

HUC 020301 Lower Hudson

HUC 6 Watershed

Climate Change Atlas Tree Species

Current and Potential Future Habitat, Capability, and Migration

USDA Forest Service
Northern Research Station
Landscape Change Research Group
Iverson, Peters, Prasad, Matthews

Common Name	Scientific Name	Range	MR	%Cell	FIAsum	FIAiv	ChngCl45	ChngCl85	Adap	Abund	Capabil45	Capabil85	SHIFT45	SHIFT85	SSO	N
red maple	Acer rubrum	WDH	High	71.8	1094.7	14.0	Sm. dec.	Sm. dec.	High	Abundant	Good	Good			1	1
white ash	Fraxinus americana	WDL	Medium	54.8	561.2	9.0	Sm. dec.	Sm. dec.	Low	Abundant	Fair	Fair			0	2
sugar maple	Acer saccharum	WDH	High	47.1	526.1	8.6	No change	Sm. dec.	High	Abundant	Very Good	Good			1	3
northern red oak	Quercus rubra	WDH	Medium	54.4	525.3	9.6	Sm. dec.	Sm. dec.	High	Abundant	Good	Good			1	4
chestnut oak	Quercus prinus	NDH	High	38.7	481.5	9.8	No change	Sm. dec.	High	Common	Good	Fair			1	5
sweet birch	Betula lenta	NDH	High	48.9	435.4	7.8	Lg. dec.	Lg. dec.	Low	Common	Very Poor	Very Poor			0	6
yellow-poplar	Liriodendron tulipifera	WDH	High	39.5	345.4	10.3	Sm. inc.	No change	High	Common	Very Good	Good			1	7
black cherry	Prunus serotina	WDL	Medium	48.5	239.7	8.7	Sm. inc.	Sm. inc.	Low	Common	Fair	Fair			1	8
black oak	Quercus velutina	WDH	High	39.7	236.9	6.1	Sm. inc.	Lg. inc.	Medium	Common	Good	Very Good			1	9
white oak	Quercus alba	WDH	Medium	45.8	214.4	4.5	Lg. inc.	Sm. inc.	High	Common	Very Good	Very Good			1	10
eastern redcedar	Juniperus virginiana	WDH	Medium	30.4	171.3	6.8	Sm. inc.	Lg. inc.	Medium	Common	Good	Very Good			1	11
sweetgum	Liquidambar styraciflua	WDH	High	12.1	164.1	18.5	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good	Infill ++	Infill ++	1	12
American elm	Ulmus americana	WDH	Medium	33.8	135.6	5.1	No change	No change	Medium	Common	Fair	Fair			1	13
blackgum	Nyssa sylvatica	WDL	Medium	31.8	119.0	5.5	Sm. inc.	Sm. inc.	High	Common	Very Good	Very Good			1	14
American beech	Fagus grandifolia	WDH	High	27	111.7	3.3	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	15
black locust	Robinia pseudoacacia	NDH	Low	19.7	102.3	7.4	Sm. inc.	Sm. inc.	Medium	Common	Good	Good			1	16
yellow birch	Betula alleghaniensis	NDL	High	14.9	98.4	4.3	Sm. dec.	Sm. dec.	Medium	Common	Poor	Poor			0	17
pin oak	Quercus palustris	NSH	Low	13.8	82.8	13.9	Sm. dec.	Sm. dec.	Low	Common	Poor	Poor			0	18
green ash	Fraxinus pennsylvanica	WSH	Low	6.8	82.7	7.9	No change	No change	Medium	Common	Fair	Fair			1	19
flowering dogwood	Cornus florida	WDL	Medium	7.1	78.6	6.7	Sm. dec.	Sm. dec.	Medium	Common	Poor	Poor			0	20
shagbark hickory	Carya ovata	WSL	Medium	23.5	77.8	4.3	No change	No change	Medium	Common	Fair	Fair			1	21
sassafras	Sassafras albidum	WDL	Low	20.7	70.3	2.8	Sm. inc.	No change	Medium	Common	Good	Fair			1	22
