

	sq. km	sq. mi	FIA Plots
Area of Region	8,546.1	3,299.7	86

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									
Hickory	4									
Maple	5	Abundant 0	High 12	22	Increase 11	10	Very Good 3	1	Likely 1	1
Oak	7	Common 17	Medium 25	36	No Change 13	11	Good 8	10	Infill 27	23
Pine	4	Rare 36	Low 26	8	Decrease 22	25	Fair 10	11	Migrate 8	10
Other	31	Absent 17	FIA 7		New 16	16	Poor 11	8		
	53	70	70	66	Unknown 8	8	Very Poor 11	12		
					70	70	FIA Only 3	3		
							Unknown 1	1		
							47	46		

Potential Changes in Climate Variables

Temperature (°F)

	Scenario	2009	2039	2069	2099	
Annual Average	CCSM45	50.1	51.9	54.5	54.6	
	CCSM85	50.1	52.6	55.3	58.3	
	GFDL45	50.1	55.8	55.6	56.6	
	GFDL85	50.1	53.2	56.6	60.9	
	HAD45	50.1	53.1	56.6	58.3	
	HAD85	50.1	53.4	58.1	63.0	
Growing Season (May—Sep)	CCSM45	67.8	69.8	72.0	72.5	
	CCSM85	67.8	70.6	73.1	76.6	
	GFDL45	67.8	74.8	74.4	76.0	
	GFDL85	67.8	71.6	75.7	80.8	
	HAD45	67.8	71.1	74.0	76.1	
	HAD85	67.8	71.0	76.5	81.5	
Coldest Month Average	CCSM45	21.8	23.2	25.6	25.7	
	CCSM85	21.8	24.3	26.1	27.8	
	GFDL45	21.8	25.7	26.6	27.1	
	GFDL85	21.8	25.3	26.7	28.2	
	HAD45	21.8	23.3	26.9	26.9	
	HAD85	21.8	25.6	28.6	31.4	
Warmest Month Average	CCSM45	73.8	75.8	77.3	77.9	
	CCSM85	73.8	77.2	79.0	80.6	
	GFDL45	73.8	76.8	78.6	79.7	
	GFDL85	73.8	77.9	79.8	82.9	
	HAD45	73.8	77.4	79.5	80.6	
	HAD85	73.8	78.4	81.9	85.3	

Precipitation (in)

	Scenario	2009	2039	2069	2099	
Annual Total	CCSM45	39.0	38.5	37.9	38.1	
	CCSM85	39.0	38.7	37.9	39.1	
	GFDL45	39.0	41.4	45.7	46.4	
	GFDL85	39.0	42.2	47.9	48.8	
	HAD45	39.0	40.4	42.4	42.0	
	HAD85	39.0	42.4	39.8	43.2	
Growing Season (May—Sep)	CCSM45	19.7	20.1	19.4	18.5	
	CCSM85	19.7	18.6	18.2	17.7	
	GFDL45	19.7	20.3	22.2	22.7	
	GFDL85	19.7	21.3	22.9	22.5	
	HAD45	19.7	19.9	18.8	19.6	
	HAD85	19.7	19.9	16.8	17.3	

