

HUC 080801 Atchafalaya-Vermillion

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	16,112	6,220.8	214

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					
		High	Common	Reliability	Adaptability	Scenario RCP45	Scenario RCP85	Scenario RCP45	Scenario RCP85	SHIFT RCP45	SHIFT RCP85				
Ash	3					Increase	19	21	Very Good	3	4	Likely	1	1	
Hickory	6					No Change	26	29	Good	12	15	Infill	30	35	
Maple	6	Abundant	1	High	14	25	Decrease	26	21	Fair	15	13	Migrate	2	3
Oak	16	Common	16	Medium	34	52	New	8	7	Poor	23	25			
Pine	4	Rare	57	Low	38	11	Unknown	10	11	Very Poor	15	13			
Other	39	Absent	12	FIA	3					FIA Only	2	2			
	74		86		89	88		89	89		77	80		33	39

Potential Changes in Climate Variables

Temperature (°F)

Scenario	2009	2039	2069	2099	
Annual	56.7	57.8	58.9	59.0	
Average	56.7	57.9	59.5	61.0	
GFDL45	56.7	58.7	59.5	60.2	
GFDL85	56.7	58.4	60.5	62.7	
HAD45	56.7	58.2	60.0	60.8	
HAD85	56.7	58.4	60.7	63.2	
Growing Season	64.9	65.8	66.6	66.9	
May—Sep	64.9	67.2	67.8	69.1	
GFDL45	64.9	66.8	69.0	71.7	
GFDL85	64.9	66.8	68.4	68.9	
HAD45	64.9	66.9	69.9	71.9	
HAD85	64.9	66.9	69.9	71.9	
Coldest Month	44.1	45.6	46.3	46.2	
Average	44.1	45.9	46.8	47.6	
GFDL45	44.1	46.3	46.4	46.4	
GFDL85	44.1	44.9	45.5	46.0	
HAD45	44.1	44.6	45.7	46.3	
HAD85	44.1	45.5	46.4	47.6	
Warmest Month	67.2	67.9	68.1	68.3	
Average	67.2	68.0	68.6	69.6	
GFDL45	67.2	69.5	69.5	70.4	
GFDL85	67.2	69.3	70.2	71.8	
HAD45	67.2	69.4	70.2	70.3	
HAD85	67.2	69.6	71.3	72.0	

Precipitation (in)

Scenario	2009	2039	2069	2099	
Annual	42.6	44.0	48.3	46.3	
Total	42.6	44.1	45.9	46.7	
GFDL45	42.6	46.1	51.5	46.6	
GFDL85	42.6	45.2	46.1	46.2	
HAD45	42.6	41.4	42.6	45.3	
HAD85	42.6	45.1	40.5	43.3	
Growing Season	18.7	19.3	20.5	19.8	
May—Sep	18.7	18.3	19.0	18.6	
GFDL45	18.7	21.2	25.0	21.1	
GFDL85	18.7	21.0	22.2	23.1	
HAD45	18.7	18.5	18.6	19.4	
HAD85	18.7	18.5	16.1	16.5	

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>.



