

Current and Potential Future Habitat, Capability, and Migration

	sq. km	sq. mi	FIA Plots
Area of Region	25,403	9,808.0	771

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	21	Increase	26	28	Very Good	9	9	Likely	4	5
Hickory	4		Medium	37	55	No Change	17	17	Good	15	17	Infill	19	17
Maple	2	Abundant	Low	35	14	Decrease	18	16	Fair	8	9	Migrate	1	2
Oak	12	Common	FIA	4		New	13	14	Poor	13	10			
Pine	7	Rare				Unknown	18	17	Very Poor	16	16			
Other	36	Absent							FIA Only	4	4			
	65	89		92	90		92	92	Unknown	14	13		24	24
										79	78			

Potential Changes in Climate Variables

Temperature (°F)

	Scenario	2009	2039	2069	2099	
Annual Average	CCSM45	60.4	61.6	63.1	63.1	
	CCSM85	60.4	61.8	63.7	65.6	
	GFDL45	60.4	62.4	64.0	64.5	
	GFDL85	60.4	62.4	64.8	67.6	
	HAD45	60.4	62.1	64.1	65.3	
	HAD85	60.4	62.4	65.1	68.2	
Growing Season (May—Sep)	CCSM45	69.3	70.3	71.5	71.8	
	CCSM85	69.3	70.4	72.3	74.6	
	GFDL45	69.3	71.3	72.8	73.6	
	GFDL85	69.3	71.4	73.8	76.9	
	HAD45	69.3	71.8	73.5	74.8	
	HAD85	69.3	71.9	75.6	78.5	
Coldest Month Average	CCSM45	46.5	48.4	49.1	48.8	
	CCSM85	46.5	48.1	49.0	50.0	
	GFDL45	46.5	48.8	49.0	49.4	
	GFDL85	46.5	48.3	49.2	49.8	
	HAD45	46.5	46.4	47.5	48.2	
	HAD85	46.5	47.1	47.8	49.3	
Warmest Month Average	CCSM45	71.8	72.9	73.6	73.8	
	CCSM85	71.8	73.0	74.0	75.4	
	GFDL45	71.8	73.7	74.3	74.8	
	GFDL85	71.8	73.8	74.9	76.6	
	HAD45	71.8	74.7	75.7	76.2	
	HAD85	71.8	74.8	77.0	78.3	

Precipitation (in)

	Scenario	2009	2039	2069	2099	
Annual Total	CCSM45	39.7	42.7	44.0	45.2	
	CCSM85	39.7	42.1	44.7	46.2	
	GFDL45	39.7	44.6	46.1	48.1	
	GFDL85	39.7	43.1	47.8	45.9	
	HAD45	39.7	37.9	38.8	40.9	
	HAD85	39.7	39.0	36.9	38.1	
Growing Season (May—Sep)	CCSM45	19.9	22.0	22.2	22.6	
	CCSM85	19.9	20.9	23.2	23.6	
	GFDL45	19.9	23.9	24.7	25.3	
	GFDL85	19.9	23.3	26.6	25.9	
	HAD45	19.9	19.1	19.0	18.8	
	HAD85	19.9	18.9	16.3	16.4	

