

Rise Up And Draw Down: How Gardeners Can Help Mitigate Climate Change

by Ann Lovejoy

Climate change is not a vague future threat anymore. It's here and it's past time to act. In 2018, international climate change summits all called for immediate action from governments, corporations and citizens alike. Can individuals really make a difference? Over 90 million Americans are gardeners and we definitely have the power to create significant change yard by yard, town by town, state by state.

How? For starters, we can switch from chemical lawn care to natural care. Americans spend over three billion dollars a year on fossil-fuel based fertilizers and pesticides that damage soil life and reduce soil quality. As soils degrade, struggling lawns need more food, water, and weed suppression than ever. Natural care products and techniques nurture soil life, improve soil quality, and promote vigorous root growth, reducing those same needs naturally and fast.

Next, we can reduce the amount of lawn, replacing unused turf areas with woody plants, perennials, and ornamental grasses. Where space is limited, even small trees and shrubs will capture and hold more carbon than shallow-rooted, closely mown turf. Low growing evergreen ground covers can replace turf attractively and require far less maintenance than lawns once established.

Plant choices are especially important now, since climate change has already shifted Northern hemisphere regional climates southward. In some areas, scientists have tracked changes of as much as one degree of latitude each decade since the 1970's. As each degree covers nearly 70 miles, that shift is effectively moving us into different USDA climate zones than we and our plants are used to. Increasing seasonal heat and drought are causing massive die-off of native plants around the country and the world, including iconic ones like Douglas firs in the maritime Northwest and dogwoods throughout the American South. When garden plants similarly fail to thrive in changing conditions, we gardeners must select replacements that are better able to handle significant stresses. Here too, soil improvement and deeper-than-usual mulches will be increasingly important to garden health, resilience, and good looks.

In addition, instead of gas powered tools (major sources of CO2 emissions), we can use updated, efficient push mowers or energy-saving electric models, especially mulching mowers that leave clippings to compost in place. When we use

rakes and brooms instead of leaf blowers, we save money and get some healthy exercise at the same time. Also, switch to LED and solar garden lighting in and reserve night lighting for safety purposes only, since it's disruptive for woody plants as well as birds and other wildlife.

Our biggest contribution may be in creating and maintaining healthy soil. Our earth's soil is the best place to store carbon, since soils need adequate carbon levels to function well. In gardens as on farms, bare soil is easily eroded or blown away. Tilling and other invasive practices release sequestered carbon into the atmosphere, leaving soil levels too low to support plant growth. That pushes the use of fossil fuel-based fertilizers and pesticides, which further damage soil life; thus, a costly cycle of increasing use of both substances is perpetuated. Instead of tilling and chemical solutions, the combination of humus-building mulches and seasonal cover crops begin healing soil very quickly. Recent research shows that even a quarter-inch layer of compost can re-start the carbon sequestration process almost immediately, also improving soil health and the nutritive quality of food crops.

Home gardeners can make sure that no soil is left bare. Planting ornamental beds fully, using humus-rich mulches, and keeping vegetable beds under cover crops when not in production will restore and preserve soil quality. We can also make sure resources are not wasted: Even small gardens have room for a worm bin for plant-based food scraps (some even double as benches!). A yard-square compost bin can transform those same food scraps and yard waste into valuable compost. As well, recycled yard waste gets turned into commercial compost in nearly every community now.

Where seasonal runoff and erosion are common problems, a rain garden can capture runaway water and store it in the soil, where both native and garden plants can access it. Many communities offer online plans for rain gardens and swales, suited to specific site conditions. In cities and towns, green roofs can capture both rain water and carbon while helping to mitigate seasonal temperature swings, reducing power needs.

Next, get political. Just as important as the changes we make in our own backyards are those we foster in our communities. Urge local schools, parks, and golf courses to use natural care practices (the Audubon Society offers excellent and practical programs on their website). Request that your town or city maintenance crews replace chemicals with natural care programs. Call local, state and national elected officials on every level and ask that natural care programs be adopted everywhere, starting now. Then call again. And again.

Education is critical to the success of all of these missions. Urge local governments and service groups, businesses and corporations, Senior Centers and schools to offer programs on practical ways communities can work to mitigate climate change. Harness the amazing energy and power of school kids to participate in climate change education and action. After all, they will inherit the problems we don't work to fix. If kids see us doing all we can, they'll find the heart and courage to work alongside us and help create a healthier future for the planet and every living thing on it.