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	109

Species Information

The columns below provide breif 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 Reliability	Adaptability	Potential Change in Habitat Suitability			Capability to Cope or Persist			Migration Potential		
									Scenario RCP45	Scenario RCP85		Scenario RCP45	Scenario RCP85		SHIFT RCP45	SHIFT RCP85
Ash	3							Increase	7	8	Very Good	0	0	Likely	0	0
Hickory	1		Abundant	1		High	3 10	No Change	6	7	Good	5	5	Infill	13	15
Maple	1		Common	5		Medium	11 16	Decrease	12	10	Fair	7	8	Migrate	0	0
Oak	5		Rare	22		Low	14 4	New	0	0	Poor	6	7		**13**	**15**
Pine	0		Absent	2		FIA	3	Unknown	6	6	Very Poor	7	5			
Other	18			**30**			**31** **30**		**31**	**31**	FIA Only	3	3			
	28										Unknown	3	3			
												31	**31**			

Potential Changes in Climate Variables

Temperature (°F)

	Scenario	2009	2039	2069	2099	
Annual	CCSM45	65.2	66.6	68.1	68.7	
Average	CCSM85	65.2	67.2	69.2	71.6	
	GFDL45	65.2	70.5	69.4	71.0	
	GFDL85	65.2	68.0	71.0	74.7	
	HAD45	65.2	67.3	69.9	70.8	
	HAD85	65.2	67.7	71.5	74.7	
Growing	CCSM45	79.5	80.8	82.1	82.9	
Season	CCSM85	79.5	81.7	83.5	86.4	
May—Sep	GFDL45	79.5	86.4	84.5	87.2	
	GFDL85	79.5	83.4	86.8	91.5	
	HAD45	79.5	81.7	83.8	84.4	
	HAD85	79.5	82.1	86.4	89.2	
Coldest	CCSM45	43.6	45.9	46.6	47.0	
Month	CCSM85	43.6	45.8	46.8	48.1	
Average	GFDL45	43.6	47.2	47.1	47.3	
	GFDL85	43.6	44.8	46.1	46.4	
	HAD45	43.6	44.0	46.0	46.4	
	HAD85	43.6	46.6	48.3	49.9	
Warmest	CCSM45	85.0	86.0	86.8	87.1	
Month	CCSM85	85.0	86.9	87.5	89.3	
Average	GFDL45	85.0	90.2	90.3	92.3	
	GFDL85	85.0	90.2	91.9	95.7	
	HAD45	85.0	87.2	88.3	88.6	
	HAD85	85.0	88.0	90.1	91.1	

Precipitation (in)

	Scenario	2009	2039	2069	2099	
Annual	CCSM45	35.3	36.0	36.2	34.8	
Total	CCSM85	35.3	34.2	38.0	37.1	
	GFDL45	35.3	35.6	41.6	34.1	
	GFDL85	35.3	35.0	37.8	36.6	
	HAD45	35.3	35.6	35.2	36.8	
	HAD85	35.3	36.0	31.9	35.1	
Growing	CCSM45	15.9	17.4	15.7	16.0	
Season	CCSM85	15.9	15.8	16.3	15.6	
May—Sep	GFDL45	15.9	16.6	19.9	15.9	
	GFDL85	15.9	16.7	17.9	17.1	
	HAD45	15.9	15.5	15.1	16.2	
	HAD85	15.9	15.4	12.7	14.3	

