

Area of Region sq. km sq. mi FIA Plots
 8,000.0 3,088.8 245

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	23	25	Increase	22	26	Very Good	9	12	Likely	2	2
Hickory	4			Medium	26	49	No Change	16	20	Good	17	16	Infill	39	43
Maple	6	Abundant	3	Low	36	14	Decrease	26	18	Fair	10	14	Migrate	3	7
Oak	8	Common	35	FIA	6		New	11	12	Poor	16	15			
Pine	6	Rare	32				Unknown	16	15	Very Poor	12	6			
Other	44	Absent	18							FIA Only	3	3			
	70		88		91	88		91	91	Unknown	10	9			
											77	75			

Potential Changes in Climate Variables

Temperature (°F)

	Scenario	2009	2039	2069	2099	
Annual Average	CCSM45	54.3	56.2	58.4	58.6	
	CCSM85	54.3	56.6	59.1	62.0	
	GFDL45	54.3	57.1	59.6	60.4	
	GFDL85	54.3	57.4	60.8	64.4	
	HAD45	54.3	56.7	59.8	61.0	
	HAD85	54.3	57.0	61.1	65.2	
Growing Season (May—Sep)	CCSM45	68.3	70.2	72.2	72.7	
	CCSM85	68.3	70.4	73.0	76.9	
	GFDL45	68.3	71.5	74.5	75.8	
	GFDL85	68.3	72.1	76.0	80.1	
	HAD45	68.3	71.4	74.3	75.8	
	HAD85	68.3	71.4	77.2	81.3	
Coldest Month (Average)	CCSM45	33.1	35.3	36.2	36.4	
	CCSM85	33.1	35.8	36.7	37.8	
	GFDL45	33.1	36.4	36.5	37.2	
	GFDL85	33.1	35.0	36.1	37.0	
	HAD45	33.1	33.3	35.2	35.6	
	HAD85	33.1	34.2	35.5	37.2	
Warmest Month (Average)	CCSM45	72.9	75.1	76.2	76.4	
	CCSM85	72.9	75.2	76.8	78.6	
	GFDL45	72.9	76.6	78.2	79.1	
	GFDL85	72.9	77.5	79.9	82.2	
	HAD45	72.9	76.7	78.8	79.6	
	HAD85	72.9	77.6	81.3	83.7	

Precipitation (in)

	Scenario	2009	2039	2069	2099	
Annual Total	CCSM45	45.0	47.7	50.5	50.6	
	CCSM85	45.0	49.3	50.5	54.8	
	GFDL45	45.0	49.8	51.5	54.7	
	GFDL85	45.0	48.6	53.2	53.9	
	HAD45	45.0	44.7	47.5	48.3	
	HAD85	45.0	47.7	44.7	46.3	
Growing Season (May—Sep)	CCSM45	20.8	22.7	24.0	24.3	
	CCSM85	20.8	23.4	22.8	24.9	
	GFDL45	20.8	23.7	24.1	25.2	
	GFDL85	20.8	22.3	24.7	25.0	
	HAD45	20.8	20.8	20.9	21.5	
	HAD85	20.8	22.4	19.9	20.4	

