

	sq. km	sq. mi	FIA Plots
Area of Region	28,425	10,975	963

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	25	27	Increase	34	40	Very Good	13	15	Likely	1	1
Hickory	7			Medium	39	63	No Change	37	34	Good	20	22	Infill	32	39
Maple	5	Abundant	3	Low	43	20	Decrease	16	13	Fair	13	12	Migrate	1	3
Oak	18	Common	26	FIA	7		New	11	12	Poor	21	23			
Pine	9	Rare	65				Unknown	16	15	Very Poor	19	14			
Other	53	Absent	19							FIA Only	4	4			
	94		113		114	110		114	114	Unknown	9	8			
											99	98			

Potential Changes in Climate Variables

Temperature (°F)

Scenario	2009	2039	2069	2099		
Annual	CCSM45	55.8	57.1	58.8	58.8	
Average	CCSM85	55.8	57.4	59.3	61.5	
	GFDL45	55.8	57.9	59.6	60.2	
	GFDL85	55.8	57.9	60.5	63.3	
	HAD45	55.8	57.5	59.7	60.8	
	HAD85	55.8	57.7	60.8	63.9	
Growing Season	CCSM45	66.4	67.6	69.0	69.4	
	CCSM85	66.4	67.7	69.8	72.5	
May—Sep	GFDL45	66.4	68.6	70.3	71.4	
	GFDL85	66.4	68.8	71.5	74.8	
	HAD45	66.4	68.8	70.7	72.0	
	HAD85	66.4	68.7	73.0	76.1	
Coldest Month	CCSM45	40.1	42.1	42.7	42.6	
	CCSM85	40.1	42.0	42.9	43.8	
Average	GFDL45	40.1	42.5	42.7	43.1	
	GFDL85	40.1	41.7	42.5	42.9	
	HAD45	40.1	40.3	41.7	42.1	
	HAD85	40.1	41.1	41.9	43.2	
Warmest Month	CCSM45	70.0	71.5	72.2	72.3	
	CCSM85	70.0	71.6	72.8	74.2	
Average	GFDL45	70.0	72.1	72.8	73.5	
	GFDL85	70.0	72.4	73.7	75.5	
	HAD45	70.0	72.8	74.1	74.6	
	HAD85	70.0	73.1	75.8	77.4	

Precipitation (in)

Scenario	2009	2039	2069	2099		
Annual	CCSM45	38.3	40.9	43.2	43.9	
Total	CCSM85	38.3	41.0	43.9	48.4	
	GFDL45	38.3	43.1	45.6	48.2	
	GFDL85	38.3	42.4	47.0	47.0	
	HAD45	38.3	37.6	40.3	41.6	
	HAD85	38.3	41.9	38.2	40.2	
Growing Season	CCSM45	16.4	18.5	20.1	20.4	
	CCSM85	16.4	18.0	19.5	21.3	
May—Sep	GFDL45	16.4	20.6	22.3	23.0	
	GFDL85	16.4	19.7	23.3	23.6	
	HAD45	16.4	16.3	16.6	17.1	
	HAD85	16.4	18.3	14.7	15.0	

