

	sq. km	sq. mi	FIA Plots
Area of Region	43,326	16,728	148

**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 RCP45	Scenario RCP85	Scenario RCP45	Scenario RCP85	SHIFT RCP45	SHIFT RCP85	
Ash	2			High	3	6	Increase	2	2	Very Good	0	0
Hickory	1			Medium	9	14	No Change	8	7	Good	2	2
Maple	0	Abundant	1	Low	14	7	Decrease	7	8	Fair	4	4
Oak	4	Common	2	FIA	2		New	0	0	Poor	2	2
Pine	0	Rare	16				Unknown	11	11	Very Poor	8	8
Other	12	Absent	9							FIA Only	2	2
	<b>19</b>		<b>28</b>		<b>28</b>	<b>27</b>		<b>28</b>	<b>28</b>	Unknown	9	9
											<b>5</b>	<b>5</b>

**Potential Changes in Climate Variables**

**Temperature (°F)**

Scenario	2009	2039	2069	2099	
Annual	63.3	64.4	65.6	66.2	
Average	63.3	64.9	66.6	68.6	
GFDL45	63.3	66.8	67.1	68.4	
GFDL85	63.3	65.7	68.4	71.5	
HAD45	63.3	65.0	67.0	67.7	
HAD85	63.3	65.5	67.8	70.5	
Growing Season	73.1	74.1	75.1	75.6	
May—Sep	73.1	74.6	76.2	78.4	
GFDL45	73.1	77.3	77.6	79.5	
GFDL85	73.1	76.1	79.2	82.9	
HAD45	73.1	74.9	76.5	77.0	
HAD85	73.1	75.3	77.8	80.3	
Coldest Month	47.9	49.9	50.3	50.8	
Average	47.9	49.6	50.5	51.6	
GFDL45	47.9	50.7	50.8	50.8	
GFDL85	47.9	48.8	49.7	50.2	
HAD45	47.9	48.7	49.7	50.1	
HAD85	47.9	50.6	51.7	52.9	
Warmest Month	76.1	77.1	77.7	77.8	
Average	76.1	77.7	78.2	79.3	
GFDL45	76.1	79.7	80.4	81.3	
GFDL85	76.1	80.0	81.2	83.5	
HAD45	76.1	78.1	78.8	79.2	
HAD85	76.1	78.5	79.9	81.0	

**Precipitation (in)**

Scenario	2009	2039	2069	2099	
Annual	20.5	23.4	23.1	20.6	
Total	20.5	22.1	22.7	22.3	
GFDL45	20.5	18.7	22.0	16.4	
GFDL85	20.5	18.7	19.0	17.6	
HAD45	20.5	21.7	20.3	22.6	
HAD85	20.5	20.8	21.0	22.2	
Growing Season	10.9	12.7	12.2	11.3	
May—Sep	10.9	12.6	11.8	11.9	
GFDL45	10.9	9.7	12.2	8.7	
GFDL85	10.9	10.0	10.2	9.2	
HAD45	10.9	10.7	10.6	12.0	
HAD85	10.9	11.0	10.6	11.2	

**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.

**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>.

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
ashe juniper	Juniperus ashei	NDH	High	14.1	585.4	49.9	No change	No change	Medium	Abundant	Good	Good			0	1
live oak	Quercus virginiana	NDH	High	19.5	267.5	22.8	No change	No change	Medium	Common	Fair	Fair			1	2
cedar elm	Ulmus crassifolia	NDH	Medium	10.4	55.0	25.2	Sm. inc.	Sm. inc.	Low	Common	Fair	Fair	Infill +	Infill +	1	3
blackjack oak	Quercus marilandica	NSL	Medium	1.6	27.8	14.0	Lg. dec.	Lg. dec.	High	Rare	Poor	Poor	Infill +	Infill +	2	4
sugarberry	Celtis laevigata	NDH	Medium	12.1	24.2	11.6	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	5
hackberry	Celtis occidentalis	WDH	Medium	4.9	13.1	16.0	No change	No change	High	Rare	Fair	Fair	Infill +	Infill +	1	6
pecan	Carya illinoensis	NSH	Low	1	11.1	7.7	No change	No change	Low	Rare	Very Poor	Very Poor			2	7
bald cypress	Taxodium distichum	NSH	Medium	0.3	8.7	37.8	Very Lg. dec.	Very Lg. dec.	Medium	Rare	Lost	Lost			0	8
sycamore	Platanus occidentalis	NSL	Low	0.3	4.8	20.9	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			2	9
post oak	Quercus stellata	WDH	High	1	4.6	9.5	No change	No change	High	Rare	Fair	Fair	Infill +	Infill +	2	10
black cherry	Prunus serotina	WDL	Medium	2.5	4.2	1.1	No change	Sm. dec.	Low	Rare	Very Poor	Very Poor			2	11
red mulberry	Morus rubra	NSL	Low	1.4	3.5	5.7	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	12
black walnut	Juglans nigra	WDH	Low	0.4	1.8	3.2	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	2	13
cittamwood/gum bumelia	Sideroxylon lanuginosum ssp.	NSL	Low	0.9	1.2	1.8	Lg. inc.	Lg. inc.	High	Rare	Good	Good			2	14
Texas ash	Fraxinus texensis	NDH	FIA	1.3	1.2	2.8	Unknown	Unknown	NA	Rare	FIA Only	FIA Only			0	15
green ash	Fraxinus pennsylvanica	WSH	Low	2.2	0.8	6.7	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	16
winged elm	Ulmus alata	WDL	Medium	1.1	0.6	11.0	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	17
durand oak	Quercus sinuata var. sinuata	NSL	FIA	0.3	0.2	0.7	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only			0	18
black willow	Salix nigra	NSH	Low	0.8	0.1	1.6	No change	No change	Low	Rare	Very Poor	Very Poor			0	19
pawpaw	Asimina triloba	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	20
shellbark hickory	Carya laciniosa	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	21
shagbark hickory	Carya ovata	WSL	Medium	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	22
eastern redbud	Cercis canadensis	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	23
common persimmon	Diospyros virginiana	NSL	Low	0	0	0	Unknown	Unknown	High	Absent	Unknown	Unknown			0	24
white ash	Fraxinus americana	WDL	Medium	0	0	0	Unknown	Unknown	Low	Absent	Unknown	Unknown			0	25
blue ash	Fraxinus quadrangulata	NSL	Low	0	0	0	Unknown	Unknown	Low	Absent	Unknown	Unknown			0	26
redbay	Persea borbonia	NSL	Low	0	0	0	Unknown	Unknown	High	Absent	Unknown	Unknown			0	27
American mountain-ash	Sorbus americana	NSL	Low	0	0	0	Unknown	Unknown	Low	Absent	Unknown	Unknown			0	28