

HUC 030802 East Florida Coastal

HUC 6 Watershed Climate Change Atlas Tree Species

USDA Forest Service
Northern Research Station
Landscape Change Research Group
Iverson, Peters, Prasad, Matthews

Current and Potential Future Habitat, Capability, and Migration

	sq. km	sq. mi	FIA Plots
Area of Region	6,776.1	2,616.3	81

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	Scenario	Scenario	Scenario	SHIFT	SHIFT
				High		RCP45	RCP85	RCP45	RCP85	RCP45	RCP85
Ash	4			9	12	Increase	9	10	Very Good	3	3
Hickory	1			29	29	No Change	9	8	Good	4	7
Maple	1	Abundant	2	11	8	Decrease	15	15	Fair	10	8
Oak	5	Common	13	2		New	2	3	Poor	9	9
Pine	5	Rare	20			Unknown	16	15	Very Poor	6	6
Other	19	Absent	10	51	49		51	51	FIA Only	2	2
	35		45						Unknown	14	13
										48	48
										13	13

Potential Changes in Climate Variables

Temperature (°F)

Scenario	2009	2039	2069	2099		
Annual	CCSM45	46.1	46.6	47.1	47.1	
Average	CCSM85	46.1	46.6	47.4	48.1	
	GFDL45	46.1	47.2	47.6	47.9	
	GFDL85	46.1	46.9	48.0	49.2	
	HAD45	46.1	46.6	47.4	47.8	
	HAD85	46.1	46.8	47.6	48.8	
Growing Season	CCSM45	49.3	49.7	50.1	50.2	
	CCSM85	49.3	49.7	50.5	51.3	
May—Sep	GFDL45	49.3	50.3	50.7	51.1	
	GFDL85	49.3	50.1	51.1	52.4	
	HAD45	49.3	50.0	50.6	51.1	
	HAD85	49.3	50.2	51.2	52.2	
Coldest Month	CCSM45	40.9	41.6	42.0	41.9	
	CCSM85	40.9	41.4	41.7	42.3	
Average	GFDL45	40.9	41.8	42.0	42.2	
	GFDL85	40.9	41.7	42.1	42.5	
	HAD45	40.9	40.8	41.3	41.5	
	HAD85	40.9	41.1	41.4	42.0	
Warmest Month	CCSM45	50.1	50.5	50.8	50.8	
	CCSM85	50.1	50.5	51.0	51.5	
Average	GFDL45	50.1	50.9	51.2	51.4	
	GFDL85	50.1	50.9	51.5	52.2	
	HAD45	50.1	50.9	51.2	51.4	
	HAD85	50.1	50.9	51.5	52.0	

Precipitation (in)

Scenario	2009	2039	2069	2099		
Annual	CCSM45	18.4	19.4	19.7	20.2	
Total	CCSM85	18.4	19.2	19.2	19.0	
	GFDL45	18.4	21.7	22.0	22.8	
	GFDL85	18.4	20.0	23.2	22.1	
	HAD45	18.4	17.8	17.1	18.2	
	HAD85	18.4	16.9	17.2	16.1	
Growing Season	CCSM45	10.7	11.4	11.0	11.6	
	CCSM85	10.7	11.2	11.1	10.4	
May—Sep	GFDL45	10.7	12.5	12.5	12.6	
	GFDL85	10.7	11.7	13.3	12.7	
	HAD45	10.7	10.4	9.7	9.3	
	HAD85	10.7	9.5	8.7	8.0	

