

	sq. km	sq. mi	FIA Plots
Area of Region	9,700.0	3,745.2	382

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	24	Increase	29	33	Very Good	14	11	Likely	6	7
Hickory	5			Medium	30	52	No Change	22	18	Good	15	22	Infill	13	17
Maple	5	Abundant	7	Low	35	13	Decrease	11	11	Fair	11	13	Migrate	4	10
Oak	10	Common	25	FIA	3		New	16	21	Poor	14	10			
Pine	6	Rare	33				Unknown	13	8	Very Poor	6	5			
Other	37	Absent	26							FIA Only	2	2			
	65		91		91	89		91	91	Unknown	10	5			
											72	68			

Potential Changes in Climate Variables

Temperature (°F)

	Scenario	2009	2039	2069	2099	
Annual Average	CCSM45	54.2	56.1	58.2	58.3	
	CCSM85	54.2	56.5	58.9	61.7	
	GFDL45	54.2	56.9	59.3	60.0	
	GFDL85	54.2	57.1	60.5	64.0	
	HAD45	54.2	56.5	59.5	60.7	
HAD85	54.2	56.8	61.0	64.9		
Growing Season (May—Sep)	CCSM45	67.3	69.1	71.1	71.5	
	CCSM85	67.3	69.3	72.0	75.6	
	GFDL45	67.3	70.3	73.1	74.4	
	GFDL85	67.3	70.7	74.6	78.7	
	HAD45	67.3	70.4	73.1	74.6	
HAD85	67.3	70.4	76.3	80.1		
Coldest Month (Average)	CCSM45	34.6	36.9	37.8	37.8	
	CCSM85	34.6	37.3	38.2	39.4	
	GFDL45	34.6	37.7	37.8	38.3	
	GFDL85	34.6	36.4	37.5	38.0	
	HAD45	34.6	34.5	36.4	36.8	
HAD85	34.6	35.7	37.0	38.6		
Warmest Month (Average)	CCSM45	71.6	73.8	74.7	74.8	
	CCSM85	71.6	73.9	75.5	77.2	
	GFDL45	71.6	74.9	76.1	77.0	
	GFDL85	71.6	75.4	77.6	79.7	
	HAD45	71.6	75.5	77.4	78.1	
HAD85	71.6	76.2	80.1	82.0		

Precipitation (in)

	Scenario	2009	2039	2069	2099	
Annual Total	CCSM45	63.4	66.9	71.3	70.6	
	CCSM85	63.4	68.2	70.9	77.5	
	GFDL45	63.4	70.9	73.3	78.2	
	GFDL85	63.4	69.9	75.0	76.3	
	HAD45	63.4	62.6	67.6	69.4	
HAD85	63.4	69.2	62.8	67.0		
Growing Season (May—Sep)	CCSM45	25.8	27.8	29.9	29.9	
	CCSM85	25.8	27.9	27.9	31.0	
	GFDL45	25.8	30.7	31.8	33.4	
	GFDL85	25.8	29.3	33.0	33.6	
	HAD45	25.8	25.5	25.8	26.7	
HAD85	25.8	28.8	22.8	24.7		

