

Current and Potential Future Habitat, Capability, and Migration

	sq. km	sq. mi	FIA Plots
Area of Region	10,995	4,245.1	386

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	2			High	17	26	Increase	31	35	Very Good	10	11	Likely	2	2
Hickory	6			Medium	37	55	No Change	18	16	Good	22	22	Infill	14	19
Maple	3	Abundant	4	Low	37	11	Decrease	24	22	Fair	5	9	Migrate	2	4
Oak	18	Common	22	FIA	1		New	11	11	Poor	19	15		18	25
Pine	6	Rare	48				Unknown	8	8	Very Poor	16	13			
Other	39	Absent	15							FIA Only	1	1			
	74		89		92	92		92	92	Unknown	7	7			
											80	78			

Potential Changes in Climate Variables

Temperature (°F)

Scenario	2009	2039	2069	2099	
Annual	56.1	57.3	58.6	58.6	
Average	56.1	57.4	59.2	60.9	
GFDL45	56.1	58.0	59.3	59.9	
GFDL85	56.1	57.8	60.1	62.6	
HAD45	56.1	57.6	59.5	60.6	
HAD85	56.1	57.8	60.5	63.3	
Growing Season	65.1	66.1	67.2	67.5	
May—Sep	65.1	66.1	67.9	70.1	
GFDL45	65.1	67.0	68.2	69.2	
GFDL85	65.1	66.8	69.1	72.0	
HAD45	65.1	67.3	68.9	70.1	
HAD85	65.1	67.2	71.0	73.5	
Coldest Month	42.4	44.0	44.6	44.4	
Average	42.4	44.0	44.8	45.7	
GFDL45	42.4	44.8	45.0	45.1	
GFDL85	42.4	43.7	44.5	44.9	
HAD45	42.4	42.5	43.6	44.2	
HAD85	42.4	43.4	44.2	45.5	
Warmest Month	67.6	68.6	69.0	69.3	
Average	67.6	68.6	69.5	70.8	
GFDL45	67.6	69.5	70.0	70.5	
GFDL85	67.6	69.1	70.1	71.7	
HAD45	67.6	70.4	71.4	72.0	
HAD85	67.6	70.4	72.8	73.9	

Precipitation (in)

Scenario	2009	2039	2069	2099	
Annual	43.2	44.6	47.4	47.2	
Total	43.2	45.8	46.8	51.2	
GFDL45	43.2	47.8	50.8	51.6	
GFDL85	43.2	47.7	50.1	49.6	
HAD45	43.2	42.0	46.4	46.7	
HAD85	43.2	46.9	41.9	43.8	
Growing Season	18.5	19.8	20.7	20.6	
May—Sep	18.5	18.8	19.6	21.1	
GFDL45	18.5	22.2	24.1	23.3	
GFDL85	18.5	22.7	24.9	25.0	
HAD45	18.5	17.9	19.2	19.0	
HAD85	18.5	19.7	15.4	16.1	

