

HUC 120100 Sabine

HUC 6 Watershed Climate Change Atlas Tree Species Current and Potential Future Habitat, Capability, and Migration

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	sq. km	sq. mi	FIA Plots
Area of Region	25,500	9,845.5	735

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	
						RCP45	RCP85	RCP45	RCP85	RCP45	RCP85	
Ash	3			High	15	25	Increase	33	34	Very Good	10	14
Hickory	7			Medium	37	55	No Change	19	22	Good	20	20
Maple	3	Abundant	3	Low	36	11	Decrease	19	15	Fair	8	7
Oak	18	Common	25	FIA	4		New	11	10	Poor	19	18
Pine	4	Rare	47				Unknown	10	11	Very Poor	13	12
Other	40	Absent	16							FIA Only	4	4
	75		91		92	91		92	92	Unknown	6	7
											80	82

Potential Changes in Climate Variables

Temperature (°F)

	Scenario	2009	2039	2069	2099	
Annual Average	CCSM45	57.3	58.5	59.8	60.0	
	CCSM85	57.3	58.9	60.7	62.5	
	GFDL45	57.3	59.5	60.4	61.4	
	GFDL85	57.3	59.3	61.5	64.0	
	HAD45	57.3	59.0	61.2	61.9	
	HAD85	57.3	59.3	62.2	64.9	
	Growing Season (May—Sep)	CCSM45	67.4	68.5	69.4	69.7
CCSM85		67.4	68.9	70.5	72.8	
GFDL45		67.4	69.9	70.7	72.5	
GFDL85		67.4	69.8	72.2	75.4	
HAD45		67.4	69.5	71.5	71.8	
HAD85		67.4	69.8	73.2	75.5	
Coldest Month		CCSM45	42.2	44.2	44.9	44.9
	CCSM85	42.2	44.2	45.1	46.1	
	GFDL45	42.2	44.9	45.0	45.0	
	GFDL85	42.2	43.0	43.9	44.3	
	HAD45	42.2	42.8	44.2	44.7	
	HAD85	42.2	44.0	45.3	46.7	
	Warmest Month	CCSM45	70.8	71.6	72.0	72.1
CCSM85		70.8	72.2	72.7	73.9	
GFDL45		70.8	74.1	74.0	75.3	
GFDL85		70.8	73.8	74.9	77.1	
HAD45		70.8	73.3	74.2	74.2	
HAD85		70.8	73.7	75.6	76.3	

Precipitation (in)

	Scenario	2009	2039	2069	2099	
Annual Total	CCSM45	39.3	39.6	43.7	42.6	
	CCSM85	39.3	40.5	43.6	43.9	
	GFDL45	39.3	41.3	48.2	41.6	
	GFDL85	39.3	40.9	43.2	43.4	
	HAD45	39.3	38.8	38.6	41.9	
	HAD85	39.3	41.3	35.9	38.3	
	Growing Season (May—Sep)	CCSM45	15.2	15.8	16.5	16.2
CCSM85		15.2	14.8	15.3	14.8	
GFDL45		15.2	16.8	21.0	17.0	
GFDL85		15.2	17.0	18.4	18.7	
HAD45		15.2	14.5	14.2	15.0	
HAD85		15.2	14.9	12.0	12.4	

