

	sq. km	sq. mi	FIA Plots
Area of Region	9,300.0	3,590.7	169

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					
		Abundant	Common	Reliability	Adaptability	Scenario	Scenario	Scenario	Scenario	SHIFT	SHIFT				
						RCP45	RCP85	RCP45	RCP85	RCP45	RCP85				
Ash	3			High	19	24	Increase	24	27	Very Good	10	11	Likely	2	2
Hickory	5			Medium	27	46	No Change	10	10	Good	16	17	Infill	3	7
Maple	4	Abundant	3	Low	34	14	Decrease	29	26	Fair	8	8	Migrate	3	5
Oak	15	Common	28	FIA	6		New	11	13	Poor	12	13			
Pine	5	Rare	38				Unknown	12	10	Very Poor	14	10			
Other	37	Absent	17							FIA Only	4	4			
	69		86		86	84		86	86	Unknown	6	4			
											70	67			

Potential Changes in Climate Variables

Temperature (°F)

Scenario	2009	2039	2069	2099	
Annual	56.8	58.7	61.1	61.3	
Average	56.8	59.1	61.9	65.1	
GFDL45	56.8	60.4	62.0	62.8	
GFDL85	56.8	59.6	63.0	66.7	
HAD45	56.8	59.4	62.8	64.1	
HAD85	56.8	59.9	64.5	68.5	
Growing Season	72.2	74.0	76.1	76.7	
May—Sep	72.2	74.5	77.5	81.6	
GFDL45	72.2	76.4	78.3	79.6	
GFDL85	72.2	75.6	79.8	84.0	
HAD45	72.2	75.6	78.9	80.5	
HAD85	72.2	76.0	82.5	86.3	
Coldest Month	32.7	34.4	36.0	36.4	
Average	32.7	35.9	36.9	38.5	
GFDL45	32.7	36.8	36.8	37.1	
GFDL85	32.7	34.5	35.6	36.2	
HAD45	32.7	33.5	35.7	36.0	
HAD85	32.7	34.8	36.7	38.3	
Warmest Month	77.6	79.3	80.6	80.9	
Average	77.6	79.8	81.7	83.4	
GFDL45	77.6	80.7	82.3	83.2	
GFDL85	77.6	81.1	83.6	86.0	
HAD45	77.6	81.8	84.6	85.4	
HAD85	77.6	83.5	88.2	89.9	

Precipitation (in)

Scenario	2009	2039	2069	2099	
Annual	50.1	51.5	56.8	55.4	
Total	50.1	56.1	56.6	60.6	
GFDL45	50.1	56.6	59.9	62.9	
GFDL85	50.1	56.5	60.8	64.5	
HAD45	50.1	49.2	52.8	52.5	
HAD85	50.1	50.4	47.8	52.3	
Growing Season	21.2	20.7	22.5	21.9	
May—Sep	21.2	22.6	20.7	22.1	
GFDL45	21.2	24.1	23.9	24.8	
GFDL85	21.2	23.6	24.2	24.8	
HAD45	21.2	20.3	19.1	19.3	
HAD85	21.2	20.5	16.3	17.0	