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	1175.4	12.0	No change	Sm. dec.	High	Abundant	Very Good	Good			1	1
chestnut oak	Quercus prinus	NDH	High	87.6	996.5	11.4	No change	No change	High	Abundant	Very Good	Very Good			1	2
yellow-poplar	Liriodendron tulipifera	WDH	High	91.8	916.4	10.0	No change	Sm. dec.	High	Abundant	Very Good	Good			1	3
sourwood	Oxydendrum arboreum	NDL	High	92.8	607.9	6.6	No change	Sm. dec.	High	Abundant	Very Good	Good			1	4
scarlet oak	Quercus coccinea	WDL	Medium	84.5	576.4	6.8	No change	Sm. dec.	Medium	Abundant	Good	Fair			1	5
eastern white pine	Pinus strobus	WDH	High	63.9	561.8	8.8	Sm. inc.	Sm. inc.	Low	Abundant	Good	Good			1	6
northern red oak	Quercus rubra	WDH	Medium	85.6	505.1	5.9	Sm. inc.	Sm. inc.	High	Abundant	Very Good	Very Good			1	7
white oak	Quercus alba	WDH	Medium	76.3	455.4	6.0	Sm. inc.	Sm. inc.	High	Common	Very Good	Very Good			1	8
eastern hemlock	Tsuga canadensis	NSH	High	70.1	338.1	4.8	Sm. inc.	Sm. inc.	Low	Common	Fair	Fair			1	9
Virginia pine	Pinus virginiana	NDH	High	44.3	312.2	7.0	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	10
sweet birch	Betula lenta	NDH	High	79.4	292.2	3.7	No change	No change	Low	Common	Poor	Poor			0	11
pignut hickory	Carya glabra	WDL	Medium	71.1	282.8	4.0	Sm. inc.	No change	Medium	Common	Good	Fair			1	12
blackgum	Nyssa sylvatica	WDL	Medium	82.5	250.3	3.0	Sm. inc.	Sm. inc.	High	Common	Very Good	Very Good			1	13
black locust	Robinia pseudoacacia	NDH	Low	71.1	216.4	3.0	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	14
shortleaf pine	Pinus echinata	WDH	High	50.5	213.6	4.2	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	15
black oak	Quercus velutina	WDH	High	67	205.7	3.1	Sm. inc.	Lg. inc.	Medium	Common	Good	Very Good			1	16
pitch pine	Pinus rigida	NSH	High	41.2	184.1	4.5	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	17
mockernut hickory	Carya alba	WDL	Medium	55.7	156.6	2.8	Sm. inc.	Lg. inc.	High	Common	Very Good	Very Good			1	18
yellow birch	Betula alleghaniensis	NDL	High	32	146.4	4.6	No change	No change	Medium	Common	Fair	Fair			1	19
southern red oak	Quercus falcata	WDL	Medium	30.9	125.0	4.0	Sm. inc.	Lg. inc.	High	Common	Very Good	Very Good			1	20
flowering dogwood	Cornus florida	WDL	Medium	59.8	97.7	1.6	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	21
silverbell	Halesia spp.	NSL	Low	33	87.0	2.6	No change	No change	Medium	Common	Fair	Fair			1	22
mountain or Fraser magnolia	Magnolia fraseri	NSL	Low	40.2	82.7	2.1	No change	No change	Low	Common	Poor	Poor			0	23
serviceberry	Amelanchier spp.	NSL	Low	53.6	77.9	1.5	No change	No change	Medium	Common	Fair	Fair			1	24
American beech	Fagus grandifolia	WDH	High	28.9	73.1	2.5	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	25
black cherry	Prunus serotina	WDL	Medium	36.1	68.7	1.9	Lg. inc.	Lg. inc.	Low	Common	Good	Good			1	26
sugar maple	Acer saccharum	WDH	High	25.8	66.5	2.6	Sm. inc.	No change	High	Common	Very Good	Good			1	27
loblolly pine	Pinus taeda	WDH	High	7.2	64.1	8.9	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	28
white ash	Fraxinus americana	WDL	Medium	27.8	63.1	2.3	Sm. inc.	Lg. inc.	Low	Common	Fair	Good			1	29
American basswood	Tilia americana	WSL	Medium	25.8	56.7	2.2	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	30
yellow buckeye	Aesculus flava	NSL	Low	21.6	55.0	2.5	No change	No change	Low	Common	Poor	Poor			0	31
red spruce	Picea rubens	NDH	High	5.2	51.5	10.0	No change	No change	Low	Common	Poor	Poor	Infill +	Infill +	2	32
American holly	Ilex opaca	NSL	Medium	21.6	45.2	2.1	Lg. dec.	No change	Medium	Rare	Very Poor	Poor			1	33
striped maple	Acer pensylvanicum	NSL	Medium	30.9	41.0	1.3	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	34
sassafras	Sassafras albidum	WSL	Low	35.1	40.7	1.2	Sm. inc.	Lg. inc.	Medium	Rare	Fair	Good			1	35
pin cherry	Prunus pensylvanica	NSL	Low	4.1	28.0	6.8	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	36
sycamore	Platanus occidentalis	NSL	Low	1	25.8	25.0	No change	Sm. inc.	Medium	Rare	Poor	Fair	Infill +	Infill +	2	37
post oak	Quercus stellata	WDH	High	14.4	22.1	1.5	Lg. inc.	Lg. inc.	High	Rare	Good	Good	Infill ++	Infill ++	1	38
black walnut	Juglans nigra	WDH	Low	10.3	21.6	2.1	No change	Lg. inc.	Medium	Rare	Poor	Good			1	39
cucumbertree	Magnolia acuminata	NSL	Low	16.5	20.9	1.3	Sm. inc.	Lg. inc.	Medium	Rare	Fair	Good			1	40
American chestnut	Castanea dentata	NSLX	FIA	17.5	14.7	0.8	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only			0	41
American hornbeam; muscley	Carpinus caroliniana	WDL	Low	8.2	14.5	1.8	No change	Sm. inc.	Medium	Rare	Poor	Fair			1	42
eastern redcedar	Juniperus virginiana	WDH	Medium	4.1	13.6	3.3	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++	1	43
Table Mountain pine	Pinus pungens	NSL	Low	5.2	12.9	2.5	No change	No change	High	Rare	Fair	Fair	Infill +	Infill +	1	44
bitternut hickory	Carya cordiformis	WSL	Low	9.3	11.5	1.2	No change	No change	High	Rare	Fair	Fair	Infill +	Infill +	1	45
