Good	Very Good			1	12
mockernut hickory	Carya alba	WDL	Medium	60.3	251.5	4.2	Sm. inc.	Sm. inc.	High	Common	Very Good	Very Good			1	13
eastern hemlock	Tsuga canadensis	NSH	High	35.5	245.0	6.9	Lg. dec.	Lg. dec.	Low	Common	Very Poor	Very Poor			0	14
shortleaf pine	Pinus echinata	WDH	High	42.6	179.0	4.2	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	15
northern red oak	Quercus rubra	WDH	Medium	53.2	153.0	2.9	Lg. inc.	Lg. inc.	High	Common	Very Good	Very Good			1	16
sycamore	Platanus occidentalis	NSL	Low	27	128.7	4.8	Sm. inc.	Lg. inc.	Medium	Common	Good	Very Good			1	17
sassafras	Sassafras albidum	WSL	Low	54.6	115.9	2.1	No change	No change	Medium	Common	Fair	Fair			1	18
eastern redcedar	Juniperus virginiana	WDH	Medium	24.1	112.1	4.7	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	19
flowering dogwood	Cornus florida	WDL	Medium	73.8	109.9	1.5	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	20
white ash	Fraxinus americana	WDL	Medium	42.6	106.6	2.5	Sm. inc.	Lg. inc.	Low	Common	Fair	Good			1	21
sweet birch	Betula lenta	NDH	High	39	105.9	2.7	Lg. dec.	Lg. dec.	Low	Common	Very Poor	Very Poor			0	22
sweetgum	Liquidambar styraciflua	WDH	High	24.8	100.8	4.1	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	23
eastern white pine	Pinus strobus	WDH	High	16.3	91.4	5.6	Lg. dec.	Lg. dec.	Low	Common	Very Poor	Very Poor			0	24
black locust	Robinia pseudoacacia	NDH	Low	39	87.2	2.2	Sm. inc.	Lg. inc.	Medium	Common	Good	Very Good			1	25
shagbark hickory	Carya ovata	WSL	Medium	38.3	85.2	2.2	No change	No change	Medium	Common	Fair	Fair			1	26
black cherry	Prunus serotina	WDL	Medium	28.4	81.9	2.9	Lg. inc.	Lg. inc.	Low	Common	Good	Good			1	27
pitch pine	Pinus rigida	NSH	High	25.5	81.0	3.2	Lg. dec.	Lg. dec.	Medium	Common	Poor	Poor			0	28
American basswood	Tilia americana	WSL	Medium	27	74.0	2.8	Lg. dec.	Lg. dec.	Medium	Common	Poor	Poor			0	29
green ash	Fraxinus pennsylvanica	WSH	Low	30.5	73.9	2.4	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	30
eastern redbud	Cercis canadensis	NSL	Low	44	73.1	1.7	No change	Sm. inc.	Medium	Common	Fair	Good			1	31
chinkapin oak	Quercus muehlenbergii	NSL	Medium	16.3	52.8	3.2	No change	No change	Medium	Common	Fair	Fair			1	32
southern red oak	Quercus falcata	WDL	Medium	19.9	51.1	2.6	Lg. inc.	Lg. inc.	High	Common	Very Good	Very Good			1	33
post oak	Quercus stellata	WDH	High	16.3	49.5	3.0	Lg. inc.	Lg. inc.	High	Rare	Good	Good	Infill ++	Infill ++	1	34
black walnut	Juglans nigra	WDH	Low	25.5	47.3	1.9	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			1	35
American hornbeam; muscley	Carpinus caroliniana	WSL	Low	29.1	45.3	1.6	Sm. inc.	Lg. inc.	Medium	Rare	Fair	Good			1	36
slippery elm	Ulmus rubra	WSL	Low	31.9	41.2	1.3	Sm. inc.	Lg. inc.	Medium	Rare	Fair	Good			1	37
bitternut hickory	Carya cordiformis	WSL	Low	23.4	37.4	1.6	Lg. inc.	Lg. inc.	High	Rare	Good	Good			1	38
American elm	Ulmus americana	WDH	Medium	19.9	37.4	1.9	Sm. inc.	Lg. inc.	Medium	Rare	Fair	Good			1	39
cucumbertree	Magnolia acuminata	NSL	Low	25.5	34.8	1.4	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	40
yellow buckeye	Aesculus flava	NSL	Low	19.9	31.3	1.6	Lg. dec.	Lg. dec.	Low	Rare	Very Poor	Very Poor			0	41
serviceberry	Amelanchier spp.	NSL	Low	26.2	29.0	1.1	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	42
bigleaf magnolia	Magnolia macrophylla	NSL	Low	14.2	22.3	1.6	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	43
river birch	Betula nigra	NSL	Low	7.1	20.6	2.9	Sm. dec.	No change	Medium	Rare	Very Poor	Poor			1	44
shellbark hickory	Carya laciniosa	NSL	Low	14.2	19.2	1.4	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	45
eastern hophornbeam; ironw	Ostrya virginiana	WSL	Low	17	18.6	1.1	Lg. inc.	Lg. inc.	High	Rare	Good	Good			1	46
ailanthus	Ailanthus altissima	NSL	FIA	5	16.7	3.4	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
loblolly pine	Pinus taeda	WDH	High	0.7	14.2	20.0	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good				2 48
boxelder	Acer negundo	WSH	Low	3.5	13.8	3.9	No change	Sm. inc.	High	Rare	Fair	Good				1 49
winged elm	Ulmus alata	WDL	Medium	12.8	13.0	1.0	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++		1 50
American holly	Ilex opaca	NSL	Medium	7.1	12.3	1.7	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor				0 51
red mulberry	Morus rubra	NSL	Low	10.6	9.9	0.9	Sm. dec.	Sm. inc.	Medium	Rare	Very Poor	Fair				1 52
