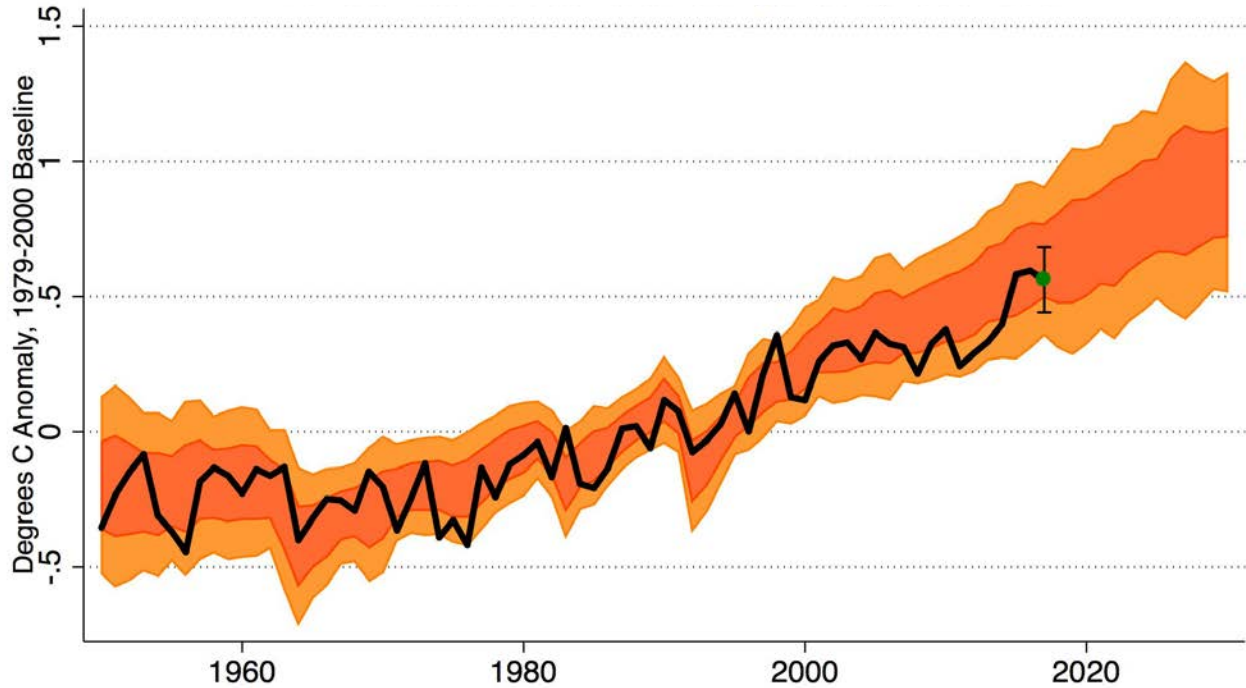


Climate Forward Trees for Maynard's Downtown Arboretum

Dr. Neil Pederson
April 2022

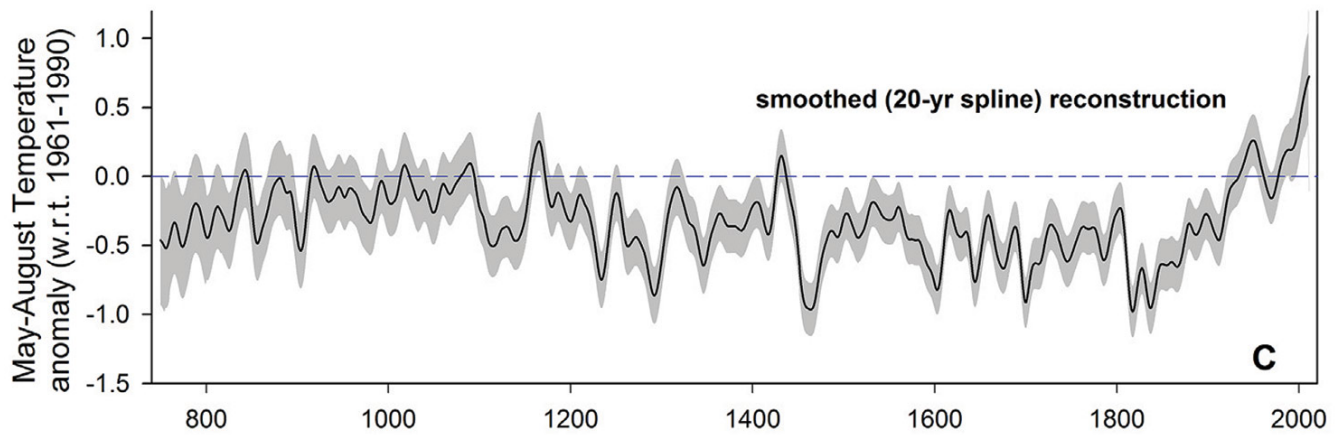


1960s - models indicated doubling of CO₂ would increase temps 2° C (3.6° F) in the next century



