

	sq. km	sq. mi	FIA Plots
Area of Region	8,800.0	3,397.7	139

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	24	31	Very Good	9	11	Likely	0	0
Hickory	4			Medium	25	46	No Change	10	7	Good	16	20	Infill	0	0
Maple	5	Abundant	1	Low	31	12	Decrease	22	18	Fair	9	6	Migrate	0	0
Oak	12	Common	27	FIA	8		New	19	19	Poor	8	7		0	0
Pine	7	Rare	36				Unknown	12	12	Very Poor	13	11			
Other	34	Absent	21							FIA Only	3	3			
	64		85		87	82		87	87	Unknown	4	4			
											62	62			

Potential Changes in Climate Variables

Temperature (°F)

	Scenario	2009	2039	2069	2099
Annual Average	CCSM45	53.5	55.3	57.5	57.8
	CCSM85	53.5	55.7	58.3	61.4
	GFDL45	53.5	57.4	59.2	60.3
	GFDL85	53.5	56.9	60.4	64.5
	HAD45	53.5	56.2	59.6	61.1
	HAD85	53.5	56.4	60.6	65.3
Growing Season May—Sep	CCSM45	69.4	71.3	73.2	73.7
	CCSM85	69.4	71.5	74.2	78.1
	GFDL45	69.4	73.9	76.2	77.8
	GFDL85	69.4	73.7	77.7	82.2
	HAD45	69.4	72.5	75.7	77.7
	HAD85	69.4	72.4	77.4	82.7
Coldest Month Average	CCSM45	29.6	31.4	33.0	33.4
	CCSM85	29.6	31.9	33.3	34.9
	GFDL45	29.6	32.8	33.4	34.1
	GFDL85	29.6	32.5	33.7	35.1
	HAD45	29.6	31.4	33.6	33.8
	HAD85	29.6	31.8	33.7	35.7
Warmest Month Average	CCSM45	75.2	77.4	78.3	78.7
	CCSM85	75.2	77.6	79.5	81.2
	GFDL45	75.2	78.3	80.3	81.8
	GFDL85	75.2	79.9	82.3	85.1
	HAD45	75.2	78.7	80.8	82.0
	HAD85	75.2	79.1	82.4	86.0

Precipitation (in)

	Scenario	2009	2039	2069	2099
Annual Total	CCSM45	40.7	44.0	45.0	46.9
	CCSM85	40.7	44.3	45.7	51.3
	GFDL45	40.7	45.6	48.0	48.2
	GFDL85	40.7	41.9	48.0	49.4
	HAD45	40.7	43.6	44.3	43.6
	HAD85	40.7	46.3	42.2	45.8
Growing Season May—Sep	CCSM45	18.4	21.2	21.8	22.3
	CCSM85	18.4	21.2	21.4	23.7
	GFDL45	18.4	19.4	20.1	20.3
	GFDL85	18.4	17.5	19.7	20.1
	HAD45	18.4	19.9	18.4	17.9
	HAD85	18.4	20.2	17.4	18.4

