

Current and Potential Future Habitat, Capability, and Migration

	sq. km	sq. mi	FIA Plots
Area of Region	12,052	4,653.2	369

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	16	22	Increase	29	33	Very Good	13	16	Likely	0	0
Hickory	7			Medium	36	54	No Change	19	19	Good	17	16	Infill	13	15
Maple	3	Abundant	5	Low	34	13	Decrease	24	20	Fair	8	10	Migrate	2	1
Oak	15	Common	24	FIA	7		New	8	8	Poor	11	10			
Pine	8	Rare	50				Unknown	13	13	Very Poor	21	18			
Other	42	Absent	14							FIA Only	6	6			
	79		93		93	89		93	93	Unknown	6	6			
											82	82			

Potential Changes in Climate Variables

Temperature (°F)

Scenario	2009	2039	2069	2099		
Annual	CCSM45	58.6	59.8	61.2	61.3	
Average	CCSM85	58.6	59.9	61.8	63.7	
	GFDL45	58.6	60.6	62.1	62.7	
	GFDL85	58.6	60.5	62.9	65.7	
	HAD45	58.6	60.2	62.2	63.4	
	HAD85	58.6	60.4	63.2	66.2	
Growing Season	CCSM45	68.1	69.1	70.3	70.6	
	CCSM85	68.1	69.2	71.1	73.4	
May—Sep	GFDL45	68.1	70.2	71.6	72.5	
	GFDL85	68.1	70.1	72.5	75.7	
	HAD45	68.1	70.5	72.2	73.5	
	HAD85	68.1	70.4	74.4	77.0	
Coldest Month	CCSM45	43.9	45.7	46.4	46.1	
	CCSM85	43.9	45.5	46.5	47.4	
Average	GFDL45	43.9	46.3	46.5	46.7	
	GFDL85	43.9	45.5	46.3	46.8	
	HAD45	43.9	43.9	45.0	45.7	
	HAD85	43.9	44.8	45.6	47.0	
Warmest Month	CCSM45	70.9	71.9	72.4	72.7	
	CCSM85	70.9	71.9	72.9	74.2	
Average	GFDL45	70.9	72.8	73.3	73.9	
	GFDL85	70.9	72.5	73.6	75.4	
	HAD45	70.9	73.7	74.8	75.4	
	HAD85	70.9	73.8	76.1	77.4	

Precipitation (in)

Scenario	2009	2039	2069	2099		
Annual	CCSM45	44.4	46.3	48.2	48.7	
Total	CCSM85	44.4	46.6	48.6	52.7	
	GFDL45	44.4	48.9	51.6	53.1	
	GFDL85	44.4	48.9	51.8	50.8	
	HAD45	44.4	42.4	46.8	47.9	
	HAD85	44.4	47.1	42.6	44.7	
Growing Season	CCSM45	19.1	20.8	21.6	21.7	
	CCSM85	19.1	19.8	21.2	22.5	
May—Sep	GFDL45	19.1	23.1	24.7	24.3	
	GFDL85	19.1	23.6	26.1	25.9	
	HAD45	19.1	18.3	19.6	19.6	
	HAD85	19.1	19.7	15.9	16.7	

