

Current and Potential Future Habitat, Capability, and Migration

	sq. km	sq. mi	FIA Plots
Area of Region	32,733	12,638	14

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	Rare	High	Low	Scenario RCP45	Scenario RCP85	Scenario RCP45	Scenario RCP85	SHIFT RCP45	SHIFT RCP85	
Ash	1					Increase	2	2	Very Good	0	0	
Hickory	0					No Change	3	5	Good	2	2	
Maple	2	Abundant	0	High	4	10	Decrease	5	3	Fair	2	2
Oak	1	Common	0	Medium	9	14	New	11	11	Poor	3	5
Pine	0	Rare	12	Low	10	0	Unknown	4	4	Very Poor	2	0
Other	8	Absent	13	FIA	2					FIA Only	1	1
	12		25		25	24		25	25		12	12
											3	6

Potential Changes in Climate Variables

Temperature (°F)

	Scenario	2009	2039	2069	2099
Annual Average	CCSM45	44.8	46.6	49.2	49.8
	CCSM85	44.8	47.3	50.3	53.6
	GFDL45	44.8	50.8	49.3	50.8
	GFDL85	44.8	47.5	50.7	55.3
	HAD45	44.8	47.9	51.8	53.4
HAD85	44.8	48.4	53.6	58.3	
Growing Season May—Sep	CCSM45	65.7	67.9	70.4	71.1
	CCSM85	65.7	68.7	71.6	75.8
	GFDL45	65.7	73.4	71.6	73.4
	GFDL85	65.7	69.1	72.8	78.4
	HAD45	65.7	68.5	71.5	73.4
HAD85	65.7	68.6	72.9	77.7	
Coldest Month Average	CCSM45	12.0	14.1	15.9	16.5
	CCSM85	12.0	13.2	15.1	17.4
	GFDL45	12.0	15.7	16.5	17.0
	GFDL85	12.0	15.4	16.9	19.2
	HAD45	12.0	14.9	18.8	18.2
HAD85	12.0	17.9	22.9	25.1	
Warmest Month Average	CCSM45	73.1	75.9	77.5	78.3
	CCSM85	73.1	77.2	79.1	81.9
	GFDL45	73.1	76.8	78.3	79.4
	GFDL85	73.1	77.3	79.0	82.6
	HAD45	73.1	76.3	77.9	79.3
HAD85	73.1	76.6	79.2	82.4	

Precipitation (in)

	Scenario	2009	2039	2069	2099
Annual Total	CCSM45	21.7	22.2	22.1	21.3
	CCSM85	21.7	21.6	21.5	22.2
	GFDL45	21.7	25.2	27.6	26.1
	GFDL85	21.7	25.2	28.2	27.5
	HAD45	21.7	24.0	23.0	23.9
HAD85	21.7	23.5	24.0	25.8	
Growing Season May—Sep	CCSM45	14.4	13.8	13.5	12.8
	CCSM85	14.4	13.1	13.2	12.5
	GFDL45	14.4	16.8	18.2	16.7
	GFDL85	14.4	16.5	17.9	16.9
	HAD45	14.4	14.6	13.7	13.6
HAD85	14.4	14.2	13.5	12.6	

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-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>.

Section 332B

EcoMap 2007

Climate Change Atlas Tree Species

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Common Name	Scientific Name	Range	MR	%Cell	FIAsum	FIAiv	ChngCl45	ChngCl85	Adap	Abund	Capabil45	Capabil85	SHIFT45	SHIFT85	SSO	N
Siberian elm	Ulmus pumila	NDH	FIA	8.4	33.0	58.9	Unknown	Unknown	NA	Rare	NNIS	NNIS			0	1
green ash	Fraxinus pennsylvanica	WSH	Low	8.8	26.6	31.8	Sm. dec.	No change	Medium	Rare	Very Poor	Poor	Infill +		2	2
eastern cottonwood	Populus deltoides	NSH	Low	2	15.3	79.2	Sm. dec.	No change	Medium	Rare	Very Poor	Poor			2	3
American elm	Ulmus americana	WDH	Medium	3.8	12.2	53.2	No change	No change	Medium	Rare	Poor	Poor			2	4
bur oak	Quercus macrocarpa	NDH	Medium	2.2	11.4	28.8	Sm. inc.	Sm. inc.	High	Rare	Good	Good			2	5
boxelder	Acer negundo	WSH	Low	3	10.3	28.7	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor	Infill +	Infill +	2	6
honeylocust	Gleditsia triacanthos	NSH	Low	2.6	5.2	34.0	No change	No change	High	Rare	Fair	Fair	Infill +	Infill +	2	7
hackberry	Celtis occidentalis	WDH	Medium	2.2	4.6	28.8	No change	No change	High	Rare	Fair	Fair			2	8
eastern hophornbeam; ironw	Ostrya virginiana	WSL	Low	0.8	0.9	7.3	Sm. dec.	Lg. dec.	High	Rare	Poor	Poor			2	9
sugar maple	Acer saccharum	WDH	High	0.8	0.6	5.2	Very Lg. dec.	Very Lg. dec.	High	Rare	Lost	Lost			0	10
eastern redcedar	Juniperus virginiana	WDH	Medium	1.1	0.6	6.5	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			2	11
chokecherry	Prunus virginiana	NSLX	FIA	1.3	0.3	3.4	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only			0	12
ashe juniper	Juniperus ashei	NDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			0	13
mountain maple	Acer spicatum	NSL	Low	0	0	0	Unknown	Unknown	High	Absent	Unknown	Unknown			0	14
black hickory	Carya texana	NDL	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			0	15
eastern redbud	Cercis canadensis	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			3	16
flowering dogwood	Cornus florida	WDL	Medium	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	17
black walnut	Juglans nigra	WDH	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate +		3	18
red mulberry	Morus rubra	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			3	19
blackjack oak	Quercus marilandica	NSL	Medium	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat			0	20
chinkapin oak	Quercus muehlenbergii	NSL	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			0	21
northern red oak	Quercus rubra	WDH	Medium	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Migrate +		3	22
post oak	Quercus stellata	WDH	High	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat			0	23
black locust	Robinia pseudoacacia	NDH	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			3	24
American basswood	Tilia americana	WSL	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate +	Migrate +	3	25

