

Area of Region    sq. km    sq. mi    FIA Plots  
 12,964    5,005.4    409

### 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		
		High	Common	Reliability	Adaptability	Scenario RCP45	Scenario RCP85	Scenario RCP45	Scenario RCP85	SHIFT RCP45	SHIFT RCP85	
Ash	3					Increase	19	23	Very Good	8	7	
Hickory	4					No Change	11	11	Good	10	15	
Maple	6	Abundant	5	High	26	22	Decrease	21	17	Fair	8	8
Oak	7	Common	17	Medium	27	47	New	19	23	Poor	11	8
Pine	3	Rare	35	Low	27	14	Unknown	16	12	Very Poor	12	11
Other	34	Absent	28	FIA	6					FIA Only	3	3
					<b>86</b>	<b>83</b>		<b>86</b>	<b>86</b>	Unknown	10	6
			<b>85</b>								<b>62</b>	<b>58</b>

### Potential Changes in Climate Variables

#### Temperature (°F)

	Scenario	2009	2039	2069	2099	
Annual Average	CCSM45	42.1	43.5	45.1	45.3	
	CCSM85	42.1	43.9	45.7	48.0	
	GFDL45	42.1	44.1	46.5	47.5	
	GFDL85	42.1	44.5	47.5	50.9	
	HAD45	42.1	44.2	46.5	47.7	
HAD85	42.1	44.3	47.3	51.3		
Growing Season (May-Sep)	CCSM45	54.7	56.3	57.6	57.9	
	CCSM85	54.7	56.4	58.2	60.9	
	GFDL45	54.7	56.8	59.4	60.5	
	GFDL85	54.7	57.2	60.5	64.1	
	HAD45	54.7	56.8	58.8	60.4	
HAD85	54.7	56.5	59.9	64.2		
Coldest Month	CCSM45	22.7	23.8	25.2	25.6	
	CCSM85	22.7	24.7	25.6	27.3	
	GFDL45	22.7	25.0	26.4	27.4	
	GFDL85	22.7	25.5	27.0	28.9	
	HAD45	22.7	24.6	26.6	26.8	
HAD85	22.7	25.4	27.1	29.5		
Warmest Month	CCSM45	59.3	61.1	61.9	61.9	
	CCSM85	59.3	61.4	62.5	63.9	
	GFDL45	59.3	61.3	62.6	63.6	
	GFDL85	59.3	61.8	63.8	65.8	
	HAD45	59.3	61.6	62.6	63.6	
HAD85	59.3	61.2	63.0	66.0		

#### Precipitation (in)

	Scenario	2009	2039	2069	2099	
Annual Total	CCSM45	35.1	34.4	32.8	37.4	
	CCSM85	35.1	34.5	36.2	38.6	
	GFDL45	35.1	38.0	40.0	38.9	
	GFDL85	35.1	36.8	38.8	40.8	
	HAD45	35.1	37.1	39.2	38.2	
HAD85	35.1	38.1	38.1	39.6		
Growing Season (May-Sep)	CCSM45	14.9	15.4	14.0	15.3	
	CCSM85	14.9	14.5	15.5	15.4	
	GFDL45	14.9	14.9	14.3	14.5	
	GFDL85	14.9	15.1	14.3	14.1	
	HAD45	14.9	16.1	15.9	16.0	
HAD85	14.9	15.1	15.1	16.0		

