

sq. km sq. mi FIA Plots
Area of Region 32,670 12,614 836

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	3			High	17	26	Increase	24	33	Very Good	11	12	Likely	0	0
Hickory	7			Medium	34	54	No Change	18	17	Good	12	21	Infill	13	19
Maple	5	Abundant	4	Low	37	10	Decrease	23	15	Fair	14	7	Migrate	9	9
Oak	16	Common	22	FIA	5		New	15	15	Poor	11	14		22	28
Pine	2	Rare	44				Unknown	13	13	Very Poor	17	10			
Other	37	Absent	21							FIA Only	3	3			
	70		91		93	90		93	93	Unknown	8	8			
											76	75			

Potential Changes in Climate Variables

Temperature (°F)

	Scenario	2009	2039	2069	2099	
Annual Average	CCSM45	57.8	59.2	60.7	61.1	
	CCSM85	57.8	59.7	61.7	64.0	
	GFDL45	57.8	60.4	61.7	62.8	
	GFDL85	57.8	60.3	62.7	65.9	
	HAD45	57.8	59.7	62.1	63.1	
HAD85	57.8	60.0	63.7	66.7		
Growing Season May—Sep	CCSM45	70.4	71.7	73.1	73.6	
	CCSM85	70.4	72.6	74.5	77.4	
	GFDL45	70.4	73.7	75.0	77.1	
	GFDL85	70.4	73.8	76.5	80.5	
	HAD45	70.4	72.7	75.0	75.7	
HAD85	70.4	73.1	77.7	80.3		
Coldest Month Average	CCSM45	38.8	40.8	41.6	41.9	
	CCSM85	38.8	41.0	41.9	43.1	
	GFDL45	38.8	41.9	42.2	42.2	
	GFDL85	38.8	39.7	41.0	41.4	
	HAD45	38.8	39.3	41.1	41.4	
HAD85	38.8	40.9	42.4	43.9		
Warmest Month Average	CCSM45	75.4	76.5	77.2	77.4	
	CCSM85	75.4	77.5	78.1	79.6	
	GFDL45	75.4	79.8	80.3	81.7	
	GFDL85	75.4	79.5	80.9	84.0	
	HAD45	75.4	77.9	79.2	79.4	
HAD85	75.4	78.7	81.1	82.0		

Precipitation (in)

	Scenario	2009	2039	2069	2099	
Annual Total	CCSM45	42.8	42.8	44.1	43.8	
	CCSM85	42.8	42.4	44.9	44.6	
	GFDL45	42.8	44.5	49.9	44.4	
	GFDL85	42.8	44.6	48.7	47.9	
	HAD45	42.8	43.3	44.8	46.7	
HAD85	42.8	46.8	40.2	43.4		
Growing Season May—Sep	CCSM45	18.0	18.3	17.2	18.0	
	CCSM85	18.0	17.6	16.6	16.9	
	GFDL45	18.0	19.0	21.4	19.2	
	GFDL85	18.0	19.6	21.3	20.1	
	HAD45	18.0	17.7	17.6	18.0	
HAD85	18.0	18.8	13.9	14.8		