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-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	87.5	1223.3	13.8	Sm. dec.	Lg. dec.	High	Abundant	Good	Good	Infill ++	Infill ++	1	1
chestnut oak	Quercus prinus	NDH	High	68.8	896.3	12.9	No change	No change	High	Abundant	Very Good	Very Good	Infill ++	Infill ++	1	2
red maple	Acer rubrum	WDH	High	78.7	849.2	10.7	No change	Sm. dec.	High	Abundant	Very Good	Good	Infill ++	Infill ++	1	3
white oak	Quercus alba	WDH	Medium	62.5	403.4	6.4	Sm. inc.	Sm. inc.	High	Common	Very Good	Very Good	Infill ++	Infill ++	1	4
eastern white pine	Pinus strobus	WDH	High	48.7	402.0	8.1	No change	No change	Low	Common	Poor	Poor	Infill +	Infill +	0	5
northern red oak	Quercus rubra	WDH	Medium	72.5	387.0	5.3	Sm. inc.	Sm. inc.	High	Common	Very Good	Very Good	Infill ++	Infill ++	1	6
eastern hemlock	Tsuga canadensis	NSH	High	51.2	353.0	6.8	Sm. dec.	Sm. dec.	Low	Common	Poor	Poor	Infill +	Infill +	0	7
black locust	Robinia pseudoacacia	NDH	Low	70	348.5	4.9	No change	No change	Medium	Common	Fair	Fair	Infill +	Infill +	1	8
Virginia pine	Pinus virginiana	NDH	High	46.3	332.4	7.1	Sm. inc.	Sm. inc.	Medium	Common	Good	Good	Infill ++	Infill ++	1	9
eastern redcedar	Juniperus virginiana	WDH	Medium	30	312.8	10.3	Sm. inc.	Lg. inc.	Medium	Common	Good	Very Good	Infill ++	Infill ++	2	10
sugar maple	Acer saccharum	WDH	High	56.2	303.1	5.3	Sm. dec.	Lg. dec.	High	Common	Fair	Fair	Infill +	Infill +	1	11
sourwood	Oxydendrum arboreum	NDL	High	61.2	291.6	4.7	No change	No change	High	Common	Good	Good	Infill ++	Infill ++	1	12
scarlet oak	Quercus coccinea	WDL	Medium	51.3	280.1	5.4	No change	No change	Medium	Common	Fair	Fair	Infill +	Infill +	1	13
American beech	Fagus grandifolia	WDH	High	51.3	274.0	5.3	Sm. dec.	Sm. dec.	Medium	Common	Poor	Poor	Infill +	Infill +	0	14
black cherry	Prunus serotina	WDL	Medium	52.5	266.1	5.0	No change	No change	Low	Common	Poor	Poor	Infill +	Infill +	0	15
sweet birch	Betula lenta	NDH	High	48.7	248.7	5.0	Sm. dec.	Sm. dec.	Low	Common	Poor	Poor	Infill +	Infill +	0	16
pignut hickory	Carya glabra	WDL	Medium	61.2	224.5	3.6	No change	No change	Medium	Common	Fair	Fair	Infill +	Infill +	1	17
black oak	Quercus velutina	WDH	High	55	206.7	3.7	Sm. inc.	Lg. inc.	Medium	Common	Good	Very Good	Infill ++	Infill ++	1	18
blackgum	Nyssa sylvatica	WDL	Medium	62.5	189.9	3.0	Sm. inc.	Sm. inc.	High	Common	Very Good	Very Good	Infill ++	Infill ++	1	19
white ash	Fraxinus americana	WDL	Medium	37.5	169.0	4.5	No change	Sm. inc.	Low	Common	Poor	Fair	Infill +	Infill +	1	20
mockernut hickory	Carya alba	WDL	Medium	31.3	143.0	4.5	Lg. inc.	Lg. inc.	High	Common	Very Good	Very Good	Infill ++	Infill ++	1	21
sassafras	Sassafras albidum	WSL	Low	45	132.0	2.9	Sm. dec.	No change	Medium	Common	Poor	Fair	Infill +	Infill +	1	22
yellow buckeye	Aesculus flava	NSL	Low	26.2	106.3	4.0	Lg. dec.	Lg. dec.	Low	Common	Very Poor	Very Poor			0	23