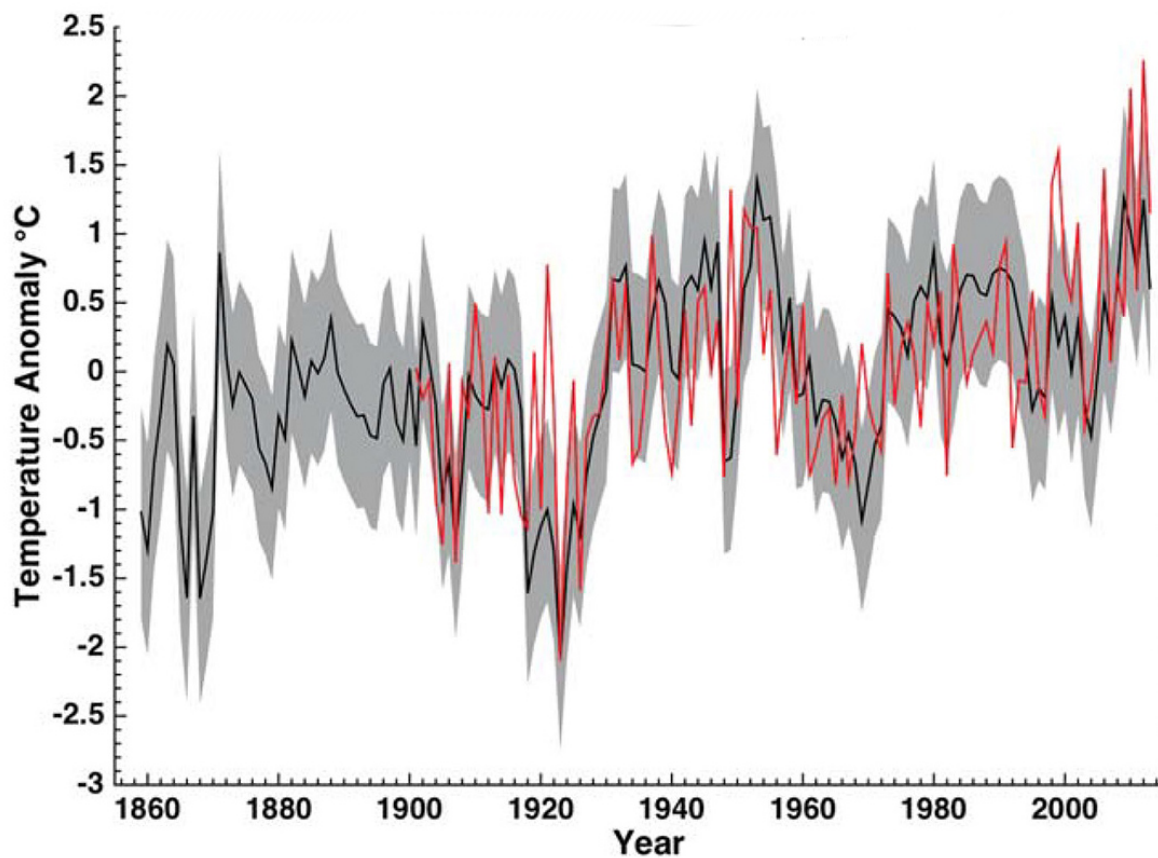
Eunice Foote found in 1856 that carbonic acid effectively trapped heat

