

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 |
|-----------------------------|-------------------------|-------|--------|-------|---------|-------|-----------|-----------|--------|----------|-----------|-----------|-----------|-----------|-----|----|
| yellow-poplar | Liriodendron tulipifera | WDH | High | 96.5 | 1319.72 | 14.27 | Sm. dec. | Lg. dec. | High | Abundant | Good | Good | | | 1 | 1 |
| chestnut oak | Quercus prinus | NDH | High | 87.1 | 1246.25 | 15.13 | No change | No change | High | Abundant | Very Good | Very Good | | | 1 | 2 |
| red maple | Acer rubrum | WDH | High | 98.8 | 1111.72 | 11.75 | No change | Sm. dec. | High | Abundant | Very Good | Good | | | 1 | 3 |
| eastern white pine | Pinus strobus | WDH | High | 68.2 | 783.22 | 12.12 | No change | No change | Low | Abundant | Fair | Fair | | | 0 | 4 |
| northern red oak | Quercus rubra | WDH | Medium | 87.1 | 534.68 | 6.42 | Sm. inc. | Sm. inc. | High | Abundant | Very Good | Very Good | | | 1 | 5 |
| scarlet oak | Quercus coccinea | WDL | Medium | 74.1 | 428.14 | 6.07 | No change | No change | Medium | Common | Fair | Fair | | | 1 | 6 |
| sourwood | Oxydendrum arboreum | NDL | High | 67.1 | 335.36 | 5.3 | Sm. inc. | No change | High | Common | Very Good | Good | | | 1 | 7 |
| white oak | Quercus alba | WDH | Medium | 71.8 | 334.75 | 5.05 | Lg. inc. | Lg. inc. | High | Common | Very Good | Very Good | | | 1 | 8 |
| sweet birch | Betula lenta | NDH | High | 75.3 | 330 | 4.64 | No change | Sm. dec. | Low | Common | Poor | Poor | | | 0 | 9 |
| black locust | Robinia pseudoacacia | NDH | Low | 80 | 306.94 | 3.84 | No change | No change | Medium | Common | Fair | Fair | | | 1 | 10 |
| blackgum | Nyssa sylvatica | WDL | Medium | 78.8 | 235.79 | 3.19 | Sm. inc. | Sm. inc. | High | Common | Very Good | Very Good | | | 1 | 11 |
| Virginia pine | Pinus virginiana | NDH | High | 42.4 | 215.11 | 5.57 | Lg. inc. | Lg. inc. | Medium | Common | Very Good | Very Good | | | 1 | 12 |
| pignut hickory | Carya glabra | WDL | Medium | 54.1 | 197.52 | 3.94 | Sm. inc. | Sm. inc. | Medium | Common | Good | Good | | | 1 | 13 |
| moccnut hickory | Carya alba | WDL | Medium | 50.6 | 152.98 | 3.28 | Sm. inc. | Lg. inc. | High | Common | Very Good | Very Good | | | 1 | 14 |
| black oak | Quercus velutina | WDH | High | 50.6 | 147.98 | 3.24 | Lg. inc. | Lg. inc. | Medium | Common | Very Good | Very Good | | | 1 | 15 |
| eastern hemlock | Tsuga canadensis | NSH | High | 44.7 | 147.62 | 3.59 | Lg. inc. | Lg. inc. | Low | Common | Good | Good | | | 1 | 16 |
| black cherry | Prunus serotina | WDL | Medium | 58.8 | 141.58 | 2.58 | Sm. inc. | Sm. inc. | Low | Common | Fair | Fair | | | 1 | 17 |
| white ash | Fraxinus americana | WDL | Medium | 35.3 | 121.25 | 3.44 | Sm. inc. | Sm. inc. | Low | Common | Fair | Fair | | | 1 | 18 |
| yellow birch | Betula alleghaniensis | NDL | High | 23.5 | 120.46 | 5.12 | Sm. dec. | Sm. dec. | Medium | Common | Poor | Poor | | | 0 | 19 |
| pitch pine | Pinus rigida | NSH | High | 31.8 | 110.73 | 4.01 | Sm. inc. | Sm. inc. | Medium | Common | Good | Good | | | 1 | 20 |
| mountain or Fraser magnolia | Magnolia fraseri | NSL | Low | 27.1 | 78.25 | 2.89 | No change | No change | NA | Common | Unknown | Unknown | | | 0 | 21 |
| red spruce | Picea rubens | NDH | High | 8.2 | 72.15 | 8.76 | No change | Sm. dec. | Low | Common | Poor | Poor | Infill + | Infill + | 2 | 22 |