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	74.3	3622.8	35.0	No change	No change	Medium	Abundant	Good	Good			1	1
sweetgum	Liquidambar styraciflua	WDH	High	77.7	1007.3	9.4	No change	No change	Medium	Abundant	Good	Good			1	2
water oak	Quercus nigra	WDH	High	75	570.3	6.3	Lg. inc.	Lg. inc.	Medium	Abundant	Very Good	Very Good			1	3
shortleaf pine	Pinus echinata	WDH	High	42.7	444.2	6.4	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	4
slash pine	Pinus elliottii	NDH	High	15.6	381.4	13.5	Sm. inc.	Sm. inc.	Medium	Common	Good	Good	Infill ++	Infill ++	1	5
post oak	Quercus stellata	WDH	High	45.3	342.3	6.6	Lg. inc.	Lg. inc.	High	Common	Very Good	Very Good			1	6
southern red oak	Quercus falcata	WDL	Medium	56.5	336.1	4.3	Sm. inc.	Sm. inc.	High	Common	Very Good	Very Good			1	7
winged elm	Ulmus alata	WDL	Medium	59.6	308.6	4.1	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	8
white oak	Quercus alba	WDH	Medium	37.7	209.7	4.1	No change	No change	High	Common	Good	Good			1	9
blackgum	Nyssa sylvatica	WDL	Medium	48.7	199.9	2.6	Sm. inc.	Sm. inc.	High	Common	Very Good	Very Good			1	10
willow oak	Quercus phellos	NSL	Low	27.5	177.6	5.7	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	11
longleaf pine	Pinus palustris	NSH	Medium	12	159.6	7.5	Sm. inc.	Lg. inc.	Medium	Common	Good	Very Good	Infill ++	Infill ++	1	12
sugarberry	Celtis laevigata	NDH	Medium	31	152.7	5.9	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	13
eastern redcedar	Juniperus virginiana	WDH	Medium	29	138.5	5.4	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good	Infill ++	Infill ++	1	14
red maple	Acer rubrum	WDH	High	49.9	133.5	1.9	Sm. inc.	Lg. inc.	High	Common	Very Good	Very Good			1	15
green ash	Fraxinus pennsylvanica	WSH	Low	33.1	122.9	3.9	Sm. inc.	Lg. inc.	Medium	Common	Good	Very Good			1	16
American hornbeam; muscley	Carpinus caroliniana	WSL	Low	32.6	111.2	2.7	Sm. inc.	Lg. inc.	Medium	Common	Good	Very Good			1	17
American elm	Ulmus americana	WDH	Medium	36.2	106.9	2.9	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	18
cherrybark oak; swamp red o	Quercus pagoda	NSL	Medium	29.6	105.0	2.7	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	19
laurel oak	Quercus laurifolia	NDH	Medium	15.6	85.1	3.7	Sm. inc.	Sm. inc.	Medium	Common	Good	Good	Infill ++	Infill ++	1	20
overcup oak	Quercus lyrata	NSL	Medium	13.3	84.3	6.5	Sm. dec.	No change	Low	Common	Poor	Poor			0	21
mockernut hickory	Carya alba	WDL	Medium	34.2	82.9	2.2	Lg. inc.	Lg. inc.	High	Common	Very Good	Very Good			1	22
sweetbay	Magnolia virginiana	NSL	Medium	11.6	71.0	3.8	Sm. inc.	Sm. inc.	Medium	Common	Good	Good	Infill ++	Infill ++	1	23
black willow	Salix nigra	NSH	Low	10.6	69.5	7.1	Sm. inc.	Lg. inc.	Low	Common	Fair	Good			1	24
cedar elm	Ulmus crassifolia	NDH	Medium	15	61.1	6.5	Lg. inc.	Lg. inc.	Low	Common	Good	Good	Infill ++	Infill ++	1	25
eastern hophornbeam; ironw	Ostrya virginiana	WSL	Low	22.4	57.4	2.0	Sm. inc.	Sm. inc.	High	Common	Very Good	Very Good			1	26
bald cypress	Taxodium distichum	NSH	Medium	7	55.9	6.4	No change	No change	Medium	Common	Fair	Fair	Infill +	Infill +	1	27
American holly	Ilex opaca	NSL	Medium	27.6	53.7	1.6	Sm. inc.	Lg. inc.	Medium	Common	Good	Very Good			1	28
American beech	Fagus grandifolia	WDH	High	15.3	47.5	2.6	Sm. inc.	Sm. inc.	Medium	Rare	Fair	Fair	Infill +	Infill +	1	29
blackjack oak	Quercus marilandica	NSL	Medium	16.1	42.0	1.8	Lg. inc.	Lg. inc.	High	Rare	Good	Good			1	30