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	93.5	5204.0	35.1	No change	Sm. dec.	Medium	Abundant	Good	Fair			1	1
water oak	Quercus nigra	WDH	High	97.6	1158.1	7.6	Sm. inc.	Sm. inc.	Medium	Abundant	Very Good	Very Good			1	2
sweetgum	Liquidambar styraciflua	WDH	High	90	982.6	7.0	No change	No change	Medium	Abundant	Good	Good			1	3
longleaf pine	Pinus palustris	NSH	Medium	29.4	699.2	13.0	Lg. inc.	Lg. inc.	Medium	Abundant	Very Good	Very Good			1	4
laurel oak	Quercus laurifolia	NDH	Medium	55.8	447.8	5.6	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	5
slash pine	Pinus elliotii	NDH	High	30.8	413.6	8.6	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	6
sweetbay	Magnolia virginiana	NSL	Medium	56.8	395.9	4.4	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	7
yellow-poplar	Liriodendron tulipifera	WDH	High	62.6	366.3	3.6	No change	No change	High	Common	Good	Good			1	8
blackgum	Nyssa sylvatica	WDH	Medium	69	317.1	3.0	Sm. inc.	Sm. inc.	High	Common	Very Good	Very Good			1	9
red maple	Acer rubrum	WDH	High	72.4	273.2	2.6	Lg. inc.	Lg. inc.	High	Common	Very Good	Very Good			1	10
shortleaf pine	Pinus echinata	WDH	High	35.3	214.8	3.3	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	11
southern red oak	Quercus falcata	WDL	Medium	51	171.7	2.0	Lg. inc.	Lg. inc.	High	Common	Very Good	Very Good			1	12
American hornbeam; musclev	Carpinus caroliniana	WSL	Low	32.6	159.0	2.5	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	13
swamp tupelo	Nyssa biflora	NDH	Medium	24.4	150.2	3.9	Lg. inc.	Lg. inc.	Low	Common	Good	Good			1	14
southern magnolia	Magnolia grandiflora	NSL	Low	25.5	144.1	3.8	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	15
flowering dogwood	Cornus florida	WDL	Medium	51.9	124.3	1.4	No change	No change	Medium	Common	Fair	Fair			1	16
white oak	Quercus alba	WDH	Medium	36.8	122.3	2.4	Sm. inc.	Sm. inc.	High	Common	Very Good	Very Good			1	17
American holly	Ilex opaca	NSL	Medium	55.1	116.2	1.6	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	18
black cherry	Prunus serotina	WDL	Medium	55	95.4	1.4	Lg. inc.	Lg. inc.	Low	Common	Good	Good			1	19
water tupelo	Nyssa aquatica	NSH	Medium	5.7	89.0	6.6	No change	No change	Low	Common	Poor	Poor	Infill +	Infill +	2	20
spruce pine	Pinus glabra	NSL	Low	28.7	77.8	2.1	Lg. dec.	Lg. dec.	Medium	Common	Poor	Poor			0	21
post oak	Quercus stellata	WDH	High	23.1	75.0	2.1	Lg. inc.	Lg. inc.	High	Common	Very Good	Very Good			1	22
eastern redcedar	Juniperus virginiana	WDH	Medium	26.5	68.9	1.9	Sm. inc.	Lg. inc.	Medium	Common	Good	Very Good			1	23
mockernut hickory	Carya alba	WDL	Medium	27.9	60.3	1.3	Lg. inc.	Lg. inc.	High	Common	Very Good	Very Good			1	24
pignut hickory	Carya glabra	WDL	Medium	23.5	57.7	1.4	No change	Sm. inc.	Medium	Common	Fair	Good			1	25
bald cypress	Taxodium distichum	NSH	Medium	12.3	56.4	4.1	Sm. inc.	Sm. inc.	Medium	Common	Good	Good	Infill ++	Infill ++	1	26
common persimmon	Diospyros virginiana	NSL	Low	27.9	49.9	1.3	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor			1	27
American beech	Fagus grandifolia	WDH	High	17.4	48.4	1.9	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++	1	28
green ash	Fraxinus pennsylvanica	WSH	Low	20.6	46.7	1.1	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			1	29
winged elm	Ulmus alata	WDL	Medium	19.1	37.9	0.9	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			1	30
live oak	Quercus virginiana	NDH	High	2.3	37.3	2.9	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			2	31
willow oak	Quercus phellos	NSL	Low	8.3	35.2	2.7	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	1	32
bluejack oak	Quercus incana	NSL	Low	4.8	34.6	5.3	Sm. dec.	No change	Medium	Rare	Very Poor	Poor		Infill +	1	33
sourwood	Oxydendrum arboreum	NDL	High	14.9	33.5	0.9	Sm. dec.	Lg. dec.	High	Rare	Poor	Poor			1	34
eastern hophornbeam; ironw	Ostrya virginiana	WSL	Low	13.2	28.0	1.1	Lg. inc.	Lg. inc.	High	Rare	Good	Good			1	35
sycamore	Platanus occidentalis	NSL	Low	10.2	21.2	1.3	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	36
American elm	Ulmus americana	WDH	Medium	15.3	20.2	0.9	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++	1	37
redbay	Persea borbonia	NSL	Low	8.8	19.7	1.3	No change	No change	High	Rare	Fair	Fair	Infill +	Infill +	1	38
pecan	Carya illinoensis	NSH	Low	5.2	18.6	3.1	No change	No change	Low	Rare	Very Poor	Very Poor			0	39
swamp chestnut oak	Quercus michauxii	NSL	Low	10.9	18.5	0.8	No change	No change	Medium	Rare	Poor	Poor			1	40
florida maple	Acer barbatum	NSL	Low	8.5	15.4	1.1	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor		Infill +	1	41
Atlantic white-cedar	Chamaecyparis thyoides	NSH	Low	2	14.4	4.1	No change	No change	Low	Rare	Very Poor	Very Poor			2	42
black willow	Salix nigra	NSH	Low	4.6	14.1	2.4	Sm. inc.	Lg. inc.	Low	Rare	Poor	Fair	Infill +	Infill +	2	43
water hickory	Carya aquatica	NSL	Medium	2.2	13.2	2.3	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	44
river birch	Betula nigra	NSL	Low	6.3	12.4	1.1	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++	1	45
