

Current and Potential Future Habitat, Capability, and Migration

	sq. km	sq. mi	FIA Plots
Area of Region	16,649	6,428.2	517

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	4			High	15	19	Increase	30	32	Very Good	7	9	Likely	3	4
Hickory	3			Medium	35	51	No Change	11	9	Good	18	20	Infill	13	19
Maple	1	Abundant	4	Low	32	14	Decrease	13	13	Fair	9	8	Migrate	1	1
Oak	13	Common	12	FIA	4		New	10	11	Poor	9	7			
Pine	6	Rare	42				Unknown	22	21	Very Poor	8	7			
Other	31	Absent	23							FIA Only	4	4			
	58		81		86	84		86	86	Unknown	18	17			
											73	72			

Potential Changes in Climate Variables

Temperature (°F)

Scenario	2009	2039	2069	2099		
Annual	CCSM45	58.9	60.0	61.4	61.4	
Average	CCSM85	58.9	60.2	62.0	63.8	
	GFDL45	58.9	60.9	62.3	62.9	
	GFDL85	58.9	60.8	63.1	65.8	
	HAD45	58.9	60.4	62.4	63.4	
	HAD85	58.9	60.8	63.2	66.1	
Growing Season	CCSM45	67.6	68.6	69.7	69.9	
	CCSM85	67.6	68.6	70.4	72.6	
May—Sep	GFDL45	67.6	69.5	70.9	71.8	
	GFDL85	67.6	69.6	71.9	74.8	
	HAD45	67.6	69.8	71.5	72.7	
	HAD85	67.6	70.0	73.3	76.0	
Coldest Month	CCSM45	45.6	47.3	48.0	47.7	
	CCSM85	45.6	47.0	47.9	48.9	
Average	GFDL45	45.6	47.6	47.9	48.3	
	GFDL85	45.6	47.3	48.1	48.7	
	HAD45	45.6	45.5	46.4	47.1	
	HAD85	45.6	46.1	46.8	48.1	
Warmest Month	CCSM45	70.3	71.3	72.0	72.2	
	CCSM85	70.3	71.4	72.4	73.7	
Average	GFDL45	70.3	72.0	72.5	73.1	
	GFDL85	70.3	72.1	73.1	74.8	
	HAD45	70.3	72.9	73.7	74.2	
	HAD85	70.3	73.0	75.0	76.2	

Precipitation (in)

Scenario	2009	2039	2069	2099		
Annual	CCSM45	37.3	39.7	40.7	42.0	
Total	CCSM85	37.3	39.2	41.4	42.7	
	GFDL45	37.3	42.4	43.4	45.2	
	GFDL85	37.3	40.8	45.6	44.2	
	HAD45	37.3	35.4	35.1	37.5	
	HAD85	37.3	36.2	34.4	34.9	
Growing Season	CCSM45	19.2	21.0	21.0	21.4	
	CCSM85	19.2	20.1	22.0	22.2	
May—Sep	GFDL45	19.2	23.5	24.0	24.7	
	GFDL85	19.2	22.7	26.2	25.8	
	HAD45	19.2	18.4	17.7	17.7	
	HAD85	19.2	18.1	15.7	15.4	