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
black cherry	Prunus serotina	WDL	Medium	72	363.9	21.7	Lg. dec.	Lg. dec.	Low	Common	Very Poor	Very Poor			0	1
sassafras	Sassafras albidum	WSL	Low	29.5	215.7	10.4	Lg. dec.	Lg. dec.	Medium	Common	Poor	Poor	Infill +		0	2
black oak	Quercus velutina	WDH	High	55.4	189.2	9.4	No change	No change	Medium	Common	Fair	Fair	Infill +	Infill +	1	3
American elm	Ulmus americana	WDH	Medium	55.6	180.4	10.0	No change	No change	Medium	Common	Fair	Fair	Infill +	Infill +	1	4
red maple	Acer rubrum	WDH	High	21	178.5	10.3	Sm. dec.	Sm. dec.	High	Common	Fair	Fair	Infill +	Infill +	1	5
Siberian elm	Ulmus pumila	NDH	FIA	1.2	117.0	100.0	Unknown	Unknown	NA	Common	NNIS	NNIS			0	6
white ash	Fraxinus americana	WDL	Medium	36.8	109.4	8.4	No change	No change	Low	Common	Poor	Poor	Infill +	Infill +	0	7
pin oak	Quercus palustris	NSH	Low	24.3	107.2	13.3	Lg. dec.	Sm. dec.	Low	Common	Very Poor	Poor		Infill +	0	8
sugar maple	Acer saccharum	WDH	High	18.3	103.9	10.5	No change	No change	High	Common	Good	Good	Infill ++	Infill ++	2	9
white oak	Quercus alba	WDH	Medium	28.8	101.5	8.9	Sm. inc.	Sm. dec.	High	Common	Very Good	Fair	Infill ++	Infill +	1	10
black walnut	Juglans nigra	WDH	Low	30.4	99.0	8.3	No change	No change	Medium	Common	Fair	Fair	Infill +	Infill +	1	11
yellow-poplar	Liriodendron tulipifera	WDH	High	9.4	92.4	16.5	Sm. dec.	Sm. dec.	High	Common	Fair	Fair	Infill +	Infill +	2	12
green ash	Fraxinus pennsylvanica	WSH	Low	28.6	88.1	9.8	Sm. inc.	Sm. inc.	Medium	Common	Good	Good	Infill ++	Infill ++	1	13
silver maple	Acer saccharinum	NSH	Low	20.9	84.3	18.2	Sm. inc.	Sm. inc.	High	Common	Very Good	Very Good	Infill ++	Infill ++	1	14
shagbark hickory	Carya ovata	WSL	Medium	17.6	67.1	11.6	Lg. dec.	Lg. dec.	Medium	Common	Poor	Poor	Infill +	Infill +	2	15
eastern cottonwood	Populus deltoides	NSH	Low	13.9	60.4	12.4	Sm. inc.	Sm. inc.	Medium	Common	Good	Good	Infill ++	Infill ++	1	16
northern red oak	Quercus rubra	WDH	Medium	34.7	54.3	5.1	Sm. inc.	No change	High	Common	Very Good	Good	Infill ++	Infill ++	1	17
red pine	Pinus resinosa	NSH	Medium	5.6	45.6	28.4	Lg. dec.	Lg. dec.	Low	Rare	Very Poor	Very Poor			0	18
Osage-orange	Maclura pomifera	NDH	Medium	7	40.5	11.8	No change	No change	High	Rare	Fair	Fair	Infill +	Infill +	2	19
boxelder	Acer negundo	WSH	Low	17.4	36.8	6.0	Sm. inc.	Sm. inc.	High	Rare	Good	Good	Infill ++	Infill ++	1	20
American basswood	Tilia americana	WSL	Medium	18.4	36.3	5.3	No change	Sm. dec.	Medium	Rare	Poor	Very Poor	Infill +		1	21
black willow	Salix nigra	NSH	Low	15.2	35.5	5.0	Sm. dec.	Sm. inc.	Low	Rare	Very Poor	Poor		Infill +	1	22
hackberry	Celtis occidentalis	WDH	Medium	4.2	33.0	5.1	No change	No change	High	Rare	Fair	Fair	Infill +	Infill +	2	23
bitternut hickory	Carya cordiformis	WSL	Low	29.1	32.0	3.5	No change	No change	High	Rare	Fair	Fair	Infill +	Infill +	1	24
blackgum	Nyssa sylvatica	WDL	Medium	20	30.7	4.9	Lg. dec.	Sm. dec.	High	Rare	Poor	Poor	Infill +	Infill +	1	25
slippery elm	Ulmus rubra	WSL	Low	16.2	30.0	4.1	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	26
pignut hickory	Carya glabra	WDL	Medium	7	20.7	6.6	No change	Sm. dec.	Medium	Rare	Poor	Very Poor	Infill +		2	27
bur oak	Quercus macrocarpa	NDH	Medium	15.1	17.8	7.8	No change	No change	High	Rare	Fair	Fair	Infill +	Infill +	2	28
Scots pine	Pinus sylvestris	NSH	FIA	7	16.4	5.4	Unknown	Unknown	NA	Rare	NNIS	NNIS			0	29
northern pin oak	Quercus ellipsoidalis	NSH	Medium	10.5	14.7	10.2	Lg. dec.	Lg. dec.	High	Rare	Poor	Poor	Infill +		2	30
mockernut hickory	Carya alba	WDL	Medium	1.2	11.4	9.7	Sm. dec.	No change	High	Rare	Poor	Fair	Infill +	Infill +	2	31
northern catalpa	Catalpa speciosa	NSHX	FIA	1.2	10.6	9.0	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only			0	32
white mulberry	Morus alba	NSL	FIA	16.4	10.4	3.1	Unknown	Unknown	NA	Rare	NNIS	NNIS			0	33
river birch	Betula nigra	NSL	Low	5.9	8.0	4.2	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			2	34
swamp white oak	Quercus bicolor	NSL	Low	18.7	7.5	6.4	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			2	35
red mulberry	Morus rubra	NSL	Low	12.9	7.3	2.5	No change	Sm. dec.	Medium	Rare	Poor	Very Poor	Infill +		1	36
black locust	Robinia pseudoacacia	NDH	Low	19.9	7.0	3.8	Sm. inc.	Lg. inc.	Medium	Rare	Fair	Good	Infill +	Infill ++	1	37
jack pine	Pinus banksiana	NSH	Medium	9.4	5.2	8.9	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor			0	38
chokecherry	Prunus virginiana	NSLX	FIA	1.2	4.0	3.4	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only			0	39
American beech	Fagus grandifolia	WDH	High	7	3.9	1.6	No change	Very Lg. dec.	Medium	Rare	Poor	Lost	Infill +		2	40
bigtooth aspen	Populus grandidentata	NSL	Medium	14	3.0	3.4	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	41
serviceberry	Amelanchier spp.	NSL	Low	9.4	2.4	4.2	Sm. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	42
eastern white pine	Pinus strobus	WDH	High	4.7	2.0	6.8	Sm. dec.	Sm. dec.	Low	Rare	Very Poor	Very Poor			0	43
quaking aspen	Populus tremuloides	WDH	High	5.7	2.0	2.2	Very Lg. dec.	Very Lg. dec.	Medium	Rare	Lost	Lost			0	44
ailanthus	Ailanthus altissima	NSL	FIA	2.2	1.8	0.7	Unknown	Unknown	NA	Rare	NNIS	NNIS			0	45
honeylocust	Gleditsia triacanthos	NSH	Low	4.7	1.5	5.2	Sm. inc.	Sm. inc.	High	Rare	Good	Good			2	46
sycamore	Platanus occidentalis	NSL	Low	9.4	1.4	2.3	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			2	47

