

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	95	4414.5	34.6	Sm. dec.	Sm. dec.	Medium	Abundant	Fair	Fair			0	1
sweetgum	Liquidambar styraciflua	WDH	High	71.9	1027.7	9.5	No change	No change	Medium	Abundant	Good	Good			1	2
water oak	Quercus nigra	WDH	High	82.8	882.0	8.1	Sm. inc.	Sm. inc.	Medium	Abundant	Very Good	Very Good			1	3
longleaf pine	Pinus palustris	NSH	Medium	45.9	860.2	17.4	Sm. inc.	Sm. inc.	Medium	Abundant	Very Good	Very Good			1	4
red maple	Acer rubrum	WDH	High	62.3	380.5	4.1	Sm. inc.	Sm. inc.	High	Common	Very Good	Very Good			1	5
laurel oak	Quercus laurifolia	NDH	Medium	37.9	359.8	6.5	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	6
swamp tupelo	Nyssa biflora	NDH	Medium	40.3	319.6	5.4	Sm. inc.	Sm. inc.	Low	Common	Fair	Fair			1	7
black cherry	Prunus serotina	WDL	Medium	69.7	263.0	3.0	Sm. inc.	Sm. inc.	Low	Common	Fair	Fair			1	8
turkey oak	Quercus laevis	NSH	Medium	27.4	251.6	8.5	No change	No change	High	Common	Good	Good			1	9
slash pine	Pinus elliottii	NDH	High	22.4	237.1	8.0	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	10
yellow-poplar	Liriodendron tulipifera	WDH	High	34.6	184.2	3.9	No change	No change	High	Common	Good	Good			1	11
southern red oak	Quercus falcata	WDL	Medium	38.2	134.5	2.8	Lg. inc.	Lg. inc.	High	Common	Very Good	Very Good			1	12
mockernut hickory	Carya alba	WDL	Medium	35.9	133.7	3.0	Sm. inc.	Sm. inc.	High	Common	Very Good	Very Good			1	13
post oak	Quercus stellata	WDH	High	40	121.2	2.3	Lg. inc.	Lg. inc.	High	Common	Very Good	Very Good			1	14
American holly	Ilex opaca	NSL	Medium	32.3	94.2	2.3	No change	Sm. inc.	Medium	Common	Fair	Good			1	15
bluejack oak	Quercus incana	NSL	Low	11.8	76.7	6.0	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	16
redbay	Persea borbonia	NSL	Low	24.2	74.9	2.3	Lg. dec.	Sm. dec.	High	Common	Fair	Fair			1	17
white oak	Quercus alba	WDH	Medium	21.8	72.7	2.0	Lg. inc.	Lg. inc.	High	Common	Very Good	Very Good			1	18
winged elm	Ulmus alata	WDL	Medium	20.5	71.3	2.2	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	19
sand hickory	Carya pallida	NSL	FIA	14.6	70.3	4.8	Unknown	Unknown	NA	Common	FIA Only	FIA Only			0	20
green ash	Fraxinus pennsylvanica	WSH	Low	19.5	66.2	2.3	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	21
blackjack oak	Quercus marilandica	NSL	Medium	20	59.0	2.5	Lg. inc.	Lg. inc.	High	Common	Very Good	Very Good			1	22
willow oak	Quercus phellos	NSL	Low	16.7	56.3	2.0	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	23
blackgum	Nyssa sylvatica	WDL	Medium	28	55.3	1.3	Lg. inc.	Lg. inc.	High	Common	Very Good	Very Good			1	24
bald cypress	Taxodium distichum	NSH	Medium	11.5	52.9	3.8	No change	Sm. inc.	Medium	Common	Fair	Good	Infill +	Infill ++	1	25
shortleaf pine	Pinus echinata	WDH	High	16	51.8	2.3	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	26
water tupelo	Nyssa aquatica	NSH	Medium	4.9	44.6	6.0	Sm. dec.	No change	Low	Rare	Very Poor	Very Poor			2	27
pignut hickory	Carya glabra	WDL	Medium	13.8	42.4	1.8	Sm. inc.	Lg. inc.	Medium	Rare	Fair	Good			1	28
flowering dogwood	Cornus florida	WDL	Medium	23.4	42.0	1.4	Sm. inc.	Lg. inc.	Medium	Rare	Fair	Good			1	29
sugarberry	Celtis laevigata	NDH	Medium	8.3	40.0	3.1	Sm. inc.	Sm. inc.	Medium	Rare	Fair	Fair	Infill +	Infill +	1	30
black willow	Salix nigra	NSH	Low	7.9	39.6	3.2	No change	Sm. inc.	Low	Rare	Very Poor	Poor			1	31
black oak	Quercus velutina	WDH	High	10.1	35.1	2.0	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	32
common persimmon	Diospyros virginiana	NSL	Low	23	33.2	1.0	Sm. dec.	Sm. inc.	High	Rare	Poor	Good			1	33
cherrybark oak; swamp red o	Quercus pagoda	NSL	Medium	9.8	31.4	2.0	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	1	34
American hornbeam; musclev	Carpinus caroliniana	WSL	Low	15.3	30.1	1.4	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			1	35
sycamore	Platanus occidentalis	NSL	Low	6.3	29.6	2.7	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	36
sassafras	Sassafras albidum	WSL	Low	14.9	29.4	1.7	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			1	37
scarlet oak	Quercus coccinea	WDL	Medium	6.6	28.6	2.3	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	38
live oak	Quercus virginiana	NDH	High	6.8	25.6	3.8	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++	2	39
eastern redcedar	Juniperus virginiana	WDH	Medium	14	21.3	0.8	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++	1	40
sweetbay	Magnolia virginiana	NSL	Medium	9.5	19.0	1.2	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			1	41
overcup oak	Quercus lyrata	NSL	Medium	4	17.2	2.4	No change	No change	Low	Rare	Very Poor	Very Poor			2	42
American elm	Ulmus americana	WDH	Medium	15.3	15.8	0.7	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++	1	43
water hickory	Carya aquatica	NSL	Medium	2	9.6	2.0	Sm. dec.	No change	Medium	Rare	Very Poor	Poor		Infill +	2	44