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	45.1	1707.4	34.6	No change	No change	Medium	Abundant	Good	Good			1	1
post oak	Quercus stellata	WDH	High	74.6	1242.7	16.2	No change	Sm. inc.	High	Abundant	Very Good	Very Good			1	2
shortleaf pine	Pinus echinata	WDH	High	43.3	866.1	17.1	No change	No change	Medium	Abundant	Good	Good			1	3
winged elm	Ulmus alata	WDL	Medium	81.2	544.0	6.7	Sm. inc.	Sm. inc.	Medium	Abundant	Very Good	Very Good			1	4
sweetgum	Liquidambar styraciflua	WDH	High	36.6	451.6	10.8	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	5
eastern redcedar	Juniperus virginiana	WDH	Medium	59.3	409.2	7.6	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	6
white oak	Quercus alba	WDH	Medium	30.9	250.5	6.7	No change	No change	High	Common	Good	Good			1	7
water oak	Quercus nigra	WDH	High	36.6	243.5	5.9	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	8
mockernut hickory	Carya alba	WDL	Medium	47.7	240.9	4.3	Sm. inc.	Sm. inc.	High	Common	Very Good	Very Good			1	9
green ash	Fraxinus pennsylvanica	WSH	Low	37.5	225.5	6.1	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	10
southern red oak	Quercus falcata	WDL	Medium	39.2	217.2	5.7	Sm. inc.	Lg. inc.	High	Common	Very Good	Very Good			1	11
blackjack oak	Quercus marilandica	NSL	Medium	36.2	216.7	5.7	Sm. inc.	Lg. inc.	High	Common	Very Good	Very Good			1	12
black hickory	Carya texana	NDL	High	42.9	199.8	4.5	No change	Sm. inc.	Medium	Common	Fair	Good			1	13
Osage-orange	Maclura pomifera	NDH	Medium	29.6	173.6	6.8	Sm. inc.	Sm. inc.	High	Common	Very Good	Very Good			1	14
sugarberry	Celtis laevigata	NDH	Medium	34.1	142.5	5.0	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	15
American elm	Ulmus americana	WDH	Medium	34.2	122.0	3.9	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	16
black oak	Quercus velutina	WDH	High	34.2	112.9	3.3	No change	No change	Medium	Common	Fair	Fair			1	17
honeylocust	Gleditsia triacanthos	NSH	Low	19	106.0	6.8	No change	Sm. inc.	High	Common	Good	Very Good			1	18
red maple	Acer rubrum	WDH	High	28.2	98.4	2.9	Sm. inc.	Sm. inc.	High	Common	Very Good	Very Good			1	19
willow oak	Quercus phellos	NSL	Low	13.9	96.4	6.0	No change	Sm. inc.	Medium	Common	Fair	Good	Infill +	Infill ++	1	20
northern red oak	Quercus rubra	WDH	Medium	20.9	88.2	3.0	No change	No change	High	Common	Good	Good	Infill ++	Infill ++	1	21
cedar elm	Ulmus crassifolia	NDH	Medium	9.3	84.4	10.3	Sm. inc.	Lg. inc.	Low	Common	Fair	Good	Infill +	Infill ++	1	22
blackgum	Nyssa sylvatica	WDL	Medium	27.9	84.4	2.5	Lg. inc.	Lg. inc.	High	Common	Very Good	Very Good			1	23
