

sq. km sq. mi FIA Plots
Area of Region 8,100.0 3,127.4 299

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	21	23	Increase	22	26	Very Good	11	11
Hickory	6			Medium	26	52	No Change	7	7	Good	14	19
Maple	5	Abundant	6	Low	38	13	Decrease	34	30	Fair	8	6
Oak	10	Common	29	FIA	6		New	13	15	Poor	12	10
Pine	5	Rare	34				Unknown	15	13	Very Poor	17	15
Other	40	Absent	19							FIA Only	4	4
	69		88		91	88		91	91	Unknown	9	7
											75	72

Potential Changes in Climate Variables

Temperature (°F)

Scenario	2009	2039	2069	2099		
Annual	CCSM45	55.5	57.4	59.7	59.9	
Average	CCSM85	55.5	57.8	60.4	63.3	
	GFDL45	55.5	58.2	60.7	61.5	
	GFDL85	55.5	58.4	61.8	65.4	
	HAD45	55.5	57.8	61.1	62.4	
	HAD85	55.5	58.3	62.8	66.7	
Growing Season	CCSM45	70.1	71.9	74.1	74.6	
	CCSM85	70.1	72.3	75.0	78.9	
May—Sep	GFDL45	70.1	73.2	76.3	77.6	
	GFDL85	70.1	73.6	77.8	81.8	
	HAD45	70.1	73.3	76.4	78.0	
	HAD85	70.1	73.5	80.0	83.7	
Coldest Month	CCSM45	33.2	35.1	36.2	36.6	
	CCSM85	33.2	36.1	36.9	38.4	
Average	GFDL45	33.2	36.8	36.7	37.1	
	GFDL85	33.2	35.0	36.0	36.7	
	HAD45	33.2	33.1	35.3	35.7	
	HAD85	33.2	34.6	36.2	38.0	
Warmest Month	CCSM45	75.2	77.1	78.3	78.5	
	CCSM85	75.2	77.5	79.2	81.0	
Average	GFDL45	75.2	78.6	80.4	81.2	
	GFDL85	75.2	79.0	81.7	83.9	
	HAD45	75.2	79.2	81.7	82.5	
	HAD85	75.2	80.5	85.1	86.9	

Precipitation (in)

Scenario	2009	2039	2069	2099		
Annual	CCSM45	53.1	55.9	60.2	58.5	
Total	CCSM85	53.1	59.7	60.6	64.6	
	GFDL45	53.1	59.3	61.2	65.3	
	GFDL85	53.1	58.9	62.5	65.4	
	HAD45	53.1	51.8	55.3	56.2	
	HAD85	53.1	54.2	50.4	54.1	
Growing Season	CCSM45	23.0	23.5	25.0	24.2	
	CCSM85	23.0	25.3	23.6	25.2	
May—Sep	GFDL45	23.0	26.2	25.9	26.9	
	GFDL85	23.0	25.4	26.3	27.0	
	HAD45	23.0	22.8	21.7	22.4	
	HAD85	23.0	23.6	18.5	20.3	

