

Climate Change Atlas Tree Species
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
chestnut oak	Quercus prinus	NDH	High	65.1	1314.71	21.41	Sm. dec.	Sm. dec.	High	Abundant	Good	Good			1	1
yellow-poplar	Liriodendron tulipifera	WDH	High	66.3	990.73	16.05	Sm. dec.	Lg. dec.	High	Abundant	Good	Good			1	2
red maple	Acer rubrum	WDH	High	83.1	621.43	7.88	No change	No change	High	Abundant	Very Good	Very Good			1	3
white oak	Quercus alba	WDH	Medium	67.5	523.54	8.35	Sm. inc.	Sm. inc.	High	Abundant	Very Good	Very Good			1	4
northern red oak	Quercus rubra	WDH	Medium	67.5	470.89	7.39	Sm. inc.	Sm. inc.	High	Common	Very Good	Very Good			1	5
Virginia pine	Pinus virginiana	NDH	High	47	469.11	10.97	No change	Sm. dec.	Medium	Common	Fair	Poor			1	6
black oak	Quercus velutina	WDH	High	56.6	354.54	6.87	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	7
blackgum	Nyssa sylvatica	WDL	Medium	69.9	337.69	5.17	No change	No change	High	Common	Good	Good			1	8
black cherry	Prunus serotina	WDL	Medium	53	334.92	6.91	No change	No change	Low	Common	Poor	Poor			0	9
black locust	Robinia pseudoacacia	NDH	Low	67.5	316.57	5.02	Sm. dec.	No change	Medium	Common	Poor	Fair			1	10
eastern redcedar	Juniperus virginiana	WDH	Medium	30.1	287.12	9.53	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	11
pignut hickory	Carya glabra	WDL	Medium	71.1	285.55	4.25	No change	Sm. dec.	Medium	Common	Fair	Poor			1	12
white ash	Fraxinus americana	WDL	Medium	56.6	278.58	4.92	No change	No change	Low	Common	Poor	Poor			0	13
scarlet oak	Quercus coccinea	WDL	Medium	37.3	251.4	6.73	No change	Sm. dec.	Medium	Common	Fair	Poor			1	14
eastern white pine	Pinus strobus	WDH	High	27.7	230.78	9.86	Sm. dec.	Sm. dec.	Low	Common	Poor	Poor			0	15
ailanthus	Ailanthus altissima	NSL	FIA	47	221.88	5.24	Unknown	Unknown	NA	Common	NNIS	NNIS			0	16
mockernut hickory	Carya alba	WDL	Medium	43.4	194.71	4.49	Sm. inc.	Lg. inc.	High	Common	Very Good	Very Good			1	17
sweet birch	Betula lenta	NDH	High	36.1	193.41	5.35	Lg. dec.	Lg. dec.	Low	Common	Very Poor	Very Poor			0	18
sassafras	Sassafras albidum	WSL	Low	37.3	141.64	3.79	Sm. dec.	Sm. dec.	Medium	Common	Poor	Poor			0	19
sycamore	Platanus occidentalis	NSL	Low	10.8	119.75	11.04	Sm. inc.	Lg. inc.	Medium	Common	Good	Very Good			1	20
black walnut	Juglans nigra	WDH	Low	28.9	115.86	4.01	No change	Sm. inc.	Medium	Common	Fair	Good			1	21
American basswood	Tilia americana	WSL	Medium	22.9	80.16	4.31	Sm. dec.	Lg. dec.	Medium	Common	Poor	Poor			0	22
green ash	Fraxinus pennsylvanica	WSH	Low	6	78.35	13.01	No change	No change	Medium	Common	Fair	Fair	Infill +	Infill +	1	23
eastern hemlock	Tsuga canadensis	NSH	High	7.2	62.78	8.68	No change	No change	Low	Common	Poor	Poor	Infill +	Infill +	0	24
flowering dogwood	Cornus florida	WDL	Medium	36.1	61.75	1.94	Sm. inc.	Lg. inc.	Medium	Common	Good	Very Good			1	25
eastern redbud	Cercis canadensis	NSL	Low	30.1	57.88	2.22	No change	Sm. inc.	Medium	Common	Fair	Good			1	26
pitch pine	Pinus rigida	NSH	High	14.5	55.24	3.82	No change	No change	Medium	Common	Fair	Fair			1	27
boxelder	Acer negundo	WSH	Low	8.4	53.34	6.32	Sm. dec.	No change	High	Common	Fair	Good			1	28
American elm	Ulmus americana	WDH	Medium	20.5	49.88	2.44	Sm. inc.	Lg. inc.	Medium	Rare	Fair	Good	Infill +	Infill ++	1	29
southern red oak	Quercus falcata	WDL	Medium	4.8	44.71	9.28	Sm. inc.	Lg. inc.	High	Rare	Good	Good	Infill ++	Infill ++	1	30
