

HUC 080802 Calcasieu-Mermentau

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	21,698	8,377.5	342

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	13	22	Increase	26	34	Very Good	7	7
Hickory	7			Medium	36	52	No Change	21	18	Good	13	17
Maple	3	Abundant	2	Low	34	12	Decrease	20	15	Fair	15	20
Oak	17	Common	11	FIA	3		New	11	11	Poor	15	11
Pine	4	Rare	57				Unknown	8	8	Very Poor	15	11
Other	37	Absent	12							FIA Only	3	3
	70		82		86	86		86	86	Unknown	5	5
											73	74

Potential Changes in Climate Variables

Temperature (°F)

Scenario	2009	2039	2069	2099	
Annual	60.0	61.3	62.6	62.7	
Average	60.0	61.5	63.3	65.1	
GFDL45	60.0	62.5	63.2	64.0	
GFDL85	60.0	62.0	64.3	66.8	
HAD45	60.0	61.8	63.9	64.7	
HAD85	60.0	62.0	64.7	67.5	
Growing Season	69.7	70.7	71.7	71.9	
May—Sep	69.7	70.9	72.6	74.6	
GFDL45	69.7	72.4	73.0	74.5	
GFDL85	69.7	71.9	74.4	77.4	
HAD45	69.7	71.8	73.7	74.1	
HAD85	69.7	71.9	75.2	77.5	
Coldest Month	45.2	47.1	47.9	47.9	
Average	45.2	47.3	48.3	49.3	
GFDL45	45.2	47.9	47.9	47.9	
GFDL85	45.2	46.1	46.8	47.4	
HAD45	45.2	46.0	47.3	47.9	
HAD85	45.2	47.1	48.2	49.6	
Warmest Month	72.4	73.3	73.6	73.7	
Average	72.4	73.5	74.1	75.2	
GFDL45	72.4	75.2	75.2	76.3	
GFDL85	72.4	75.0	76.1	78.0	
HAD45	72.4	74.9	75.8	75.9	
HAD85	72.4	75.2	77.0	77.7	

Precipitation (in)

Scenario	2009	2039	2069	2099	
Annual	48.5	50.4	55.3	53.5	
Total	48.5	50.8	53.5	54.1	
GFDL45	48.5	52.2	60.1	52.6	
GFDL85	48.5	51.3	52.9	52.9	
HAD45	48.5	47.3	47.8	51.7	
HAD85	48.5	51.2	45.4	48.1	
Growing Season	20.7	21.7	23.2	22.4	
May—Sep	20.7	20.6	21.4	20.6	
GFDL45	20.7	23.7	29.0	23.8	
GFDL85	20.7	23.4	25.1	26.0	
HAD45	20.7	20.3	20.2	21.4	
HAD85	20.7	20.4	17.6	17.9	