**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
red maple	Acer rubrum	WDH	High	93.5	2565.8	17.7	No change	Sm. dec.	High	Abundant	Very Good	Good			1	1
eastern white pine	Pinus strobus	WDH	High	85.3	2423.2	20.9	Lg. dec.	Lg. dec.	Low	Abundant	Poor	Poor			0	2
northern red oak	Quercus rubra	WDH	Medium	81.2	1118.2	9.8	No change	No change	High	Abundant	Very Good	Very Good			1	3
eastern hemlock	Tsuga canadensis	NSH	High	69.6	986.1	9.8	Sm. dec.	Sm. dec.	Low	Abundant	Fair	Fair			0	4
American beech	Fagus grandifolia	WDH	High	61.7	554.2	5.8	No change	No change	Medium	Abundant	Good	Good			1	5
sugar maple	Acer saccharum	WDH	High	55.7	474.4	4.9	Sm. inc.	Sm. inc.	High	Common	Very Good	Very Good			1	6
paper birch	Betula papyrifera	WDH	High	68.8	456.3	4.2	Sm. dec.	Lg. dec.	Medium	Common	Poor	Poor			0	7
yellow birch	Betula alleghaniensis	NDL	High	54.8	445.5	5.0	No change	No change	Medium	Common	Fair	Fair			1	8
balsam fir	Abies balsamea	NDH	High	22.2	400.2	7.7	Lg. dec.	Lg. dec.	Low	Common	Very Poor	Very Poor			0	9
white ash	Fraxinus americana	WDL	Medium	61.9	377.7	3.9	Sm. inc.	Sm. inc.	Low	Common	Fair	Fair			1	10
red spruce	Picea rubens	NDH	High	35.1	343.0	4.9	Sm. dec.	Lg. dec.	Low	Common	Poor	Very Poor			0	11
black oak	Quercus velutina	WDH	High	34.3	320.9	7.1	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	12
sweet birch	Betula lenta	NDH	High	44.9	212.9	3.5	Sm. inc.	Sm. inc.	Low	Common	Fair	Fair			1	13
white oak	Quercus alba	WDH	Medium	35	161.7	3.9	Lg. inc.	Lg. inc.	High	Common	Very Good	Very Good			1	14
black cherry	Prunus serotina	WDL	Medium	37.4	105.8	1.9	Lg. inc.	Lg. inc.	Low	Common	Good	Good			1	15
American elm	Ulmus americana	WDL	Medium	19.9	103.3	2.9	Sm. dec.	No change	Medium	Common	Poor	Fair			1	16
quaking aspen	Populus tremuloides	WDH	High	26	81.8	2.0	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	17
black walnut	Juglans nigra	WDH	Low	0.8	77.1	100.0	Lg. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			2	18
striped maple	Acer pensylvanicum	NSL	Medium	26	61.0	1.5	Sm. dec.	Sm. dec.	Medium	Common	Poor	Poor			0	19
gray birch	Betula populifolia	NSL	Low	20.2	59.4	2.1	Sm. dec.	No change	Medium	Common	Poor	Fair			1	20
pignut hickory	Carya glabra	WDL	Medium	8.5	59.1	4.9	Sm. inc.	Sm. inc.	Medium	Common	Good	Good	Infill ++	Infill ++	1	21
bigtooth aspen	Populus grandidentata	NSL	Medium	15.8	56.6	2.9	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	22
scarlet oak	Quercus coccinea	WDL	Medium	12.3	50.1	4.0	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good	Infill ++	Infill ++	1	23
swamp white oak	Quercus bicolor	NSL	Low	3.4	43.0	10.7	Sm. dec.	No change	Medium	Rare	Very Poor	Poor		Infill +	2	24
eastern hophornbeam; ironw	Ostrya virginiana	WSL	Low	19.6	36.9	1.1	No change	Lg. inc.	High	Rare	Fair	Good			1	25
American basswood	Tilia americana	WSL	Medium	10	31.8	2.0	No change	Sm. inc.	Medium	Rare	Poor	Fair			1	26
pin cherry	Prunus pensylvanica	NSL	Low	10.4	30.8	2.0	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	27
shagbark hickory	Carya ovata	WSL	Medium	4.7	30.0	2.2	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	2	28
Siberian elm	Ulmus pumila	NDH	FIA	0.8	25.7	33.3	Unknown	Unknown	NA	Rare	NNIS	NNIS			0	29
red pine	Pinus resinosa	NSH	Medium	8.1	24.4	2.5	No change	No change	Low	Rare	Very Poor	Very Poor			2	30
black spruce	Picea mariana	NSH	High	1	17.6	7.4	Sm. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			2	31
pitch pine	Pinus rigida	NSH	High	6.3	8.6	1.1	Sm. inc.	Sm. inc.	Medium	Rare	Fair	Fair			1	32
American hornbeam; musclev	Carpinus caroliniana	WSL	Low	4.8	8.5	1.4	Sm. dec.	No change	Medium	Rare	Very Poor	Poor		Infill +	1	33
black ash	Fraxinus nigra	WSH	Medium	3.1	7.3	2.4	Lg. dec.	Sm. dec.	Low	Rare	Very Poor	Very Poor			2	34
blackgum	Nyssa sylvatica	WDL	Medium	4	7.0	1.4	Lg. inc.	Lg. inc.	High	Rare	Good	Good	Infill ++	Infill ++	2	35
balsam poplar	Populus balsamifera	NSH	Medium	1.6	6.7	1.5	Very Lg. dec.	Very Lg. dec.	Medium	Rare	Lost	Lost			0	36
American mountain-ash	Sorbus americana	NSL	Low	6	6.5	0.6	Sm. dec.	Sm. dec.	Low	Rare	Very Poor	Very Poor			0	37
tamarack (native)	Larix laricina	NSH	High	1.8	6.2	0.8	No change	No change	Low	Rare	Very Poor	Very Poor			2	38
serviceberry	Amelanchier spp.	NSL	Low	5.3	5.9	0.5	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	1	39
silver maple	Acer saccharinum	NSH	Low	0.3	5.7	3.2	Sm. dec.	Lg. inc.	High	Rare	Poor	Good			2	40
white spruce	Picea glauca	NSL	Medium	1.1	5.5	3.0	Very Lg. dec.	Lg. dec.	Medium	Rare	Lost	Very Poor			0	41
eastern redcedar	Juniperus virginiana	WDH	Medium	1.9	4.9	0.7	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			2	42
American chestnut	Castanea dentata	NSLX	FIA	3.3	4.3	0.7	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only			0	43
mockernut hickory	Carya alba	WDL	Medium	0.1	3.8	0.6	Lg. inc.	Lg. inc.	High	Rare	Good	Good			2	44
sassafras	Sassafras albidum	WSL	Low	1.5	1.9	1.2	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			2	45
eastern cottonwood	Populus deltoides	NSH	Low	0.8	1.7	2.2	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	46
chestnut oak	Quercus prinus	NDH	High	0.8	1.5	2.0	Lg. inc.	Lg. inc.	High	Rare	Good	Good			2	47