1,200 Years of Northern Hemisphere Temperature History



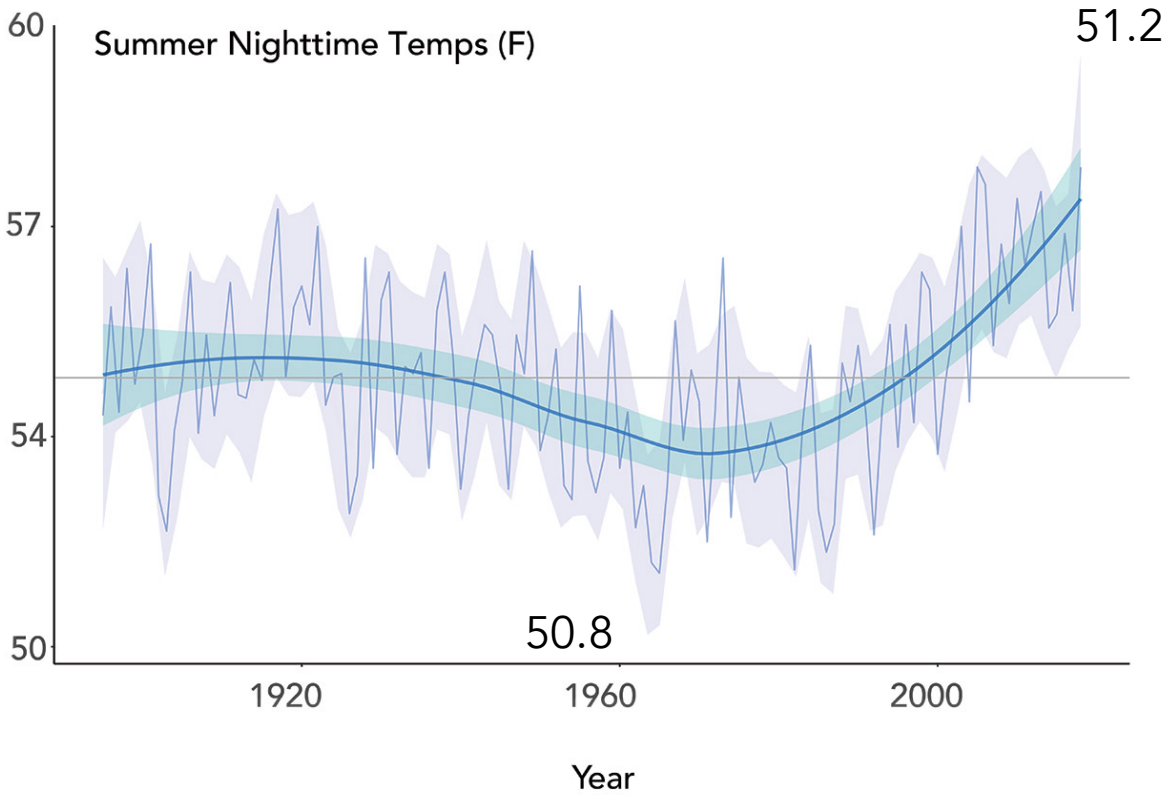
Wilson et al 2016

150 Years of Northeastern US Temperature History