American elm	Ulmus americana	WDH	Medium	23.8	103.8	4.3	Sm. inc.	Sm. inc.	Medium	Common	Good	Good	Infill ++	Infill ++	2	24
Osage-orange	Maclura pomifera	NDH	Medium	1.2	97.5	77.0	Lg. dec.	Lg. dec.	High	Common	Fair	Fair			0	25
shagbark hickory	Carya ovata	WSL	Medium	22.5	91.2	4.0	No change	No change	Medium	Common	Fair	Fair	Infill +	Infill +	1	26
American basswood	Tilia americana	WSL	Medium	27.5	84.0	3.0	Sm. dec.	Sm. dec.	Medium	Common	Poor	Poor	Infill +	Infill +	0	27
boxelder	Acer negundo	WSH	Low	5	82.9	16.4	Lg. dec.	No change	High	Common	Fair	Good			2	28
mountain or Fraser magnolia	Magnolia fraseri	NSL	Low	27.5	80.2	2.9	No change	No change	Low	Common	Poor	Poor			0	29
black walnut	Juglans nigra	WDH	Low	25	72.7	2.9	Sm. inc.	Lg. inc.	Medium	Common	Good	Very Good	Infill ++	Infill ++	1	30
green ash	Fraxinus pennsylvanica	WSH	Low	17.5	69.0	3.9	Sm. inc.	Lg. inc.	Medium	Common	Good	Very Good	Infill ++	Infill ++	2	31
pitch pine	Pinus rigida	NSH	High	18.7	67.9	3.6	Sm. inc.	Sm. inc.	Medium	Common	Good	Good	Infill ++	Infill ++	1	32
cucumbertree	Magnolia acuminata	NSL	Low	27.5	60.6	2.2	Sm. dec.	Sm. dec.	Medium	Common	Poor	Poor	Infill +	Infill +	0	33
flowering dogwood	Cornus florida	WDL	Medium	38.8	60.4	1.5	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good	Infill ++	Infill ++	1	34
shortleaf pine	Pinus echinata	WDH	High	13.8	56.4	4.1	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good	Infill ++	Infill ++	1	35
eastern redbud	Cercis canadensis	NSL	Low	17.5	56.1	3.2	Sm. dec.	No change	Medium	Common	Poor	Fair	Infill +	Infill +	1	36
bitternut hickory	Carya cordiformis	WSL	Low	20	53.8	2.7	Sm. inc.	Sm. inc.	High	Common	Very Good	Very Good	Infill ++	Infill ++	1	37
yellow birch	Betula alleghaniensis	NDL	High	17.5	52.8	3.0	No change	No change	Medium	Common	Fair	Fair	Infill +	Infill +	1	38
serviceberry	Amelanchier spp.	NSL	Low	33.8	45.5	1.3	Sm. dec.	No change	Medium	Rare	Very Poor	Poor		Infill +	1	39
common persimmon	Diospyros virginiana	NSL	Low	3.8	41.5	10.9	No change	No change	High	Rare	Fair	Fair	Infill +	Infill +	2	40
sweetgum	Liquidambar styraciflua	WDH	High	5	37.3	7.4	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			2	41
striped maple	Acer pensylvanicum	NSL	Medium	27.5	35.8	1.3	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	42
Table Mountain pine	Pinus pungens	NSL	Low	6.2	34.8	5.5	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor			1	43
chinkapin oak	Quercus muehlenbergii	NSL	Medium	15	34.4	2.3	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++	2	44
sycamore	Platanus occidentalis	NSL	Low	7.5	33.2	4.4	No change	Sm. inc.	Medium	Rare	Poor	Fair	Infill +	Infill +	2	45
winged elm	Ulmus alata	WDL	Medium	11.3	33.1	2.9	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			2	46
southern red oak	Quercus falcata	WDL	Medium	8.7	31.0	3.5	Sm. inc.	Lg. inc.	High	Rare	Good	Good			2	47