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Common Name	Scientific Name	Range	MR	%Cell	FIAsum	FIAiv	ChngCl45	ChngCl85	Adap	Abund	Capabil45	Capabil85	SHIFT45	SHIFT85	SSO	N
mountain maple	Acer spicatum	NSL	Low	1.3	1.3	0.1	Lg. dec.	Lg. dec.	High	Rare	Poor	Poor			0	48
bear oak; scrub oak	Quercus ilicifolia	NSLX	FIA	0.2	1.1	0.3	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only			0	49
butternut	Juglans cinerea	NSLX	FIA	0.8	1.1	1.4	Unknown	Unknown	Low	Rare	FIA Only	FIA Only			0	50
black willow	Salix nigra	NSH	Low	0.8	1.1	1.4	Sm. dec.	Very Lg. dec.	Low	Rare	Very Poor	Lost			0	51
Norway maple	Acer platanoides	NSL	FIA	0.8	0.8	1.0	Unknown	Unknown	NA	Rare	NNIS	NNIS			0	52
green ash	Fraxinus pennsylvanica	WSH	Low	0.8	0.7	0.9	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			2	53
Norway spruce	Picea abies	NSH	FIA	0.1	0.6	0.1	Unknown	Unknown	NA	Rare	NNIS	NNIS			0	54
bitternut hickory	Carya cordiformis	WSL	Low	0.2	0.3	0.1	No change	Lg. inc.	High	Rare	Fair	Good			2	55
northern white-cedar	Thuja occidentalis	WSH	High	0.4	0.3	0.2	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			0	56
flowering dogwood	Cornus florida	WDL	Medium	0.7	0.3	0.3	Sm. inc.	Lg. inc.	Medium	Rare	Fair	Good			2	57
jack pine	Pinus banksiana	NSH	Medium	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat		Migrate +	3	58
sand pine	Pinus clausa	NDH	High	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat			0	59
shortleaf pine	Pinus echinata	WDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			3	60
Table Mountain pine	Pinus pungens	NSL	Low	0	0	0	Unknown	New Habitat	High	Absent	Unknown	New Habitat			0	61
loblolly pine	Pinus taeda	WDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			3	62
Virginia pine	Pinus virginiana	NDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat		Migrate +	3	63
black maple	Acer nigrum	NSH	Low	0	0	0	Unknown	Unknown	High	Absent	Unknown	Unknown			0	64
Ohio buckeye	Aesculus glabra	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	65
cittamwood/gum bumelia	Sideroxylon lanuginosum ssp.	NSL	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat			0	66
black hickory	Carya texana	NDL	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			0	67
sugarberry	Celtis laevigata	NDH	Medium	0	0	0	Unknown	New Habitat	Medium	Absent	Unknown	New Habitat			0	68
eastern redbud	Cercis canadensis	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			3	69
American holly	Ilex opaca	NSL	Medium	0	0	0	Unknown	New Habitat	Medium	Absent	Unknown	New Habitat		Migrate +	3	70
sweetgum	Liquidambar styraciflua	WDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat		Migrate + Migrate ++	3	71
yellow-poplar	Liriodendron tulipifera	WDH	High	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat		Migrate + Migrate ++	3	72
Osage-orange	Maclura pomifera	NDH	Medium	0	0	0	Unknown	Unknown	High	Absent	Unknown	Unknown			0	73
cucumbertree	Magnolia acuminata	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			3	74
bigleaf magnolia	Magnolia macrophylla	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	75
sourwood	Oxydendron arboreum	NDL	High	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat			0	76
redbay	Persea borbonia	NSL	Low	0	0	0	Unknown	Unknown	High	Absent	Unknown	Unknown			0	77
sycamore	Platanus occidentalis	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat		Migrate +	3	78
southern red oak	Quercus falcata	WDL	Medium	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat		Migrate +	3	79
blackjack oak	Quercus marilandica	NSL	Medium	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat			3	80
chinkapin oak	Quercus muehlenbergii	NSL	Medium	0	0	0	Unknown	New Habitat	Medium	Absent	Unknown	New Habitat			3	81
willow oak	Quercus phellos	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			3	82
post oak	Quercus stellata	WDH	High	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat		Migrate ++	3	83
black locust	Robinia pseudoacacia	NDH	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat		Likely + Likely +	3	84
winged elm	Ulmus alata	WDL	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			0	85
slippery elm	Ulmus rubra	WSL	Low	0	0	0	Unknown	Unknown	Medium	Modeled	Unknown	Unknown			0	86