



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
American elm	Ulmus americana	WDH	Medium	76.7	126.1	8.5	No change	No change	Medium	Common	Fair	Fair	Infill +	Infill +	1	1
black cherry	Prunus serotina	WDL	Medium	51.2	120.1	8.3	Lg. dec.	Lg. dec.	Low	Common	Very Poor	Very Poor			0	2
silver maple	Acer saccharinum	NSH	Low	21.1	99.1	19.7	No change	No change	High	Common	Good	Good	Infill ++	Infill ++	1	3
black oak	Quercus velutina	WDH	High	36.8	91.6	10.2	Sm. dec.	Sm. dec.	Medium	Common	Poor	Poor	Infill +	Infill +	0	4
hackberry	Celtis occidentalis	WDH	Medium	66.1	82.3	9.1	Sm. inc.	Sm. inc.	High	Common	Very Good	Very Good	Infill ++	Infill ++	1	5
black walnut	Juglans nigra	WDH	Low	37.4	79.5	7.9	No change	No change	Medium	Common	Fair	Fair	Infill +	Infill +	1	6
Osage-orange	Maclura pomifera	NDH	Medium	28.5	62.0	15.2	No change	Sm. inc.	High	Common	Good	Very Good	Infill ++	Infill ++	2	7
American basswood	Tilia americana	WSL	Medium	31.9	61.6	11.3	Lg. dec.	Lg. dec.	Medium	Common	Poor	Poor	Infill +	Infill +	2	8
white ash	Fraxinus americana	WDL	Medium	15.8	44.8	9.3	No change	No change	Low	Rare	Very Poor	Very Poor			2	9
white oak	Quercus alba	WDH	Medium	22.4	43.6	11.5	Sm. inc.	No change	High	Rare	Good	Fair	Infill ++	Infill +	2	10
boxelder	Acer negundo	WSH	Low	19.4	43.3	3.6	No change	No change	High	Rare	Fair	Fair	Infill +	Infill +	2	11
eastern redcedar	Juniperus virginiana	WDH	Medium	3.7	41.2	8.9	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	2	12
slippery elm	Ulmus rubra	WSL	Low	42.1	29.8	4.2	Sm. inc.	Sm. inc.	Medium	Rare	Fair	Fair	Infill +	Infill +	1	13
eastern cottonwood	Populus deltoides	NSH	Low	10.9	29.6	13.3	Sm. inc.	Lg. inc.	Medium	Rare	Fair	Good	Infill +	Infill ++	2	14
eastern hophornbeam; ironw	Ostrya virginiana	WSL	Low	11.9	27.5	9.6	No change	Sm. dec.	High	Rare	Fair	Poor	Infill +	Infill +	2	15
red mulberry	Morus rubra	NSL	Low	20	27.3	7.6	Sm. inc.	Sm. inc.	Medium	Rare	Fair	Fair	Infill +	Infill +	1	16
bitternut hickory	Carya cordiformis	WSL	Low	32.9	26.8	4.8	Sm. inc.	Sm. inc.	High	Rare	Good	Good	Infill ++	Infill ++	1	17
bur oak	Quercus macrocarpa	NDH	Medium	21.6	26.3	5.4	Sm. inc.	Sm. inc.	High	Rare	Good	Good	Infill ++	Infill ++	2	18
shagbark hickory	Carya ovata	WSL	Medium	33.7	25.6	5.7	Sm. inc.	Sm. inc.	Medium	Rare	Fair	Fair	Infill +	Infill +	1	19
black locust	Robinia pseudoacacia	NDH	Low	9.9	21.4	11.5	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	2	20
northern red oak	Quercus rubra	WDH	Medium	18.4	21.0	4.8	Sm. inc.	Sm. inc.	High	Rare	Good	Good	Infill ++	Infill ++	2	21
white mulberry	Morus alba	NSL	FIA	20.8	17.2	3.9	Unknown	Unknown	NA	Rare	NNIS	NNIS			0	22
Siberian elm	Ulmus pumila	NDH	FIA	5.9	16.9	6.9	Unknown	Unknown	NA	Rare	NNIS	NNIS			0	23
mockernut hickory	Carya alba	WDL	Medium	17.4	15.6	5.7	Lg. dec.	No change	High	Rare	Poor	Fair	Infill +	Infill +	2	24
green ash	Fraxinus pennsylvanica	WSH	Low	10.3	14.9	2.4	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++	2	25
honeylocust	Gleditsia triacanthos	NSH	Low	13.1	14.2	2.0	Lg. inc.	Lg. inc.	High	Rare	Good	Good	Infill ++	Infill ++	2	26
