S31 E92

One x One Degree

Climate Change Atlas Tree Species

Current and Potential Future Habitat, Capability, and Migration

Landscape Change Research Group
Iverson, Peters, Prasad, Matthews
USFS Northern Research Station
Delaware, OH

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	83.4	4276.03	41.68	No change	Sm. dec.	Medium	Abundant	Good	Fair			1	1
sweetgum	Liquidambar styraciflua	WDH	High	85.9	666.71	6.09	Sm. inc.	Sm. inc.	Medium	Abundant	Very Good	Very Good			1	2
southern red oak	Quercus falcata	WDL	Medium	64.5	413.51	5.11	Sm. inc.	Sm. inc.	High	Common	Very Good	Very Good			1	3
longleaf pine	Pinus palustris	NSH	Medium	32.2	409.36	11.43	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	4
slash pine	Pinus elliottii	NDH	High	16.4	327.99	13.42	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good	Infill ++	Infill ++	1	5
water oak	Quercus nigra	WDH	High	70.2	312.58	3.56	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	6
bald cypress	Taxodium distichum	NSH	Medium	24.3	255.14	9.63	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	7
white oak	Quercus alba	WDH	Medium	52.9	234.17	3.38	No change	No change	High	Common	Good	Good			1	8
post oak	Quercus stellata	WDH	High	50.5	207.34	3.41	Lg. inc.	Lg. inc.	High	Common	Very Good	Very Good			1	9
green ash	Fraxinus pennsylvanica	WSH	Low	48.2	199.27	3.21	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	10
blackgum	Nyssa sylvatica	WDL	Medium	66	192.93	2.18	Sm. inc.	Sm. inc.	High	Common	Very Good	Very Good			1	11
overcup oak	Quercus lyrata	NSL	Medium	23	190.78	5.72	No change	Sm. inc.	Low	Common	Poor	Fair			1	12
sugarberry	Celtis laevigata	NDH	Medium	21	181.26	9.09	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	13
water hickory	Carya aquatica	NSL	Medium	17	174.57	8.61	No change	No change	Medium	Common	Fair	Fair			1	14
red maple	Acer rubrum	WDH	High	68.7	166.65	1.91	Sm. inc.	Sm. inc.	High	Common	Very Good	Very Good			1	15
willow oak	Quercus phellos	NSL	Low	29.9	164.75	3.62	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	16
American beech	Fagus grandifolia	WDH	High	31.9	158.57	3.64	No change	No change	Medium	Common	Fair	Fair			1	17
shortleaf pine	Pinus echinata	WDH	High	34.7	139.13	2.99	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	18
American hornbeam; muscle	Carpinus caroliniana	WSL	Low	45.1	135.74	2.24	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	19
nuttall oak	Quercus texana	NSH	Medium	17.6	132	6.04	Lg. dec.	Sm. dec.	High	Common	Fair	Fair			0	20
flowering dogwood	Cornus florida	WDL	Medium	49.6	95.73	1.75	No change	No change	Medium	Common	Fair	Fair			1	21
cherrybark oak; swamp red o	Quercus pagoda	NSL	Medium	25.1	88.23	2.7	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	22
winged elm	Ulmus alata	WDL	Medium	41.4	78.67	1.52	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	23
mockernut hickory	Carya alba	WDL	Medium	37.7	74.25	1.65	Sm. inc.	Lg. inc.	High	Common	Very Good	Very Good			1	24
honeylocust	Gleditsia triacanthos	NSH	Low	18.5	67.06	3.3	Sm. inc.	Sm. inc.	High	Common	Very Good	Very Good			1	25