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	84.7	4307.6	37.1	No change	No change	Medium	Abundant	Good	Good			1	1
loblolly pine	Pinus taeda	WDH	High	50.4	1172.6	16.5	Sm. inc.	Sm. inc.	Medium	Abundant	Very Good	Very Good			1	2
laurel oak	Quercus laurifolia	NDH	Medium	54.1	783.0	11.6	No change	No change	Medium	Abundant	Good	Good			1	3
swamp tupelo	Nyssa biflora	NDH	Medium	61.2	721.7	9.0	Sm. inc.	Sm. inc.	Low	Abundant	Good	Good			1	4
water oak	Quercus nigra	WDH	High	58.1	603.7	8.4	Sm. inc.	Sm. inc.	Medium	Abundant	Very Good	Very Good			1	5
pond cypress	Taxodium ascendens	NSH	Medium	40.5	576.1	9.7	Sm. inc.	Sm. inc.	Medium	Abundant	Very Good	Very Good			1	6
red maple	Acer rubrum	WDH	High	60.4	502.4	6.4	Sm. inc.	Sm. inc.	High	Abundant	Very Good	Very Good			1	7
longleaf pine	Pinus palustris	NSH	Medium	22.4	407.9	13.0	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	8
live oak	Quercus virginiana	NDH	High	37	318.6	6.9	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	9
sweetgum	Liquidambar styraciflua	WDH	High	36.7	290.7	5.8	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	10
sweetbay	Magnolia virginiana	NSL	Medium	41.1	186.1	3.6	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	11
loblolly-bay	Gordonia lasianthus	NSH	Medium	23	164.0	5.0	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	12
yellow-poplar	Liriodendron tulipifera	WDH	High	9.8	132.8	9.4	No change	No change	High	Common	Good	Good	Infill ++	Infill ++	1	13
black cherry	Prunus serotina	WDL	Medium	28.3	113.7	3.2	Lg. inc.	Lg. inc.	Low	Common	Good	Good			1	14
redbay	Persea borbonia	NSL	Low	34	103.8	2.2	Sm. inc.	Sm. inc.	High	Common	Very Good	Very Good			1	15
blackgum	Nyssa sylvatica	WDL	Medium	19.7	54.5	2.2	Lg. inc.	Lg. inc.	High	Common	Very Good	Very Good			1	16
bald cypress	Taxodium distichum	NSH	Medium	9	45.6	3.3	No change	Sm. inc.	Medium	Rare	Poor	Fair	Infill +	Infill +	1	17
turkey oak	Quercus laevis	NSH	Medium	5.6	39.1	4.5	No change	No change	High	Rare	Fair	Fair	Infill +	Infill +	1	18
common persimmon	Diospyros virginiana	NSL	Low	11.1	38.2	2.0	Lg. dec.	Lg. dec.	High	Rare	Poor	Poor			1	19
ogeechee tupelo	Nyssa ogeche	NSLX	FIA	8.8	37.9	4.5	Unknown	Unknown	Low	Rare	FIA Only	FIA Only			0	20
black willow	Salix nigra	NSH	Low	4.9	33.0	5.6	No change	No change	Low	Rare	Very Poor	Very Poor			0	21
pond pine	Pinus serotina	NSH	Medium	5.6	31.5	3.6	No change	No change	Low	Rare	Very Poor	Very Poor			0	22
pignut hickory	Carya glabra	WDL	Medium	9.7	31.2	2.6	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	1	23
post oak	Quercus stellata	WDH	High	8.1	30.8	3.2	Lg. inc.	Lg. inc.	High	Rare	Good	Good	Infill ++	Infill ++	2	24
American hornbeam; muscley	Carpinus caroliniana	WSL	Low	7.3	27.6	2.7	No change	No change	Medium	Rare	Poor	Poor			1	25
southern magnolia	Magnolia grandiflora	NSL	Low	7.9	23.2	2.7	Sm. inc.	Sm. inc.	Medium	Rare	Fair	Fair			1	26
American elm	Ulmus americana	WDH	Medium	7.6	22.9	1.5	Sm. inc.	Lg. inc.	Medium	Rare	Fair	Good	Infill +	Infill ++	2	27
water tupelo	Nyssa aquatica	NSH	Medium	2.3	22.3	7.9	Sm. dec.	Sm. dec.	Low	Rare	Very Poor	Very Poor			2	28
sand pine	Pinus clausa	NDH	High	1.2	22.3	18.9	Sm. inc.	No change	Low	Rare	Poor	Very Poor	Infill +		2	29
pecan	Carya illinoensis	NSH	Low	3.7	21.9	4.9	Sm. dec.	No change	Low	Rare	Very Poor	Very Poor			2	30
mockernut hickory	Carya alba	WDL	Medium	5.3	19.9	2.7	No change	No change	High	Rare	Fair	Fair	Infill +	Infill +	1	31
bluejack oak	Quercus incana	NSL	Low	3.7	19.1	4.5	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	1	32
cabbage palmetto	Sabal palmetto	NDH	Medium	1.5	17.4	3.8	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			0	33
eastern redcedar	Juniperus virginiana	WDH	Medium	3.3	15.9	3.4	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	2	34
river birch	Betula nigra	NSL	Low	3.1	15.7	5.0	No change	Sm. inc.	Medium	Rare	Poor	Fair	Infill +	Infill +	2	35
green ash	Fraxinus pennsylvanica	WSH	Low	6.1	15.6	2.1	Sm. inc.	Sm. inc.	Medium	Rare	Fair	Fair	Infill +	Infill +	1	36
pumpkin ash	Fraxinus profunda	NSH	FIA	1.9	14.1	2.9	Unknown	Unknown	NA	Rare	FIA Only	FIA Only			0	37
southern red oak	Quercus falcata	WDL	Medium	4.9	14.0	2.2	Lg. inc.	Lg. inc.	High	Rare	Good	Good	Infill ++	Infill ++	2	38
American holly	Ilex opaca	NSL	Medium	6.2	11.9	1.3	Sm. dec.	No change	Medium	Rare	Very Poor	Poor		Infill +	1	39
spruce pine	Pinus glabra	NSL	Low	3.1	10.0	3.0	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	40
scarlet oak	Quercus coccinea	WDL	Medium	0.4	9.8	25.0	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	41
white oak	Quercus alba	WDH	Medium	1.5	6.5	3.7	No change	No change	High	Rare	Fair	Fair	Infill +	Infill +	2	42
eastern hophornbeam; ironw	Ostrya virginiana	WSL	Low	2.2	6.0	1.7	No change	No change	High	Rare	Fair	Fair	Infill +	Infill +	2	43
Carolina ash	Fraxinus caroliniana	NSL	FIA	1.7	5.8	1.7	Unknown	Unknown	NA	Rare	FIA Only	FIA Only			0	44
swamp chestnut oak	Quercus michauxii	NSL	Low	2.4	3.8	1.6	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	45
shortleaf pine	Pinus echinata	WDH	High	1.2	3.4	2.9	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			2	46
red mulberry	Morus rubra	NSL	Low	1.6	3.4	2.1	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	47

