



We Need Trees and Trees Need Water!

Preserving California's Commercial, Industrial, and Institutional Trees During Drought

Save Our Trees and Save Our Water

During a drought, responsible water use includes watering urban trees. Trees make our communities healthy, beautiful, and livable. Your trees provide an immense range of human, environmental, and economic benefits:

- Trees cool our streets, our homes, and our businesses, reducing energy costs and saving lives during heat waves.
- Trees help make our communities more climate resilient.
- Trees improve air and water quality.
- Trees provide shade to the landscape and reduce water needs.
- Trees slow stormwater runoff and help recharge groundwater.
- Trees increase retail sales revenue, property values, and property rental retention and attractiveness.
- Trees make our streets more inviting for walking and biking.

Trees and water are both precious resources. Without watering through dry seasons, we risk losing these benefits from our urban trees. It will take 10, 20 or even 50+ years to grow back mature trees.



Best Management Practices for Commercial, Industrial, and Institutional Tree Care During Drought

Adaptation and Transition to Changes in Watering. Due to a tree's ability to adapt to their surroundings, a thoughtful analysis of the location and historic watering regime will inform how best to help trees adjust to changes in water application. Changes in watering should transition slowly over time, allowing the tree to adapt to new application rate or method.

The frequency of assessment for a tree's response to adjustments in watering should account for the length of time for the tree to exhibit symptoms. For example, young trees often show symptoms not long after adjustments, while mature trees may not exhibit symptoms until well after the dry season has passed.

Soil volume determines how much water a tree can capture, store, and subsequently use during dry periods. An increase in soil volume offers more valuable space for trees and their roots, resulting in healthier trees and stronger abilities to adapt to changes in water conditions.

Use recycled water, graywater, or collected stormwater where possible to irrigate the landscape and conserve water. Be aware of salinity issues. Recycled water with high salinity levels should be applied selectively or mixed with potable to reduce salinity concentration. Water use can also alternate between potable and recycled.



Treatment Options

Young trees (approximately three years or younger) should be watered about twice a week during dry seasons. The roots of younger trees are less established and need easier access to water to establish deep root systems. Consider planting low-water use tree species.

Mature trees should be watered about one to two times per month depending on the number of hot days and climate. They may require more water when growing near heat traps, such as foundations or parking lots, or in limited soil volume.

- **Add mulch** or leaf litter to base of tree (4-6 inches) to lower soil temperatures, reduce evaporative water loss, and reduce water needs. Keep mulch 2-3 inches away from the base of the tree to prevent trunk decay.
- **Deep, slow watering** helps deep root growth for healthier trees and prevents runoff. Depending on the tree location and water application method, mature trees often need several hours of deep, slow watering. Be sure to check moisture levels reach up to 12" to ensure sufficient irrigation.
- **Water the "drip zone,"** or area directly beneath the foliage to the outer edge of the tree canopy.
- **Biochar and compost** increase soil's water holding capacity, storing more accessible water for vegetation. Amending soil with biochar and compost additionally has Carbon sequestration benefits.
- **Lawn conversions may have adverse impacts** on trees if modifying irrigation method or frequency of watering. If trees have adapted to frequent, shallow watering, consider a transition to changes in watering over time.