black maple	Acer nigrum	NSH	Low	6.2	12.5	19.0	Lg. dec.	Lg. dec.	High	Rare	Poor	Poor			0	27
eastern white pine	Pinus strobus	WDH	High	2	9.2	6.9	Lg. dec.	Lg. dec.	Low	Rare	Very Poor	Very Poor			0	28
black ash	Fraxinus nigra	WSH	Medium	5.6	7.9	6.5	Lg. dec.	Lg. dec.	Low	Rare	Very Poor	Very Poor			0	29
Kentucky coffeetree	Gymnocladus dioicus	NSLX	FIA	0.6	4.6	2.5	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only			0	30
sugar maple	Acer saccharum	WDH	High	7.6	4.5	1.5	Sm. inc.	Sm. inc.	High	Rare	Good	Good			2	31
black willow	Salix nigra	NSH	Low	1	3.6	0.7	No change	Lg. inc.	Low	Rare	Very Poor	Fair		Infill +	2	32
bigtooth aspen	Populus grandidentata	NSL	Medium	4.3	3.4	12.5	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	33
shingle oak	Quercus imbricaria	NDH	Medium	0.8	3.2	2.2	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			2	34
Ohio buckeye	Aesculus glabra	NSL	Low	0.6	3.1	1.7	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	35
blackjack oak	Quercus marilandica	NSL	Medium	0.2	1.1	0.2	No change	Lg. inc.	High	Rare	Fair	Good			2	36
chinkapin oak	Quercus muehlenbergii	NSL	Medium	1.9	0.9	1.5	No change	No change	Medium	Rare	Poor	Poor	Infill +		2	37
wild plum	Prunus americana	NSLX	FIA	1.1	0.8	0.8	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only			0	38
northern catalpa	Catalpa speciosa	NSHX	FIA	0.4	0.6	0.2	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only			0	39
pignut hickory	Carya glabra	WDL	Medium	0.2	0.4	0.1	No change	No change	Medium	Rare	Poor	Poor			0	40
serviceberry	Amelanchier spp.	NSL	Low	0	0	0	Unknown	Unknown	Medium	Modeled	Unknown	Unknown			0	41
pecan	Carya illinoensis	NSH	Low	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat		Migrate ++	3	42
black hickory	Carya texana	NDL	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat		Migrate +	3	43
sugarberry	Celtis laevigata	NDH	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat		Migrate ++	3	44
eastern redbud	Cercis canadensis	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate +	Migrate +	3	45
common persimmon	Diospyros virginiana	NSL	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat		Migrate +	3	46
yellow-poplar	Liriodendron tulipifera	WDH	High	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat			3	47



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sycamore	Platanus occidentalis	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate +	Migrate +	3	48
swamp white oak	Quercus bicolor	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Likely +	Likely +	3	49
pin oak	Quercus palustris	NSH	Low	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat		Migrate +	3	50
Shumard oak	Quercus shumardii	NSL	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat		Migrate +	3	51
post oak	Quercus stellata	WDH	High	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Migrate +	Migrate ++	3	52
sassafras	Sassafras albidum	WSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate +	Migrate +	3	53
winged elm	Ulmus alata	WDL	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat		Migrate ++	3	54