| cucumber tree | Magnolia acuminata | NSL | Low | 35.3 | 65.88 | 2.2 | Sm. dec. | Sm. dec. | Medium | Common | Poor | Poor | | | 0 | 23 |
| black walnut | Juglans nigra | WDH | Low | 16.5 | 64.62 | 3.92 | No change | Sm. inc. | Medium | Common | Fair | Good | | | 1 | 24 |
| sugar maple | Acer saccharum | WDH | High | 25.9 | 61.59 | 2.38 | Lg. inc. | Lg. inc. | High | Common | Very Good | Very Good | | | 1 | 25 |
| ailanthus | Ailanthus altissima | NSL | FIA | 17.6 | 59.33 | 3.36 | Unknown | Unknown | NA | Common | NNIS | NNIS | | | 0 | 26 |
| serviceberry | Amelanchier spp. | NSL | Low | 42.4 | 58.48 | 1.51 | No change | No change | Medium | Common | Fair | Fair | | | 1 | 27 |
| sassafras | Sassafras albidum | WSL | Low | 34.1 | 56.59 | 1.66 | Sm. inc. | Sm. inc. | Medium | Common | Good | Good | | | 1 | 28 |
| American beech | Fagus grandifolia | WDH | High | 24.7 | 53.39 | 2.16 | Lg. inc. | Lg. inc. | Medium | Common | Very Good | Very Good | | | 1 | 29 |
| flowering dogwood | Cornus florida | WDL | Medium | 40 | 50.29 | 1.26 | Lg. inc. | Lg. inc. | Medium | Common | Very Good | Very Good | | | 1 | 30 |
| American basswood | Tilia americana | WSL | Medium | 23.5 | 48.29 | 2.55 | Sm. inc. | Sm. inc. | Medium | Rare | Fair | Fair | | | 1 | 31 |
| silverbell | Halesia spp. | NSL | Low | 11.8 | 47.32 | 4.02 | No change | No change | Medium | Rare | Poor | Poor | Infill + | Infill + | 1 | 32 |
| American hornbeam; muscle | Carpinus caroliniana | WSL | Low | 11.8 | 41.92 | 3.56 | Sm. dec. | Sm. inc. | Medium | Rare | Very Poor | Fair | | | 1 | 33 |
| Table Mountain pine | Pinus pungens | NSL | Low | 15.3 | 41.53 | 3.76 | Lg. dec. | Lg. dec. | High | Rare | Poor | Poor | | | 1 | 34 |
| pin cherry | Prunus pensylvanica | NSL | Low | 8.2 | 39.13 | 4.75 | Sm. dec. | Sm. dec. | Medium | Rare | Very Poor | Very Poor | | | 0 | 35 |
| shortleaf pine | Pinus echinata | WDH | High | 18.8 | 35.19 | 1.87 | Lg. inc. | Lg. inc. | Medium | Rare | Good | Good | | | 1 | 36 |
| striped maple | Acer pensylvanicum | NSL | Medium | 24.7 | 33.98 | 1.79 | Sm. dec. | Sm. dec. | Medium | Rare | Very Poor | Very Poor | | | 0 | 37 |
| southern red oak | Quercus falcata | WDL | Medium | 9.4 | 30.05 | 3.19 | Sm. inc. | Lg. inc. | High | Rare | Good | Good | | | 1 | 38 |
| green ash | Fraxinus pennsylvanica | WSH | Low | 18.8 | 27.09 | 2.04 | Sm. inc. | Lg. inc. | Medium | Rare | Fair | Good | | | 1 | 39 |
| yellow buckeye | Aesculus flava | NSL | Low | 11.8 | 18.34 | 1.56 | Sm. inc. | Sm. inc. | Low | Rare | Poor | Poor | Infill + | Infill + | 1 | 40 |
| bitternut hickory | Carya cordiformis | WSL | Low | 14.1 | 17.58 | 1.85 | Lg. inc. | Lg. inc. | High | Rare | Good | Good | Infill ++ | Infill ++ | 1 | 41 |
| shagbark hickory | Carya ovata | WSL | Medium | 8.2 | 17.42 | 2.12 | No change | No change | Medium | Rare | Poor | Poor | Infill + | Infill + | 1 | 42 |
| eastern redbud | Cercis canadensis | NSL | Low | 8.2 | 16.33 | 1.98 | No change | No change | Medium | Rare | Poor | Poor | | | 1 | 43 |
| common persimmon | Diospyros virginiana | NSL | Low | 4.7 | 16.15 | 3.43 | No change | No change | High | Rare | Fair | Fair | | | 1 | 44 |
| eastern redcedar | Juniperus virginiana | WDH | Medium | 3.5 | 15.32 | 4.34 | Lg. inc. | Lg. inc. | Medium | Rare | Good | Good | Infill ++ | Infill ++ | 1 | 45 |