loblolly pine	Pinus taeda	WDH	High	3.6	43.14	11.94	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++	1	31
paulownia	Paulownia tomentosa	NSL	FIA	10.8	36.96	3.41	Unknown	Unknown	NA	Rare	NNIS	NNIS			0	32
striped maple	Acer pensylvanicum	NSL	Medium	18.1	36.92	2.04	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	33
hackberry	Celtis occidentalis	WDH	Medium	16.9	36.66	2.17	No change	Lg. inc.	High	Rare	Fair	Good			1	34
American beech	Fagus grandifolia	WDH	High	7.2	33.75	4.67	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	2	35
eastern hophornbeam; ironw	Ostrya virginiana	WSL	Low	14.5	30.94	2.14	Sm. inc.	Lg. inc.	High	Rare	Good	Good			1	36
bitternut hickory	Carya cordiformis	WSL	Low	15.7	29.39	2.84	Lg. inc.	Lg. inc.	High	Rare	Good	Good	Infill ++	Infill ++	1	37
common persimmon	Diospyros virginiana	NSL	Low	9.6	26.83	2.78	No change	Sm. inc.	High	Rare	Fair	Good			1	38
serviceberry	Amelanchier spp.	NSL	Low	22.9	20.42	1.09	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	39
chinkapin oak	Quercus muehlenbergii	NSL	Medium	6	20.12	9.04	No change	No change	Medium	Rare	Poor	Poor	Infill +	Infill +	2	40
shagbark hickory	Carya ovata	WSL	Medium	13.3	18.28	1.38	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++	1	41
sugar maple	Acer saccharum	WDH	High	9.6	17.72	1.84	Lg. inc.	Lg. inc.	High	Rare	Good	Good	Infill ++	Infill ++	1	42
post oak	Quercus stellata	WDH	High	6	17.49	2.9	Lg. inc.	Lg. inc.	High	Rare	Good	Good	Infill ++	Infill ++	2	43
cucumbertree	Magnolia acuminata	NSL	Low	3.6	16.88	4.67	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	44
red spruce	Picea rubens	NDH	High	1.2	15.36	12.75	Sm. dec.	Sm. dec.	Low	Rare	Very Poor	Very Poor			0	45
pin cherry	Prunus pensylvanica	NSL	Low	8.4	14.86	3.31	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	46
bear oak; scrub oak	Quercus ilicifolia	NSLX	FIA	2.4	14.19	5.89	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only			0	47
shortleaf pine	Pinus echinata	WDH	High	6	11.77	1.95	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good	Infill ++	Infill ++	2	48
bigtooth aspen	Populus grandidentata	NSL	Medium	2.4	11.33	4.7	Very Lg. dec.	Very Lg. dec.	Medium	Rare	Lost	Lost			0	49
slippery elm	Ulmus rubra	WSL	Low	6	9.13	1.51	No change	Sm. inc.	Medium	Rare	Poor	Fair	Infill +	Infill +	1	50
American hornbeam; muscle	Carpinus caroliniana	WSL	Low	6	8.7	1.45	Sm. inc.	Lg. inc.	Medium	Rare	Fair	Good			1	51
pin oak	Quercus palustris	NSH	Low	2.4	8.18	3.4	Sm. dec.	Sm. dec.	Low	Rare	Very Poor	Very Poor			2	52
yellow birch	Betula alleghaniensis	NDL	High	6	7.48	1.24	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	53

Common Name	Scientific Name	Range	MR	%Cell	FIAsum	FIAiv	ChngCl45	ChngCl85	Adap	Abund	Capabil45	Capabil85	SHIFT45	SHIFT85	SSO	N
honeylocust	Gleditsia triacanthos	NSH	Low	2.4	5.66	2.35	Sm. dec.	Lg. inc.	High	Rare	Poor	Good			2	54
white mulberry	Morus alba	NSL	FIA	1.2	5.27	4.37	Unknown	Unknown	NA	Rare	NNIS	NNIS			0	55
black willow	Salix nigra	NSH	Low	2.4	5.24	2.17	Sm. dec.	Lg. inc.	Low	Rare	Very Poor	Fair		Infill +	2	56
river birch	Betula nigra	NSL	Low	2.4	5.14	2.13	No change	Lg. inc.	Medium	Rare	Poor	Good		Infill ++	2	57
red mulberry	Morus rubra	NSL	Low	1.2	4.7	3.9	Sm. dec.	No change	Medium	Rare	Very Poor	Poor		Infill +	2	58
