

Current and Potential Future Habitat, Capability, and Migration

	sq. km	sq. mi	FIA Plots
Area of Region	9,634.6	3,719.9	338

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	22	Increase	27	32	Very Good	12	14	Likely	0	1
Hickory	7			Medium	35	52	No Change	12	11	Good	12	13	Infill	10	15
Maple	3	Abundant	7	Low	35	14	Decrease	25	21	Fair	7	9	Migrate	2	3
Oak	11	Common	14	FIA	7		New	8	10	Poor	15	15			
Pine	8	Rare	50				Unknown	20	18	Very Poor	16	13			
Other	38	Absent	20							FIA Only	6	6			
	71		91		92	88		92	92	Unknown	13	11			
											81	81			

Potential Changes in Climate Variables

Temperature (°F)

	Scenario	2009	2039	2069	2099	
Annual Average	CCSM45	67.0	68.4	70.2	70.2	
	CCSM85	67.0	68.6	70.9	73.3	
	GFDL45	67.0	69.7	71.5	72.2	
	GFDL85	67.0	69.4	72.4	75.9	
	HAD45	67.0	68.9	71.3	72.7	
	HAD85	67.0	69.2	72.4	76.0	
Growing Season (May—Sep)	CCSM45	78.6	79.7	81.1	81.5	
	CCSM85	78.6	79.7	82.1	84.8	
	GFDL45	78.6	81.1	82.8	84.0	
	GFDL85	78.6	81.0	84.0	87.9	
	HAD45	78.6	81.3	83.3	84.7	
	HAD85	78.6	81.3	85.6	88.6	
Coldest Month (Average)	CCSM45	49.1	51.4	52.2	51.9	
	CCSM85	49.1	51.1	52.3	53.4	
	GFDL45	49.1	52.0	52.3	52.7	
	GFDL85	49.1	51.2	52.3	53.0	
	HAD45	49.1	49.1	50.6	51.4	
	HAD85	49.1	50.2	51.3	53.0	
Warmest Month (Average)	CCSM45	81.6	82.9	83.5	83.8	
	CCSM85	81.6	82.8	84.0	85.6	
	GFDL45	81.6	83.9	84.7	85.3	
	GFDL85	81.6	83.8	85.1	87.2	
	HAD45	81.6	84.8	85.9	86.5	
	HAD85	81.6	84.9	87.3	88.8	

Precipitation (in)

	Scenario	2009	2039	2069	2099	
Annual Total	CCSM45	59.0	62.7	64.3	65.6	
	CCSM85	59.0	62.1	65.7	68.9	
	GFDL45	59.0	65.2	68.5	70.2	
	GFDL85	59.0	65.1	70.1	67.7	
	HAD45	59.0	55.9	61.0	64.0	
	HAD85	59.0	60.8	55.4	58.9	
Growing Season (May—Sep)	CCSM45	27.7	30.8	31.5	31.8	
	CCSM85	27.7	29.1	31.9	32.5	
	GFDL45	27.7	33.5	35.0	34.5	
	GFDL85	27.7	34.0	37.9	36.9	
	HAD45	27.7	26.7	28.0	28.7	
	HAD85	27.7	27.5	22.8	24.2	