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Common Name	Scientific Name	Range	MR	%Cell	FIAsum	FIAiv	ChngCl45	ChngCl85	Adap	Abund	Capabil45	Capabil85	SHIFT45	SHIFT85	SSO	N
red mulberry	Morus rubra	NSL	Low	11.3	30.4	2.7	Sm. dec.	No change	Medium	Rare	Very Poor	Poor		Infill +	2	48
paulownia	Paulownia tomentosa	NSL	FIA	3.7	25.5	6.7	Unknown	Unknown	NA	Rare	NNIS	NNIS			0	49
ailanthus	Ailanthus altissima	NSL	FIA	10	21.6	2.1	Unknown	Unknown	NA	Rare	NNIS	NNIS			0	50
eastern hophornbeam; ironw	Ostrya virginiana	WSL	Low	13.7	19.5	1.4	Sm. inc.	Lg. inc.	High	Rare	Good	Good	Infill ++	Infill ++	1	51
hackberry	Celtis occidentalis	WDH	Medium	7.5	18.1	2.4	Sm. inc.	Sm. inc.	High	Rare	Good	Good			2	52
slippery elm	Ulmus rubra	WSL	Low	8.7	16.9	1.9	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	2	53
pawpaw	Asimina triloba	NSL	Low	6.3	13.5	2.1	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	54
American hornbeam; muscle	Carpinus caroliniana	WSL	Low	7.5	11.4	1.5	Sm. dec.	No change	Medium	Rare	Very Poor	Poor		Infill +	1	55
loblolly pine	Pinus taeda	WDH	High	5	10.3	2.0	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			2	56
pin cherry	Prunus pensylvanica	NSL	Low	5	6.1	1.2	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	57
American holly	Ilex opaca	NSL	Medium	5	5.0	1.0	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	58
honeylocust	Gleditsia triacanthos	NSH	Low	1.2	4.2	3.3	Sm. dec.	Lg. inc.	High	Rare	Poor	Good			2	59
American chestnut	Castanea dentata	NSLX	FIA	7.5	3.5	0.5	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only			0	60
post oak	Quercus stellata	WDH	High	2.5	2.5	1.0	Lg. inc.	Lg. inc.	High	Rare	Good	Good			2	61
black willow	Salix nigra	NSH	Low	2.5	2.2	0.9	Sm. dec.	Lg. inc.	Low	Rare	Very Poor	Fair		Infill +	2	62
bigleaf magnolia	Magnolia macrophylla	NSL	Low	2.5	1.9	0.8	Lg. dec.	Very Lg. dec.	Medium	Rare	Very Poor	Lost			0	63
silver maple	Acer saccharinum	NSH	Low	1.2	1.0	0.8	Lg. dec.	Lg. dec.	High	Rare	Poor	Poor			0	64
northern white-cedar	Thuja occidentalis	WSH	High	1.2	0.9	0.7	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	65
southern magnolia	Magnolia grandiflora	NSL	Low	1.2	0.9	0.7	Sm. dec.	No change	Medium	Rare	Very Poor	Poor			0	66
wild plum	Prunus americana	NSLX	FIA	1.2	0.7	0.5	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only			0	67
white mulberry	Morus alba	NSL	FIA	1.2	0.6	0.5	Unknown	Unknown	NA	Rare	NNIS	NNIS			0	68
butternut	Juglans cinerea	NSLX	FIA	1.3	0.5	0.4	Unknown	Unknown	Low	Rare	FIA Only	FIA Only			0	69
mountain maple	Acer spicatum	NSL	Low	1.3	0.5	0.4	No change	No change	High	Rare	Fair	Fair			0	70
ashe juniper	Juniperus ashei	NDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			0	71
red spruce	Picea rubens	NDH	High	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat	Likely +	Likely +	3	72
florida maple	Acer barbatum	NSL	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Migrate +	Migrate +	3	73
black maple	Acer nigrum	NSH	Low	0	0	0	Unknown	Unknown	High	Absent	Unknown	Unknown			0	74
Ohio buckeye	Aesculus glabra	NSL	Low	0	0	0	Unknown	Unknown	Medium	Modeled	Unknown	Unknown			0	75
gray birch	Betula populifolia	NSL	Low	0	0	0	Unknown	Unknown	Medium	Modeled	Unknown	Unknown			0	76
pecan	Carya illinoensis	NSH	Low	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat		Migrate +	3	77
black hickory	Carya texana	NDL	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			3	78
sugarberry	Celtis laevigata	NDH	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate +	Migrate +	3	79
black ash	Fraxinus nigra	WSH	Medium	0	0	0	Unknown	Unknown	Low	Absent	Unknown	Unknown			0	80
silverbell	Halesia spp.	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Likely +	Likely +	3	81
eastern cottonwood	Populus deltoides	NSH	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	82
bigtooth aspen	Populus grandidentata	NSL	Medium	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	83
shingle oak	Quercus imbricaria	NDH	Medium	0	0	0	Unknown	Unknown	Medium	Modeled	Unknown	Unknown			0	84
overcup oak	Quercus lyrata	NSL	Medium	0	0	0	Unknown	Unknown	Low	Absent	Unknown	Unknown			0	85
blackjack oak	Quercus marilandica	NSL	Medium	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat		Migrate ++	3	86
water oak	Quercus nigra	WDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate +	Migrate +	3	87
Shumard oak	Quercus shumardii	NSL	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat		Migrate +	3	88
live oak	Quercus virginiana	NDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat		Migrate ++	3	89
bluejack oak	Quercus incana	NSL	Low	0	0	0	Unknown	New Habitat	Medium	Absent	Unknown	New Habitat			3	90
American mountain-ash	Sorbus americana	NSL	Low	0	0	0	Unknown	Unknown	Low	Absent	Unknown	Unknown			0	91