The 12 Super Trees of the Houston Region

A **Super Tree** is one that has a high rate of carbon absorption, flood mitigation, and greenhouse gas absorption ability.

When ranking Houston-Region native trees in each of these categories, the first 10 species fall in the top 26 for all three categories (data recorded for 10 year old trees).

(*) Indicates tree species that do well in wet areas


1) Live Oak

CO2 Sequestered per year (lbs.): 1,023
Flood Mitigation per year (gals.): 3,542
GHG Absorption per year (lbs.): 2
Flower: N/A
Height at Maturity: 60-80 ft
Canopy Width: 60-120 ft
Soil Tolerance: Acidic, Alkaline, Clay
Light: Full-Partial Sun


2) Boxelder

CO2 Sequestered per year (lbs.): 899
Flood Mitigation per year (gals.): 3,569
GHG Absorption per year (lbs.): 2
Flower: Yellowish Green to Reddish Orange
Height at Maturity: 30-50 ft
Canopy Width: 30-50 ft
Soil Tolerance: Alkaline, Clay, Acidic
Light: Full-Partial Sun


3) *Laurel Oak

CO2 Sequestered per year (lbs.): 875
Flood Mitigation per year (gals.): 3,611
GHG Absorption per year (lbs.): 2
Flower: White
Height at Maturity: 60-70 ft
Canopy Width: 35-45 ft
Soil Tolerance: Acidic, (slightly) Alkaline, Clay
Light: Full-Partial Sun


4) Red Maple

CO2 Sequestered per year (lbs.): 859
Flood Mitigation per year (gals.): 4,549
GHG Absorption per year (lbs.): 2
Flower: Red
Height at Maturity: 40-60 ft
Canopy Width: 35-45 ft
Soil Tolerance: Acidic (prefers), Alkaline, Clay
Light: Full-Partial Sun


5) *Willow Oak

CO2 Sequestered per year (lbs.): 738
Flood Mitigation per year (gals.): 3,237
GHG Absorption per year (lbs.): 2
Flower: N/A
Height at Maturity: 40-60 ft
Canopy Width: 30-40 ft
Soil Tolerance: Acidic, Clay
Light: Full Sun


6) American Elm

CO2 Sequestered per year (lbs.): 669
Flood Mitigation per year (gals.): 5,095
GHG Absorption per year (lbs.): 2
Flower: Reddish Green
Height at Maturity: 70-90 ft
Canopy Width: 50-70 ft
Soil Tolerance: Alkaline, Clay
Light: Full Sun

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Tree Species Characteristic Sources: http://mortonarb.org - http://arborday.org - http://hort.ufl.edu

Ecosystems Services Data Sources: Air quality: https://www.fs.fed.us/nrs/pubs/jrnl/2014/nrs_2014_nowak_001.pdf **Carbon:** https://www.epa.gov/sites/production/files/2016-12/documents/sc_co2_tsd_august_2016.pdf https://www.fs.usda.gov/ccrc/tools/tree-carbon-calculator-ctcc **VOC:** https://www.nrs.fs.fed.us/units/urban/local-resources/downloads/vocrates.pdf **Stormwater:** http://www.itreetools.org/eco/resources/iTree_Eco_Precipitation_Interception_Model_Descriptions.pdf


7) Slippery Elm

CO2 Sequestered per year (lbs.): 669
Flood Mitigation per year (gals.): 3,783
GHG Absorption per year (lbs.): 2
Flower: Reddish Orange
Height at Maturity: 40-60 ft
Canopy Width: 30-50 ft
Soil Tolerance: Alkaline, Acidic, Clay
Light: Full-Partial Sun


8) Tuliptree

CO2 Sequestered per year (lbs.): 659
Flood Mitigation per year (gals.): 3,754
GHG Absorption per year (lbs.): 2
Flower: Yellow-orange
Height at Maturity: 70-90 ft
Canopy Width: 40 ft
Soil Tolerance: Acidic, Clay
Light: Full Sun


9) American Sycamore

CO2 Sequestered per year (lbs.): 652
Flood Mitigation per year (gals.): 4,313
GHG Absorption per year (lbs.): 2
Flower: Green to Greenish Red
Height at Maturity: 75-100 ft
Canopy Width: 50-70 ft
Soil Tolerance: Alkaline (prefers), Acidic, Clay
Light: Full-Partial Sun


10) Green Ash

CO2 Sequestered per year (lbs.): 624
Flood Mitigation per year (gals.): 3,706
GHG Absorption per year (lbs.): 3
Flower: Greenish yellow
Height at Maturity: 50-60 ft
Canopy Width: 25-40 ft
Soil Tolerance: Alkaline, Clay, Acidic
Light: Full Sun

A **Super Carbon Tree** is one that has a high carbon absorption ability (ranked in the top 20), but ranks below the top 20 in flood mitigation and greenhouse gas absorption ability.
Two that are native to the Houston Region are listed below.


11) Loblolly Pine

CO2 Sequesteres per year (lbs.): 479
Flood Mitigation per year (gals.): 1,752
GHG Absorption per year (lbs.): 1
Flower: Yellowish Green
Height at Maturity: 60-90 ft
Canopy Width: 25-35 ft
Soil Tolerance: Acidic, Clay
Light: Full Sun


12) White Ash

CO2 Sequesteres per year (lbs.): 447
Flood Mitigation per year (gals.): 2,719
GHG Absorption per year (lbs.): 1
Flower: White
Height at Maturity: 50-80 ft
Canopy Width: 40-50 ft
Soil Tolerance: Acidic, Alkaline
Light: Full-Partial Sun

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