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USDA Forest Service
Northern Research Station
Landscape Change Research Group
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	sq. km	sq. mi	FIA Plots
Area of Region	8,077.2	3,118.6	97

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	Model		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	1					Reliability	Adaptability											
Hickory	1		Abundance															
Maple	1	Abundant	2		High	6	8	Increase	6	7	Very Good	0	1	Likely	1	1
Oak	3	Common	6		Medium	21	26	No Change	8	6	Good	6	5	Infill	10	10
Pine	3	Rare	11		Low	12	5	Decrease	4	5	Fair	3	3	Migrate	2	3
Other	10	Absent	14		FIA	1		New	6	7	Poor	7	6		**13**	**14**
	19		**33**			**40**	**39**	Unknown	16	15	Very Poor	2	3			
									40	**40**	FIA Only	1	1			
											Unknown	15	14			
												34	**33**			

Potential Changes in Climate Variables

Temperature (°F)

	Scenario	2009	2039	2069	2099	
Annual	CCSM45	73.1	74.5	75.9	75.8	
Average	CCSM85	73.1	74.5	76.6	78.7	
	GFDL45	73.1	77.3	77.1	78.0	
	GFDL85	73.1	75.3	78.1	81.4	
	HAD45	73.1	74.5	76.6	77.7	
	HAD85	73.1	75.1	77.3	80.6	
Growing	CCSM45	80.8	82.0	83.1	83.3	
Season	CCSM85	80.8	82.0	84.1	86.4	
May—Sep	GFDL45	80.8	85.1	84.7	85.9	
	GFDL85	80.8	83.1	85.9	89.3	
	HAD45	80.8	82.8	84.4	85.5	
	HAD85	80.8	83.1	85.8	88.7	
Coldest	CCSM45	60.4	62.4	63.2	63.0	
Month	CCSM85	60.4	61.7	62.7	64.1	
Average	GFDL45	60.4	63.0	63.4	63.9	
	GFDL85	60.4	62.8	63.9	65.0	
	HAD45	60.4	60.5	61.6	62.2	
	HAD85	60.4	61.3	61.9	63.8	
Warmest	CCSM45	82.6	83.8	84.5	84.5	
Month	CCSM85	82.6	83.9	85.1	86.5	
Average	GFDL45	82.6	84.8	85.8	86.4	
	GFDL85	82.6	84.9	86.5	88.4	
	HAD45	82.6	84.5	85.2	85.8	
	HAD85	82.6	84.6	86.0	87.4	

Precipitation (in)

	Scenario	2009	2039	2069	2099	
Annual	CCSM45	51.2	53.8	53.6	57.0	
Total	CCSM85	51.2	52.9	53.4	50.5	
	GFDL45	51.2	58.9	60.3	61.7	
	GFDL85	51.2	55.7	63.8	57.4	
	HAD45	51.2	54.2	55.1	55.8	
	HAD85	51.2	50.3	52.9	51.6	
Growing	CCSM45	34.0	36.1	35.2	37.5	
Season	CCSM85	34.0	35.1	36.1	32.5	
May—Sep	GFDL45	34.0	38.2	38.2	37.5	
	GFDL85	34.0	36.8	39.8	34.9	
	HAD45	34.0	35.5	36.8	34.1	
	HAD85	34.0	33.4	31.9	30.7	

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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ua 79606

