

	sq. km	sq. mi	FIA Plots
Area of Region	10,166	3,925.2	311

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	22	28	Increase	20	30	Very Good	8	13
Hickory	4			Medium	27	49	No Change	22	18	Good	16	19
Maple	7	Abundant	7	Low	39	15	Decrease	18	12	Fair	14	10
Oak	9	Common	24	FIA	8		New	19	19	Poor	11	9
Pine	7	Rare	37				Unknown	17	17	Very Poor	9	8
Other	39	Absent	28							FIA Only	4	4
	68		96		96	92		96	96	Unknown	9	9
											71	72

Potential Changes in Climate Variables

Temperature (°F)

	Scenario	2009	2039	2069	2099
Annual Average	CCSM45	51.6	53.4	55.7	56.0
	CCSM85	51.6	53.8	56.4	59.5
	GFDL45	51.6	54.5	57.3	58.4
	GFDL85	51.6	55.0	58.5	62.6
	HAD45	51.6	54.2	57.7	59.1
HAD85	51.6	54.5	58.7	63.3	
Growing Season (May—Sep)	CCSM45	67.0	68.9	71.0	71.5
	CCSM85	67.0	69.3	71.9	75.9
	GFDL45	67.0	70.4	74.0	75.6
	GFDL85	67.0	71.4	75.4	79.9
	HAD45	67.0	70.1	73.4	75.3
HAD85	67.0	70.1	75.3	80.5	
Coldest Month (Average)	CCSM45	28.3	30.2	31.8	32.2
	CCSM85	28.3	30.8	32.1	33.6
	GFDL45	28.3	31.5	32.1	32.9
	GFDL85	28.3	31.1	32.2	33.6
	HAD45	28.3	29.8	32.0	32.1
HAD85	28.3	30.3	32.1	34.0	
Warmest Month (Average)	CCSM45	72.6	74.8	75.9	76.3
	CCSM85	72.6	75.0	76.9	78.8
	GFDL45	72.6	76.0	78.1	79.5
	GFDL85	72.6	77.6	80.0	82.8
	HAD45	72.6	76.2	78.4	79.6
HAD85	72.6	76.8	80.1	83.7	

Precipitation (in)

	Scenario	2009	2039	2069	2099
Annual Total	CCSM45	38.2	41.4	41.9	43.1
	CCSM85	38.2	41.5	42.5	47.5
	GFDL45	38.2	42.3	43.8	44.2
	GFDL85	38.2	39.1	44.4	45.4
	HAD45	38.2	40.8	41.1	40.6
HAD85	38.2	42.5	39.2	42.0	
Growing Season (May—Sep)	CCSM45	18.0	20.3	20.7	20.7
	CCSM85	18.0	20.2	20.1	22.1
	GFDL45	18.0	19.0	19.0	19.1
	GFDL85	18.0	17.2	19.0	19.1
	HAD45	18.0	19.6	18.0	18.1
HAD85	18.0	19.5	17.1	17.9	

