

HUC 080902 Lake Pontchartrain

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	12,021	4,641.4	58

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	1			High	13	19	Increase	21	25	Very Good	2	2
Hickory	4			Medium	33	47	No Change	23	20	Good	14	16
Maple	2	Abundant	1	Low	30	10	Decrease	7	6	Fair	12	16
Oak	14	Common	9	FIA	0		New	10	10	Poor	16	11
Pine	5	Rare	41				Unknown	15	15	Very Poor	6	4
Other	25	Absent	20							FIA Only	0	0
	51		71		76	76		76	76	Unknown	15	15
											65	64

Potential Changes in Climate Variables

Temperature (°F)

	Scenario	2009	2039	2069	2099	
Annual Average	CCSM45	51.2	52.0	52.9	53.0	
	CCSM85	51.2	52.1	53.4	54.5	
	GFDL45	51.2	53.0	53.4	53.8	
	GFDL85	51.2	52.4	54.0	55.8	
	HAD45	51.2	52.3	53.6	54.2	
HAD85	51.2	52.4	54.1	56.0		
Growing Season (May—Sep)	CCSM45	57.4	58.0	58.7	58.9	
	CCSM85	57.4	58.1	59.3	60.6	
	GFDL45	57.4	59.3	59.5	60.3	
	GFDL85	57.4	58.7	60.3	62.3	
	HAD45	57.4	58.8	59.9	60.4	
HAD85	57.4	58.8	61.0	62.6		
Coldest Month (Average)	CCSM45	41.7	42.8	43.3	43.2	
	CCSM85	41.7	43.0	43.7	44.3	
	GFDL45	41.7	43.4	43.5	43.6	
	GFDL85	41.7	42.5	43.0	43.4	
	HAD45	41.7	41.8	42.7	43.1	
HAD85	41.7	42.6	43.3	44.2		
Warmest Month (Average)	CCSM45	59.0	59.5	59.7	59.8	
	CCSM85	59.0	59.6	60.1	60.9	
	GFDL45	59.0	60.5	60.6	61.1	
	GFDL85	59.0	60.3	61.0	62.1	
	HAD45	59.0	60.6	61.3	61.4	
HAD85	59.0	60.7	62.0	62.5		

Precipitation (in)

	Scenario	2009	2039	2069	2099	
Annual Total	CCSM45	33.1	34.4	37.4	36.2	
	CCSM85	33.1	34.7	35.5	36.8	
	GFDL45	33.1	36.6	39.0	37.0	
	GFDL85	33.1	35.5	36.4	36.1	
	HAD45	33.1	31.4	32.8	34.6	
HAD85	33.1	35.3	31.2	32.8		
Growing Season (May—Sep)	CCSM45	15.3	16.0	16.6	16.4	
	CCSM85	15.3	15.2	16.1	15.7	
	GFDL45	15.3	17.7	19.7	17.5	
	GFDL85	15.3	17.4	18.6	19.1	
	HAD45	15.3	14.7	15.0	15.8	
HAD85	15.3	15.5	12.6	12.9		