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
loblolly pine	Pinus taeda	WDH	High	83.5	3620.9	33.0	No change	No change	Medium	Abundant	Good	Good			1	1
sweetgum	Liquidambar styraciflua	WDH	High	82.3	1026.5	10.3	Sm. inc.	Sm. inc.	Medium	Abundant	Very Good	Very Good			1	2
water oak	Quercus nigra	WDH	High	74.9	664.8	6.9	Sm. inc.	Lg. inc.	Medium	Abundant	Very Good	Very Good			1	3
red maple	Acer rubrum	WDH	High	73.8	449.5	4.6	Sm. inc.	Sm. inc.	High	Common	Very Good	Very Good			1	4
yellow-poplar	Liriodendron tulipifera	WDH	High	55.9	402.7	5.8	Sm. dec.	Sm. dec.	High	Common	Fair	Fair			1	5
white oak	Quercus alba	WDH	Medium	57	359.6	5.2	No change	No change	High	Common	Good	Good			1	6
shortleaf pine	Pinus echinata	WDH	High	50.8	335.7	5.8	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	7
southern red oak	Quercus falcata	WDL	Medium	52.3	266.1	4.4	Sm. inc.	Lg. inc.	High	Common	Very Good	Very Good			1	8
slash pine	Pinus elliottii	NDH	High	13.3	223.9	9.2	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good	Infill ++	Infill ++	1	9
longleaf pine	Pinus palustris	NSH	Medium	15.4	220.0	9.8	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good	Infill ++	Infill ++	1	10
winged elm	Ulmus alata	WDL	Medium	41.2	168.7	3.8	Sm. inc.	Lg. inc.	Medium	Common	Good	Very Good			1	11
laurel oak	Quercus laurifolia	NDH	Medium	26.2	167.3	4.6	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	12
sourwood	Oxydendrum arboreum	NDL	High	29.7	164.0	4.1	Sm. dec.	Sm. dec.	High	Common	Fair	Fair			1	13
scarlet oak	Quercus coccinea	WDL	Medium	29.1	160.4	4.0	Sm. dec.	Sm. dec.	Medium	Common	Poor	Poor			0	14
black cherry	Prunus serotina	WDL	Medium	56.1	157.1	2.1	Lg. inc.	Lg. inc.	Low	Common	Good	Good			1	15
chestnut oak	Quercus prinus	NDH	High	12.5	151.4	6.9	No change	No change	High	Common	Good	Good	Infill ++	Infill ++	2	16
Virginia pine	Pinus virginiana	NDH	High	20.7	147.8	5.0	Sm. dec.	Sm. dec.	Medium	Common	Poor	Poor	Infill +	Infill +	0	17
pignut hickory	Carya glabra	WDL	Medium	43.1	137.7	2.7	No change	No change	Medium	Common	Fair	Fair			1	18
blackgum	Nyssa sylvatica	WDL	Medium	47.3	128.7	2.0	Lg. inc.	Lg. inc.	High	Common	Very Good	Very Good			1	19
eastern redcedar	Juniperus virginiana	WDH	Medium	33.1	126.1	3.3	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	20
swamp tupelo	Nyssa biflora	NDH	Medium	22.1	125.5	4.4	Lg. inc.	Lg. inc.	Low	Common	Good	Good	Infill ++	Infill ++	1	21
eastern white pine	Pinus strobus	WDH	High	10.3	114.9	7.2	No change	Sm. dec.	Low	Common	Poor	Poor	Infill +	Infill +	2	22
post oak	Quercus stellata	WDH	High	40.2	113.7	2.2	Lg. inc.	Lg. inc.	High	Common	Very Good	Very Good			1	23
green ash	Fraxinus pennsylvanica	WSH	Low	27.7	97.4	2.9	Sm. inc.	Lg. inc.	Medium	Common	Good	Very Good			1	24
mockernut hickory	Carya alba	WDL	Medium	37.4	94.8	2.1	Lg. inc.	Lg. inc.	High	Common	Very Good	Very Good			1	25
flowering dogwood	Cornus florida	WDL	Medium	48	85.7	1.6	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	26
black oak	Quercus velutina	WDH	High	30.4	80.1	2.0	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	27
northern red oak	Quercus rubra	WDH	Medium	23	69.5	2.2	Sm. inc.	Sm. inc.	High	Common	Very Good	Very Good			1	28
willow oak	Quercus phellos	NSL	Low	17.6	63.7	2.7	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	29
black willow	Salix nigra	NSH	Low	9.1	48.7	4.3	No change	No change	Low	Rare	Very Poor	Very Poor			0	30
common persimmon	Diospyros virginiana	NSL	Low	22.1	46.2	1.5	Sm. dec.	No change	High	Rare	Poor	Fair			1	31
American hornbeam; musclev	Carpinus caroliniana	WSL	Low	21.1	43.8	1.6	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			1	32
American holly	Ilex opaca	NSL	Medium	24.4	43.3	1.5	Sm. inc.	Sm. inc.	Medium	Rare	Fair	Fair			1	33
eastern hemlock	Tsuga canadensis	NSH	High	6.6	41.2	3.6	No change	No change	Low	Rare	Very Poor	Very Poor			2	34
American beech	Fagus grandifolia	WDH	High	19	38.8	1.9	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++	1	35
sycamore	Platanus occidentalis	NSL	Low	9.5	38.0	2.9	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	1	36
pond pine	Pinus serotina	NSH	Medium	3.2	31.0	5.0	No change	No change	Low	Rare	Very Poor	Very Poor			2	37