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	96.3	1198.0	12.4	Lg. dec.	Lg. dec.	High	Abundant	Good	Good			1	1
white oak	Quercus alba	WDH	Medium	96.3	1169.1	12.1	No change	No change	High	Abundant	Very Good	Very Good			1	2
yellow-poplar	Liriodendron tulipifera	WDH	High	96.3	876.8	9.1	Lg. dec.	Lg. dec.	High	Abundant	Good	Good			1	3
sugar maple	Acer saccharum	WDH	High	77.8	681.8	8.8	Lg. dec.	Lg. dec.	High	Abundant	Good	Good			1	4
Virginia pine	Pinus virginiana	NDH	High	72.8	556.9	7.6	Sm. dec.	Lg. dec.	Medium	Abundant	Fair	Fair			0	5
chestnut oak	Quercus prinus	NDH	High	76.5	547.9	7.2	Sm. dec.	Sm. dec.	High	Abundant	Good	Good			1	6
scarlet oak	Quercus coccinea	WDL	Medium	65.4	309.0	4.7	Sm. dec.	Lg. dec.	Medium	Common	Poor	Poor			0	7
pignut hickory	Carya glabra	WDL	Medium	71.6	298.3	4.2	Sm. dec.	Sm. dec.	Medium	Common	Poor	Poor			0	8
black oak	Quercus velutina	WDH	High	69.1	285.5	4.1	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	9
shortleaf pine	Pinus echinata	WDH	High	55.6	278.8	5.0	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	10
sourwood	Oxydendrum arboreum	NDL	High	85.2	273.8	3.2	Sm. dec.	Sm. dec.	High	Common	Fair	Fair			1	11
American beech	Fagus grandifolia	WDH	High	63	252.1	4.0	Sm. dec.	Sm. dec.	Medium	Common	Poor	Poor			0	12
blackgum	Nyssa sylvatica	WDL	Medium	88.9	250.6	2.8	Sm. inc.	Sm. inc.	High	Common	Very Good	Very Good			1	13
eastern hemlock	Tsuga canadensis	NSH	High	46.9	248.4	5.3	Lg. dec.	Lg. dec.	Low	Common	Very Poor	Very Poor			0	14
mockernut hickory	Carya alba	WDL	Medium	64.2	227.4	3.5	Sm. inc.	Sm. inc.	High	Common	Very Good	Very Good			1	15
eastern redcedar	Juniperus virginiana	WDH	Medium	34.6	188.5	5.5	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	16
eastern white pine	Pinus strobus	WDH	High	32.1	172.8	5.4	Sm. dec.	Lg. dec.	Low	Common	Poor	Very Poor	Infill +		0	17
black cherry	Prunus serotina	WDL	Medium	56.8	166.9	2.9	Sm. inc.	Sm. inc.	Low	Common	Fair	Fair			1	18
white ash	Fraxinus americana	WDL	Medium	39.5	156.3	4.0	No change	Sm. inc.	Low	Common	Poor	Fair			1	19
northern red oak	Quercus rubra	WDH	Medium	54.3	155.8	2.9	Lg. inc.	Lg. inc.	High	Common	Very Good	Very Good			1	20
sweetgum	Liquidambar styraciflua	WDH	High	33.3	118.7	3.6	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good	Infill ++	Infill ++	1	21
black locust	Robinia pseudoacacia	NDH	Low	27.2	104.1	3.8	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	22
shagbark hickory	Carya ovata	WSL	Medium	39.5	103.8	2.6	No change	Sm. dec.	Medium	Common	Fair	Poor			1	23
bitternut hickory	Carya cordiformis	WSL	Low	32.1	102.3	3.2	No change	No change	High	Common	Good	Good			1	24
