The Water Tap: It snowed! Is the drought over?

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St. George Spectrum & Daily News

Southwest Utah woke up Tuesday to find its red dirt and rocky peaks covered by a blanket of white snow, a rare sight and welcome relief for a desert landscape that has been particularly parched over the past year. That one storm bumped the St. George area up to about 50% of its annual average for precipitation in the month of January, historically its wettest of the year. And more rain is forecast before the end of the month.

This is clearly good news for our local environment and upcoming water needs. But does it mean we're out of the woods on this record-breaking drought?

Not quite, according to Dave Simeral, an Associate Research Scientist at the Desert Research Institute and Western Regional Climate Center. Recent winter storms seem to have rescued the Flagstaff, Arizona area from the grips of drought, he said, but St. George has not been quite as fortunate.

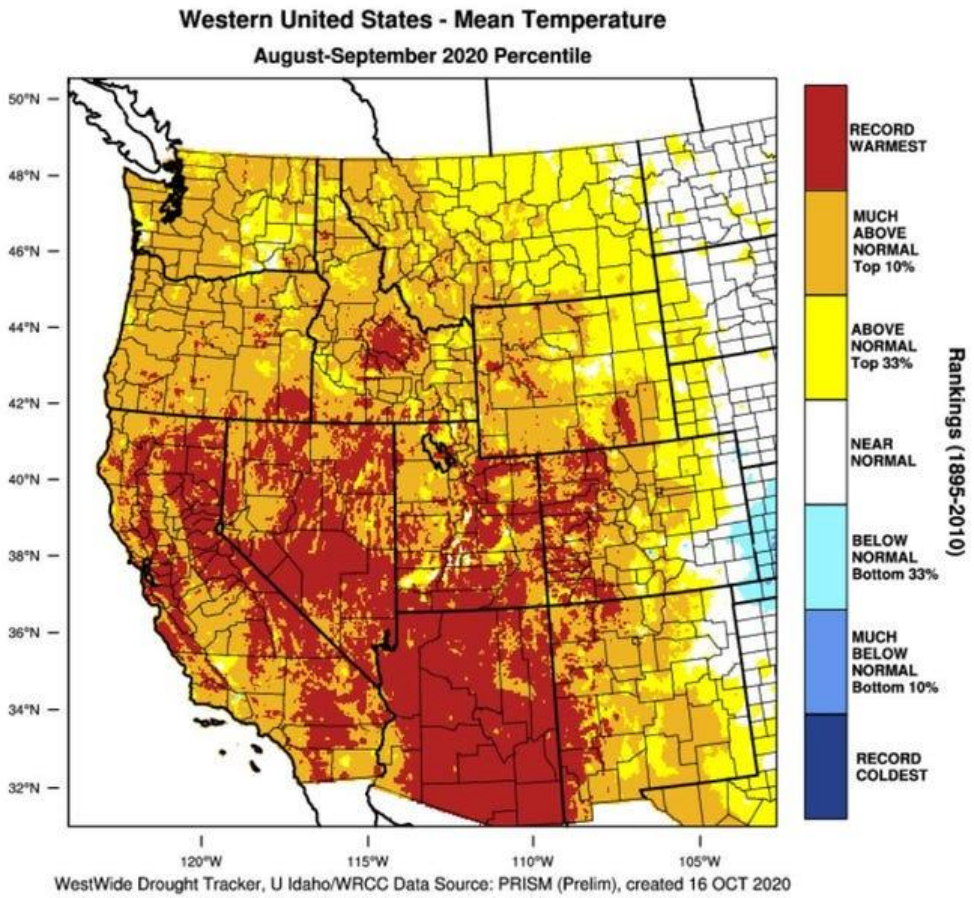
"I think [the Flagstaff area] got something around three to four feet of snow over the past week-plus. So, they've been able to kind of turn things around a little bit after having their driest 12 month period on record," Simeral said. "In your area, though, those basins are still below normal, they're 60-70% of normal, so you've still got some catching up to do."