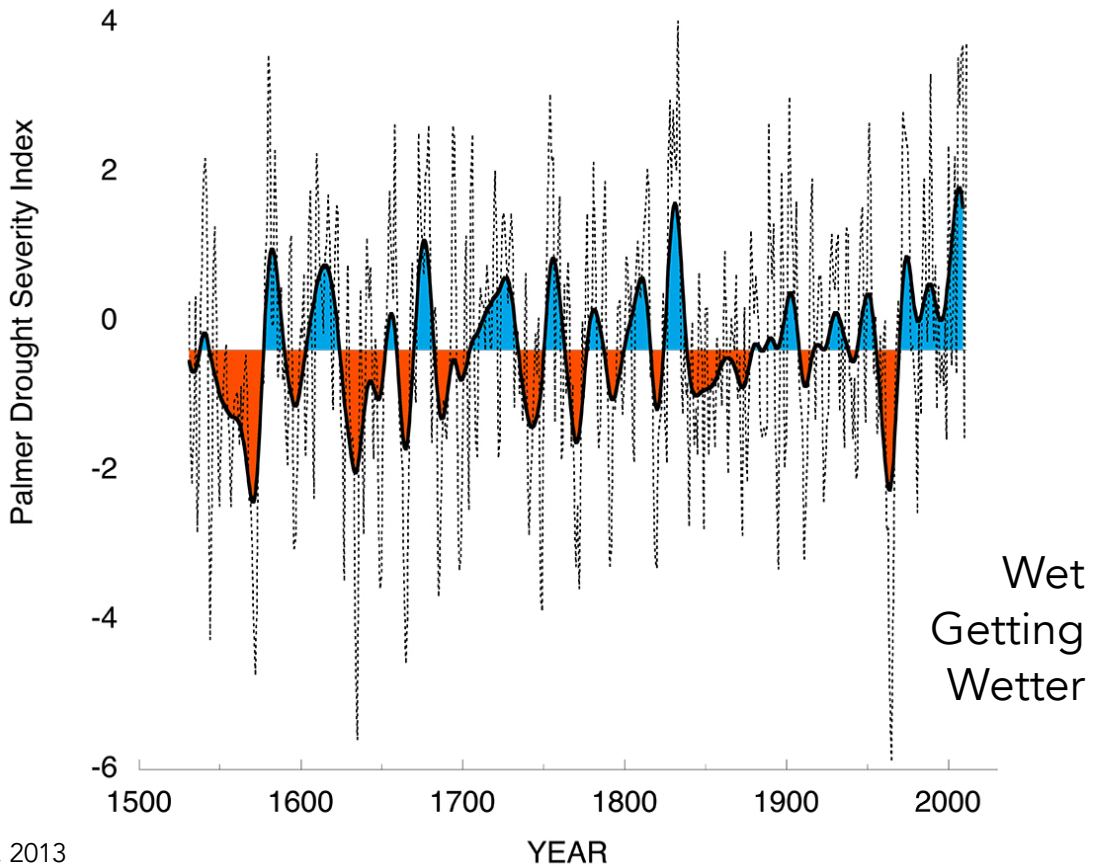


Pearl et al 2020

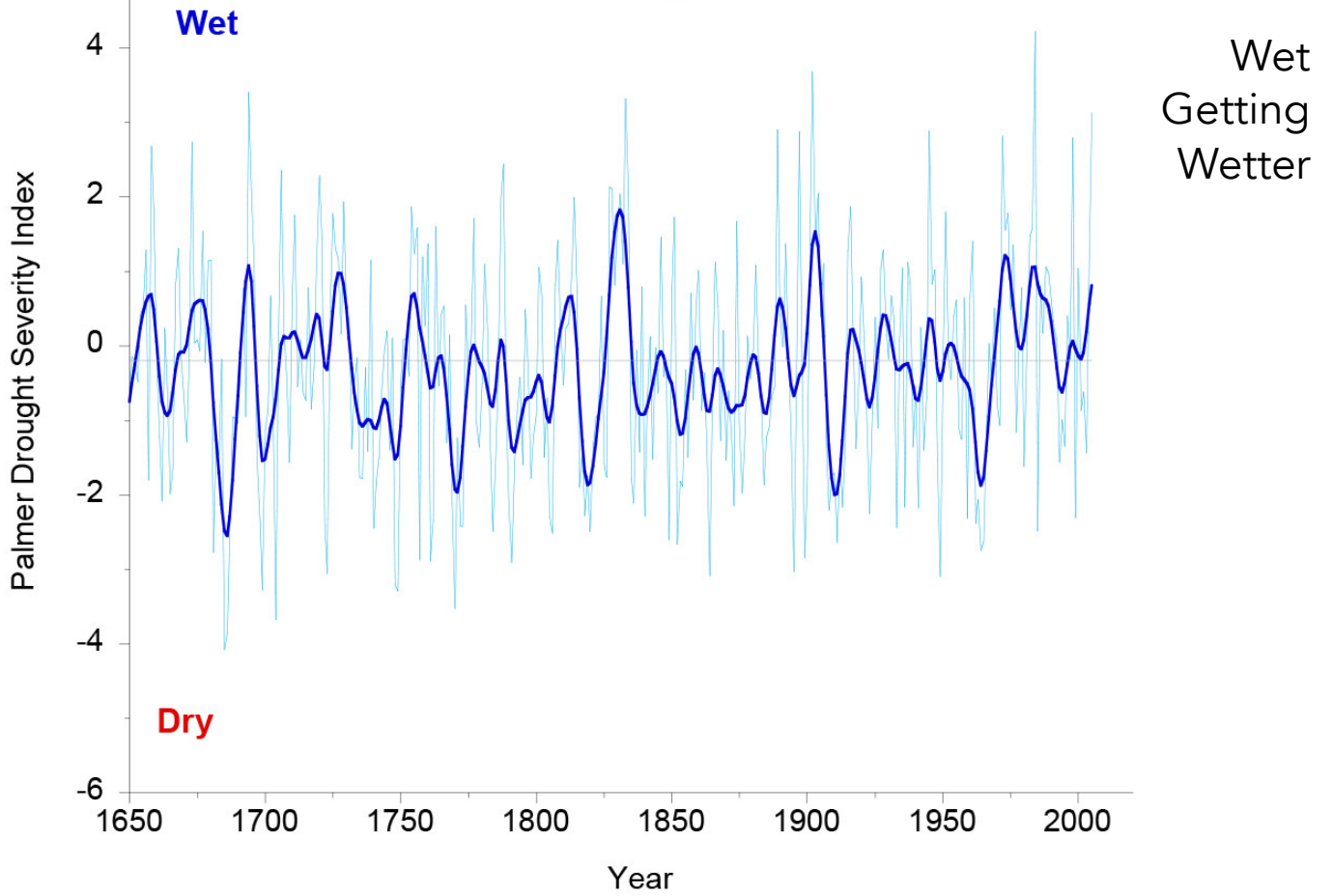
While We (try to) Sleep....