shagbark hickory	Carya ovata	WSL	Medium	8.2	9.7	1.2	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	1	46
American elm	Ulmus americana	WDH	Medium	3.1	8.7	2.8	No change	Sm. inc.	Medium	Rare	Poor	Fair	Infill +	Infill +	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
sweetgum	Liquidambar styraciflua	WDH	High	5.2	8.0	1.6	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++	1	48
blackjack oak	Quercus marilandica	NSL	Medium	3.1	5.7	1.8	Lg. inc.	Lg. inc.	High	Rare	Good	Good	Infill ++	Infill ++	2	49
common persimmon	Diospyros virginiana	NSL	Low	7.2	5.3	0.7	Sm. dec.	Sm. inc.	High	Rare	Poor	Good			1	50
green ash	Fraxinus pennsylvanica	WSH	Low	4.1	5.1	1.2	Sm. inc.	Lg. inc.	Medium	Rare	Fair	Good	Infill +	Infill ++	2	51
eastern hophornbeam; ironw	Ostrya virginiana	WSL	Low	4.1	3.3	0.8	Sm. inc.	Lg. inc.	High	Rare	Good	Good	Infill ++	Infill ++	2	52
shingle oak	Quercus imbricaria	NDH	Medium	1	3.1	3.0	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	53
cherrybark oak; swamp red o	Quercus pagoda	NSL	Medium	1	2.5	2.4	No change	No change	Medium	Rare	Poor	Poor		Infill +	2	54
red mulberry	Morus rubra	NSL	Low	1	2.2	2.1	No change	No change	Medium	Rare	Poor	Poor		Infill +	2	55
mountain maple	Acer spicatum	NSL	Low	2.1	1.7	0.8	No change	No change	High	Rare	Fair	Fair			1	56
slippery elm	Ulmus rubra	WSL	Low	1	0.9	0.8	Very Lg. dec.	No change	Medium	Rare	Lost	Poor		Infill +	2	57
honeylocust	Gleditsia triacanthos	NSH	Low	1	0.8	0.8	Lg. dec.	Very Lg. dec.	High	Rare	Poor	Lost			0	58
river birch	Betula nigra	NSL	Low	1	0.6	0.6	Very Lg. dec.	Sm. inc.	Medium	Rare	Lost	Fair		Infill +	2	59
sand hickory	Carya pallida	NSL	FIA	1	0.6	0.6	Unknown	Unknown	NA	Rare	FIA Only	FIA Only			0	60
American mountain-ash	Sorbus americana	NSL	Low	2.1	0.5	0.2	Lg. dec.	Lg. dec.	Low	Rare	Very Poor	Very Poor			0	61
black maple	Acer nigrum	NSH	Low	1	0.4	0.4	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor			0	62
winged elm	Ulmus alata	WDL	Medium	1	0.4	0.4	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++	2	63
paulownia	Paulownia tomentosa	NSL	FIA	1	0.3	0.3	Unknown	Unknown	NA	Rare	NNIS	NNIS			0	64
bigleaf magnolia	Magnolia macrophylla	NSL	Low	1	0.2	0.2	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	65
slash pine	Pinus elliottii	NDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat		Migrate ++	3	66
longleaf pine	Pinus palustris	NSH	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate ++	Migrate ++	3	67
pond cypress	Taxodium ascendens	NSH	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			3	68
northern white-cedar	Thuja occidentalis	WSH	High	0	0	0	Unknown	New Habitat	Medium	Absent	Unknown	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
silver maple	Acer saccharinum	NSH	Low	0	0	0	Unknown	Unknown	High	Absent	Unknown	Unknown			0	71
pawpaw	Asimina triloba	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	72
cittamwood/gum bumelia	Sideroxylon lanuginosum ssp.	NSL	Low	0	0	0	Unknown	New Habitat	High	Absent	Unknown	New Habitat			3	73
pecan	Carya illinoensis	NSH	Low	0	0	0	Unknown	New Habitat	Low	Absent	Unknown	New Habitat		Migrate +	3	74
black hickory	Carya texana	NDL	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			3	75
sugarberry	Celtis laevigata	NDH	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate +	Migrate ++	3	76
hackberry	Celtis occidentalis	WDH	Medium	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Likely +	Likely +	3	77
eastern redbud	Cercis canadensis	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Likely +	Likely +	3	78
blue ash	Fraxinus quadrangulata	NSL	Low	0	0	0	Unknown	Unknown	Low	Absent	Unknown	Unknown			0	79
southern magnolia	Magnolia grandiflora	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat		Migrate +	3	80
sweetbay	Magnolia virginiana	NSL	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate +	Migrate +	3	81
swamp tupelo	Nyssa biflora	NDH	Medium	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat	Likely +	Likely +	3	82
bigtooth aspen	Populus grandidentata	NSL	Medium	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	83
swamp white oak	Quercus bicolor	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	84
laurel oak	Quercus laurifolia	NDH	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat		Migrate +	3	85
overcup oak	Quercus lyrata	NSL	Medium	0	0	0	Unknown	New Habitat	Low	Absent	Unknown	New Habitat		Migrate +	3	86
chinkapin oak	Quercus muehlenbergii	NSL	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Likely +	Likely +	3	87
water oak	Quercus nigra	WDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Likely +	Likely +	3	88
willow oak	Quercus phellos	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Likely +	Likely +	3	89
Shumard oak	Quercus shumardii	NSL	Low	0	0	0	Unknown	New Habitat	High	Absent	Unknown	New Habitat		Likely +	3	90
live oak	Quercus virginiana	NDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat		Migrate ++	3	91