California's water crisis

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Four years into the historic drought in California, Gov. Jerry Brown announced mandatory water restrictions for the first time ever. The <u>restrictions</u>, laid out on April 1, ordered urban water use to be decreased by 25 percent.



Of what the water crisis in California means for the rest of the United States and the world, Brown said on *This Week*, "The weather that's happening in California ... [will] show up in other parts of the world. And I can tell you, from California, climate change is not a hoax. We're dealing with it and it's serious."

<u>Many parts of the West and Southwest</u> of the U.S. are experiencing severe droughts as well, especially Texas and Oklahoma. And in many other parts of the world, people are suffering from water shortages, such as Brazil, Iran and United Arab Emirates.

Why is this happening? While the debate persists over whether or not global warming is directly causing drought conditions, most experts agree that <u>it exacerbates the problem</u>. California, for example, is experiencing record lows in both rainfall and snow in addition to record heat, which is making the situation all the worse.

Another factor leading to the water-shortage crisis worldwide is <u>the overuse of groundwater</u> <u>from aquifers</u>. Aquifers are underground layers of rock, sand and silt that store fresh water. These natural water wells can be thousands or even millions of years old. The groundwater supply can be accessed through pumping. Some aquifers are shallow enough that they can be replenished through precipitation, but that takes time. Many, however, are deep underground, and once that water is depleted, it's gone forever.

Groundwater contamination is also a concern globally. <u>Pesticides and fertilizers</u> can seep into the water supply, making it unsafe to drink. And byproducts of fracking (hydraulic fracturing) have been reported to contaminate groundwater. <u>In 2014, 3 billion gallons of fracking</u> <u>wastewater</u> contaminated California aquifers.

To protect our most precious resource, conservation is key. Taking steps to avoid wasting water, such as implementing <u>water-wise landscaping</u>, as they're doing in California, is critical.

Across the world, countries are looking to desalinization as an option to turn salt water into drinkable water. But that's an expensive process and has environmentalists concerned about the impact on marine life.

Innovation is needed to combat these shortages. <u>Recycling water is an option</u>. Such water can be used to water parks and lawns, to refill underground sources, and to drink. The Bill & Melinda Gates Foundation funded the "Omniprocessor," <u>a treatment plant that can turn waste</u> <u>into clean water</u>, with the intention of providing drinkable water to thousands of people in the developing world.

This isn't the last we've heard of water scarcity. NASA warns that a <u>"megadrought"</u> will hit the U.S. sometime in the next 35 years.