Wise County Messenger

The emerging water crisis in the U.S.

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I am amazed: since last summer, almost every day we hear about another water crisis in the U.S. Less access to water is no longer something affecting only poor countries. It is right here in our own backyard.

For most of us living in the U.S., water is something we take for granted, available when you turn your tap on - to brush your teeth, to take a shower, to wash your car, to water your lawn and if you have your own swimming pool then, to fill that as well. So it was with alarm that many of us read the story of Orme, a small town tucked away in the mountains of southern Tennessee that has become a recent symbol of the drought in the southeast. Orme has had to literally ration its water use, by collecting water for a few hours every day - an everyday experience in most developing countries.

The southeast has been under a year-long dry spell that has resulted in the city of Atlanta setting severe water use restrictions and three states, Georgia, Florida and Alabama, going to court over a water allocation dispute. Early this year, it was reported that drought in the region could force nuclear reactor shutdowns. Nuclear reactors need billions of gallons of cooling water daily to operate and in many of the local lakes and rivers water levels are close to the limit set by the Nuclear Regulatory Commission.

In the midwest, the emerging biofuel industry is putting pressure on groundwater resources in some places. In 2006, a Granite Falls, Minn., ethanol plant in its first year of operation depleted the groundwater so much that it had to begin pumping water from the Minnesota River.

In the southwest, it was reported in February that there is a 50 percent chance Lake Mead (on the Arizona/Nevada border) will be dry by 2021 if climate change continues as expected and future water use is not limited. Along with Lake Powell in Utah, Lake Mead helps provide water for more than 25 million people.

On the west coast, water disputes abound: between farmers who want water for agriculture, environmentalists who want to conserve water for ecosystems and cities who want to meet ever-growing urban water needs. Last summer, a federal judge ordered state and federal water project managers to reduce the amount of water pumped from the Sacramento-San Joaquin River Delta to protect the threatened delta smelt from extinction.

Many of these water disputes are exacerbated by extreme variations in precipitation patterns linked to climate change. In early February, Nature reported that, "In the western U.S., where water is perhaps the most precious natural resource, anthropogenic global warming is responsible for more than half

of the well-documented changes to the hydrological cycle from 1950 to 1999...Over the last half of the 20th century, the region's mountains received less winter snow and more rain, with snow melting earlier, causing rivers to flow more strongly in the spring and more weakly in the summer."

Irrigated agriculture accounts for 80 percent of water consumed in the U.S. This high percentage is partially because of low water use-efficiency (the portion of water actually used by irrigated agriculture relative to the volume of water withdrawn). For the western U.S., agricultural farms are the single largest water user, half of which is used by the largest 10 percent of the farms.

We need a new approach that sets appropriate incentives to ensure that: water withdrawals do not exceed the recharge rate; water conservation techniques (such as rain water harvesting) are central to land use planning; improved irrigation efficiency and better nutrient management (to reduce non-point water pollution from farm run-offs) are rewarded; and growing water-intensive crops in water scarce regions is discouraged.

Now is the time to rethink our policies regarding urban development, energy production and most importantly our agriculture and food systems, in order to avert an environmental crisis that many countries are already in the grip of.

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