

sq. km sq. mi FIA Plots
Area of Region 10,500 4,054.1 517

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	24	RCP45	RCP85	RCP45	RCP85	RCP45	RCP85			
Ash	2			Medium	27	Increase	32	35	Very Good	14	13	Likely	4	5
Hickory	4			Low	38	No Change	11	5	Good	14	21	Infill	7	6
Maple	5	Abundant	6	FIA	5	Decrease	13	16	Fair	12	8	Migrate	4	11
Oak	7	Common	24			New	17	20	Poor	8	6		15	22
Pine	6	Rare	31			Unknown	19	16	Very Poor	4	5			
Other	37	Absent	29				92	92	FIA Only	3	3			
	61		90						Unknown	14	11			
										69	67			

Potential Changes in Climate Variables

Temperature (°F)

Scenario	2009	2039	2069	2099		
Annual	CCSM45	48.0	49.9	52.2	52.4	
Average	CCSM85	48.0	50.3	52.8	55.9	
	GFDL45	48.0	50.7	53.7	54.6	
	GFDL85	48.0	51.4	54.8	58.8	
	HAD45	48.0	50.6	54.0	55.3	
	HAD85	48.0	50.9	55.1	59.6	
Growing Season	CCSM45	62.8	64.8	66.9	67.5	
	CCSM85	62.8	65.2	67.8	71.8	
May—Sep	GFDL45	62.8	66.0	69.7	71.1	
	GFDL85	62.8	67.1	71.2	75.6	
	HAD45	62.8	66.0	69.3	71.0	
	HAD85	62.8	66.1	71.5	76.4	
Coldest Month	CCSM45	25.2	27.2	28.6	29.1	
	CCSM85	25.2	27.9	29.0	30.4	
Average	GFDL45	25.2	28.6	29.2	29.9	
	GFDL85	25.2	27.9	28.9	30.1	
	HAD45	25.2	26.2	28.3	28.5	
	HAD85	25.2	26.7	28.4	30.2	
Warmest Month	CCSM45	68.0	70.2	71.4	71.7	
	CCSM85	68.0	70.4	72.1	74.0	
Average	GFDL45	68.0	71.5	73.6	74.8	
	GFDL85	68.0	73.0	75.5	78.1	
	HAD45	68.0	71.6	74.0	75.2	
	HAD85	68.0	72.5	76.1	79.3	

Precipitation (in)

Scenario	2009	2039	2069	2099		
Annual	CCSM45	50.1	53.9	54.9	55.6	
Total	CCSM85	50.1	54.4	55.8	61.1	
	GFDL45	50.1	54.9	56.2	58.2	
	GFDL85	50.1	51.7	57.5	58.9	
	HAD45	50.1	52.3	52.7	52.1	
	HAD85	50.1	53.7	50.9	53.1	
Growing Season	CCSM45	23.4	26.0	26.5	26.4	
	CCSM85	23.4	25.9	25.5	27.6	
May—Sep	GFDL45	23.4	25.2	24.8	25.7	
	GFDL85	23.4	23.1	24.8	25.2	
	HAD45	23.4	25.3	23.1	23.6	
	HAD85	23.4	24.8	22.5	23.4	

