

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	2,689.7	1,038.5	17

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	4	Increase	4	3	Very Good	3	2	Likely	0	0
Hickory	0			Medium	11	No Change	6	7	Good	3	4	Infill	6	5
Maple	1	Abundant	3	Low	8	Decrease	1	1	Fair	3	3	Migrate	2	3
Oak	2	Common	6	FIA	1	New	7	7	Poor	1	1		8	8
Pine	1	Rare	3			Unknown	6	6	Very Poor	0	0			
Other	6	Absent	11						FIA Only	1	1			
	12		23		24		24	24	Unknown	5	5			
										16	16			

Potential Changes in Climate Variables

Temperature (°F)

	Scenario	2009	2039	2069	2099	
Annual Average	CCSM45	75.3	76.5	77.6	77.7	
	CCSM85	75.3	76.5	78.4	80.3	
	GFDL45	75.3	79.1	79.1	80.0	
	GFDL85	75.3	77.4	80.1	83.0	
	HAD45	75.3	76.6	78.4	79.4	
HAD85	75.3	77.1	79.1	82.0		
Growing Season May—Sep	CCSM45	81.6	82.5	83.5	83.7	
	CCSM85	81.6	82.6	84.5	86.5	
	GFDL45	81.6	85.4	85.4	86.4	
	GFDL85	81.6	83.7	86.4	89.4	
	HAD45	81.6	83.1	84.6	85.6	
HAD85	81.6	83.4	85.7	88.3		
Coldest Month Average	CCSM45	64.7	66.1	66.9	66.8	
	CCSM85	64.7	65.6	66.5	67.9	
	GFDL45	64.7	66.8	67.2	67.7	
	GFDL85	64.7	66.8	67.9	69.1	
	HAD45	64.7	65.1	66.2	66.6	
HAD85	64.7	65.6	66.3	68.1		
Warmest Month Average	CCSM45	83.4	84.4	84.9	84.9	
	CCSM85	83.4	84.6	85.5	86.7	
	GFDL45	83.4	85.4	86.4	87.0	
	GFDL85	83.4	85.5	87.1	88.8	
	HAD45	83.4	85.0	85.7	86.2	
HAD85	83.4	85.2	86.3	87.6		

Precipitation (in)

	Scenario	2009	2039	2069	2099	
Annual Total	CCSM45	54.4	54.2	52.6	57.8	
	CCSM85	54.4	55.7	52.7	47.2	
	GFDL45	54.4	60.7	60.2	60.0	
	GFDL85	54.4	57.8	63.3	55.5	
	HAD45	54.4	57.3	57.8	55.6	
HAD85	54.4	53.1	54.1	50.5		
Growing Season May—Sep	CCSM45	38.8	38.5	37.3	40.7	
	CCSM85	38.8	39.5	37.9	32.6	
	GFDL45	38.8	41.6	39.9	37.5	
	GFDL85	38.8	40.0	40.7	34.7	
	HAD45	38.8	39.8	40.0	35.1	
HAD85	38.8	36.6	35.3	31.7		

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
pond cypress	Taxodium ascendens	NSH	Medium	35.6	2208.7	39.9	No change	No change	Medium	Abundant	Good	Good			1	1
cabbage palmetto	Sabal palmetto	NDH	Medium	26.3	975.6	9.0	No change	No change	Medium	Abundant	Good	Good			0	2
slash pine	Pinus elliotii	NDH	High	29.8	522.9	5.7	Sm. inc.	No change	Medium	Abundant	Very Good	Good			1	3
bald cypress	Taxodium distichum	NSH	Medium	5.3	325.9	9.2	No change	No change	Medium	Common	Fair	Fair	Infill +	Infill +	1	4
red maple	Acer rubrum	WDH	High	8.3	161.2	6.2	No change	No change	High	Common	Good	Good	Infill ++	Infill ++	1	5
laurel oak	Quercus laurifolia	NDH	Medium	9.4	142.1	2.8	No change	No change	Medium	Common	Fair	Fair	Infill +	Infill +	1	6
Carolina ash	Fraxinus caroliniana	NSL	FIA	8.3	128.8	4.4	Unknown	Unknown	NA	Common	FIA Only	FIA Only			0	7
live oak	Quercus virginiana	NDH	High	12.5	114.2	2.0	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good	Infill ++	Infill ++	1	8
redbay	Persea borbonia	NSL	Low	15.5	104.4	1.0	Sm. inc.	Sm. inc.	High	Common	Very Good	Very Good			1	9
sweetbay	Magnolia virginiana	NSL	Medium	8.4	44.0	1.9	No change	No change	Medium	Rare	Poor	Poor	Infill +		1	10
green ash	Fraxinus pennsylvanica	WSH	Low	0.4	16.4	0.5	Sm. inc.	Sm. inc.	Medium	Rare	Fair	Fair	Infill +	Infill +	2	11
swamp tupelo	Nyssa biflora	NDH	Medium	0.4	6.1	0.2	Very Lg. dec.	Very Lg. dec.	Low	Rare	Lost	Lost			0	12
ashe juniper	Juniperus ashei	NDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			0	13
pawpaw	Asimina triloba	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	14
cittamwood/gum bumelia	Sideroxylon lanuginosum ssp.	NSL	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat			0	15
sugarberry	Celtis laevigata	NDH	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat		Migrate +	3	16
loblolly-bay	Gordonia lasianthus	NSH	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate +	Migrate +	3	17
silverbell	Halesia spp.	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	18
mountain or Fraser magnolia	Magnolia fraseri	NSL	Low	0	0	0	Unknown	Unknown	Low	Absent	Unknown	Unknown			0	19
eastern hophornbeam; ironw	Ostrya virginiana	WSL	Low	0	0	0	Unknown	Unknown	High	Modeled	Unknown	Unknown			0	20
cherrybark oak; swamp red o.	Quercus pagoda	NSL	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			0	21
American mountain-ash	Sorbus americana	NSL	Low	0	0	0	Unknown	Unknown	Low	Absent	Unknown	Unknown			0	22
American elm	Ulmus americana	WDH	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate +	Migrate +	3	23
cedar elm	Ulmus crassifolia	NDH	Medium	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat			0	24