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
chestnut oak	Quercus prinus	NDH	High	84	1639.5	13.3	No change	No change	High	Abundant	Very Good	Very Good			1	1
white oak	Quercus alba	WDH	Medium	75	1030.6	10.2	No change	No change	High	Abundant	Very Good	Very Good			1	2
red maple	Acer rubrum	WDH	High	72.8	865.0	6.9	No change	No change	High	Abundant	Very Good	Very Good			1	3
northern red oak	Quercus rubra	WDH	Medium	72.2	711.3	6.5	No change	Sm. inc.	High	Abundant	Very Good	Very Good			1	4
black locust	Robinia pseudoacacia	NDH	Low	70	564.5	5.5	Sm. dec.	No change	Medium	Abundant	Fair	Good			1	5
sugar maple	Acer saccharum	WDH	High	45.5	562.5	7.6	No change	No change	High	Abundant	Very Good	Very Good			1	6
Virginia pine	Pinus virginiana	NDH	High	55.5	529.9	7.6	No change	Sm. inc.	Medium	Abundant	Good	Very Good			1	7
black oak	Quercus velutina	WDH	High	68.2	471.6	5.4	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	8
scarlet oak	Quercus coccinea	WDL	Medium	57.3	460.4	6.0	No change	Sm. dec.	Medium	Common	Fair	Poor			1	9
pignut hickory	Carya glabra	WDL	Medium	72.3	397.0	4.0	No change	No change	Medium	Common	Fair	Fair			1	10
eastern white pine	Pinus strobus	WDH	High	32.8	346.1	6.8	No change	No change	Low	Common	Poor	Poor			0	11
blackgum	Nyssa sylvatica	WDL	Medium	64.5	333.5	3.8	No change	Sm. inc.	High	Common	Good	Very Good			1	12
black cherry	Prunus serotina	WDL	Medium	57.7	322.3	3.8	No change	Sm. inc.	Low	Common	Poor	Fair			1	13
eastern redcedar	Juniperus virginiana	WDH	Medium	19.7	258.0	12.1	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	14
sweet birch	Betula lenta	NDH	High	35.3	252.5	3.2	Sm. dec.	Sm. dec.	Low	Common	Poor	Poor			0	15
white ash	Fraxinus americana	WDL	Medium	52.3	251.3	3.3	Sm. inc.	Sm. inc.	Low	Common	Fair	Fair			1	16
yellow-poplar	Liriodendron tulipifera	WDH	High	27.9	235.0	4.4	Lg. inc.	Lg. inc.	High	Common	Very Good	Very Good			1	17
black walnut	Juglans nigra	WDH	Low	33.6	192.1	4.5	No change	Sm. inc.	Medium	Common	Fair	Good			1	18
pitch pine	Pinus rigida	NSH	High	34.6	181.0	4.2	No change	No change	Medium	Common	Fair	Fair			1	19
American basswood	Tilia americana	WSL	Medium	17.9	162.4	5.6	No change	No change	Medium	Common	Fair	Fair			1	20
eastern hemlock	Tsuga canadensis	NSH	High	20.1	145.2	4.0	No change	No change	Low	Common	Poor	Poor			0	21
sassafras	Sassafras albidum	WDL	Low	33.1	134.8	2.8	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	22
mockernut hickory	Carya alba	WDL	Medium	37.2	115.7	2.3	Lg. inc.	Lg. inc.	High	Common	Very Good	Very Good			1	23
shagbark hickory	Carya ovata	WSL	Medium	30.5	104.0	2.0	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	24
boxelder	Acer negundo	WSH	Low	6.8	94.6	8.2	Sm. dec.	No change	High	Common	Fair	Good	Infill +	Infill ++	1	25
loblolly pine	Pinus taeda	WDH	High	5.7	88.2	9.5	Sm. inc.	Lg. inc.	Medium	Common	Good	Very Good	Infill ++	Infill ++	2	26
sycamore	Platanus occidentalis	NSL	Low	13.3	87.0	3.8	Sm. inc.	Lg. inc.	Medium	Common	Good	Very Good			1	27
hackberry	Celtis occidentalis	WDH	Medium	16.7	77.9	4.3	Sm. dec.	Sm. inc.	High	Common	Fair	Very Good	Infill +	Infill ++	1	28
ailanthus	Ailanthus altissima	NSL	FIA	20.3	73.7	2.1	Unknown	Unknown	NA	Common	NNIS	NNIS			0	29
Table Mountain pine	Pinus pungens	NSL	Low	18	64.0	2.8	No change	No change	High	Common	Good	Good			1	30
serviceberry	Amelanchier spp.	NSL	Low	30.9	55.9	1.1	Sm. dec.	Sm. dec.	Medium	Common	Poor	Poor			0	31
striped maple	Acer pensylvanicum	NSL	Medium	15.5	47.9	1.6	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	32