One reason for the difference between southern Utah's precipitation predicament and that of our neighbors just across state lines to the south is the influence of increased air temperatures

on summer rainfall. Monsoonal rains, which come from the south in this area of the country, account for about 20% of St. George's annual moisture accumulation, Simeral said. But they were noticeably absent in 2020, aside from one August rain event that led to widespread flooding.

In addition to contributing to drought by drying out the land through evapotranspiration, increased air temperatures interfere with monsoons by causing them to dump their moisture sooner, sometimes leaving little remaining for the northern parts of the storm systems, Simeral said.

"Having the air temperature so hot, what can happen is called virga, where rain will start precipitating out of a cloud but the droplets are very small and the air temperatures are very hot. You can see this sometimes where it looks like rain is falling out of a cloud in the distance but it's not hitting the ground," Simeral explained. "Overall, there was just less moisture that moved up into the southwest during monsoon season this year, and oftentimes your area can be kind of on the fringe of how far north those systems reach."

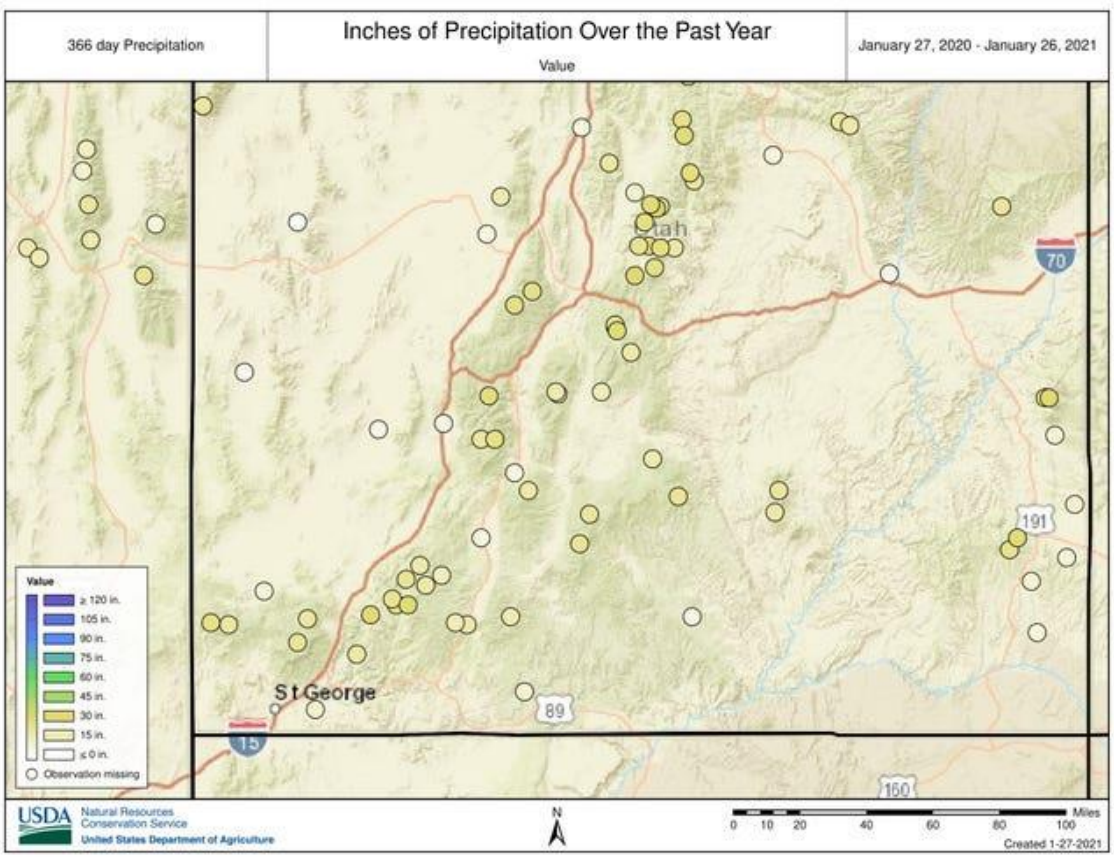


A data mapping tool available to the public at the West Wide Drought Tracker website shows that much of the southwest experienced record high temperatures in August and September of 2020. With the lack of monsoonal rains reaching as far north as St. George and little rain or snowfall since, this places southern Utah in quite the quandary moving into 2021.