sassafras	Sassafras albidum	WSL	Low	48.1	99.3	2.1	Sm. dec.	No change	Medium	Common	Poor	Fair			1	25
flowering dogwood	Cornus florida	WDL	Medium	71.6	91.7	1.3	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	26
chinkapin oak	Quercus muehlenbergii	NSL	Medium	21	78.3	3.7	Sm. dec.	Sm. dec.	Medium	Common	Poor	Poor	Infill +	Infill +	0	27
loblolly pine	Pinus taeda	WDH	High	3.7	77.4	20.9	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			2	28
southern red oak	Quercus falcata	WDL	Medium	27.2	73.6	2.7	Lg. inc.	Lg. inc.	High	Common	Very Good	Very Good			1	29
eastern redbud	Cercis canadensis	NSL	Low	35.8	71.5	2.0	Sm. dec.	Sm. dec.	Medium	Common	Poor	Poor			0	30
green ash	Fraxinus pennsylvanica	WSH	Low	30.9	61.2	2.0	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	31
American basswood	Tilia americana	WSL	Medium	25.9	57.3	2.2	Lg. dec.	Lg. dec.	Medium	Common	Poor	Poor	Infill +	Infill +	0	32
yellow buckeye	Aesculus flava	NSL	Low	27.2	55.2	2.0	Lg. dec.	Lg. dec.	Low	Common	Very Poor	Very Poor			0	33
black walnut	Juglans nigra	WDH	Low	23.5	51.0	2.2	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	34
sycamore	Platanus occidentalis	NSL	Low	23.5	50.8	2.2	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	35
American elm	Ulmus americana	WDH	Medium	21	45.9	2.2	Sm. inc.	Lg. inc.	Medium	Rare	Fair	Good	Infill +	Infill ++	1	36
post oak	Quercus stellata	WDH	High	24.7	44.8	1.8	Lg. inc.	Lg. inc.	High	Rare	Good	Good	Infill ++	Infill ++	1	37
sweet birch	Betula lenta	NDH	High	17.3	36.9	2.1	Lg. dec.	Lg. dec.	Low	Rare	Very Poor	Very Poor			0	38
winged elm	Ulmus alata	WDL	Medium	28.4	34.8	1.2	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			1	39
cucumbertree	Magnolia acuminata	NSL	Low	29.6	34.0	1.2	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	40
silver maple	Acer saccharinum	NSH	Low	1.2	30.9	25.0	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor			0	41
pitch pine	Pinus rigida	NSH	High	8.6	29.6	3.4	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	42
serviceberry	Amelanchier spp.	NSL	Low	30.9	28.4	0.9	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	43
American holly	Ilex opaca	NSL	Medium	18.5	27.7	1.5	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	44
shellbark hickory	Carya laciniosa	NSL	Low	11.1	22.4	2.0	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	45
American hornbeam; musclev	Carpinus caroliniana	WSL	Low	14.8	21.5	1.5	Sm. inc.	Lg. inc.	Medium	Rare	Fair	Good			1	46
slippery elm	Ulmus rubra	WSL	Low	23.5	18.5	0.8	No change	Lg. inc.	Medium	Rare	Poor	Good			1	47

