

Current and Potential Future Habitat, Capability, and Migration

	sq. km	sq. mi	FIA Plots
Area of Region	5,984.8	2,310.7	47

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	1			High	7	12	Increase	5	6	Very Good	0	0	Likely	1	1
Hickory	2			Medium	13	13	No Change	1	3	Good	3	4	Infill	2	2
Maple	1	Abundant	1	Low	8	4	Decrease	14	11	Fair	5	7	Migrate	3	3
Oak	4	Common	6	FIA	1		New	4	4	Poor	8	6			
Pine	0	Rare	14				Unknown	5	5	Very Poor	4	3			
Other	13	Absent	6							FIA Only	1	1			
	21		27		29	29		29	29	Unknown	4	4			
											25	25			

Potential Changes in Climate Variables

Temperature (°F)

	Scenario	2009	2039	2069	2099	
Annual Average	CCSM45	55.9	56.8	57.6	57.9	
	CCSM85	55.9	57.0	58.4	59.7	
	GFDL45	55.9	58.6	58.5	59.4	
	GFDL85	55.9	57.5	59.5	61.6	
	HAD45	55.9	57.1	58.7	59.3	
HAD85	55.9	57.4	59.3	61.4		
Growing Season (May—Sep)	CCSM45	63.3	64.1	64.6	65.0	
	CCSM85	63.3	64.3	65.5	67.0	
	GFDL45	63.3	66.6	66.2	67.6	
	GFDL85	63.3	65.3	67.4	70.0	
	HAD45	63.3	64.6	65.8	66.3	
HAD85	63.3	64.8	66.9	68.6		
Coldest Month (Average)	CCSM45	44.1	45.6	46.0	46.1	
	CCSM85	44.1	45.5	46.2	47.0	
	GFDL45	44.1	46.4	46.4	46.5	
	GFDL85	44.1	44.8	45.6	45.9	
	HAD45	44.1	44.6	45.6	46.1	
HAD85	44.1	45.9	46.8	47.9		
Warmest Month (Average)	CCSM45	65.6	66.2	66.6	66.7	
	CCSM85	65.6	66.5	66.9	67.7	
	GFDL45	65.6	67.9	68.3	68.9	
	GFDL85	65.6	68.1	69.1	70.6	
	HAD45	65.6	67.0	67.5	67.8	
HAD85	65.6	67.3	68.3	68.9		

Precipitation (in)

	Scenario	2009	2039	2069	2099	
Annual Total	CCSM45	26.5	27.6	30.4	28.1	
	CCSM85	26.5	28.0	28.9	28.1	
	GFDL45	26.5	26.6	31.3	24.6	
	GFDL85	26.5	26.2	27.0	26.0	
	HAD45	26.5	27.6	26.4	27.1	
HAD85	26.5	28.4	25.3	26.5		
Growing Season (May—Sep)	CCSM45	12.2	13.5	14.4	13.0	
	CCSM85	12.2	13.1	13.1	12.0	
	GFDL45	12.2	12.7	16.6	12.0	
	GFDL85	12.2	13.0	13.2	13.1	
	HAD45	12.2	12.1	12.0	12.7	
HAD85	12.2	13.0	11.6	11.9		

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
live oak	Quercus virginiana	NDH	High	75.8	716.7	36.0	Sm. dec.	Sm. dec.	Medium	Abundant	Fair	Fair			0	1
post oak	Quercus stellata	WDH	High	70	426.3	19.3	Sm. dec.	Sm. dec.	High	Common	Fair	Fair			1	2
eastern redcedar	Juniperus virginiana	WDH	Medium	36.3	160.6	11.3	Sm. dec.	Sm. dec.	Medium	Common	Poor	Poor			0	3
sugarberry	Celtis laevigata	NDH	Medium	51.2	116.9	9.3	Sm. dec.	No change	Medium	Common	Poor	Fair			1	4
blackjack oak	Quercus marilandica	NSL	Medium	19.4	97.6	8.3	Lg. dec.	Lg. dec.	High	Common	Fair	Fair			1	5
water oak	Quercus nigra	WDH	High	36.5	86.4	9.5	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	6
American elm	Ulmus americana	WDH	Medium	19.1	62.3	11.5	Lg. dec.	Sm. dec.	Medium	Common	Poor	Poor			0	7
cedar elm	Ulmus crassifolia	NDH	Medium	26.2	47.3	5.4	Sm. inc.	Lg. inc.	Low	Rare	Poor	Fair			1	8
green ash	Fraxinus pennsylvanica	WSH	Low	16.3	25.8	13.9	Sm. dec.	No change	Medium	Rare	Very Poor	Poor			1	9
Osage-orange	Maclura pomifera	NDH	Medium	23.8	24.8	6.3	Sm. dec.	No change	High	Rare	Poor	Fair			1	10
hackberry	Celtis occidentalis	WDH	Medium	7.5	20.2	7.6	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor	Infill +	Infill +	1	11
pecan	Carya illinoensis	NSH	Low	19.3	9.8	4.7	Lg. inc.	Lg. inc.	Low	Rare	Fair	Fair			1	12
cittamwood/gum bumelia	Sideroxylon lanuginosum ssp.	NSL	Low	15.2	6.7	1.4	Sm. inc.	Sm. inc.	High	Rare	Good	Good			1	13
black willow	Salix nigra	NSH	Low	0.5	6.3	1.1	Sm. dec.	Sm. dec.	Low	Rare	Very Poor	Very Poor			2	14
black cherry	Prunus serotina	WDL	Medium	2	2.1	1.5	Sm. dec.	Sm. dec.	Low	Rare	Very Poor	Very Poor			0	15
eastern hophornbeam; ironw	Ostrya virginiana	WSL	Low	3.3	1.0	1.1	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor			0	16
boxelder	Acer negundo	WSH	Low	6.7	0.4	1.1	No change	Sm. inc.	High	Rare	Fair	Good	Infill +	Infill ++	2	17
redbay	Persea borbonia	NSL	Low	6.7	0.3	0.6	Lg. dec.	Lg. dec.	High	Rare	Poor	Poor			0	18
sweetbay	Magnolia virginiana	NSL	Medium	6.7	0.2	0.5	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	19
mockernut hickory	Carya alba	WDL	Medium	6.7	0.2	0.4	Lg. inc.	Lg. inc.	High	Rare	Good	Good			2	20
waterlocust	Gleditsia aquatica	NSLX	FIA	4.3	0.2	0.3	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only			0	21
loblolly pine	Pinus taeda	WDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Likely +	Likely +	3	22
bitternut hickory	Carya cordiformis	WSL	Low	0	0	0	Unknown	Unknown	High	Modeled	Unknown	Unknown			0	23
shagbark hickory	Carya ovata	WSL	Medium	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	24
sweetgum	Liquidambar styraciflua	WDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate +	Migrate +	3	25
sourwood	Oxydendrum arboreum	NDL	High	0	0	0	Unknown	Unknown	High	Absent	Unknown	Unknown			0	26
southern red oak	Quercus falcata	WDL	Medium	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Migrate +	Migrate +	3	27
black oak	Quercus velutina	WDH	High	0	0	0	Unknown	Unknown	Medium	Modeled	Unknown	Unknown			0	28
winged elm	Ulmus alata	WDL	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate ++	Migrate ++	3	29