

One x One Degree
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

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	96.8	5391.3	38.8	No change	Sm. dec.	Medium	Abundant	Good	Fair			1	1
sweetgum	Liquidambar styraciflua	WDH	High	95.9	1399.3	10.4	No change	No change	Medium	Abundant	Good	Good			1	2
shortleaf pine	Pinus echinata	WDH	High	68.7	656.6	6.5	No change	No change	Medium	Abundant	Good	Good			1	3
water oak	Quercus nigra	WDH	High	79.5	562.9	4.9	Lg. inc.	Lg. inc.	Medium	Abundant	Very Good	Very Good			1	4
post oak	Quercus stellata	WDH	High	64.9	433.3	5.0	Lg. inc.	Lg. inc.	High	Common	Very Good	Very Good			1	5
winged elm	Ulmus alata	WDL	Medium	79.4	326.7	2.7	Sm. inc.	Lg. inc.	Medium	Common	Good	Very Good			1	6
white oak	Quercus alba	WDH	Medium	51.9	245.3	2.8	No change	No change	High	Common	Good	Good			1	7
southern red oak	Quercus falcata	WDL	Medium	71.8	217.8	2.2	Lg. inc.	Lg. inc.	High	Common	Very Good	Very Good			1	8
cherrybark oak; swamp red o	Quercus pagoda	NSL	Medium	59.4	210.4	2.6	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	9
red maple	Acer rubrum	WDH	High	59	174.8	2.2	Sm. inc.	Sm. inc.	High	Common	Very Good	Very Good			1	10
blackgum	Nyssa sylvatica	WDL	Medium	53.8	172.7	2.1	Lg. inc.	Lg. inc.	High	Common	Very Good	Very Good			1	11
green ash	Fraxinus pennsylvanica	WSH	Low	23.5	149.6	4.1	Sm. inc.	Lg. inc.	Medium	Common	Good	Very Good			1	12
American hornbeam; musclev	Carpinus caroliniana	WSL	Low	43.2	133.2	2.1	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	13
longleaf pine	Pinus palustris	NSH	Medium	14.9	132.6	7.6	No change	Sm. inc.	Medium	Common	Fair	Good	Infill +	Infill ++	1	14
willow oak	Quercus phellos	NSL	Low	36.8	127.0	2.3	Sm. inc.	Lg. inc.	Medium	Common	Good	Very Good			1	15
American elm	Ulmus americana	WDH	Medium	36.2	111.4	2.1	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	16
overcup oak	Quercus lyrata	NSL	Medium	14.2	105.8	4.4	Sm. dec.	Sm. dec.	Low	Common	Poor	Poor			0	17
eastern redcedar	Juniperus virginiana	WDH	Medium	22.8	93.4	2.4	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	18
mockernut hickory	Carya alba	WDL	Medium	44.4	91.3	1.7	Lg. inc.	Lg. inc.	High	Common	Very Good	Very Good			1	19
eastern hophornbeam; ironw	Ostrya virginiana	WSL	Low	38.4	81.7	1.3	Sm. inc.	Sm. inc.	High	Common	Very Good	Very Good			1	20
black willow	Salix nigra	NSH	Low	8.2	77.0	3.8	No change	No change	Low	Common	Poor	Poor			0	21
white ash	Fraxinus americana	WDL	Medium	35	71.6	1.6	Sm. inc.	Sm. inc.	Low	Common	Fair	Fair			1	22
sugarberry	Celtis laevigata	NDH	Medium	25.7	66.3	1.9	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	23
American holly	Ilex opaca	NSL	Medium	32.3	54.3	1.1	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	24
water elm	Planera aquatica	NSL	Low	5.7	53.7	5.0	Sm. dec.	No change	Medium	Common	Poor	Fair			1	25
slash pine	Pinus elliotii	NDH	High	8.2	51.0	5.0	No change	Sm. inc.	Medium	Common	Fair	Good	Infill +	Infill ++	1	26
black hickory	Carya texana	NDL	High	22.1	43.9	1.5	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			1	27
florida maple	Acer barbatum	NSL	Low	23.1	42.5	1.3	Lg. dec.	Lg. dec.	High	Rare	Poor	Poor			1	28
sassafras	Sassafras albidum	WSL	Low	24.1	41.9	1.1	Sm. inc.	Sm. inc.	Medium	Rare	Fair	Fair			1	29
American beech	Fagus grandifolia	WDH	High	11	30.9	1.2	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++	2	30
black cherry	Prunus serotina	WDL	Medium	26.3	29.3	0.8	No change	Sm. inc.	Low	Rare	Very Poor	Poor			1	31
flowering dogwood	Cornus florida	WDL	Medium	26.3	26.9	0.6	Sm. inc.	Lg. inc.	Medium	Rare	Fair	Good			1	32
sycamore	Platanus occidentalis	NSL	Low	4.4	22.4	4.5	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			2	33
river birch	Betula nigra	NSL	Low	5.5	22.4	3.9	No change	No change	Medium	Rare	Poor	Poor			1	34
swamp chestnut oak	Quercus michauxii	NSL	Low	8.3	20.6	1.7	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	1	35
sweetbay	Magnolia virginiana	NSL	Medium	5.4	16.7	1.7	No change	Sm. inc.	Medium	Rare	Poor	Fair	Infill +	Infill +	1	36
common persimmon	Diospyros virginiana	NSL	Low	8.7	16.2	1.1	Sm. dec.	No change	High	Rare	Poor	Fair			1	37
cedar elm	Ulmus crassifolia	NDH	Medium	4.6	15.5	2.1	Lg. inc.	Lg. inc.	Low	Rare	Fair	Fair	Infill +	Infill +	2	38
Shumard oak	Quercus shumardii	NSL	Low	4	14.8	2.4	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor			0	39
laurel oak	Quercus laurifolia	NDH	Medium	4.1	14.7	1.3	No change	Sm. inc.	Medium	Rare	Poor	Fair	Infill +		2	40
water hickory	Carya aquatica	NSL	Medium	6.4	14.5	1.7	Sm. dec.	No change	Medium	Rare	Very Poor	Poor		Infill +	2	41
red mulberry	Morus rubra	NSL	Low	12.1	12.9	0.8	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	42
bluejack oak	Quercus incana	NSL	Low	6.7	12.3	1.4	No change	No change	Medium	Rare	Poor	Poor		Infill +	1	43
bald cypress	Taxodium distichum	NSH	Medium	3.1	12.3	1.7	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	2	44
honeylocust	Gleditsia triacanthos	NSH	Low	7.4	10.3	1.1	Sm. dec.	No change	High	Rare	Poor	Fair		Infill +	1	45
blackjack oak	Quercus marilandica	NSL	Medium	8.4	9.0	0.6	Lg. inc.	Lg. inc.	High	Rare	Good	Good	Infill ++	Infill ++	1	46
eastern cottonwood	Populus deltoides	NSH	Low	0.9	8.6	9.1	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	47



