

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

Area of Region    sq. km    sq. mi    FIA Plots  
 8,300.0    3,204.6    219

**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	22	21	Increase	30	35	Very Good	11	14	Likely	0	0
Hickory	6			Medium	29	51	No Change	14	9	Good	16	21	Infill	35	41
Maple	5	Abundant	6	Low	33	13	Decrease	20	20	Fair	14	8	Migrate	4	5
Oak	14	Common	23	FIA	4		New	10	11	Poor	8	7			
Pine	6	Rare	39				Unknown	14	13	Very Poor	14	12			
Other	35	Absent	16							FIA Only	2	2			
	<b>68</b>		<b>84</b>		<b>88</b>	<b>85</b>		<b>88</b>	<b>88</b>	Unknown	10	9			
											<b>75</b>	<b>73</b>			

**Potential Changes in Climate Variables**

**Temperature (°F)**

Scenario	2009	2039	2069	2099	
Annual	60.5	62.3	64.4	64.4	
Average	60.5	62.7	65.1	67.9	
GFDL45	60.5	63.5	65.5	66.3	
GFDL85	60.5	63.4	66.6	70.3	
HAD45	60.5	62.8	65.7	67.1	
HAD85	60.5	63.1	67.1	71.2	
Growing Season	74.4	76.2	78.0	78.4	
May—Sep	74.4	77.8	81.4	85.6	
Coldest Month	40.1	42.6	43.3	43.3	
Average	40.1	43.3	43.5	44.1	
GFDL45	40.1	42.0	43.1	43.7	
GFDL85	40.1	40.3	42.1	42.5	
HAD45	40.1	41.2	42.3	43.9	
HAD85	40.1	41.2	42.3	43.9	
Warmest Month	79.4	81.5	82.5	82.5	
Average	79.4	81.7	83.2	85.0	
GFDL45	79.4	82.4	83.4	84.4	
GFDL85	79.4	83.0	84.8	87.2	
HAD45	79.4	83.1	84.9	85.5	
HAD85	79.4	83.6	87.2	89.4	

**Precipitation (in)**

Scenario	2009	2039	2069	2099	
Annual	48.4	52.0	55.0	55.9	
Total	48.4	52.4	55.6	61.7	
GFDL45	48.4	54.3	58.0	61.3	
GFDL85	48.4	53.1	59.5	59.6	
HAD45	48.4	48.3	51.8	53.2	
HAD85	48.4	54.1	49.4	52.2	
Growing Season	19.6	22.1	24.0	24.8	
May—Sep	19.6	21.7	22.8	25.4	
GFDL45	19.6	24.1	26.8	27.5	
GFDL85	19.6	22.8	27.7	27.9	
HAD45	19.6	19.4	20.0	20.9	
HAD85	19.6	22.8	18.4	18.7	