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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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	76.2	2788.6	26.1	No change	No change	Medium	Abundant	Good	Good			1	1
slash pine	Pinus elliotii	NDH	High	40.9	1466.7	23.1	Sm. inc.	Sm. inc.	Medium	Abundant	Very Good	Very Good			1	2
water oak	Quercus nigra	WDH	High	87.9	1297.5	11.2	Sm. inc.	Sm. inc.	Medium	Abundant	Very Good	Very Good			1	3
sweetgum	Liquidambar styraciflua	WDH	High	75	745.1	7.3	No change	Sm. inc.	Medium	Abundant	Good	Very Good			1	4
laurel oak	Quercus laurifolia	NDH	Medium	67.2	742.0	8.8	No change	No change	Medium	Abundant	Good	Good			1	5
longleaf pine	Pinus palustris	NSH	Medium	34.2	489.6	11.0	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	6
sweetbay	Magnolia virginiana	NSL	Medium	53.4	439.7	6.1	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	7
swamp tupelo	Nyssa biflora	NDH	Medium	35.9	355.9	8.1	Sm. inc.	Sm. inc.	Low	Common	Fair	Fair			1	8
yellow-poplar	Liriodendron tulipifera	WDH	High	44	307.9	4.6	No change	No change	High	Common	Good	Good			1	9
red maple	Acer rubrum	WDH	High	60.2	295.9	3.4	Sm. inc.	Lg. inc.	High	Common	Very Good	Very Good			1	10
blackgum	Nyssa sylvatica	WDL	Medium	53.2	289.0	3.3	Sm. inc.	Sm. inc.	High	Common	Very Good	Very Good			1	11
sand pine	Pinus clausa	NDH	High	8.1	220.8	17.4	No change	No change	Low	Common	Poor	Poor	Infill +	Infill +	0	12
shortleaf pine	Pinus echinata	WDH	High	29.2	193.0	4.7	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	13
water tupelo	Nyssa aquatica	NSH	Medium	10.9	101.9	7.2	Lg. dec.	Sm. dec.	Low	Common	Very Poor	Poor		Infill +	0	14
pond cypress	Taxodium ascendens	NSH	Medium	10.1	98.7	8.2	Sm. inc.	Lg. inc.	Medium	Common	Good	Very Good	Infill ++	Infill ++	1	15
black cherry	Prunus serotina	WDL	Medium	39.6	94.0	1.9	Lg. inc.	Lg. inc.	Low	Common	Good	Good			1	16
bald cypress	Taxodium distichum	NSH	Medium	7.1	89.8	11.8	No change	No change	Medium	Common	Fair	Fair	Infill +	Infill +	1	17
American hornbeam; musclev	Carpinus caroliniana	WSL	Low	25.9	88.5	2.3	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	18
southern red oak	Quercus falcata	WDL	Medium	28.3	86.9	2.1	Lg. inc.	Lg. inc.	High	Common	Very Good	Very Good			1	19
white oak	Quercus alba	WDH	Medium	25.7	86.8	2.4	Sm. inc.	Sm. inc.	High	Common	Very Good	Very Good			1	20
southern magnolia	Magnolia grandiflora	NSL	Low	22.8	83.2	2.7	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	21
green ash	Fraxinus pennsylvanica	WSH	Low	13.1	75.8	4.1	Sm. inc.	Lg. inc.	Medium	Common	Good	Very Good			1	22
live oak	Quercus virginiana	NDH	High	15.2	74.4	3.9	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good	Infill ++	Infill ++	1	23
pignut hickory	Carya glabra	WDL	Medium	19.1	74.1	2.8	No change	No change	Medium	Common	Fair	Fair			1	24
post oak	Quercus stellata	WDH	High	23.2	69.3	2.3	Lg. inc.	Lg. inc.	High	Common	Very Good	Very Good			1	25
turkey oak	Quercus laevis	NSH	Medium	14.3	69.1	2.5	Sm. inc.	Sm. inc.	High	Common	Very Good	Very Good	Infill ++	Infill ++	1	26
mockernut hickory	Carya alba	WDL	Medium	21.3	61.5	2.2	Sm. inc.	Lg. inc.	High	Common	Very Good	Very Good			1	27
American holly	Ilex opaca	NSL	Medium	35	59.2	1.3	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	28
flowering dogwood	Cornus florida	WDL	Medium	33.6	54.3	1.2	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	29