white ash	Fraxinus americana	WDL	Medium	2.2	8.8	1.4	No change	No change	Low	Rare	Very Poor	Very Poor			2	45
pecan	Carya illinoensis	NSH	Low	1.3	8.7	2.1	Sm. dec.	No change	Low	Rare	Very Poor	Very Poor			2	46
swamp chestnut oak	Quercus michauxii	NSL	Low	3.3	7.7	1.5	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	2	47



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boxelder	Acer negundo	WSH	Low	4.7	7.7	1.0	No change	No change	High	Rare	Fair	Fair		Infill +		2 48
shagbark hickory	Carya ovata	WSL	Medium	1.1	6.8	1.6	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor				2 49
pond cypress	Taxodium ascendens	NSH	Medium	2.4	6.4	2.1	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good				2 50
eastern hophornbeam; ironw	Ostrya virginiana	WSL	Low	5.1	6.4	0.7	Lg. inc.	Lg. inc.	High	Rare	Good	Good	Infill ++	Infill ++		2 51
pawpaw	Asimina triloba	NSL	Low	2.8	5.9	1.2	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor				0 52
sourwood	Oxydendrum arboreum	NDL	High	3.2	4.9	1.1	No change	No change	High	Rare	Fair	Fair	Infill +			2 53
black walnut	Juglans nigra	WDH	Low	3.1	4.7	0.6	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor				0 54
southern magnolia	Magnolia grandiflora	NSL	Low	2.9	4.5	0.8	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++		2 55
water elm	Planera aquatica	NSL	Low	1.9	4.3	2.2	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor				0 56
red mulberry	Morus rubra	NSL	Low	4.3	4.2	0.6	No change	No change	Medium	Rare	Poor	Poor		Infill +		1 57
northern red oak	Quercus rubra	WDH	Medium	2.2	4.0	0.9	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor		Infill +		2 58
pond pine	Pinus serotina	NSH	Medium	2.3	3.9	1.2	No change	No change	Low	Rare	Very Poor	Very Poor				2 59
loblolly-bay	Gordonia lasianthus	NSH	Medium	0.4	3.6	1.5	No change	No change	Medium	Rare	Poor	Poor	Infill +			2 60
florida maple	Acer barbatum	NSL	Low	2	3.5	0.8	No change	No change	High	Rare	Fair	Fair	Infill +	Infill +		2 61
slippery elm	Ulmus rubra	WSL	Low	2.5	3.5	1.1	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +		2 62
river birch	Betula nigra	NSL	Low	1	3.2	3.3	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++		2 63
eastern redbud	Cercis canadensis	NSL	Low	1.6	2.4	0.5	Sm. dec.	No change	Medium	Rare	Very Poor	Poor		Infill +		2 64
eastern cottonwood	Populus deltoides	NSH	Low	0.4	2.3	1.0	Sm. dec.	Very Lg. dec.	Medium	Rare	Very Poor	Lost				0 65
American beech	Fagus grandifolia	WDH	High	2.3	2.1	0.5	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good				2 66
shellbark hickory	Carya laciniosa	NSL	Low	0.6	1.7	1.1	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor				0 67
Virginia pine	Pinus virginiana	NDH	High	1	1.5	1.5	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor				0 68
wild plum	Prunus americana	NSLX	FIA	1.3	1.1	0.3	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only				0 69
ailanthus	Ailanthus altissima	NSL	FIA	1.5	0.7	0.3	Unknown	Unknown	NA	Rare	NNIS	NNIS				0 70
yellow buckeye	Aesculus flava	NSL	Low	0.6	0.4	0.3	Sm. dec.	Sm. dec.	Low	Rare	Very Poor	Very Poor				0 71
bitternut hickory	Carya cordiformis	WSL	Low	1	0.3	0.3	Lg. dec.	Lg. dec.	High	Rare	Poor	Poor				0 72
ashe juniper	Juniperus ashei	NDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat				0 73
sand pine	Pinus clausa	NDH	High	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat	Migrate ++	Migrate +		3 74
spruce pine	Pinus glabra	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Likely +	Likely +		3 75
serviceberry	Amelanchier spp.	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat				3 76
cittamwood/gum bumelia	Sideroxylon lanuginosum ssp.	NSL	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat				3 77
black hickory	Carya texana	NDL	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat				3 78
black ash	Fraxinus nigra	WSH	Medium	0	0	0	Unknown	New Habitat	Low	Absent	Unknown	New Habitat				0 79
silverbell	Halesia spp.	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown				0 80
Osage-orange	Maclura pomifera	NDH	Medium	0	0	0	Unknown	Unknown	High	Modeled	Unknown	Unknown				0 81
cucumbertree	Magnolia acuminata	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown				0 82
bigleaf magnolia	Magnolia macrophylla	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat				3 83
pin cherry	Prunus pensylvanica	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown				0 84
swamp white oak	Quercus bicolor	NSL	Low	0	0	0	Unknown	Unknown	Medium	Modeled	Unknown	Unknown				0 85
chestnut oak	Quercus prinus	NDH	High	0	0	0	Unknown	Unknown	High	Absent	Unknown	Unknown				0 86
American basswood	Tilia americana	WSL	Medium	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown				0 87
cedar elm	Ulmus crassifolia	NDH	Medium	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat				3 88