water tupelo	Nyssa aquatica	NSH	Medium	4	28.8	6.8	No change	No change	Low	Rare	Very Poor	Very Poor			2	38
turkey oak	Quercus laevis	NSH	Medium	3.6	27.1	5.5	No change	No change	High	Rare	Fair	Fair	Infill +	Infill +	2	39
river birch	Betula nigra	NSL	Low	4.8	25.1	4.4	Sm. inc.	Sm. inc.	Medium	Rare	Fair	Fair	Infill +	Infill +	1	40
cherrybark oak; swamp red o.	Quercus pagoda	NSL	Medium	8	24.2	3.0	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	1	41
bald cypress	Taxodium distichum	NSH	Medium	6.4	23.7	4.9	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	2	42
pond cypress	Taxodium ascendens	NSH	Medium	3	23.0	6.1	No change	Sm. inc.	Medium	Rare	Poor	Fair	Infill +	Infill +	2	43
pitch pine	Pinus rigida	NSH	High	4.6	21.5	2.2	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	2	44
pecan	Carya illinoensis	NSH	Low	3.5	19.0	3.3	No change	Sm. inc.	Low	Rare	Very Poor	Poor		Infill +	2	45
redbay	Persea borbonia	NSL	Low	9.2	18.6	1.5	No change	No change	High	Rare	Fair	Fair	Infill +	Infill +	1	46
eastern hophornbeam; ironw	Ostrya virginiana	WSL	Low	9.4	18.2	1.5	No change	Sm. inc.	High	Rare	Fair	Good			1	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
sugarberry	Celtis laevigata	NDH	Medium	6.9	17.9	2.1	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++	1	48
slippery elm	Ulmus rubra	WSL	Low	9.8	17.5	1.6	Sm. dec.	No change	Medium	Rare	Very Poor	Poor		Infill +	1	49
florida maple	Acer barbatum	NSL	Low	9	16.9	1.5	No change	No change	High	Rare	Fair	Fair	Infill +	Infill +	1	50
bluejack oak	Quercus incana	NSL	Low	2.2	16.9	3.3	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	2	51
American elm	Ulmus americana	WDH	Medium	12.1	16.8	1.1	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++	1	52
live oak	Quercus virginiana	NDH	High	4.2	15.7	2.2	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			2	53
sand hickory	Carya pallida	NSL	FIA	3.6	15.3	2.8	Unknown	Unknown	NA	Rare	FIA Only	FIA Only			0	54
shagbark hickory	Carya ovata	WSL	Medium	5.6	15.0	1.9	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			2	55
sweetbay	Magnolia virginiana	NSL	Medium	5.8	14.8	1.8	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++	1	56
white ash	Fraxinus americana	WDL	Medium	6.8	12.5	1.5	No change	Sm. inc.	Low	Rare	Very Poor	Poor		Infill +	1	57
black locust	Robinia pseudoacacia	NDH	Low	4.8	12.4	1.4	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	2	58
black walnut	Juglans nigra	WDH	Low	3.5	12.2	2.3	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	59
sweet birch	Betula lenta	NDH	High	4.2	11.0	1.3	No change	No change	Low	Rare	Very Poor	Very Poor			2	60
overcup oak	Quercus lyrata	NSL	Medium	3.3	10.4	2.8	No change	No change	Low	Rare	Very Poor	Very Poor			2	61
sassafras	Sassafras albidum	WSL	Low	8.9	9.9	0.6	Sm. inc.	Lg. inc.	Medium	Rare	Fair	Good	Infill +	Infill ++	1	62
blackjack oak	Quercus marilandica	NSL	Medium	7.2	9.7	1.2	Lg. inc.	Lg. inc.	High	Rare	Good	Good	Infill ++	Infill ++	1	63
swamp chestnut oak	Quercus michauxii	NSL	Low	3	9.4	2.4	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	2	64
red mulberry	Morus rubra	NSL	Low	10.8	9.0	0.8	Sm. inc.	Lg. inc.	Medium	Rare	Fair	Good			1	65
boxelder	Acer negundo	WSH	Low	6.1	8.7	1.3	No change	No change	High	Rare	Fair	Fair	Infill +	Infill +	1	66
eastern redbud	Cercis canadensis	NSL	Low	7.8	8.7	1.0	Lg. dec.	No change	Medium	Rare	Very Poor	Poor		Infill +	1	67
bitternut hickory	Carya cordiformis	WSL	Low	3.2	8.1	2.1	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor		Infill +	2	68
cabbage palmetto	Sabal palmetto	NDH	Medium	1.1	8.0	15.5	No change	No change	Medium	Rare	Poor	Poor			0	69
water hickory	Carya aquatica	NSL	Medium	2.8	7.6	2.7	Sm. dec.	No change	Medium	Rare	Very Poor	Poor		Infill +	2	70
mountain or Fraser magnolia	Magnolia fraseri	NSL	Low	4.3	6.7	1.0	No change	No change	Low	Rare	Very Poor	Very Poor			0	71
loblolly-bay	Gordonia lasianthus	NSH	Medium	1.2	6.3	3.0	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	2	72
ailanthus	Ailanthus altissima	NSL	FIA	0.7	4.5	4.2	Unknown	Unknown	NA	Rare	NNIS	NNIS			0	73
cucumbertree	Magnolia acuminata	NSL	Low	2.5	4.1	1.3	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	2	74