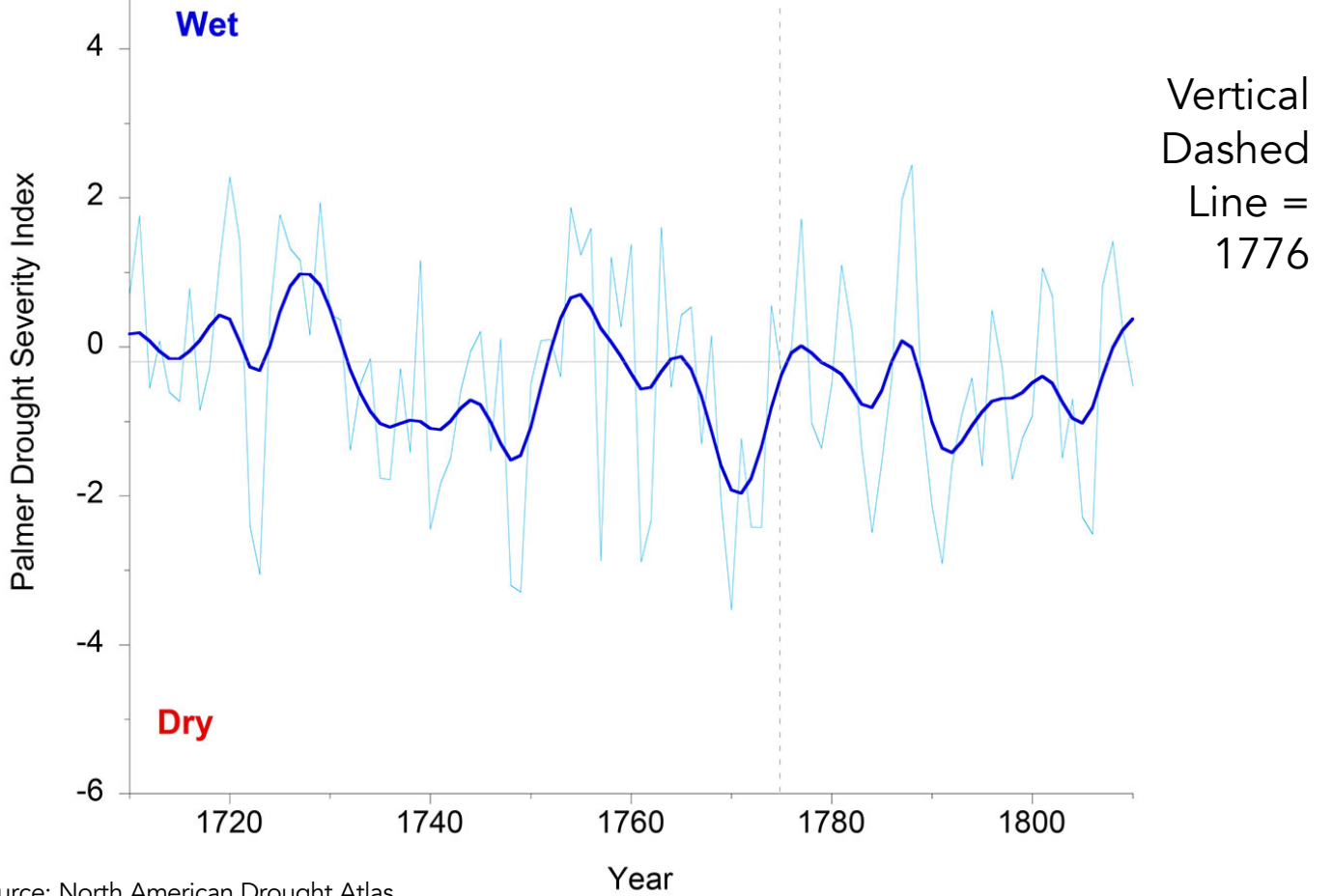
....Right Under Our Feet



Greater Boston Region Reconstruction of Moisture



Greater Boston Region Reconstruction of Moisture



Background and Philosophy on Trees For Maynard

To preserve, grow, and diversify Maynard's tree canopy with an eye on diversity and climate-forward trees, especially southern species, that evolved in the eastern US:

- 1) Limiting Exotic Pests & Pathogens
- 2) Aesthetics
- 3) Climate Change put fewer eggs in one basket
- 4) For Diversity's Sake

"Trees are Tall, Leafy Goldfish"

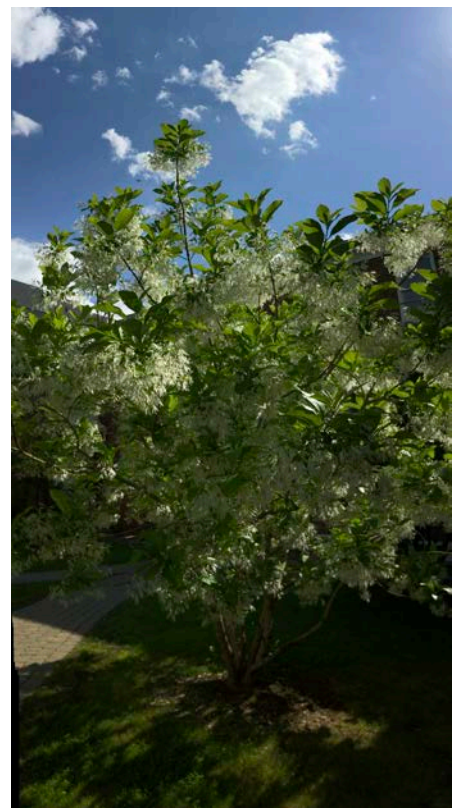
A Few Climate Forward Trees

<https://maynardtrees.com>

Small, Powerline Friendly Trees

White Fringetree (*Chionanthus virginicus*)

Downward flowing clusters of almost fine, lacey white flowers with great scent,



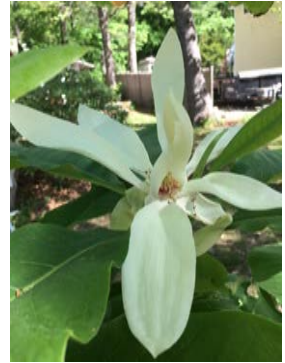
Others: Sweet Bay, Flowering Dogwood, Allegheny Serviceberry, Red Buckeye, Musclewood

Medium, Borderline Powerline Friendly Trees

Umbrella Magnolia (*Magnolia tripetala*)



Large white flowers; large green wide, long leaves; larger pod-like fruits that are a dark pinkish red; host for exotic looking spicebush swallowtail; brings a tropical feel;



Others: Sourwood, Sassafras, Hophornbeam, Yellowwood

Medium Large Trees

Blackgum/Black Tupelo (*Nyssa sylvatica*)

Bright, shiny green leaves that turn red in late summer
slow growing, can live 500+ years



Others: Common Persimmon, Red Maple, Eastern Red Cedar, Ohio Buckeye, Post Oak

Large Trees

White oak (*Quercus alba*)

Some individuals can turn burgundy red in the fall, depending on the weather; a stately oak.



Tuliptree (*Liriodendron tulipifera*)

Tulip-like flowers, white and orange on the inside; the flowers give off a spicy, almost hickory scent; fast growing tree; host for spicebush swallowtail



Others: Cucumber Magnolia, American Basswood;
Kentucky Coffeetree; Hackberry; Sweetgum