

Current and Potential Future Habitat, Capability, and Migration

	sq. km	sq. mi	FIA Plots
Area of Region	8,700.0	3,359.1	180

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	18	20	Increase	24	30	Very Good	10	11	Likely	3	3
Hickory	5			Medium	27	46	No Change	17	10	Good	14	16	Infill	33	39
Maple	3	Abundant	4	Low	32	11	Decrease	18	19	Fair	10	10	Migrate	3	4
Oak	12	Common	18	FIA	3		New	12	13	Poor	12	9			
Pine	4	Rare	40				Unknown	9	8	Very Poor	12	12			
Other	36	Absent	18							FIA Only	0	0			
	62		80		80	77		80	80	Unknown	6	5			
											64	63			

Potential Changes in Climate Variables

Temperature (°F)

Scenario	2009	2039	2069	2099	
Annual	60.6	62.4	64.5	64.5	
Average	60.6	62.8	65.2	67.9	
GFDL45	60.6	63.7	65.5	66.2	
GFDL85	60.6	63.3	66.6	70.2	
HAD45	60.6	62.9	65.8	67.2	
HAD85	60.6	63.2	67.4	71.2	
Growing Season	74.3	76.0	77.8	78.2	
May—Sep	74.3	77.7	79.5	80.8	
GFDL45	74.3	77.4	81.1	85.1	
GFDL85	74.3	77.4	80.0	81.6	
HAD45	74.3	77.4	80.0	81.6	
HAD85	74.3	77.3	83.4	87.0	
Coldest Month	40.3	42.8	43.6	43.5	
Average	40.3	42.7	43.8	45.0	
GFDL45	40.3	43.5	43.6	44.0	
GFDL85	40.3	42.0	43.1	43.5	
HAD45	40.3	40.2	42.1	42.5	
HAD85	40.3	41.4	42.6	44.2	
Warmest Month	79.0	81.0	81.9	81.8	
Average	79.0	81.1	82.6	84.4	
GFDL45	79.0	81.9	82.9	83.7	
GFDL85	79.0	82.2	84.1	86.2	
HAD45	79.0	83.0	84.7	85.4	
HAD85	79.0	83.3	87.2	89.0	

Precipitation (in)

Scenario	2009	2039	2069	2099	
Annual	51.3	53.7	57.1	57.2	
Total	51.3	54.4	57.2	63.7	
GFDL45	51.3	57.4	60.4	64.3	
GFDL85	51.3	56.9	61.0	62.1	
HAD45	51.3	50.1	54.8	56.2	
HAD85	51.3	56.4	50.6	54.7	
Growing Season	21.0	22.7	24.2	24.8	
May—Sep	21.0	25.8	27.8	28.8	
GFDL45	21.0	25.1	28.2	29.1	
GFDL85	21.0	20.7	21.8	21.5	
HAD45	21.0	20.7	21.8	21.5	
HAD85	21.0	23.4	18.0	19.6	

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-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.

Cite as: Iverson, L.R.; Prasad, A.M.; Peters, M.P.; Matthews, S.N. 2019. Facilitating Adaptive Forest Management under Climate Change: A Spatially Specific Synthesis of 125 Species for Habitat Changes and Assisted Migration over the Eastern United States. *Forests*. 10(11): 989. <https://doi.org/10.3390/f10110989>.