Trees & Dry Seasons in California

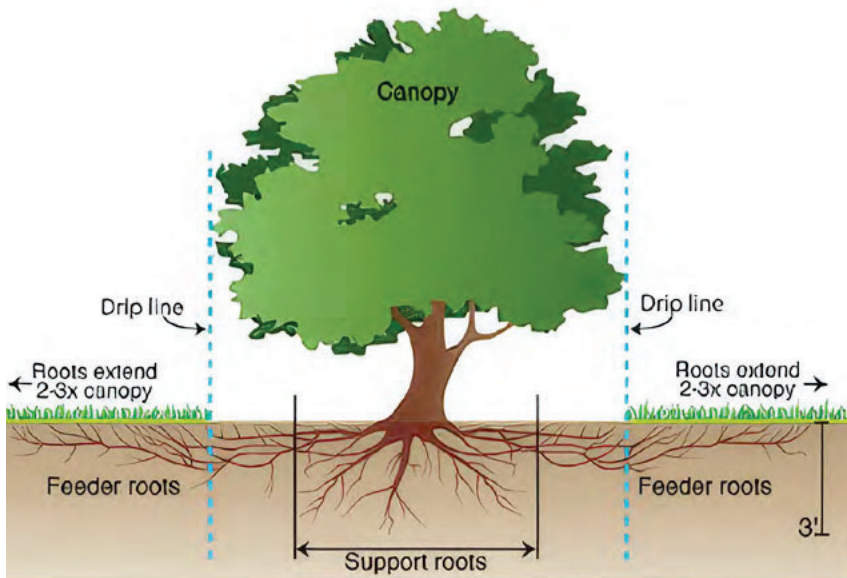


Drought-tolerant trees, such as California oaks, need much less water than most others. Drought-tolerant trees may only need one or two deep waterings over the summer. Trees that have never received regular irrigation may be harmed by adding extra water in the summer. Contact a certified arborist if you have questions about the health of your mature tree.

Determine if a tree needs water. The amount of water your tree needs depends on your soil and tree type. You can check the soil moisture to see if it's time to water. The easiest way to check soil moisture is to take a long (8"+) screwdriver and poke it into the soil. It will pass easily into moist soil, but be difficult to push into dry soil. If you can't poke it in at least 6", it's time to water. This technique works best in clay and loam soils. More technical soil moisture probes, such as soil moisture sensors, can be used to more accurately estimate the amount of water stored in the soil profile.

Lawn irrigation does not water trees effectively. It generally reaches only the first few inches of soil, encouraging weak surface roots to grow. Your lawn sits on the surface of the ground and has shallow roots. It needs watering a few times a week, usually with a sprinkler system. Trees need to be watered less frequently, but with deeper soaking because their roots grow deep in the earth.





Trees can be overwatered. When trees are overwatered, the roots struggle to breathe because the excess water takes over the air pockets that they previously had. By slowly soaking water into the soil around the tree, the water will be able to penetrate down into the root zone. Then, after a deep water, let the soil dry out before the next big soak. The hotter the temperatures, the more frequent the deep waterings.

Dead or dying trees can be dangerous and pose great risks to your property and people. Removal of dead or dying trees can cost thousands of dollars. Replacing trees takes more money, time, and water than keeping established ones alive.

Supplemental waterings help trees in summer. Keeping trees alive helps keep buildings cooler, meaning less energy and fewer resources spent on cooling systems and decreased water use in other areas. Deep watering of trees also helps replenish groundwater.

Rainy winters does not mean a tree needs less water in the dry season. Recent weather trends indicate hotter temperatures in general and the likelihood of more extreme weather events – such as potential flooding. We need to take good care of our trees in hot weather with regular deeper watering so they can withstand harsh weather.

For more water-conservation and tree care tips, please visit these resources:

[CAL FIRE Urban and Community Forestry Hub: Tree Planting and Care](#)

[CAL FIRE Urban & Community Forestry Program](#)

[Save Our Water: Save the Trees](#)

[Help Your Trees Survive the Drought Infographic](#)

[CA Department of Water Resources: Urban Water Use Efficiency](#)

[International Society of Arboriculture: Trees Are Good](#)

[California Center for Urban Horticulture: Tree Ring Irrigation Contraption \(TRIC\)](#)

[Cal Poly: SelectTree](#)

[San Diego Regional Urban Forests Council: Trees and Drought](#)

[California ReLeaf: Drought and Trees Resources](#)

[Canopy: Tree Care Tips](#)

[California Urban Forest Council: Trees and Drought](#)

[Sacramento Tree Foundation: Drought Tree Care Tips](#)

[Video: Watering Mature Trees \(English\)](#)

[Video: Watering Young Trees \(English\)](#)

[Video: Watering Mature Trees \(Spanish\)](#)

[Video: Watering Young Trees \(Spanish\)](#)