

**U.S. Census Bureau Urban Areas
Climate Change Atlas Tree Species
Current and Potential Future Habitat, Capability, and Migration**

sq. km sq. mi FIA Plots
Area of Region 8,413.4 3,248.4 1

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				Increase	0	0	Very Good	0	0	Likely	1	1		
Hickory	0				No Change	2	2	Good	0	0	Infill	1	1		
Maple	0	Abundant	0	High	3	4	Decrease	0	0	Fair	0	0	Migrate	4	4
Oak	0	Common	0	Medium	9	18	New	13	13	Poor	1	1			
Pine	0	Rare	2	Low	12	2	Unknown	9	9	Very Poor	1	1			
Other	2	Absent	22	FIA	0					FIA Only	0	0			
	2		24		24	24				Unknown	9	9			
							24	24							
									11	11					

Potential Changes in Climate Variables

Temperature (°F)

	Scenario	2009	2039	2069	2099	
Annual Average	CCSM45	74.2	75.5	77.1	77.6	
	CCSM85	74.2	76.0	78.2	80.5	
	GFDL45	74.2	79.7	78.6	79.8	
	GFDL85	74.2	76.7	80.0	83.3	
	HAD45	74.2	76.1	78.3	79.4	
	HAD85	74.2	76.6	79.1	82.4	
Growing Season (May-Sep)	CCSM45	83.8	85.0	86.2	86.7	
	CCSM85	83.8	85.5	87.4	89.8	
	GFDL45	83.8	90.2	88.8	90.3	
	GFDL85	83.8	86.8	90.3	94.0	
	HAD45	83.8	85.6	87.4	88.4	
	HAD85	83.8	86.0	88.5	91.6	
Coldest Month Average	CCSM45	57.8	59.7	60.6	61.0	
	CCSM85	57.8	59.8	60.9	62.3	
	GFDL45	57.8	60.7	61.2	61.3	
	GFDL85	57.8	59.5	60.7	61.6	
	HAD45	57.8	59.1	60.5	61.3	
	HAD85	57.8	61.3	62.4	64.1	
Warmest Month Average	CCSM45	86.6	87.7	88.3	88.5	
	CCSM85	86.6	88.3	89.0	90.0	
	GFDL45	86.6	89.7	90.7	91.4	
	GFDL85	86.6	89.8	91.3	93.5	
	HAD45	86.6	88.5	89.2	90.0	
	HAD85	86.6	88.9	90.2	91.6	

Precipitation (in)

	Scenario	2009	2039	2069	2099	
Annual Total	CCSM45	23.7	25.4	24.8	23.5	
	CCSM85	23.7	24.6	25.0	22.2	
	GFDL45	23.7	23.4	25.6	20.4	
	GFDL85	23.7	23.1	22.6	21.2	
	HAD45	23.7	23.9	23.2	24.7	
	HAD85	23.7	24.7	25.0	24.2	
Growing Season (May-Sep)	CCSM45	14.1	14.7	14.3	13.7	
	CCSM85	14.1	15.3	14.8	12.8	
	GFDL45	14.1	14.2	16.4	12.6	
	GFDL85	14.1	14.2	13.5	13.0	
	HAD45	14.1	13.2	12.7	13.8	
	HAD85	14.1	15.4	13.9	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.

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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
black willow	Salix nigra	NSH	Low	4.5	4.8	10.5	No change	No change	Low	Rare	Very Poor	Very Poor			2	1
sugarberry	Celtis laevigata	NDH	Medium	4.5	4.4	9.5	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	2	2
loblolly pine	Pinus taeda	WDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate +	Migrate +	3	3
bald cypress	Taxodium distichum	NSH	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			3	4
pond cypress	Taxodium ascendens	NSH	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			0	5
boxelder	Acer negundo	WSH	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat			3	6
striped maple	Acer pensylvanicum	NSL	Medium	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	7
pawpaw	Asimina triloba	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	8
water hickory	Carya aquatica	NSL	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			3	9
bitternut hickory	Carya cordiformis	WSL	Low	0	0	0	Unknown	Unknown	High	Absent	Unknown	Unknown			0	10
eastern redbud	Cercis canadensis	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	11
green ash	Fraxinus pennsylvanica	WSH	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate +	Migrate +	3	12
honeylocust	Gleditsia triacanthos	NSH	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat			3	13
bigleaf magnolia	Magnolia macrophylla	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	14
pin cherry	Prunus pensylvanica	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	15
cherrybark oak; swamp red o	Quercus pagoda	NSL	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate +	Migrate +	3	16
overcup oak	Quercus lyrata	NSL	Medium	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat			3	17
Shumard oak	Quercus shumardii	NSL	Low	0	0	0	Unknown	Unknown	High	Absent	Unknown	Unknown			0	18
black oak	Quercus velutina	WDH	High	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	19
live oak	Quercus virginiana	NDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Likely +	Likely +	3	20
bluejack oak	Quercus incana	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	21
cabbage palmetto	Sabal palmetto	NDH	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			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
slippery elm	Ulmus rubra	WSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			3	24