| American elm | Ulmus americana | WDH | Medium | 10.6 | 13.75 | 1.3 | Sm. dec. | Lg. inc. | Medium | Rare | Very Poor | Good | | Infill ++ | 2 | 46 |
| American holly | Ilex opaca | NSL | Medium | 3.5 | 12.47 | 3.53 | No change | No change | Medium | Rare | Poor | Poor | | | 1 | 47 |
| American chestnut | Castanea dentata | NSLX | FIA | 11.8 | 11.15 | 0.95 | Unknown | Unknown | Medium | Rare | FIA Only | FIA Only | | | 0 | 48 |
| bear oak; scrub oak | Quercus ilicifolia | NSLX | FIA | 2.4 | 9.86 | 4.19 | Unknown | Unknown | Medium | Rare | FIA Only | FIA Only | | | 0 | 49 |
| paulownia | Paulownia tomentosa | NSL | FIA | 4.7 | 8.59 | 1.82 | Unknown | Unknown | NA | Rare | NNIS | NNIS | | | 0 | 50 |
| loblolly pine | Pinus taeda | WDH | High | 2.4 | 8.18 | 3.48 | Lg. inc. | Lg. inc. | Medium | Rare | Good | Good | Infill ++ | Infill ++ | 1 | 51 |
| boxelder | Acer negundo | WSH | Low | 4.7 | 6.45 | 1.37 | Sm. dec. | Sm. dec. | High | Rare | Poor | Poor | | Infill + | 2 | 52 |
| post oak | Quercus stellata | WDH | High | 3.5 | 5.78 | 1.64 | Lg. inc. | Lg. inc. | High | Rare | Good | Good | | | 2 | 53 |

| Common Name | Scientific Name | Range | MR | %Cell | FIAsum | FIAiv | ChngCl45 | ChngCl85 | Adap | Abund | Capabil45 | Capabil85 | SHIFT45 | SHIFT85 | SSO | N |
|-----------------------------|-----------------------------|-------|--------|-------|--------|-------|---------------|---------------|--------|---------|-------------|-------------|------------|------------|-----|----|
| eastern hophornbeam; ironw | Ostrya virginiana | WSL | Low | 5.9 | 5.68 | 0.97 | Sm. inc. | Lg. inc. | High | Rare | Good | Good | | | 1 | 54 |
| sycamore | Platanus occidentalis | NSL | Low | 4.7 | 4.86 | 1.03 | Lg. inc. | Lg. inc. | Medium | Rare | Good | Good | Infill ++ | Infill ++ | 2 | 55 |
| slippery elm | Ulmus rubra | WSL | Low | 9.4 | 4.33 | 1.08 | Sm. dec. | Sm. dec. | Medium | Rare | Very Poor | Very Poor | | | 0 | 56 |
| pawpaw | Asimina triloba | NSL | Low | 4.7 | 4.02 | 0.85 | Lg. dec. | Very Lg. dec. | Medium | Rare | Very Poor | Lost | | | 0 | 57 |
| American mountain-ash | Sorbus americana | NSL | Low | 3.5 | 2.79 | 0.79 | Sm. dec. | Sm. dec. | Low | Rare | Very Poor | Very Poor | | | 0 | 58 |
| hackberry | Celtis occidentalis | WDH | Medium | 2.4 | 2.71 | 1.15 | No change | Sm. inc. | High | Rare | Fair | Good | | | 2 | 59 |
| red mulberry | Morus rubra | NSL | Low | 1.2 | 1.76 | 1.5 | Sm. dec. | No change | Medium | Rare | Very Poor | Poor | | Infill + | 2 | 60 |
| southern magnolia | Magnolia grandiflora | NSL | Low | 2.4 | 1.25 | 0.53 | Sm. dec. | No change | Medium | Rare | Very Poor | Poor | | Infill + | 2 | 61 |
| mountain maple | Acer spicatum | NSL | Low | 1.2 | 0.85 | 0.72 | Sm. dec. | Sm. dec. | High | Rare | Poor | Poor | | | 0 | 62 |
| butternut | Juglans cinerea | NSLX | FIA | 1.2 | 0.82 | 0.7 | Unknown | Unknown | Low | Rare | FIA Only | FIA Only | | | 0 | 63 |
| river birch | Betula nigra | NSL | Low | 1.2 | 0.71 | 0.6 | Very Lg. dec. | Lg. inc. | Medium | Rare | Lost | Good | | Infill ++ | 2 | 64 |
| longleaf pine | Pinus palustris | NSH | Medium | 0 | 0 | 0 | New Habitat | New Habitat | Medium | Absent | New Habitat | New Habitat | | Migrate + | 3 | 65 |
| pond cypress | Taxodium ascendens | NSH | Medium | 0 | 0 | 0 | New Habitat | New Habitat | Medium | Absent | New Habitat | New Habitat | | | 3 | 66 |
