

# America's West is drying out. Here's what we can do about it

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(CNN)A cattle rancher in North Dakota has culled half his herd, since there's [little grass left to graze](#). Thousands of trees in Tucson, Arizona, are [dying](#) and [an entire generation of salmon](#) in the Klamath River could be wiped out.

The western US, which is in the throes of a "[megadrought](#)" that has been plaguing the region since 2000, has entered an era of water crisis that is unprecedented in recorded American history. Due to climate change, that drought has been [getting progressively worse](#). Warmer winters lead to decreased snowpack and hotter summers cause drier conditions, creating a [vicious cycle of heat and drought](#).

Climate scientists [warn](#) that longer and more intense droughts are not an aberration -- they're the "[new normal](#)." To make matters worse, the laws and policies determining water rights are now becoming obsolete due to climate change. Given this reality, it's imperative that the American West modify its water policies without delay and implement more efficient methods of conserving and managing water.

The alarming effects of the West's megadrought are multifaceted. Without sufficient rain and water, wildlife will inevitably suffer, ecosystems will be severely damaged, and the number and severity of wildfires triggered by torrid weather and dry vegetation will continue to plague the Western states.

Megadrought affects the West's agricultural sector as well. California alone [produces a third of the country's vegetables](#) and two-thirds of the country's fruits and nuts. Due to the lack of available water, however, [farmers are leaving fields fallow](#), [uprooting orchards](#) and vines and [culling herds](#). The drought also impacts urban areas, with cities like Phoenix, Denver, Las Vegas and Los Angeles facing unprecedented water shortages and supply cutbacks.

The West's major water storage projects -- on the Colorado, Columbia, Sacramento, Rio Grande and other river systems -- traditionally [provide a substantial amount of hydroelectric power](#). But the [drought has reduced water levels in major reservoirs](#) to such an extent that hydropower plants could be [forced to shut down in a few months](#). That, in turn, will greatly exacerbate power shortages in the region at the very time when demand is greatest.

Fortunately, there are a number of readily available reforms that, if adopted, can ameliorate some of the worst effects of this crisis.

First, water conservation programs that create ways to use water more efficiently need to be greatly enhanced, promptly implemented and mandated by water managers in both the

agricultural and urban sectors.

The agricultural sector consumes far more water than urban areas, and conservation programs that focus on expanding the use of already existing technology to improve crop irrigation practices would make a huge difference. There are newer drip irrigation systems that apply water directly to a plant's roots. This should replace traditional and less efficient "flood irrigation" practices, which involve covering the entire soil surface with a certain depth of water, whenever possible. Computerized systems can also identify how much water is required for different crops and when it can most efficiently be applied, which could generate further, substantial water savings. Finally, growing low-value, water-intensive crops like cotton and rice in the parched American West has never made much sense; under current drought conditions, it's simply irresponsible. Transitioning to higher value crops -- like beans and melons -- that require less water should be a priority for the agricultural sector in the American West.

### Why the GOP is keeping Trump bubble-wrapped

In urban areas, between 40-70% of household use of water goes to landscaping. Residents as well as local government officials need to recognize that maintaining expansive, thirsty lawns is a luxury a water-starved region can no longer afford. Since the West's water crisis is only going to get worse, municipal water officials should mandate a prompt transition

to drought-resistant landscaping that relies on plants like succulents and cacti to minimize the need for regular watering. The government could offer rebates to residents and businesses to incentivize that transition -- a move that would be cost-effective in the long term. And recycled rather than potable water should be mandated for watering urban parks and golf courses.

Second, water market schemes that put a fluctuating price on water depending on demand allow buyers and sellers to trade water through short-term leases and permanent sales of water rights. When there's a shortage, water markets can incentivize areas that have a surplus to conserve and sell it. These markets can also facilitate efficient exchanges of water that take different priorities into account. For example, a farmer could decide to forgo watering some alfalfa crops and sell water from his land to a municipality for domestic and commercial uses instead. These water markets, which are not as well-developed throughout the region as they are in places like Australia, should be more widely embraced. But it is critically important that these water markets be fully transparent and administered by public agencies, rather than commodified by corporations and hedge fund managers. Water transfers should be encouraged when they're in the public interest -- not simply as a way to maximize private revenue.

Third, a number of interstate water compacts-- agreements between two or more states that allocate water rights -- were negotiated in the early 20th century based on overinflated,



unrealistic estimates of available water supplies. The Colorado River Compact of 1922 a federally approved agreement allocating Colorado River water supplies among seven Western states, is a prominent example. The current megadrought and climate trends make the water allocations specified in those compacts wildly overstated and impossible to fulfill. This creates a dangerous illusion that water is plentiful, which then makes it more difficult for western states to plan ahead for shortages. To address this problem, the US Secretary of the Interior should convene the compacting states to renegotiate interstate water agreements based on real-world conditions and the new water reality of the 21st century.

Finally, in the United States, water rights are allocated and administered at the state level. In many western states (California being a prominent example), these hidebound and antiquated systems that were created in the 19th century still allocate water rights based simply on who obtained them first, rather than assessing how much water is actually needed and ensuring the distribution is equitable. Additionally, most of these rights were granted by states decades or even centuries before environmental values and needs could be part of the equation. As a result, these water rights systems are simply not flexible or nimble enough to deal effectively with the protracted droughts and water shortages of the 21st century. State legislatures can and should act to reform those outdated policies without delay.

The unprecedented drought and water shortages currently confronting the American West present a clear and present danger to the health, economy and environment of the region. But necessary reforms, if timely and effectively implemented, can blunt the worst impacts of the West's unprecedented water crisis.