black hickory	Carya texana	NDL	High	15.1	39.6	2.2	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++	1	31
river birch	Betula nigra	NSL	Low	8.7	36.7	4.0	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	1	32
white ash	Fraxinus americana	WDL	Medium	23.1	35.3	1.2	Sm. inc.	Sm. inc.	Low	Rare	Poor	Poor			1	33
pecan	Carya illinoensis	NSH	Low	5.4	31.2	5.0	No change	No change	Low	Rare	Very Poor	Very Poor			0	34
florida maple	Acer barbatum	NSL	Low	14.8	29.6	1.5	Lg. dec.	Lg. dec.	High	Rare	Poor	Poor	Infill +	Infill +	1	35
sassafras	Sassafras albidum	WSL	Low	17.4	29.0	1.1	Sm. inc.	Lg. inc.	Medium	Rare	Fair	Good			1	36
black cherry	Prunus serotina	WDL	Medium	27.3	28.8	0.8	Sm. inc.	Lg. inc.	Low	Rare	Poor	Fair			1	37
flowering dogwood	Cornus florida	WDL	Medium	21.9	28.7	1.0	Sm. inc.	Lg. inc.	Medium	Rare	Fair	Good			1	38
common persimmon	Diospyros virginiana	NSL	Low	12	25.9	1.6	Sm. dec.	Sm. inc.	High	Rare	Poor	Good			1	39
honeylocust	Gleditsia triacanthos	NSH	Low	16.3	23.6	3.6	Sm. dec.	No change	High	Rare	Poor	Fair	Infill +	Infill +	1	40
black walnut	Juglans nigra	WDH	Low	1	21.6	8.2	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	41
water elm	Planera aquatica	NSL	Low	4.4	17.7	3.7	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	1	42
slippery elm	Ulmus rubra	WSL	Low	4.9	17.5	1.8	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	1	43
water hickory	Carya aquatica	NSL	Medium	9.2	16.9	1.7	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	1	44
southern magnolia	Magnolia grandiflora	NSL	Low	9.4	16.3	1.3	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	1	45
bluejack oak	Quercus incana	NSL	Low	4.4	15.7	2.0	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	1	46
cittamwood/gum bumelia	Sideroxylon lanuginosum ssp.	NSL	Low	6	13.8	2.7	Lg. inc.	Lg. inc.	High	Rare	Good	Good	Infill ++	Infill ++	1	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	3	13.6	3.6	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	48
bitternut hickory	Carya cordiformis	WSL	Low	6	13.4	2.4	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor		Infill +	2	49
swamp tupelo	Nyssa biflora	NDH	Medium	2.4	12.9	5.5	No change	No change	Low	Rare	Very Poor	Very Poor			2	50
sycamore	Platanus occidentalis	NSL	Low	3	12.8	4.0	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			2	51
swamp chestnut oak	Quercus michauxii	NSL	Low	6.7	12.6	1.5	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	1	52
Osage-orange	Maclura pomifera	NDH	Medium	9	11.9	4.2	No change	No change	High	Rare	Fair	Fair	Infill +	Infill +	2	53
redbay	Persea borbonia	NSL	Low	7.6	11.3	1.0	No change	No change	High	Rare	Fair	Fair	Infill +	Infill +	1	54
boxelder	Acer negundo	WSH	Low	4.8	11.2	2.9	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor	Infill +	Infill +	2	55
red mulberry	Morus rubra	NSL	Low	13.3	8.8	0.9	No change	No change	Medium	Rare	Poor	Poor			1	56
Shumard oak	Quercus shumardii	NSL	Low	6.7	8.6	1.2	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor	Infill +	Infill +	2	57
eastern redbud	Cercis canadensis	NSL	Low	4	6.1	1.3	Sm. dec.	No change	Medium	Rare	Very Poor	Poor		Infill +	1	58
wild plum	Prunus americana	NSLX	FIA	3.1	4.4	1.8	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only			0	59
eastern cottonwood	Populus deltoides	NSH	Low	2.2	4.3	1.9	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			2	60
