



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
post oak	Quercus stellata	WDH	High	66.4	760.9	16.3	No change	Sm. inc.	High	Abundant	Very Good	Very Good			1	1
loblolly pine	Pinus taeda	WDH	High	21.4	497.4	23.9	Lg. inc.	Sm. inc.	Medium	Common	Very Good	Good	Infill ++	Infill ++	1	2
water oak	Quercus nigra	WDH	High	53.8	454.3	9.4	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	3
winged elm	Ulmus alata	WDL	Medium	75.4	428.8	7.8	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	4
eastern redcedar	Juniperus virginiana	WDH	Medium	67.7	412.4	8.0	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	5
southern red oak	Quercus falcata	WDL	Medium	49.3	344.3	8.3	Sm. dec.	No change	High	Common	Fair	Good			1	6
green ash	Fraxinus pennsylvanica	WSH	Low	60.8	303.3	8.1	No change	No change	Medium	Common	Fair	Fair			1	7
sweetgum	Liquidambar styraciflua	WDH	High	25.2	302.9	8.6	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	8
sugarberry	Celtis laevigata	NDH	Medium	56.9	221.7	8.7	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	9
Osage-orange	Maclura pomifera	NDH	Medium	49.2	217.5	6.9	No change	Sm. inc.	High	Common	Good	Very Good			1	10
willow oak	Quercus phellos	NSL	Low	42.7	166.7	5.2	No change	No change	Medium	Common	Fair	Fair			1	11
honeylocust	Gleditsia triacanthos	NSH	Low	45	164.8	8.3	Sm. dec.	No change	High	Common	Fair	Good			1	12
mockernut hickory	Carya alba	WDL	Medium	27	136.8	4.4	No change	No change	High	Common	Good	Good			1	13
cedar elm	Ulmus crassifolia	NDH	Medium	49	126.5	5.6	Lg. inc.	Lg. inc.	Low	Common	Good	Good			1	14
cherrybark oak; swamp red o.	Quercus pagoda	NSL	Medium	25.6	109.4	4.1	No change	No change	Medium	Common	Fair	Fair	Infill +	Infill +	1	15
shortleaf pine	Pinus echinata	WDH	High	17	103.4	7.3	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	16
blackjack oak	Quercus marilandica	NSL	Medium	23.9	95.7	2.7	Sm. inc.	Lg. inc.	High	Common	Very Good	Very Good			1	17
black hickory	Carya texana	NDL	High	19.9	88.2	3.9	No change	No change	Medium	Common	Fair	Fair	Infill +	Infill +	1	18
American elm	Ulmus americana	WDH	Medium	47	75.4	3.8	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	19
Shumard oak	Quercus shumardii	NSL	Low	26.5	72.8	4.1	Sm. dec.	Sm. dec.	High	Common	Fair	Fair			1	20
pecan	Carya illinoensis	NSH	Low	24.3	69.8	5.7	Lg. inc.	Lg. inc.	Low	Common	Good	Good			1	21
white ash	Fraxinus americana	NSL	Medium	18.1	62.6	3.2	Sm. inc.	Sm. inc.	Low	Common	Fair	Fair	Infill +	Infill +	1	22
bitternut hickory	Carya cordiformis	WSL	Low	5.6	41.6	4.4	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor			1	23
river birch	Betula nigra	NSL	Low	3.4	39.6	3.4	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	24
sycamore	Platanus occidentalis	NSL	Low	11.6	34.7	6.9	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	25
common persimmon	Diospyros virginiana	NSL	Low	26.9	34.6	2.8	No change	No change	High	Rare	Fair	Fair			1	26
shagbark hickory	Carya ovata	WSL	Medium	11.6	30.6	3.5	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	27
boxelder	Acer negundo	WSH	Low	16.9	29.3	3.6	Sm. inc.	Sm. inc.	High	Rare	Good	Good	Infill ++	Infill ++	1	28
red mulberry	Morus rubra	NSL	Low	19.8	28.1	1.9	Sm. dec.	No change	Medium	Rare	Very Poor	Poor			1	29
black oak	Quercus velutina	WDH	High	10.2	24.6	2.5	Sm. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	30
cittamwood/gum bumelia	Sideroxylon lanuginosum ssp.	NSL	Low	25.9	21.5	1.7	Lg. inc.	Lg. inc.	High	Rare	Good	Good			1	31