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-DGP30 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
red maple	Acer rubrum	WDH	High	96.2	1275.2	13.3	No change	Sm. dec.	High	Abundant	Very Good	Good			1	1
sugar maple	Acer saccharum	WDH	High	89.5	948.9	10.6	No change	No change	High	Abundant	Very Good	Very Good			1	2
chestnut oak	Quercus prinus	NDH	High	60	813.8	13.6	Sm. inc.	Sm. inc.	High	Abundant	Very Good	Very Good			1	3
northern red oak	Quercus rubra	WDH	Medium	83.8	719.1	8.6	No change	Sm. inc.	High	Abundant	Very Good	Very Good			1	4
American beech	Fagus grandifolia	WDH	High	66.7	658.3	9.9	No change	Sm. dec.	Medium	Abundant	Good	Fair			1	5
yellow birch	Betula alleghaniensis	NDL	High	54.3	502.0	9.3	Lg. dec.	Lg. dec.	Medium	Abundant	Fair	Fair			0	6
black cherry	Prunus serotina	WDL	Medium	68.6	436.9	6.4	No change	No change	Low	Common	Poor	Poor			0	7
yellow-poplar	Liriodendron tulipifera	WDH	High	49.5	427.4	8.6	Lg. inc.	Sm. inc.	High	Common	Very Good	Very Good			1	8
white oak	Quercus alba	WDH	Medium	43.8	385.5	8.8	Lg. inc.	Lg. inc.	High	Common	Very Good	Very Good			1	9
sweet birch	Betula lenta	NDH	High	73.3	378.8	5.2	No change	Sm. dec.	Low	Common	Poor	Poor			0	10
red spruce	Picea rubens	NDH	High	39	360.7	9.2	Lg. dec.	Lg. dec.	Low	Common	Very Poor	Very Poor			0	11
black locust	Robinia pseudoacacia	NDH	Low	70.5	344.9	4.9	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	12
eastern hemlock	Tsuga canadensis	NSH	High	58.1	309.8	5.3	Sm. inc.	Sm. inc.	Low	Common	Fair	Fair			1	13
American basswood	Tilia americana	WSL	Medium	54.3	227.4	4.2	Sm. inc.	No change	Medium	Common	Good	Fair			1	14
eastern white pine	Pinus strobus	WDH	High	22.9	217.8	9.5	Sm. inc.	Lg. inc.	Low	Common	Fair	Good			1	15
scarlet oak	Quercus coccinea	WDL	Medium	37.1	172.3	4.6	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	16
black oak	Quercus velutina	WDL	High	42.9	166.5	3.9	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	17
pignut hickory	Carya glabra	WDL	Medium	47.6	158.6	3.3	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	18
white ash	Fraxinus americana	WDL	Medium	51.4	124.9	2.4	Lg. inc.	Lg. inc.	Low	Common	Good	Good			1	19
blackgum	Nyssa sylvatica	WDL	Medium	48.6	113.2	2.3	Lg. inc.	Lg. inc.	High	Common	Very Good	Very Good			1	20
shagbark hickory	Carya ovata	WSL	Medium	35.2	92.0	2.6	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	21
striped maple	Acer pensylvanicum	NSL	Medium	54.3	89.9	1.7	Sm. dec.	Sm. dec.	Medium	Common	Poor	Poor			0	22
mockernut hickory	Carya alba	WDL	Medium	35.2	86.4	2.5	Lg. inc.	Lg. inc.	High	Common	Very Good	Very Good			1	23
cucumbertree	Magnolia acuminata	NSL	Low	55.2	86.2	1.6	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	24
serviceberry	Amelanchier spp.	NSL	Low	60	84.7	1.4	No change	No change	Medium	Common	Fair	Fair			1	25
pitch pine	Pinus rigida	NSH	High	14.3	78.9	5.5	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	26
pin cherry	Prunus pensylvanica	NSL	Low	28.6	77.1	2.7	Lg. dec.	Lg. dec.	Medium	Common	Poor	Poor			0	27
sourwood	Oxydendrum arboreum	NDL	High	16.2	67.5	4.2	Lg. inc.	Lg. inc.	High	Common	Very Good	Very Good			1	28
sassafras	Sassafras albidum	WSL	Low	33.3	62.0	1.9	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	29
Virginia pine	Pinus virginiana	NDH	High	11.4	50.3	4.4	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	30
mountain or Fraser magnolia	Magnolia fraseri	NSL	Low	22.9	48.9	2.1	Lg. inc.	Lg. inc.	Low	Rare	Fair	Fair			0	31
eastern hophornbeam; ironw	Ostrya virginiana	WSL	Low	39	35.8	0.9	No change	Lg. inc.	High	Rare	Fair	Good			1	32
quaking aspen	Populus tremuloides	WDH	High	1	25.9	27.2	Very Lg. dec.	Very Lg. dec.	Medium	Rare	Lost	Lost			0	33
bigtooth aspen	Populus grandidentata	NSL	Medium	8.6	24.7	2.9	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	34
slippery elm	Ulmus rubra	WSL	Low	17.1	24.1	1.4	Sm. inc.	Lg. inc.	Medium	Rare	Fair	Good			1	35
bitternut hickory	Carya cordiformis	WSL	Low	17.1	21.7	1.3	Lg. inc.	Lg. inc.	High	Rare	Good	Good			1	36
Table Mountain pine	Pinus pungens	NSL	Low	7.6	21.0	2.8	No change	No change	High	Rare	Fair	Fair			1	37
flowering dogwood	Cornus florida	WDL	Medium	12.4	10.3	0.8	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			1	38
shortleaf pine	Pinus echinata	WDH	High	5.7	10.0	1.7	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++	2	39
sycamore	Platanus occidentalis	NSL	Low	3.8	9.8	2.6	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++	2	40
American hornbeam; muscle	Carpinus caroliniana	WSL	Low	12.4	8.7	0.7	No change	Lg. inc.	Medium	Rare	Poor	Good			1	41
eastern redcedar	Juniperus virginiana	WDH	Medium	1	8.6	9.0	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++	2	42
American chestnut	Castanea dentata	NSLX	FIA	9.5	8.1	0.9	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only			0	43
black walnut	Juglans nigra	WDH	Low	5.7	7.8	1.4	Sm. inc.	Lg. inc.	Medium	Rare	Fair	Good			1	44
red pine	Pinus resinosa	NSH	Medium	1	6.8	7.1	Very Lg. dec.	Very Lg. dec.	Low	Rare	Lost	Lost			0	45
