

**One x One Degree**  
**Climate Change Atlas Tree Species**  
 Current and Potential Future Habitat, Capability, and Migration

Area of Region    sq. km    sq. mi    FIA Plots  
 7,430.1    2,868.8    55

**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	1			High	6	Increase	8	7	Very Good	1	1
Hickory	0			Medium	18	No Change	5	5	Good	3	2
Maple	1	Abundant	0	Low	8	Decrease	1	2	Fair	6	7
Oak	2	Common	5	FIA	1	New	9	9	Poor	4	4
Pine	3	Rare	10			Unknown	10	10	Very Poor	0	0
Other	8	Absent	13						FIA Only	1	1
	<b>15</b>		<b>28</b>		<b>33</b>		<b>33</b>		Unknown	9	9
										<b>24</b>	<b>24</b>

**Potential Changes in Climate Variables**

**Temperature (°F)**

Scenario	2009	2039	2069	2099	
Annual	73.2	74.5	75.8	75.8	
Average	73.2	74.5	76.6	78.7	
GFDL45	73.2	77.7	77.1	78.0	
GFDL85	73.2	75.3	78.1	81.3	
HAD45	73.2	74.5	76.4	77.5	
HAD85	73.2	75.1	77.2	80.4	
Growing Season	80.4	81.5	82.6	82.8	
May—Sep	80.4	81.6	83.7	85.9	
GFDL45	80.4	85.0	84.2	85.3	
GFDL85	80.4	82.6	85.3	88.7	
HAD45	80.4	82.2	83.8	84.9	
HAD85	80.4	82.6	85.1	88.1	
Coldest Month	61.1	62.7	63.7	63.5	
Average	61.1	62.2	63.0	64.5	
GFDL45	61.1	63.5	63.9	64.5	
GFDL85	61.1	63.3	64.5	65.6	
HAD45	61.1	61.2	62.3	62.8	
HAD85	61.1	61.7	62.6	64.4	
Warmest Month	82.3	83.4	84.1	84.1	
Average	82.3	83.6	84.7	86.1	
GFDL45	82.3	84.5	85.4	86.1	
GFDL85	82.3	84.7	86.3	88.0	
HAD45	82.3	84.3	85.0	85.5	
HAD85	82.3	84.4	85.7	87.1	

**Precipitation (in)**

Scenario	2009	2039	2069	2099	
Annual	49.5	51.3	49.8	54.4	
Total	49.5	51.2	50.1	47.4	
GFDL45	49.5	56.6	57.9	60.1	
GFDL85	49.5	53.4	61.5	56.1	
HAD45	49.5	50.7	50.3	49.8	
HAD85	49.5	45.9	48.9	46.1	
Growing Season	30.6	32.1	30.1	33.8	
May—Sep	30.6	32.4	31.3	27.8	
GFDL45	30.6	33.6	33.6	32.6	
GFDL85	30.6	32.1	34.7	31.2	
HAD45	30.6	30.8	29.9	27.3	
HAD85	30.6	28.0	26.5	24.9	

**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
slash pine	Pinus elliottii	NDH	High	65	343.4	32.2	Sm. inc.	No change	Medium	Common	Good	Fair			1	1
cabbage palmetto	Sabal palmetto	NDH	Medium	74.4	288.7	23.5	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			0	2
pond cypress	Taxodium ascendens	NSH	Medium	7.9	208.9	28.1	No change	No change	Medium	Common	Fair	Fair	Infill +	Infill +	1	3
laurel oak	Quercus laurifolia	NDH	Medium	65	106.9	8.1	No change	Sm. dec.	Medium	Common	Fair	Poor			1	4
live oak	Quercus virginiana	NDH	High	52.3	98.8	9.5	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	5
sweetbay	Magnolia virginiana	NSL	Medium	6.7	40.4	16.2	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	2	6
longleaf pine	Pinus palustris	NSH	Medium	15.9	33.9	12.5	Sm. inc.	Sm. inc.	Medium	Rare	Fair	Fair	Infill +	Infill +	1	7
red maple	Acer rubrum	WDH	High	9.2	31.1	6.9	No change	No change	High	Rare	Fair	Fair	Infill +	Infill +	1	8
bald cypress	Taxodium distichum	NSH	Medium	8.4	18.8	7.3	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	1	9
Carolina ash	Fraxinus caroliniana	NSL	FIA	1.6	14.2	12.8	Unknown	Unknown	NA	Rare	FIA Only	FIA Only			0	10
redbay	Persea borbonia	NSL	Low	14.2	3.4	1.7	Lg. inc.	Lg. inc.	High	Rare	Good	Good			1	11
swamp tupelo	Nyssa biflora	NDH	Medium	6.1	3.3	3.8	Sm. inc.	Lg. inc.	Low	Rare	Poor	Fair	Infill +	Infill +	2	12
American elm	Ulmus americana	WDH	Medium	6.7	3.2	2.0	Sm. inc.	Sm. inc.	Medium	Rare	Fair	Fair	Infill +	Infill +	2	13
sand pine	Pinus clausa	NDH	High	0.7	0.3	0.1	Lg. inc.	Lg. inc.	Low	Rare	Fair	Fair	Infill +		2	14
eastern hophornbeam; ironw	Ostrya virginiana	WSL	Low	5.4	0.2	0.4	Lg. dec.	Lg. dec.	High	Rare	Poor	Poor			0	15
balsam fir	Abies balsamea	NDH	High	0	0	0	Unknown	Unknown	Low	Modeled	Unknown	Unknown			0	16
pond pine	Pinus serotina	NSH	Medium	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat	Migrate +	Migrate +	3	17
serviceberry	Amelanchier spp.	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	18
pignut hickory	Carya glabra	WDL	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate +	Migrate +	3	19
sugarberry	Celtis laevigata	NDH	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat		Migrate +	3	20
green ash	Fraxinus pennsylvanica	WSH	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate +	Migrate +	3	21
loblolly-bay	Gordonia lasianthus	NSH	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate ++	Migrate ++	3	22
silverbell	Halesia spp.	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	23
American holly	Ilex opaca	NSL	Medium	0	0	0	Unknown	Unknown	Medium	Modeled	Unknown	Unknown			0	24
Osage-orange	Maclura pomifera	NDH	Medium	0	0	0	Unknown	Unknown	High	Modeled	Unknown	Unknown			0	25
blackgum	Nyssa sylvatica	WDL	Medium	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Migrate +	Migrate +	3	26
black cherry	Prunus serotina	WDL	Medium	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat	Migrate +	Migrate +	3	27
turkey oak	Quercus laevis	NSH	Medium	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat			3	28
water oak	Quercus nigra	WDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Likely +	Likely +	3	29
willow oak	Quercus phellos	NSL	Low	0	0	0	Unknown	Unknown	Medium	Modeled	Unknown	Unknown			0	30
black locust	Robinia pseudoacacia	NDH	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	31
American mountain-ash	Sorbus americana	NSL	Low	0	0	0	Unknown	Unknown	Low	Absent	Unknown	Unknown			0	32
winged elm	Ulmus alata	WDL	Medium	0	0	0	Unknown	Unknown	Medium	Modeled	Unknown	Unknown			0	33