cherrybark oak; swamp red o	Quercus pagoda	NSL	Medium	1.5	10.6	1.5	No change	Sm. inc.	Medium	Rare	Poor	Fair	Infill +	Infill +	2	46
blackjack oak	Quercus marilandica	NSL	Medium	4.9	10.5	1.0	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
sassafras	Sassafras albidum	WSL	Low	10.5	9.7	0.6	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			1	48
black oak	Quercus velutina	WDH	High	2.6	8.6	0.5	No change	No change	Medium	Rare	Poor	Poor			0	49
American basswood	Tilia americana	WSL	Medium	0.5	8.3	1.6	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	50
shagbark hickory	Carya ovata	WSL	Medium	1	6.8	1.2	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	51
sugarberry	Celtis laevigata	NDH	Medium	6.3	6.4	1.0	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++	1	52
red mulberry	Morus rubra	NSL	Low	5.2	6.3	0.8	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	1	53
overcup oak	Quercus lyrata	NSL	Medium	2.1	6.1	1.9	No change	Sm. inc.	Low	Rare	Very Poor	Poor		Infill +	2	54
boxelder	Acer negundo	WSH	Low	2.1	5.4	0.8	Sm. dec.	No change	High	Rare	Poor	Fair		Infill +	2	55
eastern redbud	Cercis canadensis	NSL	Low	3.6	4.5	0.4	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	56
turkey oak	Quercus laevis	NSH	Medium	3.3	4.4	0.7	No change	No change	High	Rare	Fair	Fair	Infill +	Infill +	2	57
chestnut oak	Quercus prinus	NDH	High	2.3	3.8	1.2	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor			0	58
bigleaf magnolia	Magnolia macrophylla	NSL	Low	2.4	3.5	0.5	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	59
Shumard oak	Quercus shumardii	NSL	Low	0.6	3.1	2.1	Sm. dec.	No change	High	Rare	Poor	Fair			0	60
slippery elm	Ulmus rubra	WSL	Low	2.8	3.1	0.7	No change	No change	Medium	Rare	Poor	Poor		Infill +	2	61
eastern cottonwood	Populus deltoides	NSH	Low	0.4	2.5	1.1	Sm. dec.	Very Lg. dec.	Medium	Rare	Very Poor	Lost			0	62
northern red oak	Quercus rubra	WDH	Medium	0.3	2.2	0.7	Lg. dec.	Lg. dec.	High	Rare	Poor	Poor			0	63
pond cypress	Taxodium ascendens	NSH	Medium	0.9	1.8	2.0	No change	Lg. inc.	Medium	Rare	Poor	Good			2	64
bitternut hickory	Carya cordiformis	WSL	Low	1.8	1.8	1.0	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor			0	65
wild plum	Prunus americana	NSLX	FIA	3	1.7	0.3	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only			0	66
scarlet oak	Quercus coccinea	WDL	Medium	1	1.6	0.4	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	67
loblolly-bay	Gordonia lasianthus	NSH	Medium	0.2	1.3	0.4	Very Lg. dec.	Very Lg. dec.	Medium	Rare	Lost	Lost			0	68
hackberry	Celtis occidentalis	WDH	Medium	0.1	1.0	0.2	Lg. dec.	Very Lg. dec.	High	Rare	Poor	Lost			0	69
pin cherry	Prunus pensylvanica	NSL	Low	1.1	1.0	0.4	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	70
cucumbertree	Magnolia acuminata	NSL	Low	0.9	0.5	0.5	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	71
Virginia pine	Pinus virginiana	NDH	High	0.8	0.4	0.4	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	72
white ash	Fraxinus americana	WDL	Medium	0.9	0.3	0.3	Lg. inc.	Lg. inc.	Low	Rare	Fair	Fair	Infill +	Infill +	2	73
pawpaw	Asimina triloba	NSL	Low	0.9	0.3	0.3	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	74
sand pine	Pinus clausa	NDH	High	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat	Migrate ++	Migrate ++	3	75
Table Mountain pine	Pinus pungens	NSL	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat			3	76
striped maple	Acer pensylvanicum	NSL	Medium	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	77
silver maple	Acer saccharinum	NSH	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat			3	78
sugar maple	Acer saccharum	WDH	High	0	0	0	Unknown	Unknown	High	Absent	Unknown	Unknown			0	79
serviceberry	Amelanchier spp.	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Likely +	Likely +	3	80
cittamwood/gum bumelia	Sideroxylon lanuginosum ssp.	NSL	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat		Migrate +	3	81
shellbark hickory	Carya laciniosa	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	82
black hickory	Carya texana	NDL	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate +	Migrate +	3	83
black ash	Fraxinus nigra	WSH	Medium	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat			0	84
honeylocust	Gleditsia triacanthos	NSH	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Likely +	Likely +	3	85
silverbell	Halesia spp.	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			3	86
black walnut	Juglans nigra	WDH	Low	0	0	0	Unknown	Unknown	Medium	Modeled	Unknown	Unknown			0	87
water elm	Planera aquatica	NSL	Low	0	0	0	Unknown	Unknown	Medium	Modeled	Unknown	Unknown			0	88
chinkapin oak	Quercus muehlenbergii	NSL	Medium	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	89
Nuttall oak	Quercus texana	NSH	Medium	0	0	0	Unknown	Unknown	High	Modeled	Unknown	Unknown			0	90
cabbage palmetto	Sabal palmetto	NDH	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	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