Chattahoochee River

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USDA Forest Service
Northern Research Station
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Iverson, Peters, Prasad, Matthews

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Common Name	Scientific Name	Range	MR	%Cell	FIAsum	FIAiv	ChngCl45	ChngCl85	Adap	Abund	Capabil45	Capabil85	SHIFT45	SHIFT85	SSO	N
loblolly pine	Pinus taeda	WDH	High	83.9	1747.1	25.0	Sm. inc.	Sm. inc.	Medium	Abundant	Very Good	Very Good	Infill ++	Infill ++	1	1
yellow-poplar	Liriodendron tulipifera	WDH	High	82.8	1045.2	14.8	Lg. dec.	Lg. dec.	High	Abundant	Good	Good	Infill ++	Infill ++	1	2
sweetgum	Liquidambar styraciflua	WDH	High	80.5	903.8	13.3	No change	Sm. inc.	Medium	Abundant	Good	Very Good	Infill ++	Infill ++	1	3
white oak	Quercus alba	WDH	Medium	67.8	529.4	8.8	No change	No change	High	Abundant	Very Good	Very Good	Infill ++	Infill ++	1	4
water oak	Quercus nigra	WDH	High	60.9	335.7	6.7	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good	Infill ++	Infill ++	1	5
red maple	Acer rubrum	WDH	High	60.9	331.1	5.8	Sm. inc.	Sm. inc.	High	Common	Very Good	Very Good	Infill ++	Infill ++	1	6
southern red oak	Quercus falcata	WDL	Medium	59.8	287.4	5.7	Sm. inc.	Lg. inc.	High	Common	Very Good	Very Good	Infill ++	Infill ++	1	7
black cherry	Prunus serotina	WDL	Medium	49.4	207.2	4.9	Sm. inc.	Sm. inc.	Low	Common	Fair	Fair	Infill +	Infill +	1	8
sourwood	Oxydendrum arboreum	NDL	High	52.9	202.0	4.6	Sm. dec.	Sm. dec.	High	Common	Fair	Fair	Infill +	Infill +	1	9
mockernut hickory	Carya alba	WDL	Medium	36.8	195.2	6.0	Sm. inc.	Sm. inc.	High	Common	Very Good	Very Good	Infill ++	Infill ++	1	10
Virginia pine	Pinus virginiana	NDH	High	25.3	184.9	7.3	Lg. dec.	Lg. dec.	Medium	Common	Poor	Poor	Infill +	Infill +	0	11
pignut hickory	Carya glabra	WDL	Medium	49.4	183.1	4.0	No change	Sm. dec.	Medium	Common	Fair	Poor	Infill +	Infill +	1	12
shortleaf pine	Pinus echinata	WDH	High	47.1	161.7	4.2	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good	Infill ++	Infill ++	1	13
scarlet oak	Quercus coccinea	WDL	Medium	33.3	148.5	6.2	Sm. dec.	Sm. dec.	Medium	Common	Poor	Poor	Infill +	Infill +	0	14
blackgum	Nyssa sylvatica	WDL	Medium	49.4	147.9	3.6	Sm. inc.	Lg. inc.	High	Common	Very Good	Very Good	Infill ++	Infill ++	1	15
chestnut oak	Quercus prinus	NDH	High	16.1	144.0	9.0	No change	No change	High	Common	Good	Good	Infill ++	Infill ++	1	16
green ash	Fraxinus pennsylvanica	WSH	Low	20.7	142.2	6.9	No change	Sm. inc.	Medium	Common	Fair	Good	Infill +	Infill ++	1	17
flowering dogwood	Cornus florida	WDL	Medium	51.7	131.6	2.8	No change	No change	Medium	Common	Fair	Fair	Infill +	Infill +	1	18
black oak	Quercus velutina	WDH	High	29.9	107.4	4.1	Sm. inc.	No change	Medium	Common	Good	Fair	Infill ++	Infill +	1	19
post oak	Quercus stellata	WDH	High	42.5	106.1	3.1	Lg. inc.	Lg. inc.	High	Common	Very Good	Very Good	Infill ++	Infill ++	1	20
boxelder	Acer negundo	WSH	Low	13.8	102.8	7.5	Lg. dec.	Lg. dec.	High	Common	Fair	Fair		Infill +	2	21