American elm	Ulmus americana	WDH	Medium	27.2	65.8	1.67	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	26
black willow	Salix nigra	NSH	Low	5.1	50.32	14.92	No change	Sm. inc.	Low	Common	Poor	Fair	Infill +	Infill +	1	27
sycamore	Platanus occidentalis	NSL	Low	6.6	50.1	7.54	Sm. dec.	Sm. dec.	Medium	Common	Poor	Poor	Infill +	Infill +	2	28
water tupelo	Nyssa aquatica	NSH	Medium	7.3	49.9	5.53	No change	No change	Low	Rare	Very Poor	Very Poor			2	29
blackjack oak	Quercus marilandica	NSL	Medium	21.4	45.59	1.69	Lg. inc.	Lg. inc.	High	Rare	Good	Good			1	30
common persimmon	Diospyros virginiana	NSL	Low	21.7	44.34	1.44	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor			1	31
pecan	Carya illinoinensis	NSH	Low	4.7	40.24	9.61	No change	Sm. inc.	Low	Rare	Very Poor	Poor		Infill +	1	32
swamp chestnut oak	Quercus michauxii	NSL	Low	20	38.29	1.82	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			1	33
eastern hophornbeam; ironw	Ostrya virginiana	WSL	Low	23.4	37.6	1.24	Lg. inc.	Lg. inc.	High	Rare	Good	Good			1	34
southern magnolia	Magnolia grandiflora	NSL	Low	18.1	32.33	1.68	Sm. inc.	Lg. inc.	Medium	Rare	Fair	Good			1	35
slippery elm	Ulmus rubra	WSL	Low	11.4	31.33	2.54	Sm. inc.	Lg. inc.	Medium	Rare	Fair	Good			1	36
laurel oak	Quercus laurifolia	NDH	Medium	13.3	25.63	0.94	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			1	37
water elm	Planera aquatica	NSL	Low	6.4	24.95	3.83	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	1	38
yellow-poplar	Liriodendron tulipifera	WDH	High	4.6	23.24	2.41	Sm. dec.	No change	High	Rare	Poor	Fair	Infill +		2	39
American holly	Ilex opaca	NSL	Medium	25.4	22.51	0.68	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			1	40
black cherry	Prunus serotina	WDL	Medium	31.3	22.29	0.64	Sm. inc.	Lg. inc.	Low	Rare	Poor	Fair			1	41
sassafras	Sassafras albidum	WSL	Low	24.2	22.17	0.8	Sm. dec.	No change	Medium	Rare	Very Poor	Poor			1	42
pignut hickory	Carya glabra	WDL	Medium	8.1	22.15	1.89	Sm. dec.	No change	Medium	Rare	Very Poor	Poor		Infill +	1	43
sweetbay	Magnolia virginiana	NSL	Medium	11.8	21.56	1.38	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good			1	44
white ash	Fraxinus americana	WDL	Medium	11	14.66	1.02	Sm. inc.	Lg. inc.	Low	Rare	Poor	Fair	Infill +	Infill +	1	45
sourwood	Oxydendrum arboreum	NDL	High	10.7	12.35	0.91	Lg. dec.	Lg. dec.	High	Rare	Poor	Poor			1	46
bitternut hickory	Carya cordiformis	WSL	Low	12.3	10.31	1.17	Lg. dec.	Lg. dec.	High	Rare	Poor	Poor			1	47
swamp tupelo	Nyssa biflora	NDH	Medium	6.8	9.5	1.01	No change	No change	Low	Rare	Very Poor	Very Poor			2	48
Shumard oak	Quercus shumardii	NSL	Low	2.8	8.5	2.98	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor		Infill +	2	49
waterlocust	Gleditsia aquatica	NSLX	FIA	4.6	8.48	1.53	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only			0	50
eastern redbud	Cercis canadensis	NSL	Low	4.3	7.5	1.51	Sm. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	51
black oak	Quercus velutina	WDH	High	9.6	7.13	0.52	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	52
eastern redcedar	Juniperus virginiana	WDH	Medium	6.4	6.29	0.94	No change	Lg. inc.	Medium	Rare	Poor	Good		Infill ++	2	53