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-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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Common Name	Scientific Name	Range	MR	%Cell	FIAsum	FIAiv	ChngCl45	ChngCl85	Adap	Abund	Capabil45	Capabil85	SHIFT45	SHIFT85	SSO	N
slash pine	Pinus elliottii	NDH	High	86	4813.2	39.7	Sm. dec.	Sm. dec.	Medium	Abundant	Fair	Fair			0	1
loblolly pine	Pinus taeda	WDH	High	63.7	1739.5	19.1	No change	No change	Medium	Abundant	Good	Good			1	2
swamp tupelo	Nyssa biflora	NDH	Medium	69.2	726.6	7.8	Sm. inc.	Sm. inc.	Low	Abundant	Good	Good			1	3
red maple	Acer rubrum	WDH	High	72.6	554.3	5.9	Sm. inc.	Sm. inc.	High	Abundant	Very Good	Very Good			1	4
pond cypress	Taxodium ascendens	NSH	Medium	46.9	413.7	6.6	Sm. inc.	Lg. inc.	Medium	Common	Good	Very Good			1	5
longleaf pine	Pinus palustris	NSH	Medium	22.2	405.7	12.2	Sm. inc.	Lg. inc.	Medium	Common	Good	Very Good			1	6
water oak	Quercus nigra	WDH	High	57.1	355.4	5.0	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	7
laurel oak	Quercus laurifolia	NDH	Medium	51.3	310.5	5.4	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	8
sweetgum	Liquidambar styraciflua	WDH	High	40	231.3	4.6	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	9
loblolly-bay	Gordonia lasianthus	NSH	Medium	32.3	209.9	4.9	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	10
sweetbay	Magnolia virginiana	NSL	Medium	51	186.6	2.9	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	11
live oak	Quercus virginiana	NDH	High	25.2	184.7	6.0	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	12
redbay	Persea borbonia	NSL	Low	44.3	110.0	1.8	Sm. inc.	Sm. inc.	High	Common	Very Good	Very Good			1	13
yellow-poplar	Liriodendron tulipifera	WDH	High	8.4	74.8	7.3	Sm. dec.	Sm. dec.	High	Common	Fair	Fair			1	14
bald cypress	Taxodium distichum	NSH	Medium	11.8	56.1	4.2	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good	Infill ++	Infill ++	1	15
pond pine	Pinus serotina	NSH	Medium	12.1	54.7	3.5	Sm. inc.	Lg. inc.	Low	Common	Fair	Good			1	16
black willow	Salix nigra	NSH	Low	8.5	44.4	5.1	No change	No change	Low	Rare	Very Poor	Very Poor			0	17
black cherry	Prunus serotina	WDL	Medium	12.4	44.3	2.8	Lg. inc.	Lg. inc.	Low	Rare	Fair	Fair			1	18
green ash	Fraxinus pennsylvanica	WSH	Low	9.6	42.0	4.0	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	1	19
turkey oak	Quercus laevis	NSH	Medium	5.2	34.7	4.4	Sm. dec.	No change	High	Rare	Poor	Fair		Infill +	1	20
sand pine	Pinus clausa	NDH	High	1.9	29.1	16.1	No change	Sm. dec.	Low	Rare	Very Poor	Very Poor			0	21
water tupelo	Nyssa aquatica	NSH	Medium	5.7	28.7	5.3	Sm. dec.	Sm. dec.	Low	Rare	Very Poor	Very Poor			0	22
ogeechee tupelo	Nyssa ogeche	NSLX	FIA	9.4	23.6	1.9	Unknown	Unknown	Low	Rare	FIA Only	FIA Only			0	23
eastern redcedar	Juniperus virginiana	WDH	Medium	2.7	17.3	4.8	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	2	24
cabbage palmetto	Sabal palmetto	NDH	Medium	6.5	16.3	2.3	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			0	25
post oak	Quercus stellata	WDH	High	4	12.7	1.4	Lg. inc.	Lg. inc.	High	Rare	Good	Good	Infill ++	Infill ++	2	26
pignut hickory	Carya glabra	WDL	Medium	1.2	9.4	7.4	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			2	27
southern red oak	Quercus falcata	WDL	Medium	2.3	9.3	1.9	Sm. inc.	Lg. inc.	High	Rare	Good	Good	Infill ++	Infill ++	2	28
blackgum	Nyssa sylvatica	WDL	Medium	6.8	8.9	0.7	Lg. inc.	Lg. inc.	High	Rare	Good	Good	Infill ++	Infill ++	1	29
American holly	Ilex opaca	NSL	Medium	8.8	7.9	0.8	No change	No change	Medium	Rare	Poor	Poor			1	30
winged elm	Ulmus alata	WDL	Medium	1.9	5.3	2.0	Sm. inc.	Lg. inc.	Medium	Rare	Fair	Good	Infill +	Infill ++	2	31
southern magnolia	Magnolia grandiflora	NSL	Low	2.3	4.8	0.5	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++	2	32
Carolina ash	Fraxinus caroliniana	NSL	FIA	0.7	3.6	2.0	Unknown	Unknown	NA	Rare	FIA Only	FIA Only			0	33
white oak	Quercus alba	WDH	Medium	1.2	3.4	2.6	No change	No change	High	Rare	Fair	Fair	Infill +	Infill +	2	34
river birch	Betula nigra	NSL	Low	1.4	3.2	0.7	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++	2	35
common persimmon	Diospyros virginiana	NSL	Low	4.6	3.1	0.6	Lg. dec.	Sm. dec.	High	Rare	Poor	Poor		Infill +	1	36
sugarberry	Celtis laevigata	NDH	Medium	1.9	2.7	1.5	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			2	37
American hornbeam; musclev	Carpinus caroliniana	WSL	Low	2	2.6	0.8	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++	1	38
water elm	Planera aquatica	NSL	Low	0.6	2.3	3.8	No change	No change	Medium	Rare	Poor	Poor		Infill +	2	39
bluejack oak	Quercus incana	NSL	Low	2.1	2.3	0.3	Sm. inc.	Lg. inc.	Medium	Rare	Fair	Good		Infill ++	2	40
red mulberry	Morus rubra	NSL	Low	1.3	1.9	1.6	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	41