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-DGP30 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	64.8	623.2	16.0	Sm. dec.	Sm. dec.	High	Abundant	Good	Good			0	1
yellow-poplar	Liriodendron tulipifera	WDH	High	40.9	445.7	13.6	Sm. dec.	Lg. dec.	High	Common	Fair	Fair			0	2
red maple	Acer rubrum	WDH	High	52.3	421.2	10.2	Sm. dec.	Sm. dec.	High	Common	Fair	Fair			0	3
white oak	Quercus alba	WDH	Medium	58	402.6	11.2	Sm. inc.	Sm. inc.	High	Common	Very Good	Very Good			0	4
black locust	Robinia pseudoacacia	NDH	Low	46.6	349.8	10.9	Lg. dec.	Sm. dec.	Medium	Common	Poor	Poor			0	5
black cherry	Prunus serotina	WDL	Medium	58	308.1	8.1	No change	No change	Low	Common	Poor	Poor			0	6
white ash	Fraxinus americana	WDL	Medium	46.6	281.4	7.8	No change	No change	Low	Common	Poor	Poor			0	7
northern red oak	Quercus rubra	WDH	Medium	46.6	233.1	7.8	Sm. inc.	Sm. inc.	High	Common	Very Good	Very Good			0	8
eastern redcedar	Juniperus virginiana	WDH	Medium	14.8	197.0	17.6	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			0	9
pignut hickory	Carya glabra	WDL	Medium	50	174.2	6.5	No change	No change	Medium	Common	Fair	Fair			0	10
black oak	Quercus velutina	WDH	High	48.9	153.4	6.1	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			0	11
black walnut	Juglans nigra	WDH	Low	35.2	143.5	6.1	No change	Sm. inc.	Medium	Common	Fair	Good			0	12
Virginia pine	Pinus virginiana	NDH	High	28.4	140.8	8.3	No change	No change	Medium	Common	Fair	Fair			0	13
sweet birch	Betula lenta	NDH	High	18.2	138.6	7.6	Lg. dec.	Lg. dec.	Low	Common	Very Poor	Very Poor			0	14
scarlet oak	Quercus coccinea	WDL	Medium	29.5	126.6	6.3	Sm. dec.	Sm. dec.	Medium	Common	Poor	Poor			0	15
blackgum	Nyssa sylvatica	WDL	Medium	40.9	125.2	5.4	Sm. inc.	Sm. inc.	High	Common	Very Good	Very Good			0	16
hackberry	Celtis occidentalis	WDH	Medium	23.9	114.5	5.6	Sm. dec.	No change	High	Common	Fair	Good			0	17
mockernut hickory	Carya alba	WDL	Medium	28.4	114.2	5.5	Sm. inc.	Lg. inc.	High	Common	Very Good	Very Good			0	18
boxelder	Acer negundo	WSH	Low	13.6	106.1	11.0	No change	Sm. inc.	High	Common	Good	Very Good			0	19
ailanthus	Ailanthus altissima	NSL	FIA	35.2	104.2	4.4	Unknown	Unknown	NA	Common	NNIS	NNIS			0	20
bitternut hickory	Carya cordiformis	WSL	Low	25	99.0	7.6	Sm. inc.	Sm. inc.	High	Common	Very Good	Very Good			0	21
shagbark hickory	Carya ovata	WSL	Medium	26.1	77.8	4.4	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			0	22
sassafras	Sassafras albidum	WSL	Low	27.3	75.8	3.8	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			0	23
loblolly pine	Pinus taeda	WDH	High	3.4	73.1	21.4	Sm. inc.	Lg. inc.	Medium	Common	Good	Very Good			0	24
American beech	Fagus grandifolia	WDH	High	11.4	72.7	6.4	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			0	25
sugar maple	Acer saccharum	WDH	High	11.4	71.2	6.3	Lg. inc.	Lg. inc.	High	Common	Very Good	Very Good			0	26
eastern white pine	Pinus strobus	WDH	High	9.1	69.0	7.6	Sm. dec.	Lg. dec.	Low	Common	Poor	Very Poor			0	27
sycamore	Platanus occidentalis	NSL	Low	20.5	64.9	5.0	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			0	28
silver maple	Acer saccharinum	NSH	Low	6.8	48.8	18.7	No change	No change	High	Rare	Fair	Fair			0	29
American basswood	Tilia americana	WSL	Medium	6.8	31.5	4.6	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	30
pin oak	Quercus palustris	NSH	Low	10.2	29.9	14.2	No change	Sm. inc.	Low	Rare	Very Poor	Poor			0	31
American elm	Ulmus americana	WDH	Medium	23.9	29.6	2.7	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			0	32
eastern redbud	Cercis canadensis	NSL	Low	14.8	22.4	2.1	Sm. inc.	Lg. inc.	Medium	Rare	Fair	Good			0	33
red mulberry	Morus rubra	NSL	Low	6.8	20.5	11.0	Sm. dec.	No change	Medium	Rare	Very Poor	Poor			0	34
white mulberry	Morus alba	NSL	FIA	8	16.4	6.7	Unknown	Unknown	NA	Rare	NNIS	NNIS			0	35
serviceberry	Amelanchier spp.	NSL	Low	10.2	16.0	1.6	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	36
eastern hemlock	Tsuga canadensis	NSH	High	4.5	14.9	3.3	Lg. dec.	Lg. dec.	Low	Rare	Very Poor	Very Poor			0	37
slippery elm	Ulmus rubra	WSL	Low	11.4	14.9	2.1	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			0	38
pawpaw	Asimina triloba	NSL	Low	9.1	13.6	2.6	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	39
pitch pine	Pinus rigida	NSH	High	8	11.3	2.7	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	40
Osage-orange	Maclura pomifera	NDH	Medium	2.3	10.9	4.8	Sm. dec.	Sm. inc.	High	Rare	Poor	Good			0	41
green ash	Fraxinus pennsylvanica	WDL	Low	6.8	10.3	3.5	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			0	42
flowering dogwood	Cornus florida	WDL	Medium	20.5	9.6	0.8	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			0	43
