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	1,155.4	446.1	45

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	Scenario RCP45	Scenario RCP85	Capability to Cope or Persist	Scenario RCP45	Scenario RCP85	Migration Potential	SHIFT RCP45	SHIFT RCP85
Ash	2														
Hickory	1														
Maple	1	Abundant	6	High	7	9	Increase	16	16	Very Good	11	10	Likely	6	6
Oak	5	Common	14	Medium	25	34	No Change	4	5	Good	5	6	Infill	4	5
Pine	4	Rare	7	Low	21	10	Decrease	6	5	Fair	3	3	Migrate	0	3
Other	14	Absent	23	FIA	1		New	9	9	Poor	5	6		10	14
	27		50		54	53	Unknown	19	19	Very Poor	1	1			
								54	54	FIA Only	1	1			
										Unknown	18	18			
											44	45			

Potential Changes in Climate Variables

Temperature (°F)

	Scenario	2009	2039	2069	2099	
Annual	CCSM45	68.1	69.5	71.2	71.2	
Average	CCSM85	68.1	69.6	71.8	74.0	
	GFDL45	68.1	70.8	72.6	73.3	
	GFDL85	68.1	70.5	73.6	77.0	
	HAD45	68.1	70.0	72.4	73.7	
	HAD85	68.1	70.4	73.4	76.9	
Growing	CCSM45	79.1	80.2	81.4	81.7	
Season	CCSM85	79.1	80.2	82.4	84.8	
May—Sep	GFDL45	79.1	81.6	83.3	84.5	
	GFDL85	79.1	81.6	84.5	88.3	
	HAD45	79.1	81.8	83.7	84.9	
	HAD85	79.1	81.8	85.7	88.7	
Coldest	CCSM45	51.1	53.2	54.1	53.8	
Month	CCSM85	51.1	53.0	54.2	55.3	
Average	GFDL45	51.1	54.1	54.4	54.9	
	GFDL85	51.1	53.3	54.5	55.3	
	HAD45	51.1	51.0	52.4	53.2	
	HAD85	51.1	52.1	53.1	54.9	
Warmest	CCSM45	82.0	83.0	83.7	83.9	
Month	CCSM85	82.0	83.1	84.3	85.5	
Average	GFDL45	82.0	84.2	85.0	85.7	
	GFDL85	82.0	84.2	85.6	87.6	
	HAD45	82.0	84.8	85.9	86.4	
	HAD85	82.0	84.9	87.1	88.5	

Precipitation (in)

	Scenario	2009	2039	2069	2099	
Annual	CCSM45	58.2	62.7	65.2	65.7	
Total	CCSM85	58.2	61.2	65.3	65.2	
	GFDL45	58.2	65.4	67.7	69.9	
	GFDL85	58.2	64.1	70.3	66.8	
	HAD45	58.2	56.3	59.5	63.4	
	HAD85	58.2	58.8	54.4	58.6	
Growing	CCSM45	30.1	33.3	34.9	34.3	
Season	CCSM85	30.1	31.3	34.7	33.6	
May—Sep	GFDL45	30.1	36.3	36.9	37.1	
	GFDL85	30.1	36.3	40.5	38.2	
	HAD45	30.1	29.4	30.2	31.0	
	HAD85	30.1	29.1	25.0	26.2	