scarlet oak	Quercus coccinea	WDL	Medium	16.4	68.6	3.9	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	23
eastern hemlock	Tsuga canadensis	NSH	High	13.6	68.2	4.0	No change	Sm. dec.	Low	Common	Poor	Poor	Infill +	Infill +	0	24
American basswood	Tilia americana	WSL	Medium	5.5	68.0	6.1	No change	No change	Medium	Common	Fair	Fair	Infill +	Infill +	1	25
pignut hickory	Carya glabra	WDL	Medium	32.2	66.6	2.5	Lg. inc.	Lg. inc.	Medium	Common	Very Good	Very Good			1	26
bigtooth aspen	Populus grandidentata	NSL	Medium	6.6	60.6	5.5	Lg. dec.	Lg. dec.	Medium	Common	Poor	Poor	Infill +		0	27
pitch pine	Pinus rigida	NSH	High	6.1	57.4	5.9	Lg. dec.	Lg. dec.	Medium	Common	Poor	Poor			0	28
black walnut	Juglans nigra	WDL	Low	15.8	37.6	3.9	Sm. inc.	Sm. inc.	Medium	Rare	Fair	Fair			1	29
eastern white pine	Pinus strobus	WDH	High	19.2	33.3	6.5	Lg. inc.	No change	Low	Rare	Fair	Very Poor			1	30
Scots pine	Pinus sylvestris	NSH	FIA	1.1	26.9	26.1	Unknown	Unknown	NA	Rare	NNIS	NNIS			0	31
black ash	Fraxinus nigra	WSH	Medium	1	23.2	6.2	Lg. dec.	Lg. dec.	Low	Rare	Very Poor	Very Poor			0	32
American hornbeam; musclev	Carpinus caroliniana	WSL	Low	15.1	22.6	1.3	Sm. inc.	Lg. inc.	Medium	Rare	Fair	Good			1	33
swamp white oak	Quercus bicolor	NSL	Low	3.3	21.9	7.0	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor			0	34
ailanthus	Ailanthus altissima	NSL	FIA	11.5	18.6	3.8	Unknown	Unknown	NA	Rare	NNIS	NNIS			0	35
Norway maple	Acer platanoides	NSL	FIA	16.4	18.0	2.7	Unknown	Unknown	NA	Rare	NNIS	NNIS			0	36
red pine	Pinus resinosa	NSH	Medium	2.1	17.1	7.7	Lg. dec.	Very Lg. dec.	Low	Rare	Very Poor	Lost			0	37
bitternut hickory	Carya cordiformis	WSL	Low	11.7	16.3	1.5	Lg. inc.	Lg. inc.	High	Rare	Good	Good	Infill ++	Infill ++	1	38
serviceberry	Amelanchier spp.	NSL	Low	13.5	16.3	1.2	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor			0	39
eastern hophornbeam; ironw	Ostrya virginiana	WSL	Low	8.4	15.9	1.0	No change	Sm. inc.	High	Rare	Fair	Good	Infill +	Infill ++	1	40
mockernut hickory	Carya alba	WDL	Medium	17.6	13.5	1.2	Lg. inc.	Lg. inc.	High	Rare	Good	Good			1	41
sycamore	Platanus occidentalis	NSL	Low	2.9	10.9	5.4	Sm. inc.	Lg. inc.	Medium	Rare	Fair	Good	Infill +	Infill ++	2	42
Norway spruce	Picea abies	NSH	FIA	5.1	10.0	1.8	Unknown	Unknown	NA	Rare	NNIS	NNIS			0	43
slippery elm	Ulmus rubra	WSL	Low	6.4	8.4	1.7	No change	No change	Medium	Rare	Poor	Poor		Infill +	2	44
Osage-orange	Maclura pomifera	NDH	Medium	1.2	6.9	1.3	Sm. dec.	Sm. dec.	High	Rare	Poor	Poor			0	45
black willow	Salix nigra	NSH	Low	2.1	5.5	2.6	Sm. dec.	No change	Low	Rare	Very Poor	Very Poor			2	46
river birch	Betula nigra	NSL	Low	7.5	4.2	2.4	Sm. dec.	No change	Medium	Rare	Very Poor	Poor		Infill +	1	47

