

One x One Degree
Climate Change Atlas Tree Species
 Current and Potential Future Habitat, Capability, and Migration

sq. km sq. mi FIA Plots
 Area of Region 10,533 4,066.9 111

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	0			High	3	Increase	3	Very Good	1	Likely	0
Hickory	0			Medium	6	No Change	1	Good	2	Infill	1
Maple	0	Abundant	2	Low	4	Decrease	8	Fair	3	Migrate	0
Oak	3	Common	4	FIA	0	New	0	Poor	2		0
Pine	0	Rare	6			Unknown	1	Very Poor	3		0
Other	9	Absent	0				1	FIA Only	0		0
	12		12		13		13	Unknown	1		1
									12		12

Potential Changes in Climate Variables

Temperature (°F)

	Scenario	2009	2039	2069	2099	
Annual Average	CCSM45	65.0	66.4	67.9	68.7	
	CCSM85	65.0	67.0	68.9	71.6	
	GFDL45	65.0	69.1	69.4	71.2	
	GFDL85	65.0	68.0	71.1	75.0	
	HAD45	65.0	67.2	69.7	70.4	
	HAD85	65.0	67.8	71.3	74.1	
Growing Season (May—Sep)	CCSM45	78.7	79.8	81.4	82.1	
	CCSM85	78.7	80.7	82.5	85.6	
	GFDL45	78.7	83.7	84.0	86.7	
	GFDL85	78.7	82.8	86.3	91.4	
	HAD45	78.7	80.7	82.7	83.0	
	HAD85	78.7	81.4	85.0	87.4	
Coldest Month (Average)	CCSM45	44.5	46.9	47.4	48.1	
	CCSM85	44.5	46.5	47.4	48.9	
	GFDL45	44.5	47.8	47.9	48.0	
	GFDL85	44.5	45.7	46.8	47.1	
	HAD45	44.5	45.1	47.0	47.2	
	HAD85	44.5	48.0	49.5	50.9	
Warmest Month (Average)	CCSM45	83.5	84.6	85.8	85.8	
	CCSM85	83.5	85.5	86.2	87.9	
	GFDL45	83.5	88.6	89.0	90.7	
	GFDL85	83.5	89.1	90.7	94.4	
	HAD45	83.5	85.7	86.5	86.8	
	HAD85	83.5	86.5	88.4	89.5	

Precipitation (in)

	Scenario	2009	2039	2069	2099	
Annual Total	CCSM45	26.5	28.8	27.1	25.7	
	CCSM85	26.5	26.4	29.1	27.8	
	GFDL45	26.5	25.8	30.2	24.0	
	GFDL85	26.5	25.3	26.9	24.3	
	HAD45	26.5	27.8	26.8	29.2	
	HAD85	26.5	26.2	24.3	28.0	
Growing Season (May—Sep)	CCSM45	13.8	16.1	13.8	13.8	
	CCSM85	13.8	14.7	15.3	13.9	
	GFDL45	13.8	13.6	15.8	12.4	
	GFDL85	13.8	13.7	14.0	12.5	
	HAD45	13.8	13.9	14.1	15.9	
	HAD85	13.8	13.2	12.0	14.3	

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>.

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Common Name	Scientific Name	Range	MR	%Cell	FIAsum	FIAiv	ChngCl45	ChngCl85	Adap	Abund	Capabil45	Capabil85	SHIFT45	SHIFT85	SSO	N
live oak	Quercus virginiana	NDH	High	45.3	1591.5	36.1	No change	No change	Medium	Abundant	Good	Good			1	1
ashe juniper	Juniperus ashei	NDH	High	33.9	628.6	23.2	Lg. inc.	Lg. inc.	Medium	Abundant	Very Good	Very Good			0	2
post oak	Quercus stellata	WDH	High	12.5	449.1	20.0	Sm. dec.	Sm. dec.	High	Common	Fair	Fair			1	3
cedar elm	Ulmus crassifolia	NDH	Medium	18.8	313.1	13.4	Sm. inc.	Sm. inc.	Low	Common	Fair	Fair			1	4
sugarberry	Celtis laevigata	NDH	Medium	13.3	138.0	16.0	Sm. dec.	Sm. dec.	Medium	Common	Poor	Poor			0	5
blackjack oak	Quercus marilandica	NSL	Medium	3.3	133.6	20.6	Sm. dec.	Sm. dec.	High	Common	Fair	Fair	Infill +	Infill +	1	6
cittamwood/gum bumelia	Sideroxylon lanuginosum ssp.	NSL	Low	10.7	19.8	3.9	Lg. inc.	Lg. inc.	High	Rare	Good	Good			1	7
American elm	Ulmus americana	WDH	Medium	4.7	17.8	18.8	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	8
eastern redcedar	Juniperus virginiana	WDH	Medium	0.9	12.6	13.3	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	9
eastern redbud	Cercis canadensis	NSL	Low	0.9	6.9	7.3	Very Lg. dec.	Very Lg. dec.	Medium	Rare	Lost	Lost			0	10
hackberry	Celtis occidentalis	WDH	Medium	5.7	2.6	1.1	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor			0	11
slippery elm	Ulmus rubra	WSL	Low	3.8	0.5	2.1	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	12
pin oak	Quercus palustris	NSH	Low	0	0	0	Unknown	Unknown	Low	Modeled	Unknown	Unknown			0	13