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
slash pine	Pinus elliottii	NDH	High	96.9	7324.0	32.0	Sm. dec.	Sm. dec.	Medium	Abundant	Fair	Fair			0	1
sand pine	Pinus clausa	NDH	High	20.9	1337.3	27.7	No change	No change	Low	Abundant	Fair	Fair			0	2
pond cypress	Taxodium ascendens	NSH	Medium	61.5	871.8	8.1	Sm. inc.	Lg. inc.	Medium	Abundant	Very Good	Very Good			1	3
swamp tupelo	Nyssa biflora	NDH	Medium	61.6	821.9	4.5	No change	No change	Low	Abundant	Fair	Fair			0	4
loblolly pine	Pinus taeda	WDH	High	27.7	763.8	19.6	Sm. inc.	Sm. inc.	Medium	Abundant	Very Good	Very Good			1	5
longleaf pine	Pinus palustris	NSH	Medium	20.1	641.4	8.7	Lg. inc.	Sm. inc.	Medium	Abundant	Very Good	Very Good			1	6
red maple	Acer rubrum	WDH	High	45.6	335.5	2.7	Lg. inc.	Lg. inc.	High	Common	Very Good	Very Good			1	7
sweetbay	Magnolia virginiana	NSL	Medium	58	332.2	4.2	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	8
Atlantic white-cedar	Chamaecyparis thyoides	NSH	Low	34.7	296.1	8.6	Sm. dec.	Sm. dec.	Low	Common	Poor	Poor			0	9
bald cypress	Taxodium distichum	NSH	Medium	27.2	292.2	1.5	Lg. inc.	Sm. inc.	Medium	Common	Very Good	Good			1	10
water tupelo	Nyssa aquatica	NSH	Medium	14.4	246.8	1.8	No change	Sm. dec.	Low	Common	Poor	Poor			0	11
water oak	Quercus nigra	WDH	High	30.5	179.2	3.3	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	12
pignut hickory	Carya glabra	WDL	Medium	0.8	149.1	1.5	Sm. dec.	Sm. dec.	Medium	Common	Poor	Poor			0	13
cabbage palmetto	Sabal palmetto	NDH	Medium	10	133.1	1.5	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			0	14
green ash	Fraxinus pennsylvanica	WSH	Low	17.5	107.1	1.8	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	15
pumpkin ash	Fraxinus profunda	NSH	FIA	9.4	93.6	4.1	Unknown	Unknown	NA	Common	FIA Only	FIA Only			0	16
American elm	Ulmus americana	WDH	Medium	17.9	91.6	0.8	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good	Infill ++	Infill ++	1	17
laurel oak	Quercus laurifolia	NDH	Medium	16	86.1	0.3	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	18
turkey oak	Quercus laevis	NSH	Medium	11.3	79.6	2.8	Lg. inc.	Lg. inc.	High	Common	Very Good	Very Good			1	19
live oak	Quercus virginiana	NDH	High	13.1	65.9	0.4	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good	Infill ++	Infill ++	2	20
blackgum	Nyssa sylvatica	WDL	Medium	17	34.0	2.0	Lg. inc.	Lg. inc.	High	Rare	Good	Good			1	21
sweetgum	Liquidambar styraciflua	WDH	High	0.5	33.8	0.2	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			1	22
southern magnolia	Magnolia grandiflora	NSL	Low	0.8	20.9	0.2	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	1	23
eastern hophornbeam; ironw	Ostrya virginiana	WSL	Low	0.8	12.6	0.1	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor			0	24
overcup oak	Quercus lyrata	NSL	Medium	8.7	8.1	0.9	Very Lg. dec.	No change	Low	Rare	Lost	Very Poor			2	25
redbay	Persea borbonia	NSL	Low	8.3	3.9	0.4	Lg. inc.	Lg. inc.	High	Rare	Good	Good	Infill ++	Infill ++	1	26
river birch	Betula nigra	NSL	Low	8.7	3.0	0.4	Lg. dec.	No change	Medium	Rare	Very Poor	Poor		Infill +	2	27
Table Mountain pine	Pinus pungens	NSL	Low	0	0	0	Unknown	Unknown	High	Absent	Unknown	Unknown			0	28
pond pine	Pinus serotina	NSH	Medium	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat	Likely +	Likely +	3	29
florida maple	Acer barbatum	NSL	Low	0	0	0	Unknown	Unknown	High	Modeled	Unknown	Unknown			0	30
silver maple	Acer saccharinum	NSH	Low	0	0	0	Unknown	Unknown	High	Absent	Unknown	Unknown			0	31
serviceberry	Amelanchier spp.	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	32
pawpaw	Asimina triloba	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	33
American hornbeam; muscle	Carpinus caroliniana	WSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Likely +	Likely +	3	34
water hickory	Carya aquatica	NSL	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Likely +	Likely +	3	35
shagbark hickory	Carya ovata	WSL	Medium	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	36
sugarberry	Celtis laevigata	NDH	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat		Migrate ++	3	37
hackberry	Celtis occidentalis	WDH	Medium	0	0	0	Unknown	Unknown	High	Modeled	Unknown	Unknown			0	38
flowering dogwood	Cornus florida	WDL	Medium	0	0	0	Unknown	Unknown	Medium	Modeled	Unknown	Unknown			0	39
black ash	Fraxinus nigra	WSH	Medium	0	0	0	Unknown	Unknown	Low	Absent	Unknown	Unknown			0	40
loblolly-bay	Gordonia lasianthus	NSH	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Likely +	Likely +	3	41
silverbell	Halesia spp.	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	42
cucumbertree	Magnolia acuminata	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	43
bigleaf magnolia	Magnolia macrophylla	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	44
red mulberry	Morus rubra	NSL	Low	0	0	0	Unknown	Unknown	Medium	Modeled	Unknown	Unknown			0	45
pin cherry	Prunus pensylvanica	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	46
black cherry	Prunus serotina	WDL	Medium	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat	Likely +	Likely +	3	47

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Common Name	Scientific Name	Range	MR	%Cell	FIAsum	FIAiv	ChngCl45	ChngCl85	Adap	Abund	Capabil45	Capabil85	SHIFT45	SHIFT85	SSO	N
swamp chestnut oak	Quercus michauxii	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	48
chinkapin oak	Quercus muehlenbergii	NSL	Medium	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	49
willow oak	Quercus phellos	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat		Migrate +	3	50
black locust	Robinia pseudoacacia	NDH	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	51
black willow	Salix nigra	NSH	Low	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat	Likely +	Likely +	3	52
American basswood	Tilia americana	WSL	Medium	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	53
cedar elm	Ulmus crassifolia	NDH	Medium	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat		Migrate ++	3	54