

sq. km sq. mi FIA Plots
Area of Region 23,900 9,227.8 994

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	Scenario	Scenario	Scenario	SHIFT	SHIFT				
				High	25	Increase	RCP45	RCP85	Very Good	14	15	Likely	6	7	
Ash	3			Medium	30	48	No Change	13	8	Good	17	18	Infill	10	10
Hickory	5			Low	34	11	Decrease	17	18	Fair	7	10	Migrate	4	5
Maple	5	Abundant	5	FIA	5		New	14	16	Poor	9	4			
Oak	17	Common	23				Unknown	11	9	Very Poor	12	12			
Pine	1	Rare	38							FIA Only	3	3			
Other	35	Absent	18							Unknown	6	4			
	66		84		86	84		86	86		68	66		20	22

Potential Changes in Climate Variables

Temperature (°F)

	Scenario	2009	2039	2069	2099	
Annual Average	CCSM45	55.7	57.6	59.6	60.0	
	CCSM85	55.7	58.1	60.6	63.7	
	GFDL45	55.7	58.7	60.9	61.9	
	GFDL85	55.7	58.6	61.6	65.5	
	HAD45	55.7	58.4	61.4	62.9	
	HAD85	55.7	58.7	63.4	67.2	
Growing Season (May—Sep)	CCSM45	71.8	73.8	75.4	76.1	
	CCSM85	71.8	74.4	76.9	80.8	
	GFDL45	71.8	75.2	77.9	79.5	
	GFDL85	71.8	75.4	78.9	83.7	
	HAD45	71.8	74.9	77.6	79.3	
	HAD85	71.8	75.2	81.2	84.7	
Coldest Month Average	CCSM45	30.5	32.7	34.1	34.5	
	CCSM85	30.5	33.5	34.6	36.3	
	GFDL45	30.5	35.0	35.2	35.4	
	GFDL85	30.5	32.9	34.1	34.8	
	HAD45	30.5	31.7	34.1	34.3	
	HAD85	30.5	33.2	35.4	37.3	
Warmest Month Average	CCSM45	77.9	80.0	81.1	81.5	
	CCSM85	77.9	80.7	82.1	83.9	
	GFDL45	77.9	82.1	83.5	84.6	
	GFDL85	77.9	82.1	83.8	87.0	
	HAD45	77.9	81.5	83.4	84.2	
	HAD85	77.9	82.9	86.4	87.9	

Precipitation (in)

	Scenario	2009	2039	2069	2099	
Annual Total	CCSM45	45.5	44.4	49.4	47.4	
	CCSM85	45.5	47.0	48.1	49.0	
	GFDL45	45.5	50.9	53.0	52.7	
	GFDL85	45.5	50.8	57.3	57.5	
	HAD45	45.5	44.9	48.4	48.4	
	HAD85	45.5	48.0	44.4	47.4	
Growing Season (May—Sep)	CCSM45	20.1	18.8	20.7	19.4	
	CCSM85	20.1	20.2	18.9	19.5	
	GFDL45	20.1	22.6	22.0	22.8	
	GFDL85	20.1	22.6	24.4	24.2	
	HAD45	20.1	19.0	19.2	18.8	
	HAD85	20.1	19.9	16.2	16.5	

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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Current and Potential Future Habitat, Capability, and Migration

