

USDA Forest Service Climate/Tree Atlas

Summary of Findings for Knoxville Urban Area (ua46540)

<https://www.fs.usda.gov/nrs/atlas/tree/>

	Small Improvements Predicted		More Significant Improvements Predicted	
Trees expected to fare better as climate warms	mockernut hickory	Carya alba	boxelder	Acer negundo
	hackberry	Celtis occidentalis	Am. hornbeam; musclewood	Carpinus caroliniana
	eastern redcedar	Juniperus virginiana	pecan	Carya illinoensis
	blackgum	Nyssa sylvatica	sugarberry	Celtis laevigata
	black cherry	Prunus serotina	common persimmon	Diospyros virginiana
	white oak	Quercus alba	green ash	Fraxinus pennsylvanica
	southern red oak	Quercus falcata	sweetgum	Liquidambar styraciflua
	Shumard oak	Quercus shumardii	e. hophornbeam; ironwood	Ostrya virginiana
	black oak	Quercus velutina	shortleaf pine	Pinus echinata
	sassafras	Sassafras albidum	loblolly pine	Pinus taeda
			northern red oak	Quercus rubra
			post oak	Quercus stellata
			black willow	Salix nigra
			winged elm	Ulmus alata
		American elm	Ulmus americana	
		slippery elm	Ulmus rubra	
	Small Decline Predicted		More Significant Decline Predicted	
Trees expected to fare worse as climate warms	striped maple	Acer pensylvanicum	sugar maple	Acer saccharum
	red maple	Acer rubrum	pawpaw	Asimina triloba
	silver maple	Acer saccharinum	shellbark hickory	Carya laciniosa
	yellow buckeye	Aesculus flava	yellow-poplar	Liriodendron tulipifera
	serviceberry	Amelanchier spp.	Virginia pine	Pinus virginiana
	sweet birch	Betula lenta	chinkapin oak	Quercus muhlenbergii
	bitternut hickory	Carya cordiformis	black locust	Robinia pseudoacacia
	pignut hickory	Carya glabra		
	shagbark hickory	Carya ovata		
	eastern redbud	Cercis canadensis		
	sourwood	Oxydendrum arboreum		
	table mountain pine	Pinus pungens		
	scarlet oak	Quercus coccinea		
	chestnut oak	Quercus prinus		
	American basswood	Tilia americana		
eastern hemlock	Tsuga canadensis			
	No Change Anticipated		Possible New Species Moving In	
Other	yellow birch	Betula alleghaniensis	florida maple	Acer barbatum
	flowering dogwood	Cornus florida	river birch	Betula nigra
	American beech	Fagus grandifolia	black hickory	Carya texana
	white ash	Fraxinus americana	black ash	Fraxinus nigra
	silverbell	Halesia spp.	honeylocust	Gleditsia triacanthos
	American holly	Ilex opaca	southern magnolia	Magnolia grandiflora
	black walnut	Juglans nigra	swamp tupelo	Nyssa biflora
	osage-orange	Maclura pomifera	ashe juniper	Juniperus ashei
	cucumbertree	Magnolia acuminata	slash pine	Pinus elliotii
	mountain magnolia	Magnolia fraseri	longleaf pine	Pinus palustris
	red mulberry	Morus rubra	bluejack oak	Quercus incana
	red spruce	Picea rubens	laurel oak	Quercus laurifolia
	pitch pine	Pinus rigida	blackjack oak	Quercus marilandica
	eastern white pine	Pinus strobus	water oak	Quercus nigra
	sycamore	Platanus occidentalis	cherrybark/swamp red oak	Quercus pagoda
			willow oak	Quercus phellos
			live oak	Quercus virginiana
		cittamwood/gum bumelia	Sideroxylon lanuginosum ssp. lanuginosum	
		cedar elm	Ulmus crassifolia	

**assuming a high emissions scenario

Prasad, A. M., L. R. Iverson., S. Matthews., M. Peters. 2007-ongoing. A Climate Change Atlas for 134 Forest Tree Species of the Eastern United States [database].

https://www.nrs.fs.fed.us/atlas/tree_Northern_Research_Station_USDA_Forest_Service_Delaware_Ohio