Water manager Zach Renstrom, whose job it is to plan for the future water needs of Washington County as the Executive Director of the Washington County Water Conservancy District, says that he would "sweat" the current situation, but he "doesn't want to waste the water."

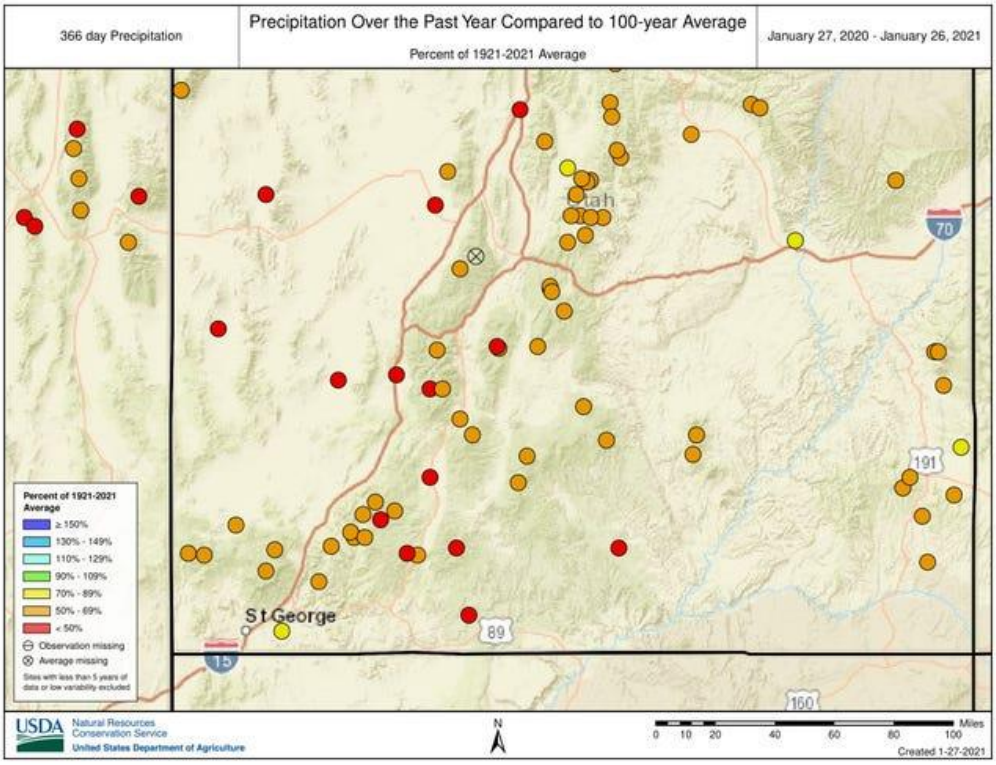
“I am very nervous about this year," Renstrom said about 2021. "Unless something changes, we’re going to have one of the lowest runoffs in the history of the Virgin River. Our snowpack is at 50% average. Sensors in the soil are reporting the lowest numbers [for soil moisture] that have ever been reported. What that means for water managers is that, when that limited snowpack melts, the soil is going to suck up all that runoff."

As of January 26, 2021, monitors at Sand Hollow, Washington County's largest reservoir, had recorded just 6.81 inches of rain over the past year, which includes the moisture from the most recent storm. That's only 83% of recent annual averages in the St. George area of 8.25 inches of rain, which is a notable decline from historical 20th-century averages of more than 11 inches per year.