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-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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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
loblolly pine	Pinus taeda	WDH	High	32.5	869.8	28.8	No change	No change	Medium	Abundant	Good	Good	Infill ++	Infill ++	1	1
slash pine	Pinus elliottii	NDH	High	11.5	224.4	22.4	Sm. inc.	Sm. inc.	Medium	Common	Good	Good	Infill ++	Infill ++	2	2
red maple	Acer rubrum	WDH	High	33.7	143.8	4.6	Sm. inc.	Sm. inc.	High	Common	Very Good	Very Good	Infill ++	Infill ++	1	3
water oak	Quercus nigra	WDH	High	28.4	136.7	5.9	Sm. inc.	Sm. inc.	Medium	Common	Good	Good	Infill ++	Infill ++	1	4
bald cypress	Taxodium distichum	NSH	Medium	16.6	127.7	8.4	Sm. inc.	Sm. inc.	Medium	Common	Good	Good	Infill ++	Infill ++	1	5
sweetgum	Liquidambar styraciflua	WDH	High	25.4	104.4	5.2	Sm. inc.	Sm. inc.	Medium	Common	Good	Good	Infill ++	Infill ++	1	6
longleaf pine	Pinus palustris	NSH	Medium	8.8	102.5	7.2	No change	No change	Medium	Common	Fair	Fair	Infill +	Infill +	1	7
blackgum	Nyssa sylvatica	WDL	Medium	27.6	73.1	2.6	Sm. inc.	Sm. inc.	High	Common	Very Good	Very Good	Infill ++	Infill ++	1	8
laurel oak	Quercus laurifolia	NDH	Medium	19.7	59.2	4.4	Sm. inc.	Sm. inc.	Medium	Common	Good	Good	Infill ++	Infill ++	1	9
green ash	Fraxinus pennsylvanica	WSH	Low	6.4	54.0	9.8	No change	No change	Medium	Common	Fair	Fair	Infill +	Infill +	2	10
swamp tupelo	Nyssa biflora	NDH	Medium	5	44.5	7.4	No change	No change	Low	Rare	Very Poor	Very Poor			0	11
water tupelo	Nyssa aquatica	NSH	Medium	6.9	39.6	4.6	No change	No change	Low	Rare	Very Poor	Very Poor			2	12
post oak	Quercus stellata	WDH	High	8.7	33.1	2.9	No change	No change	High	Rare	Fair	Fair	Infill +	Infill +	2	13
live oak	Quercus virginiana	NDH	High	18.4	30.3	6.6	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++	2	14
black cherry	Prunus serotina	WDL	Medium	13.2	29.4	2.0	Sm. inc.	Sm. inc.	Low	Rare	Poor	Poor	Infill +	Infill +	1	15
southern red oak	Quercus falcata	WDL	Medium	14.4	24.2	1.2	Lg. inc.	Lg. inc.	High	Rare	Good	Good	Infill ++	Infill ++	1	16
shortleaf pine	Pinus echinata	WDH	High	3.1	24.1	2.3	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	2	17
American elm	Ulmus americana	WDH	Medium	10.6	22.7	8.0	Sm. inc.	Lg. inc.	Medium	Rare	Fair	Good	Infill +		2	18
sweetbay	Magnolia virginiana	NSL	Medium	11.2	21.3	2.4	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++	1	19
black willow	Salix nigra	NSH	Low	10.4	16.5	4.1	Lg. inc.	Lg. inc.	Low	Rare	Fair	Fair	Infill +	Infill +	2	20
redbay	Persea borbonia	NSL	Low	1.9	16.5	5.1	No change	No change	High	Rare	Fair	Fair	Infill +	Infill +	2	21
blackjack oak	Quercus marilandica	NSL	Medium	4.6	16.1	2.7	Sm. dec.	No change	High	Rare	Poor	Fair	Infill +	Infill +	2	22
American hornbeam; muscle	Carpinus caroliniana	WSL	Low	3.1	13.8	2.2	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	1	23
pond cypress	Taxodium ascendens	NSH	Medium	8.8	11.1	2.8	No change	Sm. inc.	Medium	Rare	Poor	Fair	Infill +	Infill +	2	24
white oak	Quercus alba	WDH	Medium	5.8	10.2	3.0	No change	No change	High	Rare	Fair	Fair	Infill +	Infill +	2	25
willow oak	Quercus phellos	NSL	Low	12	9.7	7.8	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++	2	26
river birch	Betula nigra	NSL	Low	0.2	9.3	1.5	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	2	27
spruce pine	Pinus glabra	NSL	Low	3	9.3	5.3	Sm. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	28
mockernut hickory	Carya alba	WDL	Medium	3.3	9.1	1.7	No change	No change	High	Rare	Fair	Fair	Infill +	Infill +	2	29
southern magnolia	Magnolia grandiflora	NSL	Low	4.7	8.7	2.0	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	2	30
flowering dogwood	Cornus florida	WDL	Medium	9.1	7.1	0.7	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	1	31
sassafras	Sassafras albidum	WSL	Low	3	6.9	1.0	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			2	32
American holly	Ilex opaca	NSL	Medium	7.5	5.4	0.7	Sm. inc.	Sm. inc.	Medium	Rare	Fair	Fair	Infill +	Infill +	1	33
yellow-poplar	Liriodendron tulipifera	WDH	High	1.3	4.5	1.2	Sm. inc.	No change	High	Rare	Good	Fair	Infill ++		2	34
swamp chestnut oak	Quercus michauxii	NSL	Low	3.2	4.0	2.4	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	2	35
sugarberry	Celtis laevigata	NDH	Medium	3.6	3.9	1.5	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			2	36
northern red oak	Quercus rubra	WDH	Medium	0.9	3.8	2.6	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor			0	37
American beech	Fagus grandifolia	WDH	High	3	3.6	2.0	No change	Sm. inc.	Medium	Rare	Poor	Fair	Infill +	Infill +	2	38
boxelder	Acer negundo	WSH	Low	5.6	2.9	1.8	No change	No change	High	Rare	Fair	Fair	Infill +	Infill +	2	39
sourwood	Oxydendrum arboreum	NDL	High	1.5	2.9	3.3	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor	Infill +		2	40
overcup oak	Quercus lyrata	NSL	Medium	0.4	2.3	0.7	Sm. inc.	Lg. inc.	Low	Rare	Poor	Fair	Infill +	Infill +	2	41
common persimmon	Diospyros virginiana	NSL	Low	5.1	1.7	0.4	Very Lg. dec.	Very Lg. dec.	High	Rare	Lost	Lost			0	42
water hickory	Carya aquatica	NSL	Medium	3.1	1.7	0.5	No change	No change	Medium	Rare	Poor	Poor		Infill +	2	43
winged elm	Ulmus alata	WDL	Medium	0.1	1.5	0.1	Sm. inc.	Lg. inc.	Medium	Rare	Fair	Good			2	44
pecan	Carya illinoensis	NSH	Low	2.7	1.5	3.1	No change	Lg. inc.	Low	Rare	Very Poor	Fair		Infill +	2	45
sycamore	Platanus occidentalis	NSL	Low	0.9	1.2	0.1	No change	Sm. inc.	Medium	Rare	Poor	Fair	Infill +	Infill +	2	46
cherrybark oak; swamp red o	Quercus pagoda	NSL	Medium	1.6	0.5	0.6	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			2	47