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-DGP30 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
loblolly pine	Pinus taeda	WDH	High	56.1	1580.1	27.9	No change	No change	Medium	Abundant	Good	Good	Infill ++	Infill ++	1	1
slash pine	Pinus elliotii	NDH	High	29.3	1035.8	29.2	Sm. dec.	Sm. dec.	Medium	Abundant	Fair	Fair	Infill +	Infill +	0	2
longleaf pine	Pinus palustris	NSH	Medium	27.3	458.8	13.6	No change	No change	Medium	Common	Fair	Fair	Infill +	Infill +	1	3
sweetgum	Liquidambar styraciflua	WDH	High	59.6	452.4	8.0	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	4
water oak	Quercus nigra	WDH	High	49.3	277.3	7.0	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	5
blackgum	Nyssa sylvatica	WDL	Medium	46.1	180.5	3.6	Sm. inc.	Sm. inc.	High	Common	Very Good	Very Good	Infill ++	Infill ++	1	6
southern red oak	Quercus falcata	WDL	Medium	26.6	117.9	3.3	Sm. inc.	Lg. inc.	High	Common	Very Good	Very Good	Infill ++	Infill ++	1	7
laurel oak	Quercus laurifolia	NDH	Medium	21.4	79.7	4.7	Lg. inc.	Sm. inc.	Medium	Common	Very Good	Good	Infill ++	Infill ++	1	8
post oak	Quercus stellata	WDH	High	20.5	77.9	3.6	Lg. inc.	Lg. inc.	High	Common	Very Good	Very Good	Infill ++	Infill ++	1	9
white oak	Quercus alba	WDH	Medium	16.1	64.5	3.0	No change	Sm. inc.	High	Common	Good	Very Good	Infill ++	Infill ++	1	10
red maple	Acer rubrum	WDH	High	32.5	62.0	1.6	Lg. inc.	Lg. inc.	High	Common	Very Good	Very Good	Infill ++	Infill ++	1	11
American hornbeam; muscley	Carpinus caroliniana	WSL	Low	18	58.5	3.2	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good	Infill ++	Infill ++	1	12
American beech	Fagus grandifolia	WDH	High	12.5	57.2	3.5	No change	No change	Medium	Common	Fair	Fair	Infill +	Infill +	1	13
willow oak	Quercus phellos	NSL	Low	7.3	47.2	5.3	No change	Sm. inc.	Medium	Rare	Poor	Fair	Infill +	Infill +	1	14
cherrybark oak; swamp red o.	Quercus pagoda	NSL	Medium	16.2	37.9	2.8	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++	1	15
sweetbay	Magnolia virginiana	NSL	Medium	13.5	36.5	2.2	Sm. inc.	Sm. inc.	Medium	Rare	Fair	Fair	Infill +	Infill +	1	16
black willow	Salix nigra	NSH	Low	4.3	33.0	12.6	No change	Sm. inc.	Low	Rare	Very Poor	Poor		Infill +	2	17
American holly	Ilex opaca	NSL	Medium	17.4	27.2	1.6	Sm. inc.	Sm. inc.	Medium	Rare	Fair	Fair	Infill +	Infill +	1	18
bald cypress	Taxodium distichum	NSH	Medium	7.7	25.2	5.3	Sm. inc.	Sm. inc.	Medium	Rare	Fair	Fair	Infill +	Infill +	2	19
green ash	Fraxinus pennsylvanica	WSH	Low	15.1	24.1	2.5	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++	1	20
overcup oak	Quercus lyrata	NSL	Medium	10.7	22.2	3.6	Lg. inc.	Lg. inc.	Low	Rare	Fair	Fair	Infill +	Infill +	1	21
swamp chestnut oak	Quercus michauxii	NSL	Low	15.2	22.1	2.2	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++	1	22
mockernut hickory	Carya alba	WDL	Medium	9.6	21.7	1.7	No change	No change	High	Rare	Fair	Fair	Infill +	Infill +	1	23
water hickory	Carya aquatica	NSL	Medium	5.7	21.1	8.3	Sm. dec.	No change	Medium	Rare	Very Poor	Poor		Infill +	2	24
black cherry	Prunus serotina	WDL	Medium	15.2	17.4	1.1	Sm. inc.	Lg. inc.	Low	Rare	Poor	Fair	Infill +	Infill +	1	25
sugarberry	Celtis laevigata	NDH	Medium	7.1	17.0	4.8	Sm. inc.	Lg. inc.	Medium	Rare	Fair	Good	Infill +	Infill ++	2	26
water tupelo	Nyssa aquatica	NSH	Medium	5.4	17.0	4.9	No change	No change	Low	Rare	Very Poor	Very Poor			2	27
American elm	Ulmus americana	WDH	Medium	12.7	16.9	1.3	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++	2	28
blackjack oak	Quercus marilandica	NSL	Medium	8.5	16.8	1.5	No change	No change	High	Rare	Fair	Fair	Infill +	Infill +	1	29
southern magnolia	Magnolia grandiflora	NSL	Low	11.6	15.7	2.1	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++	1	30
shortleaf pine	Pinus echinata	WDH	High	4.4	15.5	1.4	Sm. inc.	Sm. inc.	Medium	Rare	Fair	Fair	Infill +	Infill +	2	31
flowering dogwood	Cornus florida	WDL	Medium	11.1	15.4	0.7	No change	Sm. inc.	Medium	Rare	Poor	Fair	Infill +	Infill +	1	32
winged elm	Ulmus alata	WDL	Medium	16.9	14.9	1.4	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++	1	33
sassafras	Sassafras albidum	WSL	Low	12.3	13.3	1.0	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	34
eastern redcedar	Juniperus virginiana	WDH	Medium	2.4	11.4	3.8	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	2	35
redbay	Persea borbonia	NSL	Low	8.7	9.1	1.1	Sm. dec.	No change	High	Rare	Poor	Fair	Infill +	Infill +	1	36
swamp tupelo	Nyssa biflora	NDH	Medium	2.8	7.7	2.7	No change	No change	Low	Rare	Very Poor	Very Poor			2	37
live oak	Quercus virginiana	NDH	High	0.5	7.0	15.3	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			2	38
Nuttall oak	Quercus texana	NSH	Medium	3.9	6.7	2.5	No change	No change	High	Rare	Fair	Fair			0	39
bitternut hickory	Carya cordiformis	WSL	Low	0.7	5.2	1.4	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor	Infill +	Infill +	2	40
common persimmon	Diospyros virginiana	NSL	Low	4.1	3.9	1.2	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor	Infill +		1	41