**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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One x One Degree  
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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	83.5	3820.1	34.9	Sm. dec.	Sm. dec.	Medium	Abundant	Fair	Fair			0	1
loblolly pine	Pinus taeda	WDH	High	53	1462.2	15.8	Sm. inc.	Sm. inc.	Medium	Abundant	Very Good	Very Good			1	2
laurel oak	Quercus laurifolia	NDH	Medium	60	696.0	7.7	Sm. inc.	Sm. inc.	Medium	Abundant	Very Good	Very Good			1	3
water oak	Quercus nigra	WDH	High	67.1	661.0	6.9	Sm. inc.	Sm. inc.	Medium	Abundant	Very Good	Very Good			1	4
sand pine	Pinus clausa	NDH	High	19.8	653.1	21.7	Sm. dec.	Sm. dec.	Low	Abundant	Fair	Fair			0	5
swamp tupelo	Nyssa biflora	NDH	Medium	59.3	627.7	8.1	Sm. inc.	Sm. inc.	Low	Abundant	Good	Good			1	6
longleaf pine	Pinus palustris	NSH	Medium	33.7	593.2	8.7	Lg. inc.	Lg. inc.	Medium	Abundant	Very Good	Very Good			1	7
sweetbay	Magnolia virginiana	NSL	Medium	57.3	486.4	6.4	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	8
pond cypress	Taxodium ascendens	NSH	Medium	35.3	379.1	8.9	Sm. inc.	Lg. inc.	Medium	Common	Good	Very Good			1	9
sweetgum	Liquidambar styraciflua	WDH	High	42.2	285.4	4.5	Sm. inc.	Lg. inc.	Medium	Common	Good	Very Good			1	10
water tupelo	Nyssa aquatica	NSH	Medium	16.8	199.5	8.1	Sm. dec.	Sm. dec.	Low	Common	Poor	Poor			0	11
blackgum	Nyssa sylvatica	WDL	Medium	31.6	165.0	3.5	Sm. inc.	Sm. inc.	High	Common	Very Good	Very Good			1	12
turkey oak	Quercus laevis	NSH	Medium	22.7	154.6	4.1	Sm. inc.	Sm. inc.	High	Common	Very Good	Very Good			1	13
live oak	Quercus virginiana	NDH	High	24.8	146.4	3.5	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	14
bald cypress	Taxodium distichum	NSH	Medium	13.6	122.5	4.0	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	15
red maple	Acer rubrum	WDH	High	40.3	111.1	2.0	Lg. inc.	Lg. inc.	High	Common	Very Good	Very Good			1	16
southern red oak	Quercus falcata	WDL	Medium	13.2	95.5	3.1	Sm. inc.	Lg. inc.	High	Common	Very Good	Very Good			1	17
green ash	Fraxinus pennsylvanica	WSH	Low	15.6	82.0	3.9	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	18
black cherry	Prunus serotina	WDL	Medium	17.7	75.6	2.5	Lg. inc.	Lg. inc.	Low	Common	Good	Good			1	19
yellow-poplar	Liriodendron tulipifera	WDH	High	13.8	60.2	2.5	Sm. inc.	Sm. inc.	High	Common	Very Good	Very Good			1	20
American elm	Ulmus americana	WDH	Medium	11.8	54.2	3.9	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good	Infill ++	Infill ++	1	21
American hornbeam; musclev	Carpinus caroliniana	WSL	Low	15.7	43.1	1.9	Sm. inc.	Lg. inc.	Medium	Rare	Fair	Good			1	22
southern magnolia	Magnolia grandiflora	NSL	Low	16	39.8	1.6	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			1	23
