

	sq. km	sq. mi	FIA Plots
Area of Region	14,322	5,529.6	102

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	9	16	Increase	9	11	Very Good	2	2
Hickory	2			Medium	18	28	No Change	7	6	Good	5	7
Maple	2	Abundant	0	Low	24	9	Decrease	20	19	Fair	9	8
Oak	9	Common	11	FIA	4		New	10	10	Poor	8	9
Pine	2	Rare	29				Unknown	9	9	Very Poor	11	9
Other	23	Absent	15							FIA Only	2	2
	40		55		55	53		55	55	Unknown	5	5
											42	42

Potential Changes in Climate Variables

Temperature (°F)

	Scenario	2009	2039	2069	2099
Annual Average	CCSM45	47.4	48.7	50.0	50.4
	CCSM85	47.4	49.1	50.8	52.5
	GFDL45	47.4	50.7	50.9	51.7
	GFDL85	47.4	49.4	51.4	54.3
	HAD45	47.4	49.1	51.1	52.0
	HAD85	47.4	49.4	52.7	55.0
Growing Season (May—Sep)	CCSM45	59.6	61.2	62.5	63.0
	CCSM85	59.6	61.8	63.4	65.4
	GFDL45	59.6	63.9	63.8	65.3
	GFDL85	59.6	62.2	64.5	68.2
	HAD45	59.6	61.1	62.7	63.8
	HAD85	59.6	61.6	65.2	67.3
Coldest Month (Average)	CCSM45	28.2	29.3	30.3	30.7
	CCSM85	28.2	29.9	30.5	31.6
	GFDL45	28.2	30.9	31.2	31.3
	GFDL85	28.2	29.9	30.8	31.6
	HAD45	28.2	29.4	31.3	31.2
	HAD85	28.2	30.8	32.7	34.1
Warmest Month (Average)	CCSM45	64.3	66.0	66.9	67.4
	CCSM85	64.3	67.0	68.0	69.1
	GFDL45	64.3	67.0	67.9	69.0
	GFDL85	64.3	67.3	68.2	71.0
	HAD45	64.3	65.8	67.0	67.5
	HAD85	64.3	67.1	69.0	70.1

Precipitation (in)

	Scenario	2009	2039	2069	2099
Annual Total	CCSM45	25.5	25.0	26.0	24.6
	CCSM85	25.5	25.6	25.6	26.0
	GFDL45	25.5	28.1	29.1	28.1
	GFDL85	25.5	28.3	32.1	30.6
	HAD45	25.5	27.8	27.6	27.6
	HAD85	25.5	26.7	25.2	27.7
Growing Season (May—Sep)	CCSM45	15.5	14.8	15.4	14.2
	CCSM85	15.5	15.2	14.9	14.9
	GFDL45	15.5	17.4	17.0	16.5
	GFDL85	15.5	17.4	19.3	17.7
	HAD45	15.5	16.1	16.4	16.4
	HAD85	15.5	15.7	14.1	14.6