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white ash	Fraxinus americana	WDL	Medium	0.1	2.9	1.6	Sm. dec.	Lg. dec.	Low	Rare	Very Poor	Very Poor			0	48
florida maple	Acer barbatum	NSL	Low	1.2	2.8	2.4	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor			0	49
flowering dogwood	Cornus florida	WDL	Medium	1.6	2.8	1.1	Sm. inc.	Sm. inc.	Medium	Rare	Fair	Fair	Infill +	Infill +	2	50
slippery elm	Ulmus rubra	WSL	Low	0.4	2.6	6.7	No change	Lg. inc.	Medium	Rare	Poor	Good	Infill +		2	51
winged elm	Ulmus alata	WDL	Medium	1.9	2.6	0.8	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++	2	52
hackberry	Celtis occidentalis	WDH	Medium	1.6	2.3	0.9	Lg. dec.	Lg. dec.	High	Rare	Poor	Poor			0	53
American beech	Fagus grandifolia	WDH	High	1.2	2.1	1.8	No change	No change	Medium	Rare	Poor	Poor	Infill +		2	54
sugarberry	Celtis laevigata	NDH	Medium	1.4	1.8	1.1	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			2	55
American basswood	Tilia americana	WSL	Medium	0.4	1.7	4.4	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	56
water hickory	Carya aquatica	NSL	Medium	0.4	1.6	4.1	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	57
honeylocust	Gleditsia triacanthos	NSH	Low	0.4	1.3	3.2	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor			0	58
sassafras	Sassafras albidum	WSL	Low	0.8	0.8	1.0	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			2	59
wild plum	Prunus americana	NSLX	FIA	0.8	0.4	0.6	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only			0	60
black locust	Robinia pseudoacacia	NDH	Low	0.3	0.4	0.7	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	61
eastern redbud	Cercis canadensis	NSL	Low	0.8	0.3	0.4	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	62
cucumber tree	Magnolia acuminata	NSL	Low	0.4	0.3	0.7	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	63
willow oak	Quercus phellos	NSL	Low	0.4	0.2	0.5	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			2	64
black oak	Quercus velutina	WDH	High	0.4	0.1	0.2	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	65
Atlantic white-cedar	Chamaecyparis thyoides	NSH	Low	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat			3	66
Ashe juniper	Juniperus ashei	NDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			0	67
Virginia pine	Pinus virginiana	NDH	High	0	0	0	New Habitat	Unknown	Medium	Absent	New Habitat	Unknown			3	68
boxelder	Acer negundo	WSH	Low	0	0	0	Unknown	Unknown	High	Modeled	Unknown	Unknown			0	69
striped maple	Acer pensylvanicum	NSL	Medium	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	70
silver maple	Acer saccharinum	NSH	Low	0	0	0	Unknown	New Habitat	High	Absent	Unknown	New Habitat		Likely +	3	71
serviceberry	Amelanchier spp.	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Likely +	Likely +	3	72
pawpaw	Asimina triloba	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	73
cittamwood/gum bumelia	Sideroxylon lanuginosum ssp.	NSL	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat			3	74
shellbark hickory	Carya laciniosa	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			3	75
shagbark hickory	Carya ovata	WSL	Medium	0	0	0	New Habitat	Unknown	Medium	Absent	New Habitat	Unknown			3	76
black hickory	Carya texana	NDL	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			3	77
black ash	Fraxinus nigra	WSH	Medium	0	0	0	Unknown	New Habitat	Low	Absent	Unknown	New Habitat			0	78
silverbell	Halesia spp.	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	79
Osage-orange	Maclura pomifera	NDH	Medium	0	0	0	Unknown	Unknown	High	Absent	Unknown	Unknown			0	80
bigleaf magnolia	Magnolia macrophylla	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	81
sourwood	Oxydendrum arboreum	NDL	High	0	0	0	Unknown	Unknown	High	Absent	Unknown	Unknown			0	82
water elm	Planera aquatica	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Likely +	Likely +	3	83
sycamore	Platanus occidentalis	NSL	Low	0	0	0	Unknown	Unknown	Medium	Modeled	Unknown	Unknown			0	84
pin cherry	Prunus pensylvanica	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	85
swamp white oak	Quercus bicolor	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	86
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	87
overcup oak	Quercus lyrata	NSL	Medium	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat	Likely +	Likely +	3	88
blackjack oak	Quercus marilandica	NSL	Medium	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Migrate ++	Migrate +	3	89
northern red oak	Quercus rubra	WDH	Medium	0	0	0	Unknown	Unknown	High	Modeled	Unknown	Unknown			0	90
American mountain-ash	Sorbus americana	NSL	Low	0	0	0	Unknown	New Habitat	Low	Absent	Unknown	New Habitat			0	91
cedar elm	Ulmus crassifolia	NDH	Medium	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat		Migrate +	3	92