Common Name	Scientific Name	Range	MR	%Cell	FIAsum	FIAiv	ChngCl45	ChngCl85	Adap	Abund	Capabil45	Capabil85	SHIFT45	SHIFT85	SSO	N
white oak	Quercus alba	WDH	Medium	90.4	1919.5	22.1	Sm. dec.	Lg. dec.	High	Abundant	Good	Good			1	1
black oak	Quercus velutina	WDH	High	93.3	1270.8	14.3	No change	Sm. dec.	Medium	Abundant	Good	Fair			1	2
post oak	Quercus stellata	WDH	High	83.7	894.5	10.9	Sm. inc.	Sm. inc.	High	Abundant	Very Good	Very Good			1	3
shortleaf pine	Pinus echinata	WDH	High	50.2	701.2	14.0	Sm. inc.	Sm. inc.	Medium	Abundant	Very Good	Very Good			1	4
eastern redcedar	Juniperus virginiana	WDH	Medium	59.8	621.8	11.0	Sm. inc.	Sm. inc.	Medium	Abundant	Very Good	Very Good			1	5
scarlet oak	Quercus coccinea	WDL	Medium	47.3	410.6	8.7	Lg. dec.	Lg. dec.	Medium	Common	Poor	Poor			0	6
mockernut hickory	Carya alba	WDL	Medium	72.4	328.7	4.5	Sm. inc.	Sm. inc.	High	Common	Very Good	Very Good			1	7
black hickory	Carya texana	NDL	High	77.4	292.8	3.8	Sm. inc.	Lg. inc.	Medium	Common	Good	Very Good			1	8
northern red oak	Quercus rubra	WDH	Medium	57.3	271.5	5.0	Sm. inc.	No change	High	Common	Very Good	Good			1	9
blackgum	Nyssa sylvatica	WDL	Medium	58.6	194.6	3.3	Sm. inc.	Sm. inc.	High	Common	Very Good	Very Good			1	10
pignut hickory	Carya glabra	WDL	Medium	39.3	179.1	4.7	Sm. dec.	Sm. dec.	Medium	Common	Poor	Poor			0	11
sugar maple	Acer saccharum	WDH	High	41.8	151.5	3.9	No change	No change	High	Common	Good	Good			1	12
flowering dogwood	Cornus florida	WDL	Medium	76.2	144.9	1.9	No change	No change	Medium	Common	Fair	Fair			1	13
black walnut	Juglans nigra	WDH	Low	44.4	139.4	3.5	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	14
chinkapin oak	Quercus muehlenbergii	NSL	Medium	36	136.1	4.0	No change	No change	Medium	Common	Fair	Fair			1	15
American elm	Ulmus americana	WDL	Medium	46	116.5	2.8	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	16
white ash	Fraxinus americana	WDL	Medium	51.9	102.4	2.3	Lg. inc.	Lg. inc.	Low	Common	Good	Good			1	17
black cherry	Prunus serotina	WDL	Medium	44.8	100.4	2.2	Sm. inc.	Lg. inc.	Low	Common	Fair	Good			1	18
blackjack oak	Quercus marilandica	NSL	Medium	34.7	100.4	2.9	Lg. inc.	Lg. inc.	High	Common	Very Good	Very Good			1	19
sycamore	Platanus occidentalis	NSL	Low	19.7	98.6	5.0	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	20
bitternut hickory	Carya cordiformis	WSL	Low	33.5	97.7	3.2	Lg. inc.	Lg. inc.	High	Common	Very Good	Very Good			1	21
shagbark hickory	Carya ovata	WSL	Medium	25.9	95.6	4.7	Lg. dec.	Sm. dec.	Medium	Common	Poor	Poor			0	22
winged elm	Ulmus alata	WDL	Medium	41.4	94.7	2.4	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	23
slippery elm	Ulmus rubra	WSL	Low	48.1	93.3	2.1	Sm. inc.	Lg. inc.	Medium	Common	Good	Very Good			1	24
red maple	Acer rubrum	WDH	High	41	87.0	2.1	Sm. inc.	Lg. inc.	High	Common	Very Good	Very Good			1	25
common persimmon	Diospyros virginiana	NSL	Low	33.1	84.3	2.6	Lg. inc.	Lg. inc.	High	Common	Very Good	Very Good			1	26
sassafras	Sassafras albidum	WSL	Low	49.4	81.6	1.8	Sm. dec.	Sm. dec.	Medium	Common	Poor	Poor			0	27
southern red oak	Quercus falcata	WDL	Medium	12.6	50.9	4.1	Lg. inc.	Lg. inc.	High	Common	Very Good	Very Good	Infill ++	Infill ++	1	28