eastern redcedar	Juniperus virginiana	WDH	Medium	18.8	41.7	1.7	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			1	30
American elm	Ulmus americana	WDH	Medium	13.2	36.5	2.1	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++	1	31
spruce pine	Pinus glabra	NSL	Low	11.2	35.8	2.7	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	32
common persimmon	Diospyros virginiana	NSL	Low	22.3	31.9	0.9	Lg. dec.	No change	High	Rare	Poor	Fair			1	33
black willow	Salix nigra	NSH	Low	6.5	27.5	3.6	No change	No change	Low	Rare	Very Poor	Very Poor			0	34
river birch	Betula nigra	NSL	Low	8	25.9	3.0	No change	Sm. inc.	Medium	Rare	Poor	Fair	Infill +	Infill +	1	35
eastern hophornbeam; ironw	Ostrya virginiana	WSL	Low	9	17.5	1.6	No change	No change	High	Rare	Fair	Fair			1	36
sycamore	Platanus occidentalis	NSL	Low	6.5	16.9	2.1	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	37
redbay	Persea borbonia	NSL	Low	7.1	16.6	2.1	No change	No change	High	Rare	Fair	Fair			1	38
American basswood	Tilia americana	WSL	Medium	1.4	16.1	4.2	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	39
sugarberry	Celtis laevigata	NDH	Medium	5.5	15.6	2.6	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++	1	40
sassafras	Sassafras albidum	WSL	Low	7.9	14.7	1.7	No change	Sm. inc.	Medium	Rare	Poor	Fair			1	41
Carolina ash	Fraxinus caroliniana	NSL	FIA	3	14.6	4.3	Unknown	Unknown	NA	Rare	FIA Only	FIA Only			0	42
florida maple	Acer barbatum	NSL	Low	7.6	13.9	1.0	Sm. dec.	Lg. dec.	High	Rare	Poor	Poor			1	43
American beech	Fagus grandifolia	WDH	High	9.1	13.5	1.5	Sm. inc.	Sm. inc.	Medium	Rare	Fair	Fair	Infill +	Infill +	2	44
pond pine	Pinus serotina	NSH	Medium	1.7	13.2	8.0	No change	No change	Low	Rare	Very Poor	Very Poor			2	45
sourwood	Oxydendrum arboreum	NDL	High	8.1	12.9	1.1	No change	No change	High	Rare	Fair	Fair	Infill +		1	46
bluejack oak	Quercus incana	NSL	Low	5.6	12.5	0.8	No change	No change	Medium	Rare	Poor	Poor	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
swamp chestnut oak	Quercus michauxii	NSL	Low	3.1	8.7	1.8	Sm. dec.	No change	Medium	Rare	Very Poor	Poor		Infill +	2	48
winged elm	Ulmus alata	WDL	Medium	6.2	8.1	0.9	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++	1	49
overcup oak	Quercus lyrata	NSL	Medium	3.1	5.5	1.6	Sm. dec.	No change	Low	Rare	Very Poor	Very Poor			2	50
black oak	Quercus velutina	WDH	High	3	5.2	1.5	Sm. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	51
slippery elm	Ulmus rubra	WSL	Low	3.2	4.8	1.0	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	2	52
pecan	Carya illinoensis	NSH	Low	1.7	4.0	2.4	No change	No change	Low	Rare	Very Poor	Very Poor			2	53
blackjack oak	Quercus marilandica	NSL	Medium	1.3	3.8	1.8	Lg. inc.	Lg. inc.	High	Rare	Good	Good			2	54
red mulberry	Morus rubra	NSL	Low	1.1	3.4	0.8	Sm. dec.	No change	Medium	Rare	Very Poor	Poor		Infill +	2	55
white ash	Fraxinus americana	WDL	Medium	1.7	3.3	2.0	Sm. dec.	Sm. dec.	Low	Rare	Very Poor	Very Poor			2	56
water hickory	Carya aquatica	NSL	Medium	3.1	3.0	0.9	Sm. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	57
eastern redbud	Cercis canadensis	NSL	Low	1.9	2.9	1.1	Lg. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	58
willow oak	Quercus phellos	NSL	Low	1.7	2.4	0.5	No change	Lg. inc.	Medium	Rare	Poor	Good			2	59
ogeechee tupelo	Nyssa ogeche	NSLX	FIA	0.7	1.7	1.9	Unknown	Unknown	Low	Rare	FIA Only	FIA Only			0	60
