

HUC 080701 Lower Mississippi-Baton Rouge

HUC 6 Watershed Climate Change Atlas Tree Species

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Landscape Change Research Group
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Current and Potential Future Habitat, Capability, and Migration

	sq. km	sq. mi	FIA Plots
Area of Region	601.9	232.4	9

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	2			High	10	17	Increase	17	16	Very Good	11	12	Likely	6	6
Hickory	4			Medium	28	38	No Change	11	15	Good	9	10	Infill	2	2
Maple	3	Abundant	15	Low	26	9	Decrease	14	11	Fair	11	10	Migrate	3	6
Oak	8	Common	13	FIA	0		New	17	17	Poor	5	4			
Pine	1	Rare	14				Unknown	5	5	Very Poor	4	5			
Other	24	Absent	21							FIA Only	0	0			
	42		63		64	64		64	64	Unknown	5	5			
											45	46			

Potential Changes in Climate Variables

Temperature (°F)

	Scenario	2009	2039	2069	2099	
Annual Average	CCSM45	39.3	39.6	39.9	40.0	
	CCSM85	39.3	39.6	40.1	40.6	
	GFDL45	39.3	39.8	40.1	40.3	
	GFDL85	39.3	39.8	40.4	41.0	
	HAD45	39.3	39.7	40.3	40.5	
	HAD85	39.3	39.8	40.5	41.2	
Growing Season (May—Sep)	CCSM45	41.7	42.0	42.2	42.3	
	CCSM85	41.7	42.0	42.5	43.0	
	GFDL45	41.7	42.3	42.6	42.9	
	GFDL85	41.7	42.3	42.9	43.7	
	HAD45	41.7	42.3	42.8	42.9	
	HAD85	41.7	42.3	43.3	43.9	
Coldest Month Average	CCSM45	35.5	36.0	36.2	36.2	
	CCSM85	35.5	36.1	36.3	36.6	
	GFDL45	35.5	36.2	36.2	36.2	
	GFDL85	35.5	35.8	35.9	36.1	
	HAD45	35.5	35.7	36.0	36.2	
	HAD85	35.5	35.9	36.2	36.6	
Warmest Month Average	CCSM45	42.4	42.6	42.7	42.7	
	CCSM85	42.4	42.6	42.8	43.1	
	GFDL45	42.4	43.1	43.0	43.3	
	GFDL85	42.4	43.0	43.3	43.8	
	HAD45	42.4	43.1	43.4	43.4	
	HAD85	42.4	43.1	43.7	43.9	

Precipitation (in)

	Scenario	2009	2039	2069	2099	
Annual Total	CCSM45	12.6	13.1	14.2	13.6	
	CCSM85	12.6	13.1	13.5	13.9	
	GFDL45	12.6	13.7	15.2	14.0	
	GFDL85	12.6	13.5	13.7	13.9	
	HAD45	12.6	12.2	12.6	13.3	
	HAD85	12.6	13.3	11.8	12.7	
Growing Season (May—Sep)	CCSM45	5.3	5.4	5.7	5.6	
	CCSM85	5.3	5.1	5.3	5.3	
	GFDL45	5.3	6.0	7.1	6.1	
	GFDL85	5.3	6.0	6.4	6.8	
	HAD45	5.3	5.2	5.3	5.4	
	HAD85	5.3	5.2	4.5	4.6	

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.

Cite as: Iverson, L.R.; Prasad, A.M.; Peters, M.P.; Matthews, S.N. 2019. Facilitating Adaptive Forest Management under Climate Change: A Spatially Specific Synthesis of 125 Species for Habitat Changes and Assisted Migration over the Eastern United States. *Forests*. 10(11): 989. <https://doi.org/10.3390/f10110989>.