hackberry	Celtis occidentalis	WDH	Medium	25.5	49.9	2.4	Lg. inc.	Lg. inc.	High	Rare	Good	Good			1	29
Shumard oak	Quercus shumardii	NSL	Low	15.5	46.2	3.0	No change	Sm. inc.	High	Rare	Fair	Good			1	30
shingle oak	Quercus imbricaria	NDH	Medium	12.1	34.0	3.2	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	31
honeylocust	Gleditsia triacanthos	NSH	Low	15.1	33.9	2.5	Lg. inc.	Lg. inc.	High	Rare	Good	Good			1	32
red mulberry	Morus rubra	NSL	Low	28	27.0	1.2	No change	Sm. inc.	Medium	Rare	Poor	Fair			1	33
eastern redbud	Cercis canadensis	NSL	Low	29.7	26.3	0.9	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			1	34
eastern hophornbeam; ironw	Ostrya virginiana	WSL	Low	22.2	24.9	1.3	Lg. inc.	Lg. inc.	High	Rare	Good	Good			1	35
boxelder	Acer negundo	WSH	Low	5	23.3	4.6	No change	No change	High	Rare	Fair	Fair			1	36
sweetgum	Liquidambar styraciflua	WDH	High	4.6	20.2	4.4	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++	2	37
American basswood	Tilia americana	WSL	Medium	5.9	11.5	2.5	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	38
swamp white oak	Quercus bicolor	NSL	Low	2.5	11.1	9.2	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	39
pin oak	Quercus palustris	NSH	Low	2.9	10.5	6.6	No change	No change	Low	Rare	Very Poor	Very Poor			2	40
green ash	Fraxinus pennsylvanica	WSH	Low	16.7	10.4	0.8	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			1	41
black locust	Robinia pseudoacacia	NDH	Low	3.8	9.3	6.0	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++	2	42
serviceberry	Amelanchier spp.	NSL	Low	17.2	8.5	0.5	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	43
Ohio buckeye	Aesculus glabra	NSL	Low	6.3	7.3	2.1	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	44
blue ash	Fraxinus quadrangulata	NSL	Low	7.9	7.3	1.7	Sm. dec.	Sm. dec.	Low	Rare	Very Poor	Very Poor			0	45
wild plum	Prunus americana	NSLX	FIA	3.3	6.8	2.0	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only			0	46
cittamwood/gum bumelia	Sideroxylon lanuginosum ssp.	NSL	Low	5	5.4	1.1	Lg. inc.	Lg. inc.	High	Rare	Good	Good	Infill ++	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
American hornbeam; muscle	Carpinus caroliniana	WSL	Low	7.9	5.4	0.7	No change	Lg. inc.	Medium	Rare	Poor	Good	Infill +	Infill ++	1	48
cherrybark oak; swamp red o.	Quercus pagoda	NSL	Medium	0.8	5.2	6.2	No change	Sm. inc.	Medium	Rare	Poor	Fair	Infill +	Infill +	2	49
river birch	Betula nigra	NSL	Low	1.7	5.1	3.1	No change	Sm. inc.	Medium	Rare	Poor	Fair	Infill +	Infill +	2	50
pawpaw	Asimina triloba	NSL	Low	5	4.1	0.8	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	51
silver maple	Acer saccharinum	NSH	Low	1.7	3.3	2.0	No change	No change	High	Rare	Fair	Fair	Infill +	Infill +	2	52
Osage-orange	Maclura pomifera	NDH	Medium	1.7	2.6	1.5	Lg. inc.	Lg. inc.	High	Rare	Good	Good			2	53
butternut	Juglans cinerea	NSLX	FIA	1.7	2.4	1.5	Unknown	Unknown	Low	Rare	FIA Only	FIA Only			0	54
willow oak	Quercus phellos	NSL	Low	0.4	1.4	3.4	Sm. inc.	Sm. inc.	Medium	Rare	Fair	Fair	Infill +	Infill +	2	55
eastern cottonwood	Populus deltoides	NSH	Low	0.8	1.3	1.6	Lg. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			2	56