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gray birch	Betula populifolia	NSL	Low	4.5	4.1	0.7	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor				0 48
red mulberry	Morus rubra	NSL	Low	1.1	3.9	3.8	Sm. dec.	Sm. dec.	Medium	Rare	Very Poor	Very Poor				0 49
sweetbay	Magnolia virginiana	NSL	Medium	5	3.5	1.2	Sm. inc.	Lg. inc.	Medium	Rare	Fair	Good	Infill +			2 50
boxelder	Acer negundo	WSH	Low	6.4	3.4	5.7	No change	Sm. inc.	High	Rare	Fair	Good	Infill +	Infill ++		2 51
shortleaf pine	Pinus echinata	WDH	High	0.1	1.8	0.1	Lg. inc.	Lg. inc.	Medium	Rare	Good	Good				2 52
American chestnut	Castanea dentata	NSLX	FIA	1.3	1.3	0.3	Unknown	Unknown	Medium	Rare	FIA Only	FIA Only				0 53
butternut	Juglans cinerea	NSLX	FIA	1.1	1.3	1.2	Unknown	Unknown	Low	Rare	FIA Only	FIA Only				0 54
silver maple	Acer saccharinum	NSH	Low	4.5	0.9	1.0	Lg. inc.	Lg. inc.	High	Rare	Good	Good	Infill ++	Infill ++		2 55
striped maple	Acer pensylvanicum	NSL	Medium	1.1	0.9	0.8	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor				0 56
quaking aspen	Populus tremuloides	WDH	High	4.4	0.7	2.5	Lg. dec.	Lg. dec.	Medium	Rare	Very Poor	Very Poor				0 57
chinkapin oak	Quercus muehlenbergii	NSL	Medium	0.4	0.6	0.2	No change	Lg. inc.	Medium	Rare	Poor	Good				2 58
slash pine	Pinus elliotii	NDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat				0 59
longleaf pine	Pinus palustris	NSH	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat				0 60
pond pine	Pinus serotina	NSH	Medium	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat	Migrate +	Migrate +		3 61
loblolly pine	Pinus taeda	WDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate ++	Migrate ++		3 62
Virginia pine	Pinus virginiana	NDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Likely +	Likely +		3 63
bald cypress	Taxodium distichum	NSH	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate +	Migrate +		3 64
florida maple	Acer barbatum	NSL	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat				3 65
Ohio buckeye	Aesculus glabra	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown				0 66
pawpaw	Asimina triloba	NSL	Low	0	0	0	Unknown	Unknown	Medium	Modeled	Unknown	Unknown				0 67
cittamwood/gum bumelia	Sideroxylon lanuginosum ssp.	NSL	Low	0	0	0	Unknown	New Habitat	High	Absent	Unknown	New Habitat				0 68
water hickory	Carya aquatica	NSL	Medium	0	0	0	Unknown	New Habitat	Medium	Absent	Unknown	New Habitat				0 69
pecan	Carya illinoensis	NSH	Low	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat				3 70
shellbark hickory	Carya laciniosa	NSL	Low	0	0	0	Unknown	Unknown	Medium	Modeled	Unknown	Unknown				0 71
black hickory	Carya texana	NDL	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat				0 72
sugarberry	Celtis laevigata	NDH	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat				3 73
hackberry	Celtis occidentalis	WDH	Medium	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Likely +	Likely +		3 74
eastern redbud	Cercis canadensis	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate +	Migrate +		3 75
common persimmon	Diospyros virginiana	NSL	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Migrate +	Migrate +		3 76
loblolly-bay	Gordonia lasianthus	NSH	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat				3 77
American holly	Ilex opaca	NSL	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Likely +	Likely +		3 78
cucumbertree	Magnolia acuminata	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat				3 79
bigleaf magnolia	Magnolia macrophylla	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown				0 80
mountain or Fraser magnolia	Magnolia fraseri	NSL	Low	0	0	0	Unknown	Unknown	Low	Absent	Unknown	Unknown				0 81
water tupelo	Nyssa aquatica	NSH	Medium	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat		Migrate +		3 82
swamp tupelo	Nyssa biflora	NDH	Medium	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat	Migrate +	Migrate +		3 83
sourwood	Oxydendrum arboreum	NDL	High	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Migrate +	Migrate +		3 84
redbay	Persea borbonia	NSL	Low	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Migrate +			3 85
eastern cottonwood	Populus deltoides	NSH	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Likely +	Likely +		3 86
southern red oak	Quercus falcata	WDL	Medium	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Migrate +	Migrate ++		3 87
cherrybark oak; swamp red o.	Quercus pagoda	NSL	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat		Migrate +		3 88
turkey oak	Quercus laevis	NSH	Medium	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat				3 89
laurel oak	Quercus laurifolia	NDH	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate +	Migrate +		3 90
overcup oak	Quercus lyrata	NSL	Medium	0	0	0	New Habitat	New Habitat	Low	Absent	New Habitat	New Habitat				3 91
blackjack oak	Quercus marilandica	NSL	Medium	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Migrate +	Migrate +		3 92
swamp chestnut oak	Quercus michauxii	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate +	Migrate +		3 93
water oak	Quercus nigra	WDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate +	Migrate ++		3 94

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willow oak	Quercus phellos	NSL	Low	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate +	Migrate +	3	95
post oak	Quercus stellata	WDH	High	0	0	0	New Habitat	New Habitat	High	Absent	New Habitat	New Habitat	Migrate ++	Migrate ++	3	96
live oak	Quercus virginiana	NDH	High	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat			0	97
bluejack oak	Quercus incana	NSL	Low	0	0	0	Unknown	Unknown	Medium	Absent	Unknown	Unknown			0	98
winged elm	Ulmus alata	WDL	Medium	0	0	0	New Habitat	New Habitat	Medium	Absent	New Habitat	New Habitat	Migrate +	Migrate ++	3	99