| northern white-cedar | Thuja occidentalis | WSH | High | 0 | 0 | 0 | Unknown | New Habitat | Medium | Absent | Unknown | New Habitat | | | 3 | 67 |
| florida maple | Acer barbatum | NSL | Low | 0 | 0 | 0 | New Habitat | New Habitat | High | Absent | New Habitat | New Habitat | Migrate ++ | Migrate ++ | 3 | 68 |
| black maple | Acer nigrum | NSH | Low | 0 | 0 | 0 | Unknown | Unknown | High | Absent | Unknown | Unknown | | | 0 | 69 |
| silver maple | Acer saccharinum | NSH | Low | 0 | 0 | 0 | Unknown | Unknown | High | Absent | Unknown | Unknown | | | 0 | 70 |
| cittamwood/gum bumelia | Sideroxylon lanuginosum ssp | NSL | Low | 0 | 0 | 0 | Unknown | New Habitat | High | Absent | Unknown | New Habitat | | | 3 | 71 |
| pecan | Carya illinoensis | NSH | Low | 0 | 0 | 0 | New Habitat | New Habitat | Low | Absent | New Habitat | New Habitat | | Migrate + | 3 | 72 |
| shellbark hickory | Carya laciniosa | NSL | Low | 0 | 0 | 0 | Unknown | Unknown | Medium | Modeled | Unknown | Unknown | | | 0 | 73 |
| black hickory | Carya texana | NDL | High | 0 | 0 | 0 | New Habitat | New Habitat | Medium | Absent | New Habitat | New Habitat | | | 3 | 74 |
| sugarberry | Celtis laevigata | NDH | Medium | 0 | 0 | 0 | New Habitat | New Habitat | Medium | Absent | New Habitat | New Habitat | | Migrate + | 3 | 75 |
| honeylocust | Gleditsia triacanthos | NSH | Low | 0 | 0 | 0 | Unknown | New Habitat | High | Absent | Unknown | New Habitat | | Likely + | 3 | 76 |
| sweetgum | Liquidambar styraciflua | WDH | High | 0 | 0 | 0 | New Habitat | New Habitat | Medium | Absent | New Habitat | New Habitat | Likely + | Likely + | 3 | 77 |
| bigleaf magnolia | Magnolia macrophylla | NSL | Low | 0 | 0 | 0 | Unknown | Unknown | Medium | Absent | Unknown | Unknown | | | 0 | 78 |
| cherrybark oak; swamp red o | Quercus pagoda | NSL | Medium | 0 | 0 | 0 | New Habitat | New Habitat | Medium | Absent | New Habitat | New Habitat | | Migrate + | 3 | 79 |
| overcup oak | Quercus lyrata | NSL | Medium | 0 | 0 | 0 | Unknown | Unknown | Low | Absent | Unknown | Unknown | | | 0 | 80 |
| blackjack oak | Quercus marilandica | NSL | Medium | 0 | 0 | 0 | New Habitat | New Habitat | High | Absent | New Habitat | New Habitat | Likely + | Likely + | 3 | 81 |
| chinkapin oak | Quercus muehlenbergii | NSL | Medium | 0 | 0 | 0 | New Habitat | New Habitat | Medium | Absent | New Habitat | New Habitat | Migrate ++ | Migrate ++ | 3 | 82 |
| water oak | Quercus nigra | WDH | High | 0 | 0 | 0 | New Habitat | New Habitat | Medium | Absent | New Habitat | New Habitat | Migrate ++ | Migrate ++ | 3 | 83 |
| willow oak | Quercus phellos | NSL | Low | 0 | 0 | 0 | New Habitat | New Habitat | Medium | Absent | New Habitat | New Habitat | | Migrate ++ | 3 | 84 |
| Shumard oak | Quercus shumardii | NSL | Low | 0 | 0 | 0 | New Habitat | New Habitat | High | Absent | New Habitat | New Habitat | | Migrate + | 3 | 85 |
| bluejack oak | Quercus incana | NSL | Low | 0 | 0 | 0 | New Habitat | New Habitat | Medium | Absent | New Habitat | New Habitat | | Migrate + | 3 | 86 |
| black willow | Salix nigra | NSH | Low | 0 | 0 | 0 | Unknown | New Habitat | Low | Absent | Unknown | New Habitat | | Likely + | 3 | 87 |
| winged elm | Ulmus alata | WDL | Medium | 0 | 0 | 0 | New Habitat | New Habitat | Medium | Absent | New Habitat | New Habitat | Migrate ++ | Migrate ++ | 3 | 88 |