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Common Name	Scientific Name	Range	MR	%Cell	FIAsum	FIAiv	ChngCl45	ChngCl85	Adap	Abund	Capabil45	Capabil85	SHIFT45	SHIFT85	SSO	N
ailanthus	Ailanthus altissima	NSL	FIA	8.6	16.5	1.9	Unknown	Unknown	NA	Rare	NNIS	NNIS				0 48
eastern hophornbeam; ironw	Ostrya virginiana	WSL	Low	17.3	14.2	0.8	Lg. inc.	Lg. inc.	High	Rare	Good	Good	Infill ++	Infill ++		1 49
yellow birch	Betula alleghaniensis	NDL	High	4.9	10.4	2.1	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor				0 50
common persimmon	Diospyros virginiana	NSL	Low	7.4	9.6	1.3	No change	Lg. inc.	High	Rare	Fair	Good	Infill +	Infill ++		1 51
bigleaf magnolia	Magnolia macrophylla	NSL	Low	13.6	9.4	0.7	Lg. dec.	Very Lg. dec.	Medium	Rare	Very Poor	Lost				0 52
black willow	Salix nigra	NSH	Low	2.5	8.5	3.4	Sm. dec.	No change	Low	Rare	Very Poor	Very Poor				2 53
sand hickory	Carya pallida	NSL	FIA	3.7	7.5	2.0	Unknown	Unknown	NA	Rare	FIA Only	FIA Only				0 54
red mulberry	Morus rubra	NSL	Low	7.4	7.4	1.0	Sm. dec.	No change	Medium	Rare	Very Poor	Poor		Infill +		1 55
boulder	Acer negundo	WSH	Low	2.5	6.5	2.6	No change	Sm. inc.	High	Rare	Fair	Good	Infill +			2 56
Shumard oak	Quercus shumardii	NSL	Low	2.5	5.2	2.1	Sm. dec.	No change	High	Rare	Poor	Fair		Infill +		2 57
hackberry	Celtis occidentalis	WDH	Medium	4.9	5.0	1.0	Lg. inc.	Lg. inc.	High	Rare	Good	Good	Infill ++	Infill ++		2 58
Ohio buckeye	Aesculus glabra	NSL	Low	3.7	4.3	1.2	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor				0 59
mountain or Fraser magnolia	Magnolia fraseri	NSL	Low	4.9	4.2	0.9	Sm. dec.	Sm. dec.	Low	Rare	Very Poor	Very Poor				0 60
river birch	Betula nigra	NSL	Low	2.5	3.6	1.5	Lg. dec.	No change	Medium	Rare	Very Poor	Poor		Infill +		2 61
paulownia	Paulownia tomentosa	NSL	FIA	2.5	2.6	1.1	Unknown	Unknown	NA	Rare	NNIS	NNIS				0 62
pawpaw	Asimina triloba	NSL	Low	3.7	2.5	0.7	Very Lg. dec.	Very Lg. dec.	Medium	Rare	Lost	Lost				0 63
striped maple	Acer pensylvanicum	NSL	Medium	3.7	2.3	0.6	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor				0 64
blue ash	Fraxinus quadrangulata	NSL	Low	1.2	2.2	1.8	Sm. dec.	Sm. dec.	Low	Rare	Very Poor	Very Poor				0 65
blackjack oak	Quercus marilandica	NSL	Medium	2.5	1.9	0.8	Lg. inc.	Lg. inc.	High	Rare	Good	Good				2 66
American chestnut	Castanea dentata	NSLX	FIA	2.5	1.1	0.4	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only				0 67
wild plum	Prunus americana	NSLX	FIA	1.2	0.9	0.7	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only				0 68
Kentucky coffeetree	Gymnocladus dioicus	NSLX	FIA	1.2	0.6	0.5	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only				0 69
ashe juniper	Juniperus ashei	NDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat				0 70
florida maple	Acer barbatum	NSL	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Migrate +	Migrate +		3 71
mountain maple	Acer spicatum	NSL	Low	0	0	0	Unknown	Unknown	High	Absent	Unknown	Unknown				0 72
cittamwood/gum bumelia	Sideroxylon lanuginosum ssp.	NSL	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat				3 73
pecan	Carya illinoensis	NSH	Low	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat		Migrate +		3 74
black hickory	Carya texana	NDL	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate +	Migrate ++		3 75
sugarberry	Celtis laevigata	NDH	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate +	Migrate ++		3 76
black ash	Fraxinus nigra	WSH	Medium	0	0	0	Unknown	Unknown	Low	Absent	Unknown	Unknown				0 77
honeylocust	Gleditsia triacanthos	NSH	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat		Migrate ++		3 78
silverbell	Halesia spp.	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown				0 79
southern magnolia	Magnolia grandiflora	NSL	Low	0	0	0	Unknown	New Habitat	Medium	Absent	Unknown	New Habitat		Migrate +		3 80
sweetbay	Magnolia virginiana	NSL	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat		Migrate +		3 81
bigtooth aspen	Populus grandidentata	NSL	Medium	0	0	0	Unknown	Unknown	Medium	Modeled	Unknown	Unknown				0 82
pin cherry	Prunus pensylvanica	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown				0 83
swamp white oak	Quercus bicolor	NSL	Low	0	0	0	Unknown	Unknown	Medium	Modeled	Unknown	Unknown				0 84
cherrybark oak; swamp red o.	Quercus pagoda	NSL	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat		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
pin oak	Quercus palustris	NSH	Low	0	0	0	Unknown	Unknown	Low	Modeled	Unknown	Unknown				0 87
willow oak	Quercus phellos	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	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				3 89
bluejack oak	Quercus incana	NSL	Low	0	0	0	Unknown	New Habitat	Medium	Absent	Unknown	New Habitat		Migrate +		3 90
cedar elm	Ulmus crassifolia	NDH	Medium	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat				3 91