bur oak	Quercus macrocarpa	NDH	Medium	1.7	1.3	0.8	Very Lg. dec.	Very Lg. dec.	High	Rare	Lost	Lost			0	57
overcup oak	Quercus lyrata	NSL	Medium	0.4	1.2	2.9	No change	No change	Low	Rare	Very Poor	Very Poor			2	58
ailanthus	Ailanthus altissima	NSL	FIA	0.4	1.1	2.5	Unknown	Unknown	NA	Rare	NNIS	NNIS			0	59
black willow	Salix nigra	NSH	Low	2.1	1.0	2.5	Sm. inc.	Lg. inc.	Low	Rare	Poor	Fair	Infill +	Infill +	2	60
swamp chestnut oak	Quercus michauxii	NSL	Low	0.8	0.8	1.0	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	61
white mulberry	Morus alba	NSL	FIA	0.4	0.7	1.8	Unknown	Unknown	NA	Rare	NNIS	NNIS			0	62
black maple	Acer nigrum	NSH	Low	0.4	0.4	0.9	Very Lg. dec.	Very Lg. dec.	High	Rare	Lost	Lost			0	63
sugarberry	Celtis laevigata	NDH	Medium	0.4	0.2	0.4	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			2	64
water tupelo	Nyssa aquatica	NSH	Medium	0.4	0.2	0.4	Lg. dec.	Lg. dec.	Low	Rare	Very Poor	Very Poor			0	65
peachleaf willow	Salix amygdaloides	NSLX	FIA	0.4	0.2	0.4	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only			0	66
ashe juniper	Juniperus ashei	NDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			0	67
longleaf pine	Pinus palustris	NSH	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			3	68
loblolly pine	Pinus taeda	WDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Likely +	Likely +	3	69
Virginia pine	Pinus virginiana	NDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Likely +	Likely +	3	70
florida maple	Acer barbatum	NSL	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Likely +	Likely +	3	71
yellow birch	Betula alleghaniensis	NDL	High	0	0	0	Unknown	Unknown	Medium	Modeled	Unknown	Unknown			0	72
pecan	Carya illinoensis	NSH	Low	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat	Likely +	Likely +	3	73
shellbark hickory	Carya laciniosa	NSL	Low	0	0	0	Unknown	New Habitat	Medium	Absent	Unknown	New Habitat		Likely +	3	74
American beech	Fagus grandifolia	WDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Likely +	Likely +	3	75
black ash	Fraxinus nigra	WSH	Medium	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat			3	76
American holly	Ilex opaca	NSL	Medium	0	0	0	Unknown	New Habitat	Medium	Absent	Unknown	New Habitat		Migrate +	3	77
yellow-poplar	Liriodendron tulipifera	WDH	High	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Likely +	Likely +	3	78
bigleaf magnolia	Magnolia macrophylla	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	79
sourwood	Oxydendrum arboreum	NDL	High	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Migrate +	Migrate +	3	80
bigtooth aspen	Populus grandidentata	NSL	Medium	0	0	0	Unknown	Unknown	Medium	Modeled	Unknown	Unknown			0	81
pin cherry	Prunus pensylvanica	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	82
water oak	Quercus nigra	WDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate ++	Migrate ++	3	83
chestnut oak	Quercus prinus	NDH	High	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Migrate +	Migrate +	3	84
live oak	Quercus virginiana	NDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			3	85
cedar elm	Ulmus crassifolia	NDH	Medium	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat	Migrate +	Migrate ++	3	86