boxelder	Acer negundo	WSH	Low	1.3	1.7	0.9	Lg. dec.	Lg. dec.	High	Rare	Poor	Poor			0	61
sand hickory	Carya pallida	NSL	FIA	0.8	1.6	1.9	Unknown	Unknown	NA	Rare	FIA Only	FIA Only			0	62
white mulberry	Morus alba	NSL	FIA	0.7	1.5	1.5	Unknown	Unknown	NA	Rare	NNIS	NNIS			0	63
hackberry	Celtis occidentalis	WDH	Medium	0.8	1.3	1.6	Sm. dec.	Very Lg. dec.	High	Rare	Poor	Lost			0	64
loblolly-bay	Gordonia lasianthus	NSH	Medium	0.2	1.1	0.4	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			2	65
cherrybark oak; swamp red o	Quercus pagoda	NSL	Medium	1.5	1.0	0.5	Sm. inc.	Lg. inc.	Medium	Rare	Fair	Good			2	66
pumpkin ash	Fraxinus profunda	NSH	FIA	0.8	0.9	1.0	Unknown	Unknown	NA	Rare	FIA Only	FIA Only			0	67
wild plum	Prunus americana	NSLX	FIA	1.4	0.9	0.4	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only			0	68
bitternut hickory	Carya cordiformis	WSL	Low	0.8	0.7	0.9	Very Lg. dec.	Very Lg. dec.	High	Rare	Lost	Lost			0	69
chestnut oak	Quercus prinus	NDH	High	1.1	0.7	0.2	Very Lg. dec.	Lg. dec.	High	Rare	Lost	Poor			0	70
serviceberry	Amelanchier spp.	NSL	Low	0.8	0.5	0.6	No change	No change	Medium	Rare	Poor	Poor			0	71
bigleaf magnolia	Magnolia macrophylla	NSL	Low	0.8	0.5	0.6	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	72
water elm	Planera aquatica	NSL	Low	0.8	0.4	0.5	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	73
Virginia pine	Pinus virginiana	NDH	High	0.8	0.4	0.4	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	74
eastern cottonwood	Populus deltoides	NSH	Low	0.7	0.3	0.3	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	75
shagbark hickory	Carya ovata	WSL	Medium	0.8	0.3	0.3	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	76
cucumbertree	Magnolia acuminata	NSL	Low	0.8	0.3	0.3	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	77
pin cherry	Prunus pensylvanica	NSL	Low	0.8	0.3	0.3	Sm. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	78
waterlocust	Gleditsia aquatica	NSLX	FIA	0.4	0.1	0.1	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only			0	79
Atlantic white-cedar	Chamaecyparis thyoides	NSH	Low	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat	Migrate +		3	80
Table Mountain pine	Pinus pungens	NSL	Low	0	0	0	Unknown	Unknown	High	Absent	Unknown	Unknown			0	81
silver maple	Acer saccharinum	NSH	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat			3	82
pawpaw	Asimina triloba	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	83
cittamwood/gum bumelia	Sideroxylon lanuginosum ssp.	NSL	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat			3	84
shellbark hickory	Carya laciniosa	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	85
black hickory	Carya texana	NDL	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate +	Migrate +	3	86
black ash	Fraxinus nigra	WSH	Medium	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat			0	87
silverbell	Halesia spp.	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	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	89
chinkapin oak	Quercus muehlenbergii	NSL	Medium	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	90
northern red oak	Quercus rubra	WDH	Medium	0	0	0	Unknown	Unknown	High	Absent	Unknown	Unknown			0	91
cabbage palmetto	Sabal palmetto	NDH	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			0	92
cedar elm	Ulmus crassifolia	NDH	Medium	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat			3	93