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
sugarberry	Celtis laevigata	NDH	Medium	72.3	4986.5	4.0	Sm. dec.	No change	Medium	Abundant	Fair	Good			1	1
bald cypress	Taxodium distichum	NSH	Medium	61.2	2651.7	3.9	Sm. inc.	Sm. inc.	Medium	Abundant	Very Good	Very Good			1	2
American elm	Ulmus americana	WDH	Medium	63.2	2339.3	1.9	Sm. dec.	No change	Medium	Abundant	Fair	Good			1	3
red maple	Acer rubrum	WDH	High	50.2	2240.8	1.6	Sm. inc.	No change	High	Abundant	Very Good	Very Good			1	4
black willow	Salix nigra	NSH	Low	27.1	2028.8	2.2	No change	No change	Low	Abundant	Fair	Fair			0	5
water tupelo	Nyssa aquatica	NSH	Medium	19.9	1947.9	1.9	Sm. dec.	Sm. dec.	Low	Abundant	Fair	Fair			0	6
sweetgum	Liquidambar styraciflua	WDH	High	43.9	1845.7	2.1	Sm. inc.	Sm. inc.	Medium	Abundant	Very Good	Very Good			1	7
pecan	Carya illinoensis	NSH	Low	41.7	1439.6	5.4	No change	No change	Low	Abundant	Fair	Fair			0	8
water oak	Quercus nigra	WDH	High	52.3	1419.4	1.7	Sm. inc.	Sm. inc.	Medium	Abundant	Very Good	Very Good			1	9
green ash	Fraxinus pennsylvanica	WSH	Low	77.7	1273.3	0.8	Sm. inc.	Sm. inc.	Medium	Abundant	Very Good	Very Good			1	10
water hickory	Carya aquatica	NSL	Medium	55.1	922.4	3.6	No change	No change	Medium	Abundant	Good	Good			1	11
boxelder	Acer negundo	WSH	Low	46.8	844.3	1.2	Sm. inc.	Sm. inc.	High	Abundant	Very Good	Very Good			1	12
Nuttall oak	Quercus texana	NSH	Medium	27.3	636.3	0.9	Sm. inc.	Sm. inc.	High	Abundant	Very Good	Very Good			0	13
sycamore	Platanus occidentalis	NSL	Low	20.4	568.7	1.4	No change	No change	Medium	Abundant	Good	Good			1	14
American hornbeam; musclev	Carpinus caroliniana	WSL	Low	16.2	529.7	2.6	Sm. dec.	Sm. dec.	Medium	Abundant	Fair	Fair			0	15
bitternut hickory	Carya cordiformis	WSL	Low	7.9	353.9	10.1	Sm. dec.	Sm. dec.	High	Common	Fair	Fair			0	16
winged elm	Ulmus alata	WDL	Medium	30.4	288.3	1.3	Sm. inc.	Lg. inc.	Medium	Common	Good	Very Good			1	17
cherrybark oak; swamp red o.	Quercus pagoda	NSL	Medium	26.9	230.9	1.4	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	18
eastern cottonwood	Populus deltoides	NSH	Low	10.1	208.0	0.6	No change	Sm. inc.	Medium	Common	Fair	Good			1	19
common persimmon	Diospyros virginiana	NSL	Low	36.5	202.7	1.8	Lg. dec.	Sm. dec.	High	Common	Fair	Fair			1	20
American beech	Fagus grandifolia	WDH	High	13.4	194.1	2.5	Sm. dec.	Sm. dec.	Medium	Common	Poor	Poor	Infill +		0	21
overcup oak	Quercus lyrata	NSL	Medium	32.5	187.4	1.6	Lg. inc.	Lg. inc.	Low	Common	Good	Good			1	22
honeylocust	Gleditsia triacanthos	NSH	Low	17.4	169.8	0.6	Sm. inc.	Lg. inc.	High	Common	Very Good	Very Good			1	23
loblolly pine	Pinus taeda	WDH	High	5.4	148.7	2.9	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	24
black cherry	Prunus serotina	WDL	Medium	1.9	104.7	0.7	Sm. dec.	Sm. dec.	Low	Rare	Very Poor	Very Poor			0	25
sassafras	Sassafras albidum	WSL	Low	2.7	103.0	1.0	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			2	26
laurel oak	Quercus laurifolia	NDH	Medium	11.5	84.1	0.1	Sm. inc.	No change	Medium	Common	Good	Fair			1	27
white oak	Quercus alba	WDH	Medium	5.4	54.0	1.1	No change	No change	High	Common	Good	Good	Infill ++		2	28
slippery elm	Ulmus rubra	WSL	Low	13	53.8	0.2	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	29
white ash	Fraxinus americana	WDL	Medium	7.6	52.3	1.5	No change	No change	Low	Common	Poor	Poor	Infill +		0	30
yellow-poplar	Liriodendron tulipifera	WDH	High	13.4	45.7	0.6	Sm. inc.	Sm. inc.	High	Rare	Good	Good			1	31