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
sugar maple	Acer saccharum	WDH	High	88.2	929.2	14.4	Lg. dec.	Lg. dec.	High	Abundant	Good	Good			1	1
eastern redcedar	Juniperus virginiana	WDH	Medium	68.8	623.3	11.8	No change	No change	Medium	Abundant	Good	Good			1	2
yellow-poplar	Liriodendron tulipifera	WDH	High	75.3	594.1	11.7	Lg. dec.	Lg. dec.	High	Abundant	Good	Good			1	3
white oak	Quercus alba	WDH	Medium	63.4	361.5	7.5	Sm. inc.	Sm. inc.	High	Common	Very Good	Very Good			1	4
American beech	Fagus grandifolia	WDH	High	44.1	300.6	8.1	Lg. dec.	Lg. dec.	Medium	Common	Poor	Poor			0	5
pignut hickory	Carya glabra	WDL	Medium	53.8	299.7	7.5	Sm. dec.	Lg. dec.	Medium	Common	Poor	Poor			0	6
sassafras	Sassafras albidum	WSL	Low	59.1	279.3	7.2	Lg. dec.	Lg. dec.	Medium	Common	Poor	Poor			0	7
red maple	Acer rubrum	WDH	High	63.4	256.6	5.8	No change	No change	High	Common	Good	Good			1	8
black oak	Quercus velutina	WDH	High	55.9	222.6	6.1	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	9
northern red oak	Quercus rubra	WDH	Medium	43	211.1	5.6	Sm. dec.	Sm. dec.	High	Common	Fair	Fair			1	10
winged elm	Ulmus alata	WDL	Medium	34.4	174.7	5.7	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	11
black cherry	Prunus serotina	WDL	Medium	60.2	163.1	4.6	No change	No change	Low	Common	Poor	Poor			0	12
flowering dogwood	Cornus florida	WDL	Medium	50.5	156.3	4.1	Sm. dec.	Sm. dec.	Medium	Common	Poor	Poor			0	13
green ash	Fraxinus pennsylvanica	WSH	Low	39.8	155.3	4.3	Sm. inc.	Lg. inc.	Medium	Common	Good	Very Good			1	14
sweetgum	Liquidambar styraciflua	WDH	High	29	152.3	7.5	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	15
blackgum	Nyssa sylvatica	WDL	Medium	55.9	147.0	3.9	Sm. inc.	Sm. inc.	High	Common	Very Good	Very Good			1	16
white ash	Fraxinus americana	WDL	Medium	33.3	140.9	6.8	Sm. inc.	Sm. inc.	Low	Common	Fair	Fair			1	17
chinkapin oak	Quercus muehlenbergii	NSL	Medium	30.1	139.8	5.3	Sm. dec.	Sm. dec.	Medium	Common	Poor	Poor			0	18
Virginia pine	Pinus virginiana	NDH	High	14	138.8	13.1	Lg. dec.	Lg. dec.	Medium	Common	Poor	Poor			0	19
hackberry	Celtis occidentalis	WDH	Medium	38.7	138.0	4.9	Sm. inc.	Sm. inc.	High	Common	Very Good	Very Good			1	20
mockernut hickory	Carya alba	WDL	Medium	41.9	133.0	4.5	Sm. inc.	Lg. inc.	High	Common	Very Good	Very Good			1	21
black walnut	Juglans nigra	WDH	Low	38.7	132.2	4.5	No change	No change	Medium	Common	Fair	Fair			1	22
sycamore	Platanus occidentalis	NSL	Low	21.5	126.4	7.0	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	23
post oak	Quercus stellata	WDH	High	22.6	123.5	7.0	Lg. inc.	Lg. inc.	High	Common	Very Good	Very Good			1	24
southern red oak	Quercus falcata	WDL	Medium	24.7	123.5	5.9	Lg. inc.	Lg. inc.	High	Common	Very Good	Very Good			1	25
slippery elm	Ulmus rubra	WSL	Low	45.2	106.5	3.4	No change	Sm. inc.	Medium	Common	Fair	Good			1	26
American elm	Ulmus americana	WDH	Medium	31.2	90.3	3.8	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	27
bitternut hickory	Carya cordiformis	WSL	Low	32.3	78.4	3.2	Sm. inc.	Sm. inc.	High	Common	Very Good	Very Good			1	28
shagbark hickory	Carya ovata	WSL	Medium	35.5	76.0	3.1	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	29
chestnut oak	Quercus prinus	NDH	High	11.8	66.8	8.5	Sm. dec.	Sm. dec.	High	Common	Fair	Fair	Infill +	Infill +	1	30
scarlet oak	Quercus coccinea	WDL	Medium	24.7	63.4	3.9	Sm. dec.	Sm. dec.	Medium	Common	Poor	Poor			0	31
silver maple	Acer saccharinum	NSH	Low	3.2	46.9	14.6	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor		Infill +	2	32
boxelder	Acer negundo	WSH	Low	8.6	46.7	5.4	No change	No change	High	Rare	Fair	Fair			1	33
Shumard oak	Quercus shumardii	NSL	Low	7.5	42.8	5.7	No change	No change	High	Rare	Fair	Fair			1	34
black locust	Robinia pseudoacacia	NDH	Low	9.7	39.5	6.5	No change	No change	Medium	Rare	Poor	Poor			1	35
eastern redbud	Cercis canadensis	NSL	Low	21.5	39.4	2.3	No change	Sm. inc.	Medium	Rare	Poor	Fair			1	36
shellbark hickory	Carya laciniosa	NSL	Low	17.2	39.0	2.8	Sm. dec.	No change	Medium	Rare	Very Poor	Poor		Infill +	1	37
sourwood	Oxydendrum arboreum	NDL	High	20.4	34.8	2.2	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor			1	38
common persimmon	Diospyros virginiana	NSL	Low	10.8	34.1	3.2	Lg. inc.	Lg. inc.	High	Rare	Good	Good			1	39
eastern hophornbeam; ironw	Ostrya virginiana	WSL	Low	21.5	32.6	1.9	Lg. inc.	Lg. inc.	High	Rare	Good	Good			1	40
eastern white pine	Pinus strobus	WDH	High	1.1	30.4	28.3	Lg. dec.	Very Lg. dec.	Low	Rare	Very Poor	Lost			0	41
ailanthus	Ailanthus altissima	NSL	FIA	6.5	29.4	4.6	Unknown	Unknown	NA	Rare	NNIS	NNIS			0	42
shortleaf pine	Pinus echinata	WDH	High	1.1	29.4	27.3	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++	2	43
pitch pine	Pinus rigida	NSH	High	5.4	23.5	11.2	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	44
red mulberry	Morus rubra	NSL	Low	12.9	23.2	2.5	Lg. dec.	No change	Medium	Rare	Very Poor	Poor			1	45
swamp white oak	Quercus bicolor	NSL	Low	3.2	21.5	6.7	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	46
shingle oak	Quercus imbricaria	NDH	Medium	10.8	19.7	3.4	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	47