paulownia	Paulownia tomentosa	NSL	FIA	2.8	8.9	3.1	Unknown	Unknown	NA	Rare	NNIS	NNIS				0 53
mountain or Fraser magnolia	Magnolia fraseri	NSL	Low	6.4	7.9	1.2	Sm. dec.	Sm. dec.	Low	Rare	Very Poor	Very Poor				0 54
hackberry	Celtis occidentalis	WDH	Medium	2.8	7.6	2.7	Sm. inc.	Sm. inc.	High	Rare	Good	Good	Infill ++	Infill ++		1 55
common persimmon	Diospyros virginiana	NSL	Low	3.5	3.9	1.1	Lg. inc.	Lg. inc.	High	Rare	Good	Good	Infill ++	Infill ++		1 56
Shumard oak	Quercus shumardii	NSL	Low	0.7	3.9	5.5	No change	No change	High	Rare	Fair	Fair		Infill +		2 57
pawpaw	Asimina triloba	NSL	Low	5.7	3.6	0.6	Very Lg. dec.	Very Lg. dec.	Medium	Rare	Lost	Lost				0 58
bigtooth aspen	Populus grandidentata	NSL	Medium	3.5	3.6	1.0	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor				0 59
bur oak	Quercus macrocarpa	NDH	Medium	0.7	3.5	4.9	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor				0 60
Ohio buckeye	Aesculus glabra	NSL	Low	2.8	3.4	1.2	Sm. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor				0 61
black maple	Acer nigrum	NSH	Low	0.7	3.3	4.6	Lg. dec.	Lg. dec.	High	Rare	Poor	Poor				0 62
butternut	Juglans cinerea	NSLX	FIA	2.8	3.0	1.0	Unknown	Unknown	Low	Rare	FIA Only	FIA Only				0 63
pin oak	Quercus palustris	NSH	Low	1.4	2.8	2.0	Sm. dec.	Sm. dec.	Low	Rare	Very Poor	Very Poor				0 64
shingle oak	Quercus imbricaria	NDH	Medium	0.7	2.6	3.7	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor				0 65
black willow	Salix nigra	NSH	Low	1.4	1.9	1.3	Lg. dec.	Lg. inc.	Low	Rare	Very Poor	Fair		Infill +		2 66
American chestnut	Castanea dentata	NSLX	FIA	2.1	1.7	0.8	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only				0 67
willow oak	Quercus phellos	NSL	Low	0.7	1.7	2.4	Sm. dec.	No change	Medium	Rare	Very Poor	Poor		Infill +		2 68
blackjack oak	Quercus marilandica	NSL	Medium	1.4	1.3	0.9	Lg. inc.	Lg. inc.	High	Rare	Good	Good				2 69
Siberian elm	Ulmus pumila	NDH	FIA	0.7	1.0	1.4	Unknown	Unknown	NA	Rare	NNIS	NNIS				0 70
Osage-orange	Maclura pomifera	NDH	Medium	1.4	0.8	0.6	No change	Lg. inc.	High	Rare	Fair	Good				2 71
water oak	Quercus nigra	WDH	High	0.7	0.5	0.7	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good				2 72
yellow birch	Betula alleghaniensis	NDL	High	0.7	0.4	0.6	Very Lg. dec.	Very Lg. dec.	Medium	Rare	Lost	Lost				0 73
Kentucky coffeetree	Gymnocladus dioicus	NSLX	FIA	0.7	0.4	0.5	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only				0 74
black ash	Fraxinus nigra	WSH	Medium	0.7	0.3	0.5	Sm. dec.	Sm. dec.	Low	Rare	Very Poor	Very Poor				0 75
silver maple	Acer saccharinum	NSH	Low	0.7	0.3	0.4	Lg. dec.	Sm. inc.	High	Rare	Poor	Good				2 76
blue ash	Fraxinus quadrangulata	NSL	Low	0.7	0.2	0.3	Lg. dec.	Lg. dec.	Low	Rare	Very Poor	Very Poor				0 77
ashe juniper	Juniperus ashei	NDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat				0 78
northern white-cedar	Thuja occidentalis	WSH	High	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown				0 79
florida maple	Acer barbatum	NSL	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Migrate +	Migrate +		3 80
striped maple	Acer pensylvanicum	NSL	Medium	0	0	0	Unknown	New Habitat	Medium	Absent	Unknown	New Habitat		Likely +		3 81
mountain maple	Acer spicatum	NSL	Low	0	0	0	Unknown	Unknown	High	Absent	Unknown	Unknown				0 82
cittamwood/gum bumelia	Sideroxylon lanuginosum ssp.	NSL	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat				3 83
pecan	Carya illinoensis	NSH	Low	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat		Migrate +		3 84
black hickory	Carya texana	NDL	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat				3 85
sugarberry	Celtis laevigata	NDH	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate +	Migrate ++		3 86
honeylocust	Gleditsia triacanthos	NSH	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Likely +	Likely +		3 87
silverbell	Halesia spp.	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown				0 88
pin cherry	Prunus pensylvanica	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown				0 89
live oak	Quercus virginiana	NDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat				3 90
bluejack oak	Quercus incana	NSL	Low	0	0	0	Unknown	New Habitat	Medium	Absent	Unknown	New Habitat		Migrate +		3 91
cedar elm	Ulmus crassifolia	NDH	Medium	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat				0 92