honeylocust	Gleditsia triacanthos	NSH	Low	2.3	7.7	3.4	No change	Sm. inc.	High	Rare	Fair	Good			0	44
common persimmon	Diospyros virginiana	NSL	Low	1.1	7.5	6.6	Sm. inc.	Lg. inc.	High	Rare	Good	Good			0	45
cucumbertree	Magnolia acuminata	NSL	Low	2.3	6.7	3.0	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	46
eastern hophornbeam; ironw	Ostrya virginiana	WSL	Low	9.1	5.1	1.2	Sm. inc.	Lg. inc.	High	Rare	Good	Good			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
river birch	Betula nigra	NSL	Low	2.3	4.9	2.1	Sm. dec.	Sm. inc.	Medium	Rare	Very Poor	Fair				0 48
Scots pine	Pinus sylvestris	NSH	FIA	2.3	4.1	1.8	Unknown	Unknown	NA	Rare	NNIS	NNIS				0 49
American hornbeam; musclev	Carpinus caroliniana	WSL	Low	4.5	4.0	0.9	No change	Lg. inc.	Medium	Rare	Poor	Good				0 50
Table Mountain pine	Pinus pungens	NSL	Low	1.1	3.8	3.3	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor				0 51
swamp chestnut oak	Quercus michauxii	NSL	Low	1.1	3.6	3.2	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor				0 52
Norway maple	Acer platanoides	NSL	FIA	1.1	3.1	2.8	Unknown	Unknown	NA	Rare	NNIS	NNIS				0 53
chinkapin oak	Quercus muehlenbergii	NSL	Medium	1.1	2.8	2.5	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good				0 54
willow oak	Quercus phellos	NSL	Low	1.1	2.6	2.3	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good				0 55
paulownia	Paulownia tomentosa	NSL	FIA	1.1	2.3	2.0	Unknown	Unknown	NA	Rare	NNIS	NNIS				0 56
shortleaf pine	Pinus echinata	WDH	High	1.1	1.9	1.7	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good				0 57
chokecherry	Prunus virginiana	NSLX	FIA	1.1	1.8	1.6	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only				0 58
pin cherry	Prunus pensylvanica	NSL	Low	1.1	1.6	1.4	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor				0 59
yellow birch	Betula alleghaniensis	NDL	High	1.1	1.0	0.9	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor				0 60
shingle oak	Quercus imbricaria	NDH	Medium	1.1	0.8	0.7	Very Lg. dec.	Very Lg. dec.	Medium	Rare	Lost	Lost				0 61
butternut	Juglans cinerea	NSLX	FIA	4.5	0.7	2.4	Unknown	Unknown	Low	Rare	FIA Only	FIA Only				0 62
southern red oak	Quercus falcata	WDL	Medium	4.5	0.6	2.1	Lg. inc.	Lg. inc.	High	Rare	Good	Good				0 63
bear oak; scrub oak	Quercus ilicifolia	NSLX	FIA	4.5	0.2	0.7	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only				0 64
ashe juniper	Juniperus ashei	NDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat				0 65
red spruce	Picea rubens	NDH	High	0	0	0	Unknown	Unknown	Low	Absent	Unknown	Unknown				0 66
bald cypress	Taxodium distichum	NSH	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat				0 67
florida maple	Acer barbatum	NSL	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat				0 68
cittamwood/gum bumelia	Sideroxylon lanuginosum ssp.	NSL	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat				0 69
pecan	Carya illinoensis	NSH	Low	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat				0 70
shellbark hickory	Carya laciniosa	NSL	Low	0	0	0	Unknown	Unknown	Medium	Modeled	Unknown	Unknown				0 71
black hickory	Carya texana	NDL	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat				0 72
sugarberry	Celtis laevigata	NDH	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat				0 73
sweetgum	Liquidambar styraciflua	WDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat				0 74
bigleaf magnolia	Magnolia macrophylla	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown				0 75
sourwood	Oxydendrum arboreum	NDL	High	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat				0 76
quaking aspen	Populus tremuloides	WDH	High	0	0	0	Unknown	Unknown	Medium	Modeled	Unknown	Unknown				0 77
cherrybark oak; swamp red o.	Quercus pagoda	NSL	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat				0 78
overcup oak	Quercus lyrata	NSL	Medium	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat				0 79
blackjack oak	Quercus marilandica	NSL	Medium	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat				0 80
water oak	Quercus nigra	WDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat				0 81
Shumard oak	Quercus shumardii	NSL	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat				0 82
post oak	Quercus stellata	WDH	High	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat				0 83
live oak	Quercus virginiana	NDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat				0 84
black willow	Salix nigra	NSH	Low	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat				0 85
winged elm	Ulmus alata	WDL	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat				0 86
cedar elm	Ulmus crassifolia	NDH	Medium	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat				0 87