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sugarberry	Celtis laevigata	NDH	Medium	2.2	14.1	6.6	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++	2	48
butternut	Juglans cinerea	NSLX	FIA	2.2	13.8	6.4	Unknown	Unknown	Low	Rare	FIA Only	FIA Only			0	49
yellow buckeye	Aesculus flava	NSL	Low	4.3	9.9	2.3	Sm. dec.	Sm. dec.	Low	Rare	Very Poor	Very Poor			0	50
American hornbeam; muscle	Carpinus caroliniana	WSL	Low	7.5	9.6	1.3	Sm. inc.	Lg. inc.	Medium	Rare	Fair	Good			1	51
blue ash	Fraxinus quadrangulata	NSL	Low	2.2	8.4	3.9	Sm. dec.	Sm. dec.	Low	Rare	Very Poor	Very Poor			0	52
black willow	Salix nigra	NSH	Low	2.2	8.1	3.8	No change	Lg. inc.	Low	Rare	Very Poor	Fair		Infill +	2	53
swamp tupelo	Nyssa biflora	NDH	Medium	1.1	7.4	6.9	Sm. dec.	Sm. dec.	Low	Rare	Very Poor	Very Poor			0	54
American basswood	Tilia americana	WSL	Medium	1.1	7.3	6.8	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	55
loblolly pine	Pinus taeda	WDH	High	2.2	6.0	2.8	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			2	56
honeylocust	Gleditsia triacanthos	NSH	Low	2.2	5.8	2.7	Sm. inc.	Lg. inc.	High	Rare	Good	Good		Infill ++	2	57
paulownia	Paulownia tomentosa	NSL	FIA	1.1	4.6	4.3	Unknown	Unknown	NA	Rare	NNIS	NNIS			0	58
blackjack oak	Quercus marilandica	NSL	Medium	1.1	4.2	3.9	Lg. inc.	Lg. inc.	High	Rare	Good	Good			2	59
pin oak	Quercus palustris	NSH	Low	1.1	4.1	3.8	Sm. dec.	No change	Low	Rare	Very Poor	Very Poor			2	60
eastern hemlock	Tsuga canadensis	NSH	High	1.1	3.0	2.8	Very Lg. dec.	Very Lg. dec.	Low	Rare	Lost	Lost			0	61
cherrybark oak; swamp red o.	Quercus pagoda	NSL	Medium	2.2	2.9	1.4	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			2	62
swamp chestnut oak	Quercus michauxii	NSL	Low	1.1	2.6	2.4	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	63
serviceberry	Amelanchier spp.	NSL	Low	3.2	1.7	0.5	Very Lg. dec.	Very Lg. dec.	Medium	Rare	Lost	Lost			0	64
American holly	Ilex opaca	NSL	Medium	1.1	1.5	1.4	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	65
northern catalpa	Catalpa speciosa	NSHX	FIA	1.1	1.3	1.2	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only			0	66
pawpaw	Asimina triloba	NSL	Low	2.2	1.1	0.5	Very Lg. dec.	Very Lg. dec.	Medium	Rare	Lost	Lost			0	67
rock elm	Ulmus thomasii	NSLX	FIA	1.1	0.6	0.6	Unknown	Unknown	Low	Rare	FIA Only	FIA Only			0	68
American chestnut	Castanea dentata	NSLX	FIA	1.1	0.3	0.3	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only			0	69
ashe juniper	Juniperus ashei	NDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			0	70
florida maple	Acer barbatum	NSL	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat		Migrate +	3	71
striped maple	Acer pensylvanicum	NSL	Medium	0	0	0	Unknown	New Habitat	Medium	Absent	Unknown	New Habitat			3	72
mountain maple	Acer spicatum	NSL	Low	0	0	0	Unknown	Unknown	High	Absent	Unknown	Unknown			0	73
Ohio buckeye	Aesculus glabra	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	74
river birch	Betula nigra	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Likely +	Likely +	3	75
cittamwood/gum bumelia	Sideroxylon lanuginosum ssp.	NSL	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat			3	76
pecan	Carya illinoensis	NSH	Low	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat		Migrate +	3	77
black hickory	Carya texana	NDL	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate +	Migrate ++	3	78
black ash	Fraxinus nigra	WSH	Medium	0	0	0	Unknown	New Habitat	Low	Absent	Unknown	New Habitat			3	79
silverbell	Halesia spp.	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	80
Osage-orange	Maclura pomifera	NDH	Medium	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Likely +	Likely +	3	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
willow oak	Quercus phellos	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	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			3	86