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	72.3	2279.5	28.6	Sm. dec.	Sm. dec.	Medium	Abundant	Fair	Fair			0	1
cabbage palmetto	Sabal palmetto	NDH	Medium	67.3	613.2	9.1	Sm. inc.	Sm. inc.	Medium	Abundant	Very Good	Very Good			0	2
red maple	Acer rubrum	WDH	High	36.4	255.2	4.1	No change	No change	High	Common	Good	Good			1	3
laurel oak	Quercus laurifolia	NDH	Medium	57.6	253.9	3.7	No change	No change	Medium	Common	Fair	Fair			1	4
pond cypress	Taxodium ascendens	NSH	Medium	21.3	249.1	5.6	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	5
longleaf pine	Pinus palustris	NSH	Medium	20.3	230.8	7.7	No change	Sm. dec.	Medium	Common	Fair	Poor			1	6
live oak	Quercus virginiana	NDH	High	58.7	172.6	6.6	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	7
loblolly-bay	Gordonia lasianthus	NSH	Medium	14.8	156.6	7.2	No change	No change	Medium	Common	Fair	Fair	Infill +	Infill +	1	8
swamp tupelo	Nyssa biflora	NDH	Medium	23	150.9	3.6	Sm. inc.	Sm. inc.	Low	Common	Fair	Fair	Infill +	Infill +	1	9
pond pine	Pinus serotina	NSH	Medium	7.5	130.2	6.1	Sm. dec.	Sm. dec.	Low	Common	Poor	Poor	Infill +	Infill +	0	10
sweetbay	Magnolia virginiana	NSL	Medium	10.6	120.6	3.0	No change	No change	Medium	Common	Fair	Fair	Infill +	Infill +	1	11
redbay	Persea borbonia	NSL	Low	37.4	103.5	2.0	Sm. dec.	No change	High	Common	Fair	Good			1	12
sand pine	Pinus clausa	NDH	High	7.4	95.3	14.3	No change	Sm. dec.	Low	Common	Poor	Poor	Infill +		0	13
loblolly pine	Pinus taeda	WDH	High	5.4	82.2	4.2	No change	No change	Medium	Common	Fair	Fair	Infill +	Infill +	1	14
turkey oak	Quercus laevis	NSH	Medium	0.5	71.0	2.5	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor			0	15
sweetgum	Liquidambar styraciflua	WDH	High	18.6	62.9	2.5	Sm. inc.	Sm. inc.	Medium	Common	Good	Good	Infill ++	Infill ++	1	16
water oak	Quercus nigra	WDH	High	10.5	45.5	1.5	Sm. inc.	Lg. inc.	Medium	Rare	Fair	Good	Infill +	Infill ++	2	17
American elm	Ulmus americana	WDH	Medium	18.4	29.4	1.1	Sm. inc.	Lg. inc.	Medium	Rare	Fair	Good	Infill +	Infill ++	1	18
southern magnolia	Magnolia grandiflora	NSL	Low	7.3	25.0	2.3	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	19
sugarberry	Celtis laevigata	NDH	Medium	5.9	24.3	0.9	No change	Sm. inc.	Medium	Rare	Poor	Fair	Infill +	Infill +	2	20
American hornbeam; muscle	Carpinus caroliniana	WSL	Low	6.5	17.0	1.9	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	21
hackberry	Celtis occidentalis	WDH	Medium	3.1	9.2	2.0	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor			0	22
bald cypress	Taxodium distichum	NSH	Medium	10.2	9.0	1.5	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			2	23
green ash	Fraxinus pennsylvanica	WSH	Low	3.4	7.9	1.9	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	2	24
American basswood	Tilia americana	WSL	Medium	0.2	7.2	0.4	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	25
pignut hickory	Carya glabra	WDL	Medium	2.5	6.8	1.2	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			2	26
eastern hophornbeam; ironw	Ostrya virginiana	WSL	Low	7.8	3.9	0.9	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor			0	27
yellow-poplar	Liriodendron tulipifera	WDH	High	1.9	1.8	0.9	Sm. dec.	Lg. dec.	High	Rare	Poor	Poor			0	28
blackgum	Nyssa sylvatica	WDL	Medium	1.5	1.0	0.4	Lg. inc.	Lg. inc.	High	Rare	Good	Good	Infill ++	Infill ++	2	29
southern red oak	Quercus falcata	WDL	Medium	1.9	0.9	0.5	Very Lg. dec.	No change	High	Rare	Lost	Fair		Infill +	2	30
pumpkin ash	Fraxinus profunda	NSH	FIA	3.3	0.7	0.6	Unknown	Unknown	NA	Rare	FIA Only	FIA Only			0	31
common persimmon	Diospyros virginiana	NSL	Low	1.5	0.6	0.3	Lg. dec.	Lg. dec.	High	Rare	Poor	Poor			0	32
American holly	Ilex opaca	NSL	Medium	1.8	0.6	0.3	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	33
white ash	Fraxinus americana	WDL	Medium	1.8	0.4	0.2	Sm. dec.	Sm. dec.	Low	Rare	Very Poor	Very Poor			0	34
Carolina ash	Fraxinus caroliniana	NSL	FIA	3.3	0.2	0.2	Unknown	Unknown	NA	Rare	FIA Only	FIA Only			0	35
balsam fir	Abies balsamea	NDH	High	0	0	0	Unknown	Unknown	Low	Modeled	Unknown	Unknown			0	36
eastern redcedar	Juniperus virginiana	WDH	Medium	0	0	0	Unknown	Unknown	Medium	Modeled	Unknown	Unknown			0	37
striped maple	Acer pensylvanicum	NSL	Medium	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	38
serviceberry	Amelanchier spp.	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	39
shagbark hickory	Carya ovata	WSL	Medium	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	40
mockernut hickory	Carya alba	WDL	Medium	0	0	0	Unknown	Unknown	High	Absent	Unknown	Unknown			0	41
flowering dogwood	Cornus florida	WDL	Medium	0	0	0	Unknown	Unknown	Medium	Modeled	Unknown	Unknown			0	42
silverbell	Halesia spp.	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	43
Osage-orange	Maclura pomifera	NDH	Medium	0	0	0	Unknown	Unknown	High	Modeled	Unknown	Unknown			0	44
water tupelo	Nyssa aquatica	NSH	Medium	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat			3	45
black cherry	Prunus serotina	WDL	Medium	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat	Likely +	Likely +	3	46
bur oak	Quercus macrocarpa	NDH	Medium	0	0	0	Unknown	Unknown	High	Absent	Unknown	Unknown			0	47



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Common Name	Scientific Name	Range	MR	%Cell	FIAsum	FIaiv	ChngCl45	ChngCl85	Adap	Abund	Capabil45	Capabil85	SHIFT45	SHIFT85	SSO	N
willow oak	Quercus phellos	NSL	Low	0	0	0	Unknown	Unknown	Medium	Modeled	Unknown	Unknown			0	48
black locust	Robinia pseudoacacia	NDH	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	49
American mountain-ash	Sorbus americana	NSL	Low	0	0	0	Unknown	New Habitat	Low	Absent	Unknown	New Habitat			0	50
winged elm	Ulmus alata	WDL	Medium	0	0	0	Unknown	Unknown	Medium	Modeled	Unknown	Unknown			0	51