white ash	Fraxinus americana	WDL	Medium	25.1	83.9	3.8	Sm. inc.	Sm. inc.	Low	Common	Fair	Fair			1	24
pecan	Carya illinoensis	NSH	Low	16.4	74.7	6.4	Sm. inc.	Lg. inc.	Low	Common	Fair	Good	Infill +	Infill ++	1	25
Shumard oak	Quercus shumardii	NSL	Low	15.4	56.1	4.9	Sm. dec.	No change	High	Common	Fair	Good			1	26
sycamore	Platanus occidentalis	NSL	Low	11.1	49.6	5.6	Sm. dec.	No change	Medium	Rare	Very Poor	Poor		Infill +	1	27
eastern hophornbeam; ironw	Ostrya virginiana	WSL	Low	19.5	48.2	2.1	Sm. inc.	Sm. inc.	High	Rare	Good	Good			1	28
common persimmon	Diospyros virginiana	NSL	Low	20.6	45.1	3.5	No change	Sm. inc.	High	Rare	Fair	Good			1	29
boxelder	Acer negundo	WSH	Low	11.3	45.1	5.7	No change	Sm. inc.	High	Rare	Fair	Good			1	30
black cherry	Prunus serotina	WDL	Medium	23.6	44.0	1.7	Lg. inc.	Lg. inc.	Low	Rare	Fair	Fair			1	31
slippery elm	Ulmus rubra	WSL	Low	15.1	40.9	3.3	Sm. inc.	Lg. inc.	Medium	Rare	Fair	Good			1	32
overcup oak	Quercus lyrata	NSL	Medium	4.3	39.0	9.1	Sm. dec.	No change	Low	Rare	Very Poor	Very Poor			2	33
hackberry	Celtis occidentalis	WDH	Medium	8.2	37.1	5.3	Sm. dec.	No change	High	Rare	Poor	Fair	Infill +	Infill +	2	34
bitternut hickory	Carya cordiformis	WSL	Low	13.5	34.2	3.2	Lg. dec.	Lg. dec.	High	Rare	Poor	Poor	Infill +	Infill +	1	35
American hornbeam; muscle	Carpinus caroliniana	WSL	Low	12.9	32.2	2.3	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			1	36
cherrybark oak; swamp red o	Quercus pagoda	NSL	Medium	7.3	28.5	3.4	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	1	37
eastern cottonwood	Populus deltoides	NSH	Low	3.5	26.5	9.6	Sm. dec.	No change	Medium	Rare	Very Poor	Poor		Infill +	2	38
black willow	Salix nigra	NSH	Low	6.4	25.2	4.9	No change	Sm. inc.	Low	Rare	Very Poor	Poor		Infill +	1	39
flowering dogwood	Cornus florida	WDL	Medium	20	23.1	1.1	Sm. inc.	Lg. inc.	Medium	Rare	Fair	Good			1	40
river birch	Betula nigra	NSL	Low	5.9	20.2	3.6	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	1	41
shagbark hickory	Carya ovata	WSL	Medium	4.6	18.7	3.5	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			2	42
eastern redbud	Cercis canadensis	NSL	Low	15	17.1	1.3	Lg. dec.	No change	Medium	Rare	Very Poor	Poor			1	43
red mulberry	Morus rubra	NSL	Low	12.1	16.2	1.7	No change	Sm. inc.	Medium	Rare	Poor	Fair			1	44
American holly	Ilex opaca	NSL	Medium	8.5	15.5	1.6	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	1	45
black walnut	Juglans nigra	WDH	Low	3.7	15.1	4.8	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	46
cittamwood/gum bumelia	Sideroxylon lanuginosum ssp.	NSL	Low	9.1	13.3	1.9	Lg. inc.	Lg. inc.	High	Rare	Good	Good	Infill ++	Infill ++	1	47