northern red oak	Quercus rubra	WDH	Medium	31	90.0	4.0	Sm. inc.	Sm. inc.	High	Common	Very Good	Very Good	Infill ++	Infill ++	1	22
American beech	Fagus grandifolia	WDH	High	24.1	42.7	1.8	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++	2	23
black walnut	Juglans nigra	WDH	Low	4.6	35.6	7.7	Lg. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	24
black willow	Salix nigra	NSH	Low	3.4	35.6	10.3	No change	No change	Low	Rare	Very Poor	Very Poor			2	25
sycamore	Platanus occidentalis	NSL	Low	8	32.5	4.0	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	2	26
common persimmon	Diospyros virginiana	NSL	Low	21.8	31.7	2.3	Sm. inc.	Sm. inc.	High	Rare	Good	Good	Infill ++	Infill ++	1	27
blackjack oak	Quercus marilandica	NSL	Medium	4.6	30.5	6.6	Lg. inc.	Lg. inc.	High	Rare	Good	Good	Infill ++	Infill ++	2	28
eastern redcedar	Juniperus virginiana	NDH	Medium	10.3	29.5	2.9	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++	1	29
eastern hophornbeam; ironw	Ostrya virginiana	WSL	Low	14.9	29.2	2.6	Lg. inc.	Lg. inc.	High	Rare	Good	Good	Infill ++	Infill ++	1	30
American hornbeam; muscle	Carpinus caroliniana	WSL	Low	12.6	28.2	2.2	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++	1	31
river birch	Betula nigra	NSL	Low	6.9	23.8	3.5	No change	Sm. inc.	Medium	Rare	Poor	Fair	Infill +	Infill +	2	32
florida maple	Acer barbatum	NSL	Low	12.6	22.9	2.6	Sm. inc.	Lg. inc.	High	Rare	Good	Good	Infill ++	Infill ++	2	33
red mulberry	Morus rubra	NSL	Low	8	19.5	2.4	No change	No change	Medium	Rare	Poor	Poor		Infill +	2	34
winged elm	Ulmus alata	WDL	Medium	13.8	16.9	1.2	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++	1	35
sweetbay	Magnolia virginiana	NSL	Medium	1.1	13.9	12.1	Sm. inc.	Lg. inc.	Medium	Rare	Fair	Good			2	36
southern magnolia	Magnolia grandiflora	NSL	Low	5.7	13.2	8.2	No change	Sm. inc.	Medium	Rare	Poor	Fair	Infill +	Infill +	2	37
sassafras	Sassafras albidum	WSL	Low	14.9	12.7	0.9	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good		Infill ++	1	38
willow oak	Quercus phellos	NSL	Low	2.3	11.5	5.0	No change	No change	Medium	Rare	Poor	Poor		Infill +	2	39
bitternut hickory	Carya cordiformis	WSL	Low	3.4	11.4	3.3	Lg. dec.	Lg. dec.	High	Rare	Poor	Poor			0	40
eastern white pine	Pinus strobus	WDH	High	2.3	11.1	4.8	Sm. dec.	Lg. dec.	Low	Rare	Very Poor	Very Poor			0	41
American elm	Ulmus americana	WDH	Medium	5.7	10.0	1.8	Sm. inc.	Lg. inc.	Medium	Rare	Fair	Good			2	42
sugarberry	Celtis laevigata	NDH	Medium	3.4	9.3	2.7	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			2	43
cucumbertree	Magnolia acuminata	NSL	Low	3.4	6.8	2.0	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	44
black locust	Robinia pseudoacacia	NDH	Low	2.3	6.2	2.7	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	45
American holly	Ilex opaca	NSL	Medium	5.7	5.5	1.0	No change	Sm. inc.	Medium	Rare	Poor	Fair		Infill +	1	46
ailanthus	Ailanthus altissima	NSL	FIA	1.1	4.8	4.2	Unknown	Unknown	NA	Rare	NNIS	NNIS			0	47