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Common Name	Scientific Name	Range	MR	%Cell	FIAsum	FIAiv	ChngCl45	ChngCl85	Adap	Abund	Capabil45	Capabil85	SHIFT45	SHIFT85	SSO	N
chestnut oak	Quercus prinus	NDH	High	0.7	6.08	4.76	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor			0	54
pond cypress	Taxodium ascendens	NSH	Medium	0.5	5.86	3.04	Sm. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	55
river birch	Betula nigra	NSL	Low	0.2	5.63	0.99	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	2	56
ogeechee tupelo	Nyssa ogeche	NSLX	FIA	2.9	4.53	1.11	Unknown	Unknown	Low	Rare	FIA Only	FIA Only			0	57
cedar elm	Ulmus crassifolia	NDH	Medium	0.5	4.08	2.23	Lg. inc.	Lg. inc.	Low	Rare	Fair	Fair	Infill +	Infill +	2	58
black locust	Robinia pseudoacacia	NDH	Low	2.5	3.89	2.33	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	59
boxelder	Acer negundo	WSH	Low	4.2	2.41	0.88	Lg. inc.	Lg. inc.	High	Rare	Good	Good			2	60
red mulberry	Morus rubra	NSL	Low	4.5	2.34	0.35	Very Lg. dec.	Lg. dec.	Medium	Rare	Lost	Very Poor			0	61
pin cherry	Prunus pensylvanica	NSL	Low	4.5	2.23	0.46	No change	Sm. dec.	Medium	Rare	Poor	Very Poor			1	62
black ash	Fraxinus nigra	WSH	Medium	0.3	2.22	0.64	Sm. dec.	Sm. dec.	Low	Rare	Very Poor	Very Poor			0	63
hackberry	Celtis occidentalis	WDH	Medium	0.9	2.09	2.2	Sm. dec.	No change	High	Rare	Poor	Fair			0	64
redbay	Persea borbonia	NSL	Low	4.7	2.03	0.43	Sm. dec.	No change	High	Rare	Poor	Fair			0	65
eastern cottonwood	Populus deltoides	NSH	Low	1.9	1.88	0.99	No change	No change	Medium	Rare	Poor	Poor		Infill +	2	66
northern red oak	Quercus rubra	WDH	Medium	0.9	1.52	1.6	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor			0	67
swamp white oak	Quercus bicolor	NSL	Low	1.9	1.27	0.67	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	68
pond pine	Pinus serotina	NSH	Medium	0.9	1.26	1.33	Sm. dec.	Sm. dec.	Low	Rare	Very Poor	Very Poor			0	69
bigleaf magnolia	Magnolia macrophylla	NSL	Low	1.2	1.16	0.33	No change	Sm. dec.	Medium	Rare	Poor	Very Poor			0	70
black walnut	Juglans nigra	WDH	Low	0.5	1.01	0.58	Very Lg. dec.	Very Lg. dec.	Medium	Rare	Lost	Lost			0	71
American basswood	Tilia americana	WSL	Medium	0.9	0.99	1.04	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	72
bluejack oak	Quercus incana	NSL	Low	0.9	0.57	0.6	Very Lg. dec.	Very Lg. dec.	Medium	Rare	Lost	Lost			0	73
black hickory	Carya texana	NDL	High	0.2	0.55	0.11	Sm. inc.	Lg. inc.	Medium	Rare	Fair	Good			2	74
serviceberry	Amelanchier spp.	NSL	Low	0.9	0.54	0.57	No change	No change	Medium	Rare	Poor	Poor			0	75
scarlet oak	Quercus coccinea	WDL	Medium	0.9	0.44	0.46	No change	Sm. dec.	Medium	Rare	Poor	Very Poor			0	76
bur oak	Quercus macrocarpa	NDH	Medium	0.9	0.26	0.27	Lg. dec.	Lg. dec.	High	Rare	Poor	Poor			0	77
wild plum	Prunus americana	NSLX	FIA	0.9	0.24	0.25	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only			0	78
white mulberry	Morus alba	NSL	FIA	1.5	0.06	0.1	Unknown	Unknown	NA	Rare	NNIS	NNIS			0	79
striped maple	Acer pensylvanicum	NSL	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Likely +	Likely +	3	80
silver maple	Acer saccharinum	NSH	Low	0	0	0	Unknown	Unknown	High	Modeled	Unknown	Unknown			0	81
cittamwood/gum bumelia	Sideroxylon lanuginosum ssp	NSL	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Migrate +	Migrate +	3	82
shellbark hickory	Carya laciniosa	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	83
silverbell	Halesia spp.	NSL	Low	0	0	0	Unknown	New Habitat	Medium	Absent	Unknown	New Habitat			3	84
Osage-orange	Maclura pomifera	NDH	Medium	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat		Migrate +	3	85
cucumbertree	Magnolia acuminata	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	86
chinkapin oak	Quercus muehlenbergii	NSL	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			3	87
live oak	Quercus virginiana	NDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate ++	Migrate ++	3	88