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
balsam poplar	Populus balsamifera	NSH	Medium	4.7	1.3	4.6	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	48
pawpaw	Asimina triloba	NSL	Low	1.2	1.1	1.0	Very Lg. dec.	Very Lg. dec.	Medium	Rare	Lost	Lost			0	49
butternut	Juglans cinerea	NSLX	FIA	4.7	0.9	3.2	Unknown	Unknown	Low	Rare	FIA Only	FIA Only			0	50
black maple	Acer nigrum	NSH	Low	4.7	0.7	2.4	Very Lg. dec.	Very Lg. dec.	High	Rare	Lost	Lost			0	51
eastern hophornbeam; ironw	Ostrya virginiana	WSL	Low	4.7	0.5	1.8	Lg. inc.	Lg. inc.	High	Rare	Good	Good			2	52
American hornbeam; musclev	Carpinus caroliniana	WSL	Low	4.7	0.1	0.3	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	53
eastern redcedar	Juniperus virginiana	WDH	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Likely +	Likely +	3	54
slash pine	Pinus elliottii	NDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			0	55
longleaf pine	Pinus palustris	NSH	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			0	56
loblolly pine	Pinus taeda	WDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat		Migrate +	3	57
pecan	Carya illinoensis	NSH	Low	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat			3	58
black hickory	Carya texana	NDL	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate +	Migrate +	3	59
sugarberry	Celtis laevigata	NDH	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			3	60
eastern redbud	Cercis canadensis	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate +	Migrate +	3	61
common persimmon	Diospyros virginiana	NSL	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Migrate +	Migrate +	3	62
sweetgum	Liquidambar styraciflua	WDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate +	Migrate +	3	63
shingle oak	Quercus imbricaria	NDH	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate +		3	64
blackjack oak	Quercus marilandica	NSL	Medium	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Migrate +	Migrate ++	3	65
chinkapin oak	Quercus muehlenbergii	NSL	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate +	Migrate +	3	66
Shumard oak	Quercus shumardii	NSL	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat		Migrate +	3	67
post oak	Quercus stellata	WDH	High	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Migrate ++	Migrate ++	3	68
bluejack oak	Quercus incana	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	69
winged elm	Ulmus alata	WDL	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat		Migrate ++	3	70