mockernut hickory	Carya alba	WDL	Medium	5.4	36.6	0.7	No change	No change	High	Rare	Fair	Fair	Infill +		1	32
swamp tupelo	Nyssa biflora	NDH	Medium	1.3	27.4	0.1	Very Lg. dec.	Sm. dec.	Low	Rare	Lost	Very Poor			0	33
southern magnolia	Magnolia grandiflora	NSL	Low	5.4	27.1	0.5	No change	No change	Medium	Rare	Poor	Poor			1	34
eastern hophornbeam; ironw	Ostrya virginiana	WSL	Low	11.3	20.9	0.2	Lg. inc.	Lg. inc.	High	Rare	Good	Good			1	35
blackgum	Nyssa sylvatica	WDL	Medium	9.5	17.5	0.2	No change	No change	High	Rare	Fair	Fair			1	36
swamp chestnut oak	Quercus michauxii	NSL	Low	5.4	14.6	0.3	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			1	37
red mulberry	Morus rubra	NSL	Low	7.6	13.3	0.4	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	38
florida maple	Acer barbatum	NSL	Low	5.4	13.0	0.3	Sm. dec.	No change	High	Rare	Poor	Fair			0	39
Shumard oak	Quercus shumardii	NSL	Low	2.8	10.0	0.1	Very Lg. dec.	Very Lg. dec.	High	Rare	Lost	Lost			0	40
American holly	Ilex opaca	NSL	Medium	5.4	9.1	0.2	No change	No change	Medium	Rare	Poor	Poor			1	41
sweetbay	Magnolia virginiana	NSL	Medium	5.4	5.5	0.1	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	42
Atlantic white-cedar	Chamaecyparis thyoides	NSH	Low	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat			3	43
eastern redcedar	Juniperus virginiana	WDH	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Likely +	Likely +	3	44
shortleaf pine	Pinus echinata	WDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat		Migrate ++	3	45
longleaf pine	Pinus palustris	NSH	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			3	46
striped maple	Acer pensylvanicum	NSL	Medium	0	0	0	Unknown	Unknown	Medium	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
serviceberry	Amelanchier spp.	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			3	48
cittamwood/gum bumelia	Sideroxylon lanuginosum ssp.	NSL	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat		Migrate +	3	49
pignut hickory	Carya glabra	WDL	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Likely +	Likely +	3	50
flowering dogwood	Cornus florida	WDL	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Likely +	Likely +	3	51
silverbell	Halesia spp.	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	52
bigleaf magnolia	Magnolia macrophylla	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	53
water elm	Planera aquatica	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Likely +	Likely +	3	54
pin cherry	Prunus pensylvanica	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			3	55
southern red oak	Quercus falcata	WDL	Medium	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Likely +	Likely +	3	56
blackjack oak	Quercus marilandica	NSL	Medium	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat		Migrate +	3	57
willow oak	Quercus phellos	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Likely +	Likely +	3	58
post oak	Quercus stellata	WDH	High	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Migrate +	Migrate ++	3	59
black oak	Quercus velutina	WDH	High	0	0	0	Unknown	Unknown	Medium	Modeled	Unknown	Unknown			0	60
live oak	Quercus virginiana	NDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate ++	Migrate ++	3	61
cabbage palmetto	Sabal palmetto	NDH	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			0	62
American basswood	Tilia americana	WSL	Medium	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	63
cedar elm	Ulmus crassifolia	NDH	Medium	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat	Migrate ++	Migrate ++	3	64