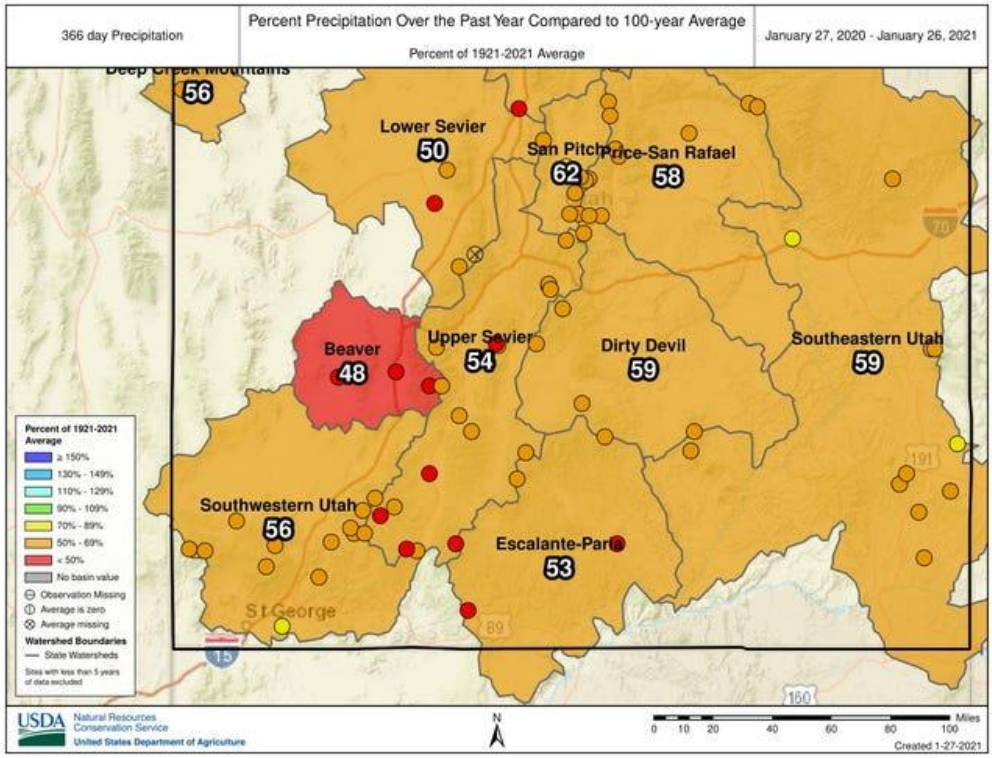


And the Sand Hollow monitor site was actually wetter than any other spot in Washington County. Compared to annual averages over the past 100 years, since 1921 (when the world was recovering from its last global pandemic), Sand Hollow received 72% of expected moisture over the past year while a monitor on Gardner Peak in Pine Valley recorded only 57% of the 100-year

average. A monitor site to the east named "Agua Canyon" clocked in at just 47% of the historical average this past year.



Taking a watershed-wide perspective, areas to the north in parts of Iron and Beaver County were actually where the drought was the very worst over the past year, compared to 100-year averages. Mapped data from the USDA Natural Resources Conservation Service's National Water and Climate Center indicate that the Beaver watershed received only 48% of its 100-year average precipitation in the past year. The watershed covering the region to the south, labeled Southwest Utah, recorded 56% of normal, by no means a reassuring number even if it is higher than some others in the immediate vicinity.



Paul Monroe, the General Manager of the Central Iron County Water Conservancy District, is all too aware of the water shortages in the community whose water future he has been charged with securing. His plans to combat drought include continuing to promote a long-standing project to import water through a 66-mile pipeline into Cedar Valley from Beaver County and working to optimize waste water and runoff that ends up in the Quichapa Lake area. He even went so far as to suggest that outdoor watering could be restricted in Iron County in the future, a measure that conservationists have long called for in Utah but to which the state has so far