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Common Name	Scientific Name	Range	MR	%Cell	FIAsum	FIAiv	ChngCl45	ChngCl85	Adap	Abund	Capabil45	Capabil85	SHIFT45	SHIFT85	SSO	N
bald cypress	Taxodium distichum	NSH	Medium	48.8	633.8	13.7	No change	No change	Medium	Abundant	Good	Good			1	1
sugarberry	Celtis laevigata	NDH	Medium	60.8	480.2	10.4	No change	Sm. inc.	Medium	Common	Fair	Good			1	2
green ash	Fraxinus pennsylvanica	WSH	Low	62.5	455.5	9.3	No change	No change	Medium	Common	Fair	Fair			1	3
loblolly pine	Pinus taeda	WDH	High	12.5	407.9	22.9	Sm. inc.	Lg. inc.	Medium	Common	Good	Very Good	Infill ++	Infill ++	1	4
red maple	Acer rubrum	WDH	High	61.1	406.8	8.9	Sm. inc.	No change	High	Common	Very Good	Good			1	5
black willow	Salix nigra	NSH	Low	32.1	405.7	13.7	Sm. dec.	No change	Low	Common	Poor	Poor			0	6
sweetgum	Liquidambar styraciflua	WDH	High	57.1	380.5	9.9	No change	No change	Medium	Common	Fair	Fair			1	7
water tupelo	Nyssa aquatica	NSH	Medium	27.9	255.1	12.5	No change	No change	Low	Common	Poor	Poor	Infill +	Infill +	0	8
water oak	Quercus nigra	WDH	High	41.9	214.6	8.8	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	9
American elm	Ulmus americana	WDH	Medium	50	180.8	5.9	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	10
water hickory	Carya aquatica	NSL	Medium	34.9	142.8	4.6	No change	No change	Medium	Common	Fair	Fair			1	11
Nuttall oak	Quercus texana	NSH	Medium	32.8	132.9	5.7	No change	Sm. inc.	High	Common	Good	Very Good			0	12
sycamore	Platanus occidentalis	NSL	Low	12.3	108.2	7.2	Sm. dec.	Sm. dec.	Medium	Common	Poor	Poor	Infill +	Infill +	0	13
boxelder	Acer negundo	WSH	Low	20	104.6	4.5	Sm. inc.	Sm. inc.	High	Common	Very Good	Very Good	Infill ++	Infill ++	1	14
overcup oak	Quercus lyrata	NSL	Medium	26.5	82.4	4.7	Sm. inc.	Lg. inc.	Low	Common	Fair	Good	Infill +	Infill ++	1	15
slash pine	Pinus elliotii	NDH	High	3.6	78.5	13.4	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	2	16
pecan	Carya illinoensis	NSH	Low	15.8	77.5	4.0	Sm. inc.	Lg. inc.	Low	Common	Fair	Good	Infill +	Infill ++	1	17
southern red oak	Quercus falcata	WDL	Medium	16	77.0	6.1	No change	No change	High	Common	Good	Good	Infill ++	Infill ++	1	18
longleaf pine	Pinus palustris	NSH	Medium	6.8	45.8	5.7	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	2	19
swamp tupelo	Nyssa biflora	NDH	Medium	9	44.4	6.3	Sm. dec.	Sm. dec.	Low	Rare	Very Poor	Very Poor			0	20
common persimmon	Diospyros virginiana	NSL	Low	13.6	39.4	2.1	Lg. dec.	Sm. dec.	High	Rare	Poor	Poor			1	21
slippery elm	Ulmus rubra	WSL	Low	21	36.7	2.7	Sm. inc.	Lg. inc.	Medium	Rare	Fair	Good			1	22
eastern cottonwood	Populus deltoides	NSH	Low	13.1	36.6	3.7	Sm. dec.	Sm. inc.	Medium	Rare	Very Poor	Fair		Infill +	1	23
winged elm	Ulmus alata	WDL	Medium	26.3	36.6	1.8	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++	1	24