American holly	Ilex opaca	NSL	Medium	17	34.7	1.5	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	24
pond pine	Pinus serotina	NSH	Medium	5.4	34.1	2.3	No change	No change	Low	Rare	Very Poor	Very Poor			0	25
post oak	Quercus stellata	WDH	High	9.5	31.3	1.9	Sm. inc.	Lg. inc.	High	Rare	Good	Good	Infill ++	Infill ++	1	26
sycamore	Platanus occidentalis	NSL	Low	3.5	24.5	5.7	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			2	27
sugarberry	Celtis laevigata	NDH	Medium	8.6	24.4	2.1	No change	Sm. inc.	Medium	Rare	Poor	Fair	Infill +	Infill +	1	28
overcup oak	Quercus lyrata	NSL	Medium	8.8	23.8	2.4	No change	No change	Low	Rare	Very Poor	Very Poor			0	29
water hickory	Carya aquatica	NSL	Medium	6.4	23.3	3.0	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			2	30
redbay	Persea borbonia	NSL	Low	12.9	22.9	1.7	Lg. inc.	Lg. inc.	High	Rare	Good	Good			1	31
eastern hophornbeam; ironw	Ostrya virginiana	WSL	Low	7	22.7	2.7	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor			1	32
eastern redcedar	Juniperus virginiana	WDH	Medium	8	22.0	2.2	Sm. dec.	No change	Medium	Rare	Very Poor	Poor		Infill +	1	33
white oak	Quercus alba	WDH	Medium	6.6	21.5	1.4	No change	No change	High	Rare	Fair	Fair	Infill +	Infill +	2	34
mockernut hickory	Carya alba	WDL	Medium	5.5	20.3	2.3	No change	No change	High	Rare	Fair	Fair	Infill +	Infill +	1	35
flowering dogwood	Cornus florida	WDL	Medium	11.2	17.4	0.7	No change	Sm. inc.	Medium	Rare	Poor	Fair			1	36
Carolina ash	Fraxinus caroliniana	NSL	FIA	4.2	17.1	3.2	Unknown	Unknown	NA	Rare	FIA Only	FIA Only			0	37
common persimmon	Diospyros virginiana	NSL	Low	14.1	14.9	0.6	Lg. dec.	Lg. dec.	High	Rare	Poor	Poor			1	38
bluejack oak	Quercus incana	NSL	Low	13.3	14.3	1.0	No change	Lg. inc.	Medium	Rare	Poor	Good			1	39
hackberry	Celtis occidentalis	WDH	Medium	5.2	10.7	2.1	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor			0	40
spruce pine	Pinus glabra	NSL	Low	5.6	9.8	1.2	Sm. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	41
pignut hickory	Carya glabra	WDL	Medium	6	8.6	1.0	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	2	42
pumpkin ash	Fraxinus profunda	NSH	FIA	4.1	8.6	1.4	Unknown	Unknown	NA	Rare	FIA Only	FIA Only			0	43
shortleaf pine	Pinus echinata	WDH	High	0.9	7.6	1.4	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++	2	44
swamp chestnut oak	Quercus michauxii	NSL	Low	4.4	7.5	0.9	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	45
sourwood	Oxydendrum arboreum	NDL	High	2.9	7.3	1.4	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor			0	46
boxelder	Acer negundo	WSH	Low	3.1	5.5	1.8	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor			0	47