bitternut hickory	Carya cordiformis	WSL	Low	19	47.8	2.0	Lg. inc.	Lg. inc.	High	Rare	Good	Good			1	33
slippery elm	Ulmus rubra	WSL	Low	22.7	46.6	1.6	Sm. inc.	Lg. inc.	Medium	Rare	Fair	Good			1	34
American beech	Fagus grandifolia	WDH	High	4.3	45.8	2.3	Sm. inc.	Sm. inc.	Medium	Rare	Fair	Fair	Infill +	Infill +	2	35
red spruce	Picea rubens	NDH	High	2.6	45.4	4.2	Sm. dec.	Sm. dec.	Low	Rare	Very Poor	Very Poor			0	36
silver maple	Acer saccharinum	NSH	Low	1.7	38.2	5.4	Sm. dec.	No change	High	Rare	Poor	Fair	Infill +	Infill +	2	37
flowering dogwood	Cornus florida	WDL	Medium	27.3	33.7	0.9	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			1	38
eastern hophornbeam; ironw	Ostrya virginiana	WSL	Low	25.4	33.0	1.0	No change	Lg. inc.	High	Rare	Fair	Good			1	39
Osage-orange	Maclura pomifera	NDH	Medium	3	29.5	10.0	Sm. dec.	No change	High	Rare	Poor	Fair		Infill +	2	40
quaking aspen	Populus tremuloides	WDH	High	0.2	26.8	4.7	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	41
eastern redbud	Cercis canadensis	NSL	Low	13.2	26.2	1.4	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			1	42
yellow birch	Betula alleghaniensis	NDL	High	2.4	26.0	4.2	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	1	43
American elm	Ulmus americana	WDH	Medium	15.9	24.0	1.4	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++	1	44
bear oak; scrub oak	Quercus ilicifolia	NSLX	FIA	8	20.1	2.5	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only			0	45
cucumbertree	Magnolia acuminata	NSL	Low	8	19.7	1.0	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	1	46
bigtooth aspen	Populus grandidentata	NSL	Medium	4.4	15.6	1.3	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			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
red mulberry	Morus rubra	NSL	Low	2	12.8	6.5	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			2	48
butternut	Juglans cinerea	NSLX	FIA	4.6	9.7	0.9	Unknown	Unknown	Low	Rare	FIA Only	FIA Only			0	49
chinkapin oak	Quercus muehlenbergii	NSL	Medium	2.2	8.9	2.3	Sm. inc.	Lg. inc.	Medium	Rare	Fair	Good	Infill +		2	50
pin cherry	Prunus pensylvanica	NSL	Low	2.5	8.5	1.0	Very Lg. dec.	Very Lg. dec.	Medium	Rare	Lost	Lost			0	51
American chestnut	Castanea dentata	NSLX	FIA	3.9	7.3	0.5	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only			0	52
pawpaw	Asimina triloba	NSL	Low	2.2	7.2	1.6	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			2	53
honeylocust	Gleditsia triacanthos	NSH	Low	2	6.6	3.4	No change	Sm. inc.	High	Rare	Fair	Good			2	54
American hornbeam; musclev	Carpinus caroliniana	WSL	Low	2	5.6	1.2	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	1	55
common persimmon	Diospyros virginiana	NSL	Low	2	5.2	2.6	Lg. inc.	Lg. inc.	High	Rare	Good	Good	Infill ++	Infill ++	1	56
pin oak	Quercus palustris	NSH	Low	1.7	4.9	8.5	No change	No change	Low	Rare	Very Poor	Very Poor			2	57
Scots pine	Pinus sylvestris	NSH	FIA	2.6	4.1	1.3	Unknown	Unknown	NA	Rare	NNIS	NNIS			0	58
white mulberry	Morus alba	NSL	FIA	1	3.8	3.9	Unknown	Unknown	NA	Rare	NNIS	NNIS			0	59
black maple	Acer nigrum	NSH	Low	2.4	3.7	1.1	Lg. dec.	Lg. dec.	High	Rare	Poor	Poor			0	60
shortleaf pine	Pinus echinata	WDH	High	2.9	3.5	1.2	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			2	61
swamp chestnut oak	Quercus michauxii	NSL	Low	0.8	3.1	2.5	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	62
Norway maple	Acer platanoides	NSL	FIA	1	2.7	2.8	Unknown	Unknown	NA	Rare	NNIS	NNIS			0	63
river birch	Betula nigra	NSL	Low	0.7	1.6	1.2	Sm. dec.	Sm. inc.	Medium	Rare	Very Poor	Fair		Infill +	2	64