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swamp tupelo	<i>Nyssa biflora</i>	NDH	Medium	1.9	8.6	4.5	No change	No change	Low	Rare	Very Poor	Very Poor			2	48
eastern redbud	<i>Cercis canadensis</i>	NSL	Low	7.1	8.5	1.1	Sm. dec.	No change	Medium	Rare	Very Poor	Poor			1	49
pecan	<i>Carya illinoensis</i>	NSH	Low	4.1	8.1	0.8	No change	Sm. inc.	Low	Rare	Very Poor	Poor	Infill +		2	50
shagbark hickory	<i>Carya ovata</i>	WSL	Medium	3.2	7.3	0.9	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	51
black walnut	<i>Juglans nigra</i>	WDH	Low	2.6	6.4	1.7	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	52
slippery elm	<i>Ulmus rubra</i>	WSL	Low	3.3	5.7	1.3	Sm. dec.	No change	Medium	Rare	Very Poor	Poor	Infill +		2	53
waterlocust	<i>Gleditsia aquatica</i>	NSLX	FIA	0.1	3.9	0.4	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only			0	54
boxelder	<i>Acer negundo</i>	WSH	Low	1.5	3.0	1.5	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor	Infill +		2	55
southern magnolia	<i>Magnolia grandiflora</i>	NSL	Low	2.3	2.2	0.3	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++	2	56
wild plum	<i>Prunus americana</i>	NSLX	FIA	0.8	1.5	0.4	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only			0	57
redbay	<i>Persea borbonia</i>	NSL	Low	0.4	1.4	0.2	Sm. dec.	No change	High	Rare	Poor	Fair	Infill +		2	58
bitternut hickory	<i>Carya cordiformis</i>	WSL	Low	2.2	1.2	0.3	Very Lg. dec.	Very Lg. dec.	High	Rare	Lost	Lost			0	59
cittamwood/gum bumelia	<i>Sideroxylon lanuginosum ssp.</i>	NSL	Low	2.4	0.9	0.3	Lg. inc.	Lg. inc.	High	Rare	Good	Good	Infill ++	Infill ++	1	60
American basswood	<i>Tilia americana</i>	WSL	Medium	0.9	0.7	0.8	Very Lg. dec.	Very Lg. dec.	Medium	Rare	Lost	Lost			0	61
Virginia pine	<i>Pinus virginiana</i>	NDH	High	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	62
striped maple	<i>Acer pensylvanicum</i>	NSL	Medium	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	63
serviceberry	<i>Amelanchier spp.</i>	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			3	64
pignut hickory	<i>Carya glabra</i>	WDL	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate +	Migrate +	3	65
shellbark hickory	<i>Carya laciniosa</i>	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			3	66
black ash	<i>Fraxinus nigra</i>	WSH	Medium	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat			3	67
silverbell	<i>Halesia spp.</i>	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	68
yellow-poplar	<i>Liriodendron tulipifera</i>	WDH	High	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Migrate +		3	69
cucumbertree	<i>Magnolia acuminata</i>	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	70
bigleaf magnolia	<i>Magnolia macrophylla</i>	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	71
pin cherry	<i>Prunus pensylvanica</i>	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			3	72
scarlet oak	<i>Quercus coccinea</i>	WDL	Medium	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	73
nuttall oak	<i>Quercus texana</i>	NSH	Medium	0	0	0	Unknown	Unknown	High	Modeled	Unknown	Unknown			0	74
northern red oak	<i>Quercus rubra</i>	WDH	Medium	0	0	0	Unknown	Unknown	High	Absent	Unknown	Unknown			0	75
black oak	<i>Quercus velutina</i>	WDH	High	0	0	0	Unknown	Unknown	Medium	Modeled	Unknown	Unknown			0	76
live oak	<i>Quercus virginiana</i>	NDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate ++	Migrate ++	3	77