

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 10,421 4,023.6 188

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	3			High	4	7	Increase	2	3	Very Good	1	1	Likely	0	0
Hickory	1			Medium	10	14	No Change	7	7	Good	5	6	Infill	2	2
Maple	0	Abundant	4	Low	10	4	Decrease	12	11	Fair	2	1	Migrate	0	0
Oak	7	Common	5	FIA	2		New	0	0	Poor	4	5		2	2
Pine	0	Rare	14				Unknown	5	5	Very Poor	8	7			
Other	12	Absent	3							FIA Only	2	2			
	23		26		26	25		26	26	Unknown	3	3			
											25	25			

Potential Changes in Climate Variables

Temperature (°F)

Scenario	2009	2039	2069	2099	
Annual	64.2	65.6	67.2	67.9	
Average	64.2	66.2	68.2	70.7	
GFDL45	64.2	68.4	68.5	70.2	
GFDL85	64.2	67.1	70.1	74.0	
HAD45	64.2	66.4	68.9	69.8	
HAD85	64.2	66.8	70.6	73.7	
Growing Season	78.5	79.8	81.4	82.2	
May—Sep	78.5	80.8	82.5	85.6	
GFDL45	78.5	83.8	83.7	86.5	
GFDL85	78.5	82.7	86.2	91.2	
HAD45	78.5	80.7	82.7	83.3	
HAD85	78.5	81.2	85.3	87.9	
Coldest Month	42.7	45.0	45.6	46.3	
Average	42.7	44.8	45.7	47.1	
GFDL45	42.7	46.0	46.0	46.2	
GFDL85	42.7	43.5	44.7	44.9	
HAD45	42.7	43.2	45.2	45.5	
HAD85	42.7	46.0	47.7	49.2	
Warmest Month	84.1	85.2	86.2	86.4	
Average	84.1	86.1	86.7	88.5	
GFDL45	84.1	89.5	89.7	91.7	
GFDL85	84.1	89.8	91.5	95.5	
HAD45	84.1	86.2	87.3	87.6	
HAD85	84.1	87.0	89.1	90.1	

Precipitation (in)

Scenario	2009	2039	2069	2099	
Annual	30.8	32.0	31.1	29.9	
Total	30.8	29.7	32.9	32.0	
GFDL45	30.8	30.6	35.8	29.1	
GFDL85	30.8	30.2	32.6	30.5	
HAD45	30.8	31.4	30.7	32.2	
HAD85	30.8	31.1	27.9	31.1	
Growing Season	15.3	16.7	14.7	14.9	
May—Sep	15.3	15.5	15.9	14.7	
GFDL45	15.3	15.6	18.3	14.7	
GFDL85	15.3	15.7	16.4	15.3	
HAD45	15.3	15.2	15.1	16.1	
HAD85	15.3	14.8	12.5	14.6	

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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Common Name	Scientific Name	Range	MR	%Cell	FIAsum	FIAiv	ChngCl45	ChngCl85	Adap	Abund	Capabil45	Capabil85	SHIFT45	SHIFT85	SSO	N
post oak	Quercus stellata	WDH	High	68.4	1670.7	28.9	Sm. dec.	Sm. dec.	High	Abundant	Good	Good			1	1
ashe juniper	Juniperus ashei	NDH	High	57.8	1502.7	32.6	No change	No change	Medium	Abundant	Good	Good			0	2
live oak	Quercus virginiana	NDH	High	67.5	744.2	17.7	Sm. inc.	Sm. inc.	Medium	Abundant	Very Good	Very Good			1	3
cedar elm	Ulmus crassifolia	NDH	Medium	61.2	574.8	13.1	Sm. inc.	Sm. inc.	Low	Abundant	Good	Good			1	4
blackjack oak	Quercus marilandica	NSL	Medium	36.8	196.9	8.5	No change	No change	High	Common	Good	Good			1	5
cittamwood/gum bumelia	Sideroxylon lanuginosum ssp.	NSL	Low	25.6	174.7	5.9	No change	No change	High	Common	Good	Good			1	6
pecan	Carya illinoensis	NSH	Low	14.6	83.0	3.7	Lg. dec.	Lg. dec.	Low	Common	Very Poor	Very Poor			0	7
sugarberry	Celtis laevigata	NDH	Medium	22.4	59.9	2.3	No change	Sm. inc.	Medium	Common	Fair	Good			1	8
Texas ash	Fraxinus texensis	WDH	FIA	18.2	52.1	4.6	Unknown	Unknown	NA	Common	FIA Only	FIA Only			0	9
American elm	Ulmus americana	WDH	Medium	11.9	22.4	2.0	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	10
black willow	Salix nigra	NSH	Low	9.1	19.2	4.9	No change	No change	Low	Rare	Very Poor	Very Poor			0	11
red mulberry	Morus rubra	NSL	Low	2.9	13.9	4.0	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	12
eastern cottonwood	Populus deltoides	NSH	Low	4.8	7.6	5.6	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	2	13
eastern redcedar	Juniperus virginiana	WDH	Medium	3.3	7.2	1.8	Sm. dec.	No change	Medium	Rare	Very Poor	Poor			0	14
hackberry	Celtis occidentalis	WDH	Medium	3.2	6.7	1.6	No change	No change	High	Rare	Fair	Fair	Infill +	Infill +	2	15
Osage-orange	Maclura pomifera	NDH	Medium	4.2	3.7	2.9	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor			0	16
white ash	Fraxinus americana	WDL	Medium	1.1	3.3	0.9	Sm. dec.	Sm. dec.	Low	Rare	Very Poor	Very Poor			0	17
eastern redbud	Cercis canadensis	NSL	Low	1	1.7	1.8	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	18
black oak	Quercus velutina	WDH	High	1	1.5	1.6	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	19
bur oak	Quercus macrocarpa	NDH	Medium	1	1.3	1.4	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor			0	20
durand oak	Quercus sinuata var. sinuata	NSL	FIA	1	1.3	1.3	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only			0	21
green ash	Fraxinus pennsylvanica	WSH	Low	1	0.6	0.6	Very Lg. dec.	Very Lg. dec.	Medium	Rare	Lost	Lost			0	22
Shumard oak	Quercus shumardii	NSL	Low	3.8	0.2	0.8	Lg. dec.	Lg. dec.	High	Rare	Poor	Poor			0	23
pawpaw	Asimina triloba	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	24
shellbark hickory	Carya laciniosa	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	25
flowering dogwood	Cornus florida	WDL	Medium	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	26