green ash	Fraxinus pennsylvanica	WSH	Low	2.3	1.1	0.6	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			2	65
chokecherry	Prunus virginiana	NSLX	FIA	1.7	1.0	0.5	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only			0	66
sourwood	Oxydendrum arboreum	NDL	High	0.1	0.7	0.1	Lg. inc.	Lg. inc.	High	Rare	Good	Good			2	67
black willow	Salix nigra	NSH	Low	0.7	0.6	0.4	Very Lg. dec.	Lg. inc.	Low	Rare	Lost	Fair		Infill +	2	68
northern white-cedar	Thuja occidentalis	WSH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			3	69
florida maple	Acer barbatum	NSL	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Migrate +	Migrate +	3	70
mountain maple	Acer spicatum	NSL	Low	0	0	0	Unknown	Unknown	High	Absent	Unknown	Unknown			0	71
yellow buckeye	Aesculus flava	NSL	Low	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat	Migrate ++	Migrate ++	3	72
gray birch	Betula populifolia	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	73
cittamwood/gum bumelia	Sideroxylon lanuginosum ssp.	NSL	Low	0	0	0	Unknown	New Habitat	High	Absent	Unknown	New Habitat			0	74
pecan	Carya illinoensis	NSH	Low	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat		Migrate +	3	75
black hickory	Carya texana	NDL	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			0	76
sugarberry	Celtis laevigata	NDH	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat		Migrate ++	3	77
black ash	Fraxinus nigra	WSH	Medium	0	0	0	Unknown	Unknown	Low	Absent	Unknown	Unknown			0	78
blue ash	Fraxinus quadrangulata	NSL	Low	0	0	0	Unknown	Unknown	Low	Absent	Unknown	Unknown			0	79
American holly	Ilex opaca	NSL	Medium	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	80
sweetgum	Liquidambar styraciflua	WDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate +	Migrate ++	3	81
southern magnolia	Magnolia grandiflora	NSL	Low	0	0	0	New Habitat	Unknown	Medium	Absent	New Habitat	Unknown			3	82
bigleaf magnolia	Magnolia macrophylla	NSL	Low	0	0	0	New Habitat	Unknown	Medium	Absent	New Habitat	Unknown			3	83
mountain or Fraser magnolia	Magnolia fraseri	NSL	Low	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat			0	84
redbay	Persea borbonia	NSL	Low	0	0	0	Unknown	Unknown	High	Absent	Unknown	Unknown			0	85
southern red oak	Quercus falcata	WDL	Medium	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Likely +	Likely +	3	86
cherrybark oak; swamp red o.	Quercus pagoda	NSL	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat		Migrate +	3	87
bur oak	Quercus macrocarpa	NDH	Medium	0	0	0	Unknown	Unknown	High	Absent	Unknown	Unknown			0	88
blackjack oak	Quercus marilandica	NSL	Medium	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Migrate +	Migrate ++	3	89
water oak	Quercus nigra	WDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat		Migrate ++	3	90
willow oak	Quercus phellos	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat		Migrate +	3	91
Shumard oak	Quercus shumardii	NSL	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat		Migrate +	3	92
post oak	Quercus stellata	WDH	High	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Migrate ++	Migrate ++	3	93
bluejack oak	Quercus incana	NSL	Low	0	0	0	Unknown	New Habitat	Medium	Absent	Unknown	New Habitat			3	94

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
winged elm	Ulmus alata	WDL	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate +	Migrate ++	3	95
cedar elm	Ulmus crassifolia	NDH	Medium	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat			0	96