hackberry	Celtis occidentalis	WDH	Medium	4.6	3.8	1.4	No change	No change	High	Rare	Fair	Fair	Infill +	Infill +	2	61
water tupelo	Nyssa aquatica	NSH	Medium	1.3	3.5	1.8	No change	No change	Low	Rare	Very Poor	Very Poor			2	62
bur oak	Quercus macrocarpa	NDH	Medium	1.2	2.5	3.7	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor			0	63
American basswood	Tilia americana	WSL	Medium	0.4	2.2	5.6	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			2	64
waterlocust	Gleditsia aquatica	NSLX	FIA	0.8	2.0	2.6	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only			0	65
shagbark hickory	Carya ovata	WSL	Medium	3.3	1.9	1.0	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	66
pignut hickory	Carya glabra	WDL	Medium	0.9	1.4	0.5	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	2	67
Texas ash	Fraxinus texensis	NDH	FIA	1	1.0	6.3	Unknown	Unknown	NA	Rare	FIA Only	FIA Only			0	68
swamp white oak	Quercus bicolor	NSL	Low	0.4	1.0	2.4	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	69
live oak	Quercus virginiana	NDH	High	3.4	0.7	1.5	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			2	70
Nuttall oak	Quercus texana	NSH	Medium	0	0.6	0.2	Very Lg. dec.	Sm. dec.	High	Rare	Lost	Poor			0	71
turkey oak	Quercus laevis	NSH	Medium	0.4	0.2	0.5	Sm. inc.	Lg. inc.	High	Rare	Good	Good			2	72
black locust	Robinia pseudoacacia	NDH	Low	0.4	0.2	0.4	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	73
pawpaw	Asimina triloba	NSL	Low	0	0.1	0.0	Sm. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	74
ogeechee tupelo	Nyssa ogeche	NSLX	FIA	0	0.1	0.0	Unknown	Unknown	Low	Rare	FIA Only	FIA Only			0	75
ashe juniper	Juniperus ashei	NDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			0	76
striped maple	Acer pensylvanicum	NSL	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			3	77
serviceberry	Amelanchier spp.	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			3	78
shellbark hickory	Carya laciniosa	NSL	Low	0	0	0	New Habitat	Unknown	Medium	Absent	New Habitat	Unknown			3	79
black ash	Fraxinus nigra	WSH	Medium	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat	Likely +	Likely +	3	80
blue ash	Fraxinus quadrangulata	NSL	Low	0	0	0	Unknown	Unknown	Low	Modeled	Unknown	Unknown			0	81
silverbell	Halesia spp.	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Likely +	Likely +	3	82
yellow-poplar	Liriodendron tulipifera	WDH	High	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Migrate +	Migrate +	3	83
cucumber tree	Magnolia acuminata	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	84
bigleaf magnolia	Magnolia macrophylla	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			3	85
sourwood	Oxydendrum arboreum	NDL	High	0	0	0	Unknown	Unknown	High	Absent	Unknown	Unknown			0	86
pin cherry	Prunus pensylvanica	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Likely +	Likely +	3	87
scarlet oak	Quercus coccinea	WDL	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			3	88
chinkapin oak	Quercus muehlenbergii	NSL	Medium	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	89
chestnut oak	Quercus prinus	NDH	High	0	0	0	Unknown	Unknown	High	Absent	Unknown	Unknown			0	90
northern red oak	Quercus rubra	WDH	Medium	0	0	0	Unknown	Unknown	High	Absent	Unknown	Unknown			0	91
cabbage palmetto	Sabal palmetto	NDH	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			0	92