honeylocust	Gleditsia triacanthos	NSH	Low	2.1	3.9	1.8	No change	Sm. inc.	High	Rare	Fair	Good		Infill ++	2	75
yellow birch	Betula alleghaniensis	NDL	High	0.5	3.6	0.5	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	2	76
serviceberry	Amelanchier spp.	NSL	Low	3.2	3.5	0.4	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	2	77
southern magnolia	Magnolia grandiflora	NSL	Low	1.8	3.1	1.0	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++	2	78
eastern cottonwood	Populus deltoides	NSH	Low	1.4	3.0	2.0	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	79
paulownia	Paulownia tomentosa	NSL	FIA	0.9	2.1	1.7	Unknown	Unknown	NA	Rare	NNIS	NNIS			0	80
pawpaw	Asimina triloba	NSL	Low	1.1	2.0	1.9	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	81
hackberry	Celtis occidentalis	WDH	Medium	1.3	1.8	1.2	Very Lg. dec.	Very Lg. dec.	High	Rare	Lost	Lost			0	82
American chestnut	Castanea dentata	NSLX	FIA	0.9	1.7	0.3	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only			0	83
water elm	Planera aquatica	NSL	Low	0.8	1.7	1.5	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			2	84
spruce pine	Pinus glabra	NSL	Low	0.7	1.6	2.2	No change	No change	Medium	Rare	Poor	Poor	Infill +		2	85
silverbell	Halesia spp.	NSL	Low	1.5	1.4	0.5	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	2	86
American basswood	Tilia americana	WSL	Medium	0.6	0.6	0.7	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			2	87
butternut	Juglans cinerea	NSLX	FIA	0.4	0.5	1.5	Unknown	Unknown	Low	Rare	FIA Only	FIA Only			0	88
striped maple	Acer pensylvanicum	NSL	Medium	0.5	0.5	0.2	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	89
wild plum	Prunus americana	NSLX	FIA	1.5	0.4	0.9	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only			0	90
yellow buckeye	Aesculus flava	NSL	Low	0.6	0.3	0.4	No change	No change	Low	Rare	Very Poor	Very Poor			2	91
sugar maple	Acer saccharum	WDH	High	0	0.2	0.1	Lg. inc.	Lg. inc.	High	Rare	Good	Good			2	92
white mulberry	Morus alba	NSL	FIA	0.3	0.2	0.5	Unknown	Unknown	NA	Rare	NNIS	NNIS			0	93
chinkapin oak	Quercus muehlenbergii	NSL	Medium	0.4	0.1	0.4	No change	Sm. inc.	Medium	Rare	Poor	Fair		Infill +	2	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
ashe juniper	Juniperus ashei	NDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			0	95
red spruce	Picea rubens	NDH	High	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat	Likely +	Likely +	3	96
sand pine	Pinus clausa	NDH	High	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat	Migrate +	Migrate +	3	97
northern white-cedar	Thuja occidentalis	WSH	High	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	98
black maple	Acer nigrum	NSH	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat			0	99
silver maple	Acer saccharinum	NSH	Low	0	0	0	Unknown	New Habitat	High	Absent	Unknown	New Habitat		Migrate +	3	100
mountain maple	Acer spicatum	NSL	Low	0	0	0	Unknown	Unknown	High	Absent	Unknown	Unknown			0	101
cittamwood/gum bumelia	Sideroxylon lanuginosum ssp.	NSL	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat			3	102
shellbark hickory	Carya laciniosa	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			3	103
black hickory	Carya texana	NDL	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			3	104
black ash	Fraxinus nigra	WSH	Medium	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat			3	105
Osage-orange	Maclura pomifera	NDH	Medium	0	0	0	Unknown	Unknown	High	Absent	Unknown	Unknown			0	106
bigleaf magnolia	Magnolia macrophylla	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			3	107
bigtooth aspen	Populus grandidentata	NSL	Medium	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	108
pin cherry	Prunus pensylvanica	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	109
swamp white oak	Quercus bicolor	NSL	Low	0	0	0	Unknown	Unknown	Medium	Modeled	Unknown	Unknown			0	110
pin oak	Quercus palustris	NSH	Low	0	0	0	Unknown	Unknown	Low	Absent	Unknown	Unknown			0	111
Shumard oak	Quercus shumardii	NSL	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat		Migrate +	3	112
American mountain-ash	Sorbus americana	NSL	Low	0	0	0	Unknown	Unknown	Low	Absent	Unknown	Unknown			0	113
cedar elm	Ulmus crassifolia	NDH	Medium	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat			2	114