swamp chestnut oak	Quercus michauxii	NSL	Low	1.2	4.58	3.8	Sm. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	59
American chestnut	Castanea dentata	NSLX	FIA	4.8	3.92	0.81	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only			0	60
pawpaw	Asimina triloba	NSL	Low	2.4	3.23	1.34	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	61
cherrybark oak; swamp red o	Quercus pagoda	NSL	Medium	1.2	3.13	2.6	No change	Lg. inc.	Medium	Rare	Poor	Good	Infill +		2	62
butternut	Juglans cinerea	NSLX	FIA	1.2	1.69	1.4	Unknown	Unknown	Low	Rare	FIA Only	FIA Only			0	63
blackjack oak	Quercus marilandica	NSL	Medium	1.2	1.51	1.25	Lg. inc.	Lg. inc.	High	Rare	Good	Good			2	64
gray birch	Betula populifolia	NSL	Low	1.2	0.65	0.54	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	65
longleaf pine	Pinus palustris	NSH	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat		Migrate +	3	66
Table Mountain pine	Pinus pungens	NSL	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Likely +	Likely +	3	67
northern white-cedar	Thuja occidentalis	WSH	High	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	68
florida maple	Acer barbatum	NSL	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Migrate +	Migrate +	3	69
black maple	Acer nigrum	NSH	Low	0	0	0	Unknown	Unknown	High	Absent	Unknown	Unknown			0	70
mountain maple	Acer spicatum	NSL	Low	0	0	0	Unknown	Unknown	High	Absent	Unknown	Unknown			0	71
yellow buckeye	Aesculus flava	NSL	Low	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat	Migrate +		3	72
pecan	Carya illinoensis	NSH	Low	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat		Migrate +	3	73
shellbark hickory	Carya laciniosa	NSL	Low	0	0	0	Unknown	Unknown	Medium	Modeled	Unknown	Unknown			0	74
black hickory	Carya texana	NDL	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			0	75
sugarberry	Celtis laevigata	NDH	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat		Migrate ++	3	76
black ash	Fraxinus nigra	WSH	Medium	0	0	0	Unknown	New Habitat	Low	Absent	Unknown	New Habitat			3	77
silverbell	Halesia spp.	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	78
American holly	Ilex opaca	NSL	Medium	0	0	0	Unknown	New Habitat	Medium	Absent	Unknown	New Habitat		Likely +	3	79
sweetgum	Liquidambar styraciflua	WDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Likely +	Likely +	3	80
southern magnolia	Magnolia grandiflora	NSL	Low	0	0	0	Unknown	New Habitat	Medium	Absent	Unknown	New Habitat			3	81
bigleaf magnolia	Magnolia macrophylla	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	82
mountain or Fraser magnolia	Magnolia fraseri	NSL	Low	0	0	0	New Habitat	New Habitat	NA	Absent	New Habitat	New Habitat			0	83
sourwood	Oxydendrum arboreum	NDL	High	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Likely +	Likely +	3	84
laurel oak	Quercus laurifolia	NDH	Medium	0	0	0	Unknown	New Habitat	Medium	Absent	Unknown	New Habitat		Migrate +	3	85
water oak	Quercus nigra	WDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate +	Migrate ++	3	86
willow oak	Quercus phellos	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Likely +	Likely +	3	87
Shumard oak	Quercus shumardii	NSL	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat			3	88
bluejack oak	Quercus incana	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat		Migrate +	3	89
winged elm	Ulmus alata	WDL	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate ++	Migrate ++	3	90