willow oak	Quercus phellos	NSL	Low	7.3	35.0	6.5	Sm. inc.	Sm. inc.	Medium	Rare	Fair	Fair	Infill +	Infill +	2	25
American hornbeam; musclev	Carpinus caroliniana	WSL	Low	18.7	33.5	2.7	Sm. inc.	Sm. inc.	Medium	Rare	Fair	Fair	Infill +	Infill +	1	26
flowering dogwood	Cornus florida	WDL	Medium	25.2	33.3	1.9	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	27
American beech	Fagus grandifolia	WDH	High	10.7	32.6	2.4	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			2	28
cherrybark oak; swamp red o	Quercus pagoda	NSL	Medium	17.4	31.3	3.1	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++	1	29
swamp chestnut oak	Quercus michauxii	NSL	Low	12.1	30.8	4.6	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	1	30
post oak	Quercus stellata	WDH	High	11.4	30.0	2.9	Lg. inc.	Lg. inc.	High	Rare	Good	Good	Infill ++	Infill ++	2	31
white oak	Quercus alba	WDH	Medium	8.7	29.0	2.8	No change	No change	High	Rare	Fair	Fair	Infill +	Infill +	2	32
honeylocust	Gleditsia triacanthos	NSH	Low	17.6	28.1	2.5	Sm. inc.	Lg. inc.	High	Rare	Good	Good	Infill ++	Infill ++	1	33
water elm	Planera aquatica	NSL	Low	9.1	25.5	2.1	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	1	34
blackgum	Nyssa sylvatica	WDL	Medium	17.4	23.9	1.4	Sm. inc.	Sm. inc.	High	Rare	Good	Good	Infill ++	Infill ++	1	35
mockernut hickory	Carya alba	WDL	Medium	9.7	21.4	2.7	No change	No change	High	Rare	Fair	Fair	Infill +	Infill +	2	36
live oak	Quercus virginiana	NDH	High	11.6	21.2	6.5	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++	2	37
sweetbay	Magnolia virginiana	NSL	Medium	3.7	17.6	9.7	Sm. dec.	No change	Medium	Rare	Very Poor	Poor		Infill +	2	38
bitternut hickory	Carya cordiformis	WSL	Low	9.7	14.3	2.6	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor	Infill +	Infill +	2	39
blackjack oak	Quercus marilandica	NSL	Medium	4.3	11.7	1.7	No change	No change	High	Rare	Fair	Fair	Infill +	Infill +	2	40
pignut hickory	Carya glabra	WDL	Medium	6.9	10.9	2.2	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			2	41
southern magnolia	Magnolia grandiflora	NSL	Low	6.8	10.7	1.7	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	2	42
shortleaf pine	Pinus echinata	WDH	High	4.2	10.6	2.8	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	2	43
black cherry	Prunus serotina	WDL	Medium	12.8	9.3	0.9	No change	No change	Low	Rare	Very Poor	Very Poor			0	44
laurel oak	Quercus laurifolia	NDH	Medium	9.1	8.3	1.3	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	1	45
waterlocust	Gleditsia aquatica	NSLX	FIA	6.6	8.3	1.4	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only			0	46
eastern hophornbeam; ironw	Ostrya virginiana	WSL	Low	10.1	6.4	1.3	Sm. inc.	Sm. inc.	High	Rare	Good	Good	Infill ++	Infill ++	1	47



