

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	8,620.6	3,328.4	36

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			
		Model	Reliability	Adaptability	Scenario	Scenario	Scenario	Scenario	SHIFT	SHIFT			
		High	8	6	RCP45	RCP85	RCP45	RCP85	RCP45	RCP85			
Ash	0				Increase	4	4	Very Good	1	1	Likely	0	0
Hickory	0				No Change	3	3	Good	2	2	Infill	2	2
Maple	1	Abundant	1		Decrease	2	2	Fair	3	3	Migrate	1	6
Oak	1	Common	3		New	17	16	Poor	3	3		3	8
Pine	2	Rare	5		Unknown	11	12	Very Poor	0	0			
Other	5	Absent	24		FIA	0		FIA Only	0	0			
	9		33			37	37	Unknown	11	12			
									20	21			

Potential Changes in Climate Variables

Temperature (°F)

	Scenario	2009	2039	2069	2099	
Annual Average	CCSM45	75.3	76.4	77.5	77.6	
	CCSM85	75.3	76.4	78.3	80.2	
	GFDL45	75.3	79.9	79.1	80.0	
	GFDL85	75.3	77.3	80.1	83.0	
	HAD45	75.3	76.5	78.4	79.4	
HAD85	75.3	77.1	79.1	82.1		
Growing Season (May—Sep)	CCSM45	81.2	82.2	83.1	83.3	
	CCSM85	81.2	82.2	84.1	86.1	
	GFDL45	81.2	85.9	85.0	86.0	
	GFDL85	81.2	83.3	86.0	89.1	
	HAD45	81.2	82.8	84.3	85.3	
HAD85	81.2	83.2	85.5	88.1		
Coldest Month (Average)	CCSM45	64.9	66.4	67.2	67.1	
	CCSM85	64.9	65.9	66.6	68.0	
	GFDL45	64.9	67.2	67.5	68.0	
	GFDL85	64.9	67.1	68.2	69.4	
	HAD45	64.9	65.4	66.4	66.8	
HAD85	64.9	65.7	66.6	68.3		
Warmest Month (Average)	CCSM45	83.0	84.0	84.5	84.5	
	CCSM85	83.0	84.2	85.1	86.2	
	GFDL45	83.0	85.0	86.0	86.5	
	GFDL85	83.0	85.1	86.7	88.3	
	HAD45	83.0	84.7	85.4	85.8	
HAD85	83.0	84.9	86.0	87.3		

Precipitation (in)

	Scenario	2009	2039	2069	2099	
Annual Total	CCSM45	55.0	54.5	53.4	58.6	
	CCSM85	55.0	56.1	53.7	48.1	
	GFDL45	55.0	61.7	62.1	63.2	
	GFDL85	55.0	58.6	65.8	58.0	
	HAD45	55.0	58.0	58.3	55.7	
HAD85	55.0	52.2	54.0	50.7		
Growing Season (May—Sep)	CCSM45	34.8	34.5	33.1	36.8	
	CCSM85	34.8	35.8	34.1	29.0	
	GFDL45	34.8	37.1	35.9	33.7	
	GFDL85	34.8	35.4	36.4	31.1	
	HAD45	34.8	35.3	35.1	30.1	
HAD85	34.8	31.7	30.0	27.0		

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
slash pine	Pinus elliottii	NDH	High	27.3	948.2	66.4	Sm. dec.	Sm. dec.	Medium	Abundant	Fair	Fair	Infill +	Infill +	2	1
cabbage palmetto	Sabal palmetto	NDH	Medium	18	147.2	11.5	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			0	2
redbay	Persea borbonia	NSL	Low	16.6	89.9	24.1	Lg. dec.	Lg. dec.	High	Common	Fair	Fair	Infill +	Infill +	2	3
pond cypress	Taxodium ascendens	NSH	Medium	10.4	52.3	20.8	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			2	4
bald cypress	Taxodium distichum	NSH	Medium	5.8	23.8	14.3	No change	No change	Medium	Rare	Poor	Poor			2	5
laurel oak	Quercus laurifolia	NDH	Medium	5.7	10.9	4.2	No change	No change	Medium	Rare	Poor	Poor			2	6
sweetbay	Magnolia virginiana	NSL	Medium	4.6	4.8	7.1	No change	No change	Medium	Rare	Poor	Poor			0	7
red maple	Acer rubrum	WDH	High	1.2	1.9	0.7	Lg. inc.	Lg. inc.	High	Rare	Good	Good			2	8
sand pine	Pinus clausa	NDH	High	0.7	0.5	0.1	Lg. inc.	Lg. inc.	Low	Rare	Fair	Fair			2	9
eastern redcedar	Juniperus virginiana	WDH	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			3	10
longleaf pine	Pinus palustris	NSH	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			3	11
loblolly pine	Pinus taeda	WDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat		Migrate ++	3	12
striped maple	Acer pensylvanicum	NSL	Medium	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	13
mountain maple	Acer spicatum	NSL	Low	0	0	0	Unknown	Unknown	High	Absent	Unknown	Unknown			0	14
serviceberry	Amelanchier spp.	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	15
river birch	Betula nigra	NSL	Low	0	0	0	Unknown	Unknown	Medium	Modeled	Unknown	Unknown			0	16
cittamwood/gum bumelia	Sideroxylon lanuginosum ssp.	NSL	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat			0	17
sugarberry	Celtis laevigata	NDH	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat		Migrate +	3	18
flowering dogwood	Cornus florida	WDL	Medium	0	0	0	Unknown	Unknown	Medium	Modeled	Unknown	Unknown			0	19
American beech	Fagus grandifolia	WDH	High	0	0	0	New Habitat	Unknown	Medium	Absent	New Habitat	Unknown			3	20
green ash	Fraxinus pennsylvanica	WSH	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat		Migrate +	3	21
loblolly-bay	Gordonia lasianthus	NSH	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			3	22
silverbell	Halesia spp.	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	23
sweetgum	Liquidambar styraciflua	WDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat		Migrate +	3	24
bigleaf magnolia	Magnolia macrophylla	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	25
water elm	Planera aquatica	NSL	Low	0	0	0	Unknown	Unknown	Medium	Modeled	Unknown	Unknown			0	26
turkey oak	Quercus laevis	NSH	Medium	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat			3	27
overcup oak	Quercus lyrata	NSL	Medium	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat			0	28
swamp chestnut oak	Quercus michauxii	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			3	29
willow oak	Quercus phellos	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			3	30
post oak	Quercus stellata	WDH	High	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat			3	31
live oak	Quercus virginiana	NDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate ++	Migrate ++	3	32
black locust	Robinia pseudoacacia	NDH	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	33
American basswood	Tilia americana	WSL	Medium	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	34
winged elm	Ulmus alata	WDL	Medium	0	0	0	Unknown	Unknown	Medium	Modeled	Unknown	Unknown			0	35
American elm	Ulmus americana	WDH	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat		Migrate +	3	36
cedar elm	Ulmus crassifolia	NDH	Medium	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat			0	37