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pecan	Carya illinoensis	NSH	Low	0.9	5.4	4.4	Sm. dec.	Sm. dec.	Low	Rare	Very Poor	Very Poor			0	48
bitternut hickory	Carya cordiformis	WSL	Low	2.5	5.2	1.5	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor			0	49
sassafras	Sassafras albidum	WSL	Low	5.2	4.7	0.7	Sm. dec.	No change	Medium	Rare	Very Poor	Poor		Infill +	2	50
wild plum	Prunus americana	NSLX	FIA	1.1	4.3	0.3	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only			0	51
white ash	Fraxinus americana	WDL	Medium	0.4	3.9	1.5	Sm. dec.	Sm. dec.	Low	Rare	Very Poor	Very Poor			0	52
eastern redbud	Cercis canadensis	NSL	Low	1.3	3.4	1.2	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	53
river birch	Betula nigra	NSL	Low	4.9	3.3	0.6	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++	2	54
slippery elm	Ulmus rubra	WSL	Low	3	3.2	1.0	No change	No change	Medium	Rare	Poor	Poor		Infill +	2	55
American beech	Fagus grandifolia	WDH	High	1.9	2.4	1.1	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	2	56
Atlantic white-cedar	Chamaecyparis thyoides	NSH	Low	0.1	2.4	0.3	Lg. inc.	Lg. inc.	Low	Rare	Fair	Fair	Infill +		2	57
loblolly-bay	Gordonia lasianthus	NSH	Medium	1.3	2.2	0.7	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			2	58
ogeechee tupelo	Nyssa ogeche	NSLX	FIA	1	2.2	2.1	Unknown	Unknown	Low	Rare	FIA Only	FIA Only			0	59
sand hickory	Carya pallida	NSL	FIA	0.4	2.0	0.7	Unknown	Unknown	NA	Rare	FIA Only	FIA Only			0	60
white mulberry	Morus alba	NSL	FIA	1	1.8	1.8	Unknown	Unknown	NA	Rare	NNIS	NNIS			0	61
winged elm	Ulmus alata	WDL	Medium	1	1.7	1.6	No change	Lg. inc.	Medium	Rare	Poor	Good			2	62
black willow	Salix nigra	NSH	Low	2.1	1.3	0.6	No change	Lg. inc.	Low	Rare	Very Poor	Fair		Infill +	2	63
water elm	Planera aquatica	NSL	Low	1.9	0.8	0.4	Very Lg. dec.	Sm. dec.	Medium	Rare	Lost	Very Poor			0	64
Virginia pine	Pinus virginiana	NDH	High	0.2	0.8	0.2	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	65
cherrybark oak; swamp red o	Quercus pagoda	NSL	Medium	0.2	0.7	0.2	Very Lg. dec.	No change	Medium	Rare	Lost	Poor		Infill +	2	66
American basswood	Tilia americana	WSL	Medium	1	0.6	0.6	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	67
florida maple	Acer barbatum	NSL	Low	1	0.4	0.4	Lg. dec.	Lg. dec.	High	Rare	Poor	Poor			0	68
cedar elm	Ulmus crassifolia	NDH	Medium	0.9	0.4	0.4	Lg. inc.	Lg. inc.	Low	Rare	Fair	Fair		Infill +	2	69
shagbark hickory	Carya ovata	WSL	Medium	0.4	0.4	0.1	Sm. dec.	No change	Medium	Rare	Very Poor	Poor			0	70
waterlocust	Gleditsia aquatica	NSLX	FIA	1	0.2	0.2	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only			0	71
Table Mountain pine	Pinus pungens	NSL	Low	0	0	0	New Habitat	Unknown	High	Absent	New Habitat	Unknown			3	72
silver maple	Acer saccharinum	NSH	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat			3	73
yellow buckeye	Aesculus flava	NSL	Low	0	0	0	Unknown	Unknown	Low	Absent	Unknown	Unknown			0	74
serviceberry	Amelanchier spp.	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			3	75
cittamwood/gum bumelia	Sideroxylon lanuginosum ssp.	NSL	Low	0	0	0	Unknown	New Habitat	High	Absent	Unknown	New Habitat			3	76
shellbark hickory	Prunus laciniosa	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	77
black hickory	Carya texana	NDL	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat		Migrate +	3	78
black ash	Fraxinus nigra	WSH	Medium	0	0	0	Unknown	New Habitat	Low	Absent	Unknown	New Habitat			0	79
silverbell	Halesia spp.	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			3	80
cucumbertree	Magnolia acuminata	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	81
bigleaf magnolia	Magnolia macrophylla	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	82
red mulberry	Morus rubra	NSL	Low	0	0	0	Unknown	Unknown	Medium	Modeled	Unknown	Unknown			0	83
pin cherry	Prunus pensylvanica	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	84
scarlet oak	Quercus coccinea	WDL	Medium	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	85
blackjack oak	Quercus marilandica	NSL	Medium	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Migrate ++	Migrate ++	3	86
chinkapin oak	Quercus muehlenbergii	NSL	Medium	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	87
willow oak	Quercus phellos	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate +	Migrate +	3	88
chestnut oak	Quercus prinus	NDH	High	0	0	0	Unknown	Unknown	High	Absent	Unknown	Unknown			0	89
Shumard oak	Quercus shumardii	NSL	Low	0	0	0	Unknown	New Habitat	High	Absent	Unknown	New Habitat		Likely +	3	90
black locust	Robinia pseudoacacia	NDH	Low	0	0	0	Unknown	Unknown	Medium	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