American elm	Ulmus americana	WDH	Medium	1.9	1.8	1.0	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			2	42
sassafras	Sassafras albidum	WSL	Low	0.3	1.8	0.5	No change	Sm. inc.	Medium	Rare	Poor	Fair		Infill +	2	43
swamp chestnut oak	Quercus michauxii	NSL	Low	1.9	1.7	1.0	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	44
Shumard oak	Quercus shumardii	NSL	Low	0.5	1.1	1.5	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor			0	45
pumpkin ash	Fraxinus profunda	NSH	FIA	1.9	1.1	0.6	Unknown	Unknown	NA	Rare	FIA Only	FIA Only			0	46
pecan	Carya illinoensis	NSH	Low	1.3	1.0	0.9	No change	Sm. inc.	Low	Rare	Very Poor	Poor		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
chinkapin oak	Quercus muehlenbergii	NSL	Medium	0.6	0.7	1.2	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	48
eastern hophornbeam; ironw	Ostrya virginiana	WSL	Low	1.3	0.6	0.5	No change	No change	High	Rare	Fair	Fair	Infill +	Infill +	2	49
sycamore	Platanus occidentalis	NSL	Low	0.5	0.5	0.7	Very Lg. dec.	Very Lg. dec.	Medium	Rare	Lost	Lost			0	50
spruce pine	Pinus glabra	NSL	Low	0.3	0.5	0.3	Very Lg. dec.	Very Lg. dec.	Medium	Rare	Lost	Lost			0	51
white ash	Fraxinus americana	WDL	Medium	1.2	0.4	0.3	Very Lg. dec.	Very Lg. dec.	Low	Rare	Lost	Lost			0	52
mockernut hickory	Carya alba	WDL	Medium	0.6	0.4	0.6	Lg. inc.	Lg. inc.	High	Rare	Good	Good			2	53
slippery elm	Ulmus rubra	WSL	Low	0.6	0.3	0.5	Sm. inc.	Lg. inc.	Medium	Rare	Fair	Good	Infill +		2	54
flowering dogwood	Cornus florida	WDL	Medium	0.6	0.3	0.5	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			2	55
overcup oak	Quercus lyrata	NSL	Medium	0.6	0.3	0.5	Sm. inc.	Lg. inc.	Low	Rare	Poor	Fair		Infill +	2	56
blackjack oak	Quercus marilandica	NSL	Medium	0.2	0.2	0.1	Lg. inc.	Lg. inc.	High	Rare	Good	Good			2	57
wild plum	Prunus americana	NSLX	FIA	0.1	0.2	0.1	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only			0	58
ashe juniper	Juniperus ashei	NDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			0	59
shortleaf pine	Pinus echinata	WDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate ++	Migrate ++	3	60
boxelder	Acer negundo	WSH	Low	0	0	0	Unknown	Unknown	High	Modeled	Unknown	Unknown			0	61
striped maple	Acer pensylvanicum	NSL	Medium	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	62
silver maple	Acer saccharinum	NSH	Low	0	0	0	Unknown	New Habitat	High	Absent	Unknown	New Habitat		Likely +	3	63
serviceberry	Amelanchier spp.	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Likely +	Likely +	3	64
cittamwood/gum bumelia	Sideroxylon lanuginosum ssp.	NSL	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat			0	65
bitternut hickory	Carya cordiformis	WSL	Low	0	0	0	Unknown	Unknown	High	Modeled	Unknown	Unknown			0	66
shellbark hickory	Carya laciniosa	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	67
shagbark hickory	Carya ovata	WSL	Medium	0	0	0	New Habitat	Unknown	Medium	Absent	New Habitat	Unknown			3	68
black hickory	Carya texana	NDL	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			3	69
hackberry	Celtis occidentalis	WDH	Medium	0	0	0	Unknown	Unknown	High	Modeled	Unknown	Unknown			0	70
eastern redbud	Cercis canadensis	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	71
American beech	Fagus grandifolia	WDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			3	72
black ash	Fraxinus nigra	WSH	Medium	0	0	0	Unknown	New Habitat	Low	Absent	Unknown	New Habitat			0	73
silverbell	Halesia spp.	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	74
bigleaf magnolia	Magnolia macrophylla	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	75
mountain or Fraser magnolia	Magnolia fraseri	NSL	Low	0	0	0	Unknown	Unknown	Low	Absent	Unknown	Unknown			0	76
sourwood	Oxydendrum arboreum	NDL	High	0	0	0	Unknown	Unknown	High	Modeled	Unknown	Unknown			0	77
pin cherry	Prunus pensylvanica	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	78
scarlet oak	Quercus coccinea	WDL	Medium	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	79
cherrybark oak; swamp red o.	Quercus pagoda	NSL	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Likely +	Likely +	3	80
willow oak	Quercus phellos	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Likely +	Likely +	3	81
black oak	Quercus velutina	WDH	High	0	0	0	Unknown	Unknown	Medium	Modeled	Unknown	Unknown			0	82
black locust	Robinia pseudoacacia	NDH	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	83
American mountain-ash	Sorbus americana	NSL	Low	0	0	0	Unknown	Unknown	Low	Absent	Unknown	Unknown			0	84
American basswood	Tilia americana	WSL	Medium	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	85
cedar elm	Ulmus crassifolia	NDH	Medium	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat			3	86