

Utah's water forecast: Thirsty times are a-brewin'

Water shortages ahead for Utah and the rest of the Southwest

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Maj. John Wesley Powell began his exploration of the Colorado River and Utah in 1869, and 10 years later his "Report on the Lands of the Arid Region of the United States, With a More Detailed Account of the Lands of Utah" cut straight to a fundamental truth.

The West lacks water, Powell wrote. "Disastrous droughts will be frequent," he said.

A better word than frequent, perhaps, could have been "persistent," or even "the natural way of climate in an arid region becoming more so even as millions arrive to take up residence." No matter - the warning was clear as the bluest Utah sky. Powell soon lost his job.

Nearly five years ago, after a little more than a year at the helm of the state Division of Water Rights, State Engineer Jerry Olds committed what some observers said looked like a similar career suicide. Olds told lawmakers Utah's groundwater was so over-allocated that if water rights weren't adjusted to reality, aquifers that are the state's primary water sources could be destroyed.

That riled ranchers, farmers and county officials who consider themselves the guardians of Utah's rural heritage and who thought Olds had fired on them. Today, they are working with Olds on a new task force whose ambitious vow in April was to reach consensus by October on a host of water puzzles that for 200 years have driven otherwise sane people to lunacy.

Like many of their Western neighbors, Utahns have been promised imaginary water.

There is no way all the "paper rights" on file with the state can be converted to "wet water." There is not even a requirement to tell the state when water rights sell or transfer, a routine matter with other properties, such as homes or cars. The state can't even tell if some crook is selling the same right repeatedly, a matter that would come to light when the fleeced tried to get state approval for use.

And when push comes to shove, the law of the West says ranchers and farmers with senior rights rule the outcome, even though Utah, like the rest of the West, grows more cities than crops.

Meanwhile, we blithely turn on the tap and water comes out.

But where does the water come from? How will it keep flowing? What's the best way to use it? Can we find more? Should we just move to Wisconsin?

Multiple scientific analyses - including this past week's report by the U.S. Department of Agriculture - predict global climate disruption and water shortages will land hard on the Southwest, Utah in particular.

After a wet winter, statewide spring runoff will hit about 120 percent of the past 100-year average.

But that's just weather, not climate. The waters of the Bear River basin will flow only about 58 percent of average and Bear Lake will be only about one-third full. Statewide, reservoirs may reach just 80 percent of capacity.

Lake Powell is expected to rise by 50 feet this spring, but National Oceanic and Atmospheric Administration scientists calculate it would take 15 years of the past century's average precipitation to fill it. They say that's unlikely.

Scientists at the Scripps Institution of Oceanography at the University of California, San Diego, recently suggested Lake Powell and Lake Mead, the two largest storage reservoirs on the Colorado, have an even chance of being "dead pool" mud puddles in just 13 years.

Wildfires are burning earlier and longer, leaving charred soils exposed to erosion and less likely to revegetate. Water evaporates from exposed soils, killing the plants that hold it in place and destroying ecosystems fish and wildlife depend on.

Climate change means spring runoff in the West is expected to decline 30 percent by the end of the century, say U.S. Geological Survey researchers. By 2050, heat will so bake the soils that dust storms may rival the Dust Bowl disasters of

the 1930s.

Wind-borne dust, that triggered a Utah Division of Air Quality red-alert health advisory in April, spread westward from Battle Mountain, Nev., to blanket the Wasatch Front. A proposal to tap the west desert to pipe water to Las Vegas would intensify those dust storms, critics say.

Blowing dust closed Interstate 15 multiple times last year. Dust is settling on Utah's snowcaps, including the Bear River headwaters in the Uintas, causing them to melt too soon, starving the river and Bear Lake. Dirty snow in the Wasatch Range threatens runoff that waters most of the state's residents. Glaciers that feed the Colorado River are disappearing as high-country temperatures rise.

It's dry, all right. Yet, Utah has the highest daily per capita use of water in the nation, mostly to drench lawns and landscapes.

Hydrologists and meteorologists are predicting this summer will be hotter than average. During last summer, Utah's hottest on record, Death Valley-like temperatures scorched Washington County, whose water district has proposed the \$800 million pipeline from Lake Powell to feed regional growth that, opponents say, could mimic that of Los Angeles or Las Vegas.

The Colorado River has too little water to meet state allocation requirements forged nearly a century ago by the Colorado River Compact. And despite an interim agreement on how to share shortages, the seven states that depend on the river - California, Arizona, Nevada, New Mexico, Colorado, Wyoming and Utah - know the current situation cannot endure.

About 35 million people now live in the Colorado River basin, which also includes northern Mexico and many Indian nations. The population may swell to 50 million by 2025.

Could Powell's 130-year-old warning sound any louder?

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About the series

The Salt Lake Tribune launches a summerlong exploration of Utah's water challenges with an overall look at the issues the state faces. Other installments, beginning Sunday, will address:

Water rights: Utah has doled out more water rights than there is water available. Something has to give.

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Sunday: A Green River farmer and a state engineer epitomize the water rights issue.

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