**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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Common Name	Scientific Name	Range	MR	%Cell	FIAsum	FIAiv	ChngCl45	ChngCl85	Adap	Abund	Capabil45	Capabil85	SHIFT45	SHIFT85	SSO	N				
pecan	Carya illinoensis	NSH	Low	4.8	8.8	1.8	Sm. inc.	Lg. inc.	Low	Rare	Poor	Fair		Infill +		2	48			
honeylocust	Gleditsia triacanthos	NSH	Low	2.4	8.5	3.5	No change	Sm. inc.	High	Rare	Fair	Good					2	49		
slippery elm	Ulmus rubra	WSL	Low	6	7.0	1.1	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor						0	50	
eastern hophornbeam; ironw	Ostrya virginiana	WSL	Low	2.4	6.7	2.7	Lg. inc.	Lg. inc.	High	Rare	Good	Good	Infill ++	Infill ++				2	51	
sugar maple	Acer saccharum	WDH	High	1.2	6.1	4.9	Lg. dec.	Very Lg. dec.	High	Rare	Poor	Lost							0	52
swamp tupelo	Nyssa biflora	NDH	Medium	1.2	5.8	4.7	Lg. inc.	Lg. inc.	Low	Rare	Fair	Fair	Infill +	Infill +					2	53
swamp chestnut oak	Quercus michauxii	NSL	Low	1.2	5.6	4.6	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor							0	54
silverbell	Halesia spp.	NSL	Low	3.6	5.6	1.5	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor							0	55
florida maple	Acer barbatum	NSL	Low	6	5.2	0.8	Sm. inc.	Lg. inc.	High	Rare	Good	Good							2	56
slash pine	Pinus elliotii	NDH	High	1.2	4.8	3.9	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good							2	57
blackjack oak	Quercus marilandica	NSL	Medium	1.2	3.8	3.1	Lg. inc.	Lg. inc.	High	Rare	Good	Good							2	58
sand hickory	Carya pallida	NSL	FIA	4.8	3.6	0.7	Unknown	Unknown	NA	Rare	FIA Only	FIA Only							0	59
chinkapin oak	Quercus muehlenbergii	NSL	Medium	1.2	3.5	2.8	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor							0	60
cherrybark oak; swamp red o.	Quercus pagoda	NSL	Medium	2.4	3.3	1.4	Sm. inc.	Lg. inc.	Medium	Rare	Fair	Good	Infill +	Infill ++					2	61
laurel oak	Quercus laurifolia	NDH	Medium	3.6	2.8	0.8	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good							2	62
pitch pine	Pinus rigida	NSH	High	7.2	2.6	1.1	No change	No change	Medium	Rare	Poor	Poor							0	63
wild plum	Prunus americana	NSLX	FIA	2.4	2.2	0.9	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only							0	64
mountain or Fraser magnolia	Magnolia fraseri	NSL	Low	1.2	1.5	1.2	No change	Sm. dec.	Low	Rare	Very Poor	Very Poor							0	65
paulownia	Paulownia tomentosa	NSL	FIA	1.2	0.7	0.6	Unknown	Unknown	NA	Rare	NNIS	NNIS							0	66
serviceberry	Amelanchier spp.	NSL	Low	1.2	0.4	0.4	Sm. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor							0	67
striped maple	Acer pensylvanicum	NSL	Medium	1.2	0.2	0.2	Sm. dec.	No change	Medium	Rare	Very Poor	Poor							0	68
ashe juniper	Juniperus ashei	NDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat							0	69
spruce pine	Pinus glabra	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat							3	70
longleaf pine	Pinus palustris	NSH	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate ++	Migrate ++					3	71
black maple	Acer nigrum	NSH	Low	0	0	0	Unknown	Unknown	High	Absent	Unknown	Unknown							0	72
yellow buckeye	Aesculus flava	NSL	Low	0	0	0	Unknown	Unknown	Low	Absent	Unknown	Unknown							0	73
pawpaw	Asimina triloba	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown							0	74
yellow birch	Betula alleghaniensis	NDL	High	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown							0	75
cittamwood/gum bumelia	Sideroxylon lanuginosum ssp.	NSL	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat							3	76
shellbark hickory	Carya laciniosa	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown							0	77
black hickory	Carya texana	NDL	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat							3	78
black ash	Fraxinus nigra	WSH	Medium	0	0	0	Unknown	New Habitat	Low	Absent	Unknown	New Habitat							3	79
southern magnolia	Magnolia grandiflora	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate +	Migrate +					3	80
sweetbay	Magnolia virginiana	NSL	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate +	Migrate +					3	81
bigleaf magnolia	Magnolia macrophylla	NSL	Low	0	0	0	Unknown	Unknown	Medium	Modeled	Unknown	Unknown							0	82
turkey oak	Quercus laevis	NSH	Medium	0	0	0	Unknown	Unknown	High	Modeled	Unknown	Unknown							0	83
overcup oak	Quercus lyrata	NSL	Medium	0	0	0	Unknown	Unknown	Low	Modeled	Unknown	Unknown							0	84
live oak	Quercus virginiana	NDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate +	Migrate ++					3	85
bluejack oak	Quercus incana	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat		Migrate +					3	86
American basswood	Tilia americana	WSL	Medium	0	0	0	Unknown	Unknown	Medium	Modeled	Unknown	Unknown							0	87
cedar elm	Ulmus crassifolia	NDH	Medium	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat							0	88