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
American elm	Ulmus americana	WDH	Medium	76.4	253.5	14.1	No change	No change	Medium	Common	Fair	Fair	Infill +	Infill +	1	1
eastern redcedar	Juniperus virginiana	WDH	Medium	44.9	242.5	12.0	Sm. dec.	No change	Medium	Common	Poor	Fair	Infill +	Infill +	1	2
hackberry	Celtis occidentalis	WDH	Medium	63.5	239.5	11.2	No change	Sm. dec.	High	Common	Good	Fair	Infill ++	Infill +	1	3
Osage-orange	Maclura pomifera	NDH	Medium	49.4	193.1	14.6	Sm. inc.	Sm. inc.	High	Common	Very Good	Very Good	Infill ++	Infill ++	1	4
black walnut	Juglans nigra	WDH	Low	56.4	189.4	9.3	Sm. dec.	Sm. dec.	Medium	Common	Poor	Poor	Infill +	Infill +	0	5
chinkapin oak	Quercus muehlenbergii	NSL	Medium	34.6	173.7	11.4	Lg. dec.	Lg. dec.	Medium	Common	Poor	Poor	Infill +	Infill +	0	6
honeylocust	Gleditsia triacanthos	NSH	Low	58.8	155.2	12.6	Sm. dec.	Sm. dec.	High	Common	Fair	Fair	Infill +	Infill +	1	7
bur oak	Quercus macrocarpa	NDH	Medium	22	125.4	9.2	Sm. dec.	Sm. dec.	High	Common	Fair	Fair	Infill +	Infill +	2	8
red mulberry	Morus rubra	NSL	Low	41.5	78.1	7.0	No change	Sm. dec.	Medium	Common	Fair	Poor	Infill +	Infill +	1	9
green ash	Fraxinus pennsylvanica	WSH	Low	24.9	53.6	9.6	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good	Infill ++	Infill ++	1	10
bitternut hickory	Carya cordiformis	WSL	Low	20.5	50.5	5.3	Sm. dec.	Sm. dec.	High	Common	Fair	Fair	Infill +	Infill +	1	11
eastern redbud	Cercis canadensis	NSL	Low	32	42.2	5.4	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	12
shagbark hickory	Carya ovata	WSL	Medium	16.3	40.3	6.3	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			2	13
northern red oak	Quercus rubra	WDH	Medium	15.3	39.5	6.3	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor	Infill +	Infill +	2	14
black willow	Salix nigra	NSH	Low	6.9	37.4	9.2	No change	No change	Low	Rare	Very Poor	Very Poor			2	15
silver maple	Acer saccharinum	NSH	Low	4.4	34.1	14.2	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor	Infill +	Infill +	2	16
eastern cottonwood	Populus deltoides	NSH	Low	19.5	33.3	13.1	Sm. inc.	Sm. inc.	Medium	Rare	Fair	Fair	Infill +	Infill +	2	17
pin oak	Quercus palustris	NSH	Low	2.8	32.2	21.7	Lg. dec.	Lg. dec.	Low	Rare	Very Poor	Very Poor			0	18
black cherry	Prunus serotina	WDL	Medium	9.6	21.9	4.1	Sm. dec.	Sm. dec.	Low	Rare	Very Poor	Very Poor			2	19
black oak	Quercus velutina	WDH	High	5.8	19.8	7.7	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	2	20
boxelder	Acer negundo	WSH	Low	11.9	19.7	4.9	No change	Lg. inc.	High	Rare	Fair	Good	Infill +	Infill ++	2	21
sycamore	Platanus occidentalis	NSL	Low	13.9	16.2	4.1	Sm. inc.	Lg. inc.	Medium	Rare	Fair	Good	Infill +	Infill ++	2	22
slippery elm	Ulmus rubra	WSL	Low	23.2	10.2	2.1	Sm. inc.	Lg. inc.	Medium	Rare	Fair	Good	Infill +	Infill ++	1	23
white ash	Fraxinus americana	WDL	Medium	9.9	7.1	4.4	No change	Sm. inc.	Low	Rare	Very Poor	Poor		Infill +	2	24
white mulberry	Morus alba	NSL	FIA	1	6.4	3.5	Unknown	Unknown	NA	Rare	NNIS	NNIS			0	25
black locust	Robinia pseudoacacia	NDH	Low	0.5	6.4	5.9	Sm. dec.	No change	Medium	Rare	Very Poor	Poor		Infill +	2	26
eastern hophornbeam; ironw	Ostrya virginiana	WSL	Low	12.1	6.3	2.5	Lg. dec.	Lg. dec.	High	Rare	Poor	Poor			0	27
Siberian elm	Ulmus pumila	NDH	FIA	7.2	5.9	8.5	Unknown	Unknown	NA	Rare	NNIS	NNIS			0	28
Kentucky coffeetree	Gymnocladus dioicus	NSLX	FIA	13.9	4.7	2.3	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only			2	29
American basswood	Tilia americana	WSL	Medium	10.1	4.3	2.4	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	30
post oak	Quercus stellata	WDH	High	2.1	1.9	8.0	Lg. inc.	Lg. inc.	High	Rare	Good	Good			2	31
eastern white pine	Pinus strobus	WDH	High	0.4	1.6	1.2	Sm. dec.	Sm. dec.	Low	Rare	Very Poor	Very Poor			0	32
shingle oak	Quercus imbricaria	NDH	Medium	2.1	1.1	4.8	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	33
Ohio buckeye	Aesculus glabra	NSL	Low	2.9	0.9	0.4	Very Lg. dec.	Very Lg. dec.	Medium	Rare	Lost	Lost			0	34
white oak	Quercus alba	WDH	Medium	2.3	0.6	2.7	Sm. dec.	No change	High	Rare	Poor	Fair		Infill +	2	35
shortleaf pine	Pinus echinata	WDH	High	0.4	0.5	0.4	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	36
sugarberry	Celtis laevigata	NDH	Medium	0.5	0.4	0.4	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			2	37
wild plum	Prunus americana	NSLX	FIA	0.4	0.3	0.2	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only			0	38
common persimmon	Diospyros virginiana	NSL	Low	2.1	0.1	0.3	Lg. inc.	Lg. inc.	High	Rare	Good	Good			2	39
blackjack oak	Quercus marilandica	NSL	Medium	2.1	0.1	0.3	Lg. inc.	Lg. inc.	High	Rare	Good	Good			2	40
ashe juniper	Juniperus ashei	NDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			0	41
sugar maple	Acer saccharum	WDH	High	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat		Migrate +	3	42
serviceberry	Amelanchier spp.	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	43
cittamwood/gum bumelia	Sideroxylon lanuginosum ssp.	NSL	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Migrate +	Migrate +	3	44
pecan	Carya illinoensis	NSH	Low	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat	Likely +	Likely +	3	45
black hickory	Carya texana	NDL	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate +	Migrate +	3	46
black ash	Fraxinus nigra	WSH	Medium	0	0	0	Unknown	Unknown	Low	Absent	Unknown	Unknown			0	47

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Common Name	Scientific Name	Range	MR	%Cell	FIAsum	FIAiv	ChngCl45	ChngCl85	Adap	Abund	Capabil45	Capabil85	SHIFT45	SHIFT85	SSO	N
blue ash	Fraxinus quadrangulata	NSL	Low	0	0	0	Unknown	Unknown	Low	Absent	Unknown	Unknown				0 48
bigleaf magnolia	Magnolia macrophylla	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown				0 49
pin cherry	Prunus pensylvanica	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown				0 50
water oak	Quercus nigra	WDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat		Migrate +		3 51
Shumard oak	Quercus shumardii	NSL	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat		Migrate +		3 52
live oak	Quercus virginiana	NDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat				0 53
winged elm	Ulmus alata	WDL	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate +	Migrate ++		3 54
cedar elm	Ulmus crassifolia	NDH	Medium	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat				3 55