pignut hickory	Carya glabra	WDL	Medium	2.7	3.8	0.6	Sm. dec.	No change	Medium	Rare	Very Poor	Poor		Infill +	2	42
eastern hophornbeam; ironw	Ostrya virginiana	WSL	Low	3.8	3.6	0.5	Sm. inc.	Sm. inc.	High	Rare	Good	Good	Infill ++	Infill ++	2	43
pecan	Carya illinoensis	NSH	Low	0.9	3.3	3.2	No change	Lg. inc.	Low	Rare	Very Poor	Fair		Infill +	2	44
yellow-poplar	Liriodendron tulipifera	WDH	High	0.2	3.2	2.5	No change	No change	High	Rare	Fair	Fair	Infill +		2	45
wild plum	Prunus americana	NSLX	FIA	0.5	3.1	6.8	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only			0	46
sycamore	Platanus occidentalis	NSL	Low	0.6	2.9	2.6	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			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
pond cypress	Taxodium ascendens	NSH	Medium	0.5	2.8	6.2	Sm. dec.	Lg. inc.	Medium	Rare	Very Poor	Good			0	48
black oak	Quercus velutina	WDH	High	4.9	2.2	1.5	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	49
river birch	Betula nigra	NSL	Low	0.9	1.3	1.2	No change	Sm. inc.	Medium	Rare	Poor	Fair	Infill +		2	50
slippery elm	Ulmus rubra	WSL	Low	4.8	1.1	1.7	Sm. inc.	Lg. inc.	Medium	Rare	Fair	Good	Infill +		2	51
black ash	Fraxinus nigra	WSH	Medium	0.5	1.1	2.3	Sm. dec.	Sm. dec.	Low	Rare	Very Poor	Very Poor			0	52
florida maple	Acer barbatum	NSL	Low	0.7	0.8	0.2	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor	Infill +		2	53
swamp white oak	Quercus bicolor	NSL	Low	0.5	0.6	1.2	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	54
northern red oak	Quercus rubra	WDH	Medium	0.5	0.4	0.9	Lg. dec.	Lg. dec.	High	Rare	Poor	Poor			0	55
red mulberry	Morus rubra	NSL	Low	1	0.4	0.2	Very Lg. dec.	Sm. dec.	Medium	Rare	Lost	Very Poor			0	56
cittamwood/gum bumelia	Sideroxylon lanuginosum ssp.	NSL	Low	0.5	0.3	0.7	Lg. inc.	Lg. inc.	High	Rare	Good	Good			2	57
bigleaf magnolia	Magnolia macrophylla	NSL	Low	0.7	0.3	0.2	No change	No change	Medium	Rare	Poor	Poor			0	58
eastern cottonwood	Populus deltoides	NSH	Low	0.5	0.3	0.6	Very Lg. dec.	Very Lg. dec.	Medium	Rare	Lost	Lost			0	59
shagbark hickory	Carya ovata	WSL	Medium	0	0.2	0.1	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	60
chinkapin oak	Quercus muehlenbergii	NSL	Medium	0.5	0.2	0.5	Sm. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	61
shellbark hickory	Carya laciniosa	NSL	Low	1.9	0.2	2.0	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	2	62
water elm	Planera aquatica	NSL	Low	0.5	0.2	0.5	No change	Lg. inc.	Medium	Rare	Poor	Good			2	63
ogeechee tupelo	Nyssa ogeche	NSLX	FIA	0.9	0.2	0.2	Unknown	Unknown	Low	Rare	FIA Only	FIA Only			0	64
black locust	Robinia pseudoacacia	NDH	Low	0.5	0.2	0.3	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	65
striped maple	Acer pensylvanicum	NSL	Medium	0.5	0.1	0.3	No change	No change	Medium	Rare	Poor	Poor			0	66
Shumard oak	Quercus shumardii	NSL	Low	0.5	0.1	0.3	No change	No change	High	Rare	Fair	Fair	Infill +		2	67
waterlocust	Gleditsia aquatica	NSLX	FIA	0	0.1	0.0	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only			0	68
hackberry	Celtis occidentalis	WDH	Medium	0	0.1	0.0	Lg. dec.	No change	High	Rare	Poor	Fair	Infill +		2	69
pin cherry	Prunus pensylvanica	NSL	Low	1.9	0.1	0.5	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			0	70
Atlantic white-cedar	Chamaecyparis thyoides	NSH	Low	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat			3	71
boxelder	Acer negundo	WSH	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Likely +	Likely +	3	72
serviceberry	Amelanchier spp.	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Likely +	Likely +	3	73
pawpaw	Asimina triloba	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			3	74
black hickory	Carya texana	NDL	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat		Migrate +	3	75
eastern redbud	Cercis canadensis	NSL	Low	0	0	0	Unknown	Unknown	Medium	Modeled	Unknown	Unknown			0	76
white ash	Fraxinus americana	WDL	Medium	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat	Likely +	Likely +	3	77
blue ash	Fraxinus quadrangulata	NSL	Low	0	0	0	Unknown	Unknown	Low	Modeled	Unknown	Unknown			0	78
honeylocust	Gleditsia triacanthos	NSH	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Likely +	Likely +	3	79
silverbell	Halesia spp.	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			3	80
sourwood	Oxydendrum arboreum	NDL	High	0	0	0	Unknown	Unknown	High	Modeled	Unknown	Unknown			0	81
scarlet oak	Quercus coccinea	WDL	Medium	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	82
bur oak	Quercus macrocarpa	NDH	Medium	0	0	0	Unknown	Unknown	High	Modeled	Unknown	Unknown			0	83
cabbage palmetto	Sabal palmetto	NDH	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			0	84
American basswood	Tilia americana	WSL	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			3	85
cedar elm	Ulmus crassifolia	NDH	Medium	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat	Likely +	Likely +	3	86