

**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	8,100.0	3,127.4	185


























**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	Scenario	Scenario	Scenario	SHIFT	SHIFT				
					RCP45	RCP85	RCP45	RCP85	RCP45	RCP85				
Ash	2		High	12	18	Increase	26	29	Very Good	9	9	Likely	1	1
Hickory	7		Medium	27	39	No Change	10	9	Good	15	17	Infill	4	4
Maple	3	Abundant 6	Low	24	8	Decrease	18	16	Fair	7	8	Migrate	3	3
Oak	11	Common 18	FIA	2		New	4	4	Poor	12	9			
Pine	3	Rare 32				Unknown	7	7	Very Poor	10	9			
Other	30	Absent 8							FIA Only	2	2			
	<u>56</u>	<u>64</u>		<u>65</u>	<u>65</u>		<u>65</u>	<u>65</u>	Unknown	5	5			
										<u>60</u>	<u>59</u>			

**Potential Changes in Climate Variables**

**Temperature (°F)**

Scenario	2009	2039	2069	2099	
Annual CCSM45	65.2	66.7	68.2	68.6	
Average CCSM85	65.2	67.4	69.6	72.0	
GFDL45	65.2	68.4	69.3	70.7	
GFDL85	65.2	67.9	70.7	74.2	
HAD45	65.2	67.4	70.1	71.1	
HAD85	65.2	67.7	71.6	75.1	
Growing Season CCSM45	78.8	80.2	81.3	81.8	
Season CCSM85	78.8	81.2	83.1	86.1	
May-Sep GFDL45	78.8	82.7	83.4	86.0	
GFDL85	78.8	82.3	85.5	89.8	
HAD45	78.8	81.4	84.0	84.5	
HAD85	78.8	81.9	86.6	89.5	
Coldest Month CCSM45	44.7	47.0	47.9	48.0	
Month CCSM85	44.7	47.3	48.3	49.5	
Average GFDL45	44.7	48.4	48.5	48.5	
GFDL85	44.7	45.7	47.0	47.5	
HAD45	44.7	45.0	46.8	47.3	
HAD85	44.7	46.9	48.5	50.3	
Warmest Month CCSM45	83.8	84.7	85.2	85.4	
Month CCSM85	83.8	85.7	86.3	88.0	
Average GFDL45	83.8	88.5	88.5	90.3	
GFDL85	83.8	88.2	89.7	93.0	
HAD45	83.8	86.8	88.0	88.1	
HAD85	83.8	87.5	89.8	90.8	

**Precipitation (in)**

Scenario	2009	2039	2069	2099	
Annual CCSM45	44.7	44.3	48.4	46.8	
Total CCSM85	44.7	44.9	48.9	48.2	
GFDL45	44.7	46.2	53.1	45.7	
GFDL85	44.7	45.7	48.6	48.5	
HAD45	44.7	45.1	44.5	48.0	
HAD85	44.7	47.4	41.2	44.1	
Growing Season CCSM45	16.9	17.9	17.9	17.9	
Season CCSM85	16.9	16.3	16.8	16.2	
May-Sep GFDL45	16.9	18.4	22.3	18.1	
GFDL85	16.9	18.8	20.0	19.7	
HAD45	16.9	16.1	15.4	16.6	
HAD85	16.9	16.7	13.1	13.9	

**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	
water elm	Planera aquatica	NSL	Low	2.5	5.6	2.2	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor				0	48
cittamwood/gum bumelia	Sideroxylon lanuginosum ssp.	NSL	Low	6.2	5.2	2.5	Lg. inc.	Lg. inc.	High	Rare	Good	Good	Infill ++	Infill ++		2	49
eastern cottonwood	Populus deltoides	NSH	Low	1.2	4.9	3.9	Sm. dec.	Very Lg. dec.	Medium	Rare	Very Poor	Lost				0	50
water hickory	Carya aquatica	NSL	Medium	3.7	4.9	1.3	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor				0	51
swamp tupelo	Nyssa biflora	NDH	Medium	1.2	4.2	3.3	Sm. inc.	Sm. inc.	Low	Rare	Poor	Poor	Infill +	Infill +		2	52
peachleaf willow	Salix amygdaloides	NSLX	FIA	1.2	2.7	2.1	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only				0	53
shagbark hickory	Carya ovata	WSL	Medium	1.2	1.2	0.9	Very Lg. dec.	Very Lg. dec.	Medium	Rare	Lost	Lost				0	54
live oak	Quercus virginiana	NDH	High	1.2	1.1	0.9	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good				2	55
pignut hickory	Carya glabra	WDL	Medium	4.9	0.9	2.7	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor				0	56
longleaf pine	Pinus palustris	NSH	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate +	Migrate +		3	57
serviceberry	Amelanchier spp.	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown				0	58
shellbark hickory	Carya laciniosa	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Likely +	Likely +		3	59
black ash	Fraxinus nigra	WSH	Medium	0	0	0	Unknown	Unknown	Low	Absent	Unknown	Unknown				0	60
sweetbay	Magnolia virginiana	NSL	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate +	Migrate +		3	61
sourwood	Oxydendrum arboreum	NDL	High	0	0	0	Unknown	Unknown	High	Absent	Unknown	Unknown				0	62
laurel oak	Quercus laurifolia	NDH	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate +	Migrate +		3	63
chestnut oak	Quercus prinus	NDH	High	0	0	0	Unknown	Unknown	High	Absent	Unknown	Unknown				0	64
northern red oak	Quercus rubra	WDH	Medium	0	0	0	Unknown	Unknown	High	Modeled	Unknown	Unknown				0	65