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white ash	Fraxinus americana	WDL	Medium	2.2	5.4	2.9	No change	No change	Low	Rare	Very Poor	Very Poor				2 48
cedar elm	Ulmus crassifolia	NDH	Medium	1.9	5.2	2.1	Lg. inc.	Lg. inc.	Low	Rare	Fair	Fair	Infill +	Infill +		2 49
Shumard oak	Quercus shumardii	NSL	Low	0.6	4.4	6.1	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor		Infill +		2 50
yellow-poplar	Liriodendron tulipifera	WDH	High	0.5	4.2	4.3	No change	No change	High	Rare	Fair	Fair	Infill +			2 51
redbay	Persea borbonia	NSL	Low	5.3	4.1	2.5	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor				0 52
red mulberry	Morus rubra	NSL	Low	9	3.8	1.4	No change	No change	Medium	Rare	Poor	Poor				0 53
eastern redbud	Cercis canadensis	NSL	Low	0.6	3.7	4.7	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor				0 54
black locust	Robinia pseudoacacia	NDH	Low	3.6	2.5	3.2	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor				0 55
sassafras	Sassafras albidum	WSL	Low	5.2	1.9	0.3	Sm. dec.	No change	Medium	Rare	Very Poor	Poor		Infill +		2 56
American holly	Ilex opaca	NSL	Medium	7	1.7	0.4	Sm. inc.	Sm. inc.	Medium	Rare	Fair	Fair	Infill +	Infill +		2 57
shagbark hickory	Carya ovata	WSL	Medium	4.4	1.4	1.3	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor				0 58
florida maple	Acer barbatum	NSL	Low	1.2	1.4	1.0	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor				0 59
sugar maple	Acer saccharum	WDH	High	0.7	1.3	2.1	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor				0 60
northern red oak	Quercus rubra	WDH	Medium	0.1	1.0	0.1	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor				0 61
hackberry	Celtis occidentalis	WDH	Medium	3.7	0.7	0.8	Very Lg. dec.	No change	High	Rare	Lost	Fair		Infill +		2 62
blue ash	Fraxinus quadrangulata	NSL	Low	0.7	0.7	1.1	Sm. dec.	Sm. dec.	Low	Rare	Very Poor	Very Poor				0 63
eastern redcedar	Juniperus virginiana	WDH	Medium	1.1	0.6	0.4	Very Lg. dec.	No change	Medium	Rare	Lost	Poor		Infill +		2 64
black oak	Quercus velutina	WDH	High	3.7	0.5	0.5	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor				0 65
chinkapin oak	Quercus muehlenbergii	NSL	Medium	0.7	0.4	0.7	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor				0 66
sourwood	Oxydendrum arboreum	NDL	High	0.7	0.4	0.6	Very Lg. dec.	Very Lg. dec.	High	Rare	Lost	Lost				0 67
ogeechee tupelo	Nyssa ogeche	NSLX	FIA	0.3	0.3	0.2	Unknown	Unknown	Low	Rare	FIA Only	FIA Only				0 68
pin cherry	Prunus pensylvanica	NSL	Low	0.1	0.3	0.1	No change	No change	Medium	Rare	Poor	Poor				0 69
bigleaf magnolia	Magnolia macrophylla	NSL	Low	0.5	0.3	0.3	No change	No change	Medium	Rare	Poor	Poor				0 70
silver maple	Acer saccharinum	NSH	Low	0.7	0.3	0.4	Lg. dec.	Lg. dec.	High	Rare	Poor	Poor				0 71
striped maple	Acer pensylvanicum	NSL	Medium	0.7	0.2	0.3	No change	No change	Medium	Rare	Poor	Poor				0 72
American basswood	Tilia americana	WSL	Medium	3	0.1	0.9	No change	Lg. dec.	Medium	Rare	Poor	Very Poor				0 73
white mulberry	Morus alba	NSL	FIA	3	0.0	0.2	Unknown	Unknown	NA	Rare	NNIS	NNIS				0 74
Atlantic white-cedar	Chamaecyparis thyoides	NSH	Low	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat	Migrate +			3 75
spruce pine	Pinus glabra	NSL	Low	0	0	0	Unknown	Unknown	Medium	Modeled	Unknown	Unknown				0 76
black maple	Acer nigrum	NSH	Low	0	0	0	Unknown	Unknown	High	Modeled	Unknown	Unknown				0 77
mountain maple	Acer spicatum	NSL	Low	0	0	0	Unknown	Unknown	High	Absent	Unknown	Unknown				0 78
serviceberry	Amelanchier spp.	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Likely +	Likely +		3 79
pawpaw	Asimina triloba	NSL	Low	0	0	0	New Habitat	Unknown	Medium	Absent	New Habitat	Unknown				3 80
river birch	Betula nigra	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat		Migrate +		3 81
cittamwood/gum bumelia	Sideroxylon lanuginosum ssp.	NSL	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Migrate +	Migrate +		3 82
black hickory	Carya texana	NDL	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat		Migrate +		3 83
loblolly-bay	Gordonia lasianthus	NSH	Medium	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown				0 84
silverbell	Halesia spp.	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat				3 85
cucumbertree	Magnolia acuminata	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown				0 86
swamp white oak	Quercus bicolor	NSL	Low	0	0	0	Unknown	Unknown	Medium	Modeled	Unknown	Unknown				0 87
scarlet oak	Quercus coccinea	WDL	Medium	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown				0 88
cabbage palmetto	Sabal palmetto	NDH	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat				0 89