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Common Name	Scientific Name	Range	MR	%Cell	FIAsum	FIAiv	ChngCl45	ChngCl85	Adap	Abund	Capabil45	Capabil85	SHIFT45	SHIFT85	SSO	N
black oak	Quercus velutina	WDH	High	1.6	0.5	0.6	Lg. dec.	Very Lg. dec.	Medium	Rare	Very Poor	Lost			0	48
eastern hophornbeam; ironw	Ostrya virginiana	WSL	Low	3.4	0.5	0.4	Lg. inc.	Lg. inc.	High	Rare	Good	Good	Infill ++	Infill ++	2	49
pignut hickory	Carya glabra	WDL	Medium	1.6	0.5	0.6	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	2	50
Nuttall oak	Quercus texana	NSH	Medium	0.4	0.3	0.1	No change	Lg. inc.	High	Rare	Fair	Good			0	51
Atlantic white-cedar	Chamaecyparis thyoides	NSH	Low	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat	Migrate +		3	52
florida maple	Acer barbatum	NSL	Low	0	0	0	Unknown	Unknown	High	Modeled	Unknown	Unknown			0	53
striped maple	Acer pensylvanicum	NSL	Medium	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	54
silver maple	Acer saccharinum	NSH	Low	0	0	0	Unknown	Unknown	High	Absent	Unknown	Unknown			0	55
serviceberry	Amelanchier spp.	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			3	56
pawpaw	Asimina triloba	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	57
cittamwood/gum bumelia	Sideroxylon lanuginosum ssp.	NSL	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Migrate +	Migrate +	3	58
black hickory	Carya texana	NDL	High	0	0	0	Unknown	New Habitat	Medium	Absent	Unknown	New Habitat		Migrate +	3	59
eastern redbud	Cercis canadensis	NSL	Low	0	0	0	Unknown	Unknown	Medium	Modeled	Unknown	Unknown			0	60
white ash	Fraxinus americana	WDL	Medium	0	0	0	Unknown	Unknown	Low	Modeled	Unknown	Unknown			0	61
black ash	Fraxinus nigra	WSH	Medium	0	0	0	Unknown	Unknown	Low	Absent	Unknown	Unknown			0	62
silverbell	Halesia spp.	NSL	Low	0	0	0	New Habitat	Unknown	Medium	Absent	New Habitat	Unknown	Likely +		3	63
black walnut	Juglans nigra	WDH	Low	0	0	0	Unknown	Unknown	Medium	Modeled	Unknown	Unknown			0	64
cucumbertree	Magnolia acuminata	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	65
bigleaf magnolia	Magnolia macrophylla	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Likely +	Likely +	3	66
red mulberry	Morus rubra	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Likely +	Likely +	3	67
eastern cottonwood	Populus deltoides	NSH	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Likely +	Likely +	3	68
pin cherry	Prunus pensylvanica	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	69
scarlet oak	Quercus coccinea	WDL	Medium	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	70
turkey oak	Quercus laevis	NSH	Medium	0	0	0	Unknown	Unknown	High	Modeled	Unknown	Unknown			0	71
chinkapin oak	Quercus muehlenbergii	NSL	Medium	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	72
cabbage palmetto	Sabal palmetto	NDH	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			0	73
American basswood	Tilia americana	WSL	Medium	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	74
cedar elm	Ulmus crassifolia	NDH	Medium	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat	Migrate +	Migrate ++	3	75
slippery elm	Ulmus rubra	WSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Likely +	Likely +	3	76