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Common Name	Scientific Name	Range	MR	%Cell	FIAsum	FIAiv	ChngCl45	ChngCl85	Adap	Abund	Capabil45	Capabil85	SHIFT45	SHIFT85	SSO	N
chinkapin oak	Quercus muehlenbergii	NSL	Medium	4.9	12.4	3.3	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			2	48
water hickory	Carya aquatica	NSL	Medium	2.9	11.3	2.4	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			2	49
bur oak	Quercus macrocarpa	NDH	Medium	4.4	10.2	5.0	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor		Infill +	2	50
florida maple	Acer barbatum	NSL	Low	4.1	9.2	1.6	No change	No change	High	Rare	Fair	Fair	Infill +	Infill +	2	51
sassafras	Sassafras albidum	WSL	Low	3.5	8.4	2.1	Sm. inc.	Lg. inc.	Medium	Rare	Fair	Good	Infill +	Infill ++	1	52
pignut hickory	Carya glabra	WDL	Medium	3.1	6.8	1.6	No change	Sm. inc.	Medium	Rare	Poor	Fair	Infill +	Infill +	2	53
bald cypress	Taxodium distichum	NSH	Medium	0.6	5.8	9.5	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			2	54
swamp chestnut oak	Quercus michauxii	NSL	Low	1.5	5.5	3.5	Sm. dec.	No change	Medium	Rare	Very Poor	Poor		Infill +	2	55
silver maple	Acer saccharinum	NSH	Low	0.6	5.4	8.9	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor			0	56
wild plum	Prunus americana	NSLX	FIA	4.8	5.3	1.3	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only			0	57
ailanthus	Ailanthus altissima	NSL	FIA	0.3	3.2	10.3	Unknown	Unknown	NA	Rare	NNIS	NNIS			0	58
water elm	Planera aquatica	NSL	Low	0.9	2.8	3.0	Sm. dec.	No change	Medium	Rare	Very Poor	Poor		Infill +	2	59
black locust	Robinia pseudoacacia	NDH	Low	1.8	2.7	1.0	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	60
American basswood	Tilia americana	WSL	Medium	1.9	2.2	1.2	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	61
American beech	Fagus grandifolia	WDH	High	0.5	2.2	1.3	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			2	62
serviceberry	Amelanchier spp.	NSL	Low	2.1	1.3	0.4	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	63
pin oak	Quercus palustris	NSH	Low	0.7	1.3	0.9	Sm. dec.	Lg. dec.	Low	Rare	Very Poor	Very Poor			0	64
sugar maple	Acer saccharum	WDH	High	0.3	1.0	3.3	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor			0	65
Texas ash	Fraxinus texensis	NDH	FIA	1.5	0.9	1.8	Unknown	Unknown	NA	Rare	FIA Only	FIA Only			0	66
waterlocust	Gleditsia aquatica	NSLX	FIA	0.3	0.8	2.8	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only			0	67
white mulberry	Morus alba	NSL	FIA	0.5	0.4	0.6	Unknown	Unknown	NA	Rare	NNIS	NNIS			0	68
pawpaw	Asimina triloba	NSL	Low	0.4	0.2	0.2	Lg. dec.	Very Lg. dec.	Medium	Rare	Very Poor	Lost			0	69
Nuttall oak	Quercus texana	NSH	Medium	0.3	0.2	0.5	Lg. dec.	Lg. dec.	High	Rare	Poor	Poor			0	70
ashe juniper	Juniperus ashei	NDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			0	71
slash pine	Pinus elliottii	NDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate +	Migrate ++	3	72
longleaf pine	Pinus palustris	NSH	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate +	Migrate ++	3	73
Virginia pine	Pinus virginiana	NDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			3	74
striped maple	Acer pensylvanicum	NSL	Medium	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	75
shellbark hickory	Carya laciniosa	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	76
black ash	Fraxinus nigra	WSH	Medium	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat			3	77
silverbell	Halesia spp.	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	78
yellow-poplar	Liriodendron tulipifera	WDH	High	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Migrate +	Migrate +	3	79
cucumbertree	Magnolia acuminata	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	80
southern magnolia	Magnolia grandiflora	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate +	Migrate +	3	81
sweetbay	Magnolia virginiana	NSL	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate +	Migrate +	3	82
bigleaf magnolia	Magnolia macrophylla	NSL	Low	0	0	0	Unknown	Unknown	Medium	Modeled	Unknown	Unknown			0	83
mountain or Fraser magnolia	Magnolia fraseri	NSL	Low	0	0	0	Unknown	Unknown	Low	Absent	Unknown	Unknown			0	84
water tupelo	Nyssa aquatica	NSH	Medium	0	0	0	Unknown	Unknown	Low	Absent	Unknown	Unknown			0	85
sourwood	Oxydendrum arboreum	NDL	High	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Migrate +	Migrate +	3	86
redbay	Persea borbonia	NSL	Low	0	0	0	Unknown	Unknown	High	Modeled	Unknown	Unknown			0	87
pin cherry	Prunus pensylvanica	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			3	88
scarlet oak	Quercus coccinea	WDL	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			3	89
laurel oak	Quercus laurifolia	NDH	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate +	Migrate +	3	90
chestnut oak	Quercus prinus	NDH	High	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat			3	91
live oak	Quercus virginiana	NDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate ++	Migrate ++	3	92
bluejack oak	Quercus incana	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate +	Migrate +	3	93