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
ashe juniper	Juniperus ashei	NDH	High	56.2	1088.7	33.3	Sm. dec.	Sm. dec.	Medium	Abundant	Fair	Fair			0	1
sugarberry	Celtis laevigata	NDH	Medium	50.1	203.8	7.7	Sm. dec.	Sm. dec.	Medium	Common	Poor	Poor			0	2
live oak	Quercus virginiana	NDH	High	39.4	200.9	9.7	Sm. inc.	Sm. inc.	Medium	Common	Good	Good	Infill ++	Infill ++	1	3
post oak	Quercus stellata	WDH	High	46.4	184.8	13.6	No change	No change	High	Common	Good	Good			1	4
cedar elm	Ulmus crassifolia	NDH	Medium	61	174.7	9.6	Sm. inc.	Sm. inc.	Low	Common	Fair	Fair			1	5
black willow	Salix nigra	NSH	Low	9.6	56.4	13.1	Sm. dec.	Sm. dec.	Low	Common	Poor	Poor	Infill +	Infill +	0	6
pecan	Carya illinoinensis	NSH	Low	22.2	48.8	4.7	No change	Sm. inc.	Low	Rare	Very Poor	Poor		Infill +	1	7
cittamwood/gum bumelia	Sideroxylon lanuginosum ssp.	NSL	Low	23.4	38.8	2.7	Sm. inc.	Sm. inc.	High	Rare	Good	Good	Infill ++	Infill ++	1	8
hackberry	Celtis occidentalis	WDH	Medium	19.7	37.0	12.4	No change	No change	High	Rare	Fair	Fair	Infill +	Infill +	1	9
Osage-orange	Maclura pomifera	NDH	Medium	22.7	35.9	6.6	Sm. dec.	No change	High	Rare	Poor	Fair	Infill +	Infill +	1	10
blackjack oak	Quercus marilandica	NSL	Medium	23.6	29.3	5.5	Sm. inc.	Sm. inc.	High	Rare	Good	Good	Infill ++	Infill ++	1	11
winged elm	Ulmus alata	WDL	Medium	12.4	28.3	5.9	Sm. dec.	No change	Medium	Rare	Very Poor	Poor		Infill +	2	12
honeylocust	Gleditsia triacanthos	NSH	Low	15.3	23.3	3.1	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor	Infill +	Infill +	2	13
Texas ash	Fraxinus texensis	NDH	FIA	20.3	18.2	4.0	Unknown	Unknown	NA	Rare	FIA Only	FIA Only			0	14
green ash	Fraxinus pennsylvanica	WSH	Low	17.6	16.0	6.2	Sm. inc.	Sm. inc.	Medium	Rare	Fair	Fair	Infill +	Infill +	1	15
American elm	Ulmus americana	WDH	Medium	29.2	15.4	3.5	Sm. inc.	Sm. inc.	Medium	Rare	Fair	Fair	Infill +	Infill +	1	16
eastern cottonwood	Populus deltoides	NSH	Low	10.4	15.0	9.4	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			2	17
eastern redcedar	Juniperus virginiana	WDH	Medium	24.7	11.8	2.9	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++	2	18
slippery elm	Ulmus rubra	WSL	Low	5.9	7.1	2.3	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	2	19
waterlocust	Gleditsia aquatica	NSLX	FIA	3.3	6.0	21.5	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only			0	20
Shumard oak	Quercus shumardii	NSL	Low	6.4	4.8	4.7	No change	No change	High	Rare	Fair	Fair	Infill +	Infill +	2	21
boxelder	Acer negundo	WSH	Low	1	3.7	3.9	No change	No change	High	Rare	Fair	Fair	Infill +	Infill +	2	22
bur oak	Quercus macrocarpa	NDH	Medium	8.6	3.5	2.3	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor			0	23
white ash	Fraxinus americana	WDL	Medium	3.8	2.3	9.7	Sm. dec.	Sm. dec.	Low	Rare	Very Poor	Very Poor			0	24
red mulberry	Morus rubra	NSL	Low	9	1.3	1.3	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	25
eastern redbud	Cercis canadensis	NSL	Low	5.4	0.5	0.5	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	26
wild plum	Prunus americana	NSLX	FIA	3.8	0.2	0.8	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only			0	27
black locust	Robinia pseudoacacia	NDH	Low	2.1	0.1	0.2	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	28
serviceberry	Amelanchier spp.	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	29
southern red oak	Quercus falcata	WDL	Medium	0	0	0	Unknown	Unknown	High	Modeled	Unknown	Unknown			0	30
sassafras	Sassafras albidum	WSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	31