butternut	Juglans cinerea	NSLX	FIA	3.8	5.3	1.4	Unknown	Unknown	Low	Rare	FIA Only	FIA Only			0	46
balsam fir	Abies balsamea	NDH	High	1	5.1	5.4	Very Lg. dec.	Very Lg. dec.	Low	Rare	Lost	Lost			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
American mountain-ash	Sorbus americana	NSL	Low	7.6	5.0	0.7	Lg. dec.	Lg. dec.	Low	Rare	Very Poor	Very Poor			0	48
yellow buckeye	Aesculus flava	NSL	Low	3.8	3.4	0.9	Lg. inc.	Lg. inc.	Low	Rare	Fair	Fair	Infill +	Infill +	1	49
American elm	Ulmus americana	WDH	Medium	2.9	3.3	1.1	Sm. inc.	Lg. inc.	Medium	Rare	Fair	Good	Infill +		2	50
green ash	Fraxinus pennsylvanica	WSH	Low	3.8	3.0	0.8	Sm. inc.	Lg. inc.	Medium	Rare	Fair	Good	Infill +	Infill ++	2	51
bear oak; scrub oak	Quercus ilicifolia	NSLX	FIA	1	2.4	2.5	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only			0	52
mountain maple	Acer spicatum	NSL	Low	4.8	1.9	0.4	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor			1	53
black maple	Acer nigrum	NSH	Low	1	1.7	1.8	Lg. dec.	Lg. dec.	High	Rare	Poor	Poor			0	54
ailanthus	Ailanthus altissima	NSL	FIA	1.9	0.9	0.5	Unknown	Unknown	NA	Rare	NNIS	NNIS			0	55
hackberry	Celtis occidentalis	WDH	Medium	1	0.7	0.7	Very Lg. dec.	Lg. inc.	High	Rare	Lost	Good			2	56
chinkapin oak	Quercus muehlenbergii	NSL	Medium	1	0.7	0.7	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			2	57
Norway spruce	Picea abies	NSH	FIA	1	0.5	0.5	Unknown	Unknown	NA	Rare	NNIS	NNIS			0	58
eastern redbud	Cercis canadensis	NSL	Low	1	0.4	0.5	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++	1	59
American holly	Ilex opaca	NSL	Medium	1	0.4	0.4	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	60
pawpaw	Asimina triloba	NSL	Low	1	0.3	0.3	No change	Sm. dec.	Medium	Rare	Poor	Very Poor			0	61
Atlantic white-cedar	Chamaecyparis thyoides	NSH	Low	0	0	0	Unknown	Unknown	Low	Absent	Unknown	Unknown			0	62
loblolly pine	Pinus taeda	WDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Likely +	Likely +	3	63
northern white-cedar	Thuja occidentalis	WSH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			3	64
florida maple	Acer barbatum	NSL	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat		Migrate +	3	65
boxelder	Acer negundo	WSH	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Likely +	Likely +	3	66
Ohio buckeye	Aesculus glabra	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	67
river birch	Betula nigra	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat		Migrate +	3	68
gray birch	Betula populifolia	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	69
pecan	Carya illinoensis	NSH	Low	0	0	0	Unknown	New Habitat	Low	Absent	Unknown	New Habitat		Migrate +	3	70
shellbark hickory	Carya laciniosa	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	71
black hickory	Carya texana	NDL	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			0	72
sugarberry	Celtis laevigata	NDH	Medium	0	0	0	Unknown	New Habitat	Medium	Absent	Unknown	New Habitat		Migrate +	3	73
common persimmon	Diospyros virginiana	NSL	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Likely +	Likely +	3	74
black ash	Fraxinus nigra	WSH	Medium	0	0	0	New Habitat	Unknown	Low	Absent	New Habitat	Unknown			3	75
honeylocust	Gleditsia triacanthos	NSH	Low	0	0	0	Unknown	New Habitat	High	Absent	Unknown	New Habitat		Migrate +	3	76
silverbell	Halesia spp.	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			3	77
sweetgum	Liquidambar styraciflua	WDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate +	Migrate ++	3	78
southern magnolia	Magnolia grandiflora	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			3	79
bigleaf magnolia	Magnolia macrophylla	NSL	Low	0	0	0	Unknown	Unknown	Medium	Modeled	Unknown	Unknown			0	80
red mulberry	Morus rubra	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate +	Migrate +	3	81
eastern cottonwood	Populus deltoides	NSH	Low	0	0	0	Unknown	Unknown	Medium	Modeled	Unknown	Unknown			0	82
southern red oak	Quercus falcata	WDL	Medium	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Migrate +	Migrate +	3	83
cherrybark oak; swamp red o	Quercus pagoda	NSL	Medium	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	84
overcup oak	Quercus lyrata	NSL	Medium	0	0	0	Unknown	Unknown	Low	Absent	Unknown	Unknown			0	85
bur oak	Quercus macrocarpa	NDH	Medium	0	0	0	Unknown	Unknown	High	Absent	Unknown	Unknown			0	86
blackjack oak	Quercus marilandica	NSL	Medium	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Likely +	Likely +	3	87
Shumard oak	Quercus shumardii	NSL	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat		Migrate +	3	88
post oak	Quercus stellata	WDH	High	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Migrate +	Migrate ++	3	89
bluejack oak	Quercus incana	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	90
black willow	Salix nigra	NSH	Low	0	0	0	Unknown	New Habitat	Low	Absent	Unknown	New Habitat		Likely +	3	91
winged elm	Ulmus alata	WDL	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat		Migrate +	3	92