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white ash	Fraxinus americana	WDL	Medium	2.3	4.1	1.8	No change	No change	Low	Rare	Very Poor	Very Poor			2	48
swamp chestnut oak	Quercus michauxii	NSL	Low	2.3	3.7	1.6	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	49
slippery elm	Ulmus rubra	WSL	Low	2.3	3.6	1.6	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	50
eastern redbud	Cercis canadensis	NSL	Low	2.3	1.8	0.8	No change	Sm. inc.	Medium	Rare	Poor	Fair	Infill +		2	51
bigleaf magnolia	Magnolia macrophylla	NSL	Low	1.1	1.8	1.6	Lg. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	52
swamp tupelo	Nyssa biflora	NDH	Medium	1.1	1.6	1.4	Lg. inc.	Lg. inc.	Low	Rare	Fair	Fair	Infill +	Infill +	2	53
paulownia	Paulownia tomentosa	NSL	FIA	1.1	1.4	1.2	Unknown	Unknown	NA	Rare	NNIS	NNIS			0	54
American basswood	Tilia americana	WSL	Medium	1.1	1.3	1.1	Sm. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	55
shellbark hickory	Carya laciniosa	NSL	Low	1.1	1.1	1.0	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	56
serviceberry	Amelanchier spp.	NSL	Low	2.3	0.9	0.4	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	57
white mulberry	Morus alba	NSL	FIA	1.1	0.9	0.8	Unknown	Unknown	NA	Rare	NNIS	NNIS			0	58
shagbark hickory	Carya ovata	WSL	Medium	1.1	0.7	0.6	Very Lg. dec.	Very Lg. dec.	Medium	Rare	Lost	Lost			0	59
honeylocust	Gleditsia triacanthos	NSH	Low	1.1	0.6	0.5	No change	Sm. inc.	High	Rare	Fair	Good			2	60
Nuttall oak	Quercus texana	NSH	Medium	1.1	0.5	0.4	Lg. dec.	Lg. dec.	High	Rare	Poor	Poor			0	61
yellow birch	Betula alleghaniensis	NDL	High	1.1	0.3	0.3	No change	No change	Medium	Rare	Poor	Poor			0	62
ashe juniper	Juniperus ashei	NDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			0	63
slash pine	Pinus elliotii	NDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate +	Migrate ++	3	64
longleaf pine	Pinus palustris	NSH	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate +	Migrate ++	3	65
Table Mountain pine	Pinus pungens	NSL	Low	0	0	0	Unknown	Unknown	High	Absent	Unknown	Unknown			0	66
striped maple	Acer pensylvanicum	NSL	Medium	0	0	0	Unknown	New Habitat	Medium	Absent	Unknown	New Habitat			3	67
yellow buckeye	Aesculus flava	NSL	Low	0	0	0	Unknown	Unknown	Low	Absent	Unknown	Unknown			0	68
cittamwood/gum bumelia	Sideroxylon lanuginosum ssp.	NSL	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat			3	69
pecan	Carya illinoensis	NSH	Low	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat	Likely +	Likely +	3	70
black hickory	Carya texana	NDL	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			3	71
black ash	Fraxinus nigra	WSH	Medium	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat			3	72
silverbell	Halesia spp.	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	73
mountain or Fraser magnolia	Magnolia fraseri	NSL	Low	0	0	0	Unknown	Unknown	Low	Absent	Unknown	Unknown			0	74
cherrybark oak; swamp red o.	Quercus pagoda	NSL	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Likely +	Likely +	3	75
laurel oak	Quercus laurifolia	NDH	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Likely +	Likely +	3	76
pin oak	Quercus palustris	NSH	Low	0	0	0	Unknown	Unknown	Low	Absent	Unknown	Unknown			0	77
live oak	Quercus virginiana	NDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate ++	Migrate ++	3	78
bluejack oak	Quercus incana	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat		Migrate +	3	79
cedar elm	Ulmus crassifolia	NDH	Medium	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat			0	80