overcup oak	Quercus lyrata	NSL	Medium	12.1	21.0	2.4	Sm. dec.	Sm. dec.	Low	Rare	Very Poor	Very Poor			0	32
red maple	Acer rubrum	WDH	High	10.4	20.4	1.9	Sm. inc.	Sm. inc.	High	Rare	Good	Good	Infill ++	Infill ++	1	33
slippery elm	Ulmus rubra	WSL	Low	14	17.8	3.5	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++	1	34
black cherry	Prunus serotina	WDL	Medium	13	17.0	1.4	No change	No change	Low	Rare	Very Poor	Very Poor			0	35
hackberry	Celtis occidentalis	WDH	Medium	9.6	16.8	3.1	No change	No change	High	Rare	Fair	Fair	Infill +	Infill +	2	36
black willow	Salix nigra	NSH	Low	15.3	15.7	9.5	Lg. inc.	Lg. inc.	Low	Rare	Fair	Fair			1	37
water hickory	Carya aquatica	NSL	Medium	4.3	15.2	3.2	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	38
blackgum	Nyssa sylvatica	WDL	Medium	3.6	14.2	2.3	No change	No change	High	Rare	Fair	Fair	Infill +	Infill +	1	39
eastern redbud	Cercis canadensis	NSL	Low	9.4	10.3	1.6	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	40
black walnut	Juglans nigra	WDH	Low	4.9	9.2	5.1	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	41
flowering dogwood	Cornus florida	WDL	Medium	9.1	9.2	1.2	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	42
chinkapin oak	Quercus muehlenbergii	NSL	Medium	1.3	8.8	2.9	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	43
pignut hickory	Carya glabra	WDL	Medium	2.9	7.9	2.7	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	44
eastern hophornbeam; ironw	Ostrya virginiana	WSL	Low	0.1	6.1	0.4	No change	No change	High	Rare	Fair	Fair	Infill +	Infill +	2	45
American hornbeam; muscle	Carpinus caroliniana	WSL	Low	1.9	4.9	0.7	Sm. inc.	Sm. inc.	Medium	Rare	Fair	Fair	Infill +	Infill +	1	46
sassafras	Sassafras albidum	WSL	Low	5.8	4.5	1.7	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	2	47



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
eastern cottonwood	Populus deltoides	NSH	Low	10.4	4.4	1.9	Sm. inc.	Sm. inc.	Medium	Rare	Fair	Fair	Infill +	Infill +	2	48
Texas ash	Fraxinus texensis	NDH	FIA	0.7	2.6	2.0	Unknown	Unknown	NA	Rare	FIA Only	FIA Only			0	49
white oak	Quercus alba	WDH	Medium	4.8	2.1	0.5	Lg. inc.	Lg. inc.	High	Rare	Good	Good	Infill ++	Infill ++	2	50
bluejack oak	Quercus incana	NSL	Low	1	2.0	2.1	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	51
water elm	Planera aquatica	NSL	Low	1.6	1.9	0.9	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	52
bald cypress	Taxodium distichum	NSH	Medium	0.6	1.6	1.1	Sm. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	53
American holly	Ilex opaca	NSL	Medium	0.6	1.5	0.9	Sm. dec.	No change	Medium	Rare	Very Poor	Poor		Infill +	2	54
bur oak	Quercus macrocarpa	NDH	Medium	8.7	1.3	0.8	Lg. dec.	Lg. dec.	High	Rare	Poor	Poor			0	55
wild plum	Prunus americana	NSLX	FIA	1	0.9	0.9	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only			0	56
peachleaf willow	Salix amygdaloides	NSLX	FIA	3.9	0.5	1.9	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only			0	57
ashe juniper	Juniperus ashei	NDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			0	58
slash pine	Pinus elliotii	NDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Likely +	Likely +	3	59
serviceberry	Amelanchier spp.	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	60
pin cherry	Prunus pensylvanica	NSL	Low	0	0	0	New Habitat	Unknown	Medium	Absent	New Habitat	Unknown			3	61
live oak	Quercus virginiana	NDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate ++	Migrate ++	3	62