U.S. Census Bureau Urban Areas
Climate Change Atlas Tree Species
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	64.3	824.4	37.7	No change	No change	Medium	Abundant	Good	Good	Infill ++	Infill ++	1	1
live oak	Quercus virginiana	NDH	High	68	581.3	21.9	No change	Sm. inc.	Medium	Abundant	Good	Very Good	Infill ++	Infill ++	1	2
cabbage palmetto	Sabal palmetto	NDH	Medium	55	499.5	21.6	No change	Sm. inc.	Medium	Common	Fair	Good			0	3
laurel oak	Quercus laurifolia	NDH	Medium	72	381.3	14.2	Sm. dec.	Sm. dec.	Medium	Common	Poor	Poor	Infill +	Infill +	0	4
water oak	Quercus nigra	WDH	High	39.3	161.7	13.1	Sm. dec.	Sm. dec.	Medium	Common	Poor	Poor			0	5
red maple	Acer rubrum	WDH	High	37.1	151.0	13.0	No change	No change	High	Common	Good	Good	Infill ++	Infill ++	1	6
longleaf pine	Pinus palustris	NSH	Medium	27.1	97.3	21.1	Sm. inc.	No change	Medium	Common	Good	Fair	Infill ++		1	7
sweetbay	Magnolia virginiana	NSL	Medium	33.2	54.6	6.6	No change	Sm. dec.	Medium	Common	Fair	Poor	Infill +	Infill +	1	8
pond cypress	Taxodium ascendens	NSH	Medium	10.7	46.8	10.3	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++	2	9
swamp tupelo	Nyssa biflora	NDH	Medium	17.2	42.7	5.7	Sm. inc.	Sm. inc.	Low	Rare	Poor	Poor	Infill +	Infill +	2	10
bald cypress	Taxodium distichum	NSH	Medium	1.2	21.4	16.4	Sm. inc.	Sm. inc.	Medium	Rare	Fair	Fair	Infill +	Infill +	2	11
redbay	Persea borbonia	NSL	Low	14.8	17.2	3.1	Sm. inc.	Sm. inc.	High	Rare	Good	Good	Infill ++	Infill ++	2	12
American elm	Ulmus americana	WDH	Medium	12.4	13.2	3.3	No change	Sm. inc.	Medium	Rare	Poor	Fair		Infill +	2	13
sweetgum	Liquidambar styraciflua	WDH	High	4.9	9.7	2.9	No change	No change	Medium	Rare	Poor	Poor			0	14
black cherry	Prunus serotina	WDL	Medium	1.2	7.6	5.9	No change	No change	Low	Rare	Very Poor	Very Poor			0	15
water hickory	Carya aquatica	NSL	Medium	1.2	4.2	3.2	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	16
Carolina ash	Fraxinus caroliniana	NSL	FIA	7.4	3.5	1.1	Unknown	Unknown	NA	Rare	FIA Only	FIA Only			0	17
sand pine	Pinus clausa	NDH	High	1.2	2.0	1.5	Sm. inc.	No change	Low	Rare	Poor	Very Poor			0	18
common persimmon	Diospyros virginiana	NSL	Low	5	0.3	0.9	Lg. dec.	Lg. dec.	High	Rare	Poor	Poor			0	19
pond pine	Pinus serotina	NSH	Medium	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat			3	20
striped maple	Acer pensylvanicum	NSL	Medium	0	0	0	Unknown	Unknown	Medium	Modeled	Unknown	Unknown			0	21
pawpaw	Asimina triloba	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	22
American hornbeam; muscle\	Carpinus caroliniana	WSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	23
sugarberry	Celtis laevigata	NDH	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat		Migrate ++	3	24
flowering dogwood	Cornus florida	WDL	Medium	0	0	0	Unknown	Unknown	Medium	Modeled	Unknown	Unknown			0	25
green ash	Fraxinus pennsylvanica	WSH	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate +	Migrate +	3	26
loblolly-bay	Gordonia lasianthus	NSH	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Likely +	Likely +	3	27
American holly	Ilex opaca	NSL	Medium	0	0	0	Unknown	Unknown	Medium	Modeled	Unknown	Unknown			0	28
cucumbertree	Magnolia acuminata	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	29
blackgum	Nyssa sylvatica	WDL	Medium	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat			3	30
eastern hophornbeam; ironw	Ostrya virginiana	WSL	Low	0	0	0	Unknown	Unknown	High	Absent	Unknown	Unknown			0	31
water elm	Planera aquatica	NSL	Low	0	0	0	Unknown	Unknown	Medium	Modeled	Unknown	Unknown			0	32
turkey oak	Quercus laevis	NSH	Medium	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Migrate +	Migrate +	3	33
bur oak	Quercus macrocarpa	NDH	Medium	0	0	0	Unknown	Unknown	High	Absent	Unknown	Unknown			0	34
Nuttall oak	Quercus texana	NSH	Medium	0	0	0	Unknown	Unknown	High	Absent	Unknown	Unknown			0	35
willow oak	Quercus phellos	NSL	Low	0	0	0	Unknown	Unknown	Medium	Modeled	Unknown	Unknown			0	36
black locust	Robinia pseudoacacia	NDH	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	37
American mountain-ash	Sorbus americana	NSL	Low	0	0	0	Unknown	New Habitat	Low	Absent	Unknown	New Habitat			0	38
winged elm	Ulmus alata	WDL	Medium	0	0	0	Unknown	Unknown	Medium	Modeled	Unknown	Unknown			0	39
slippery elm	Ulmus rubra	WSL	Low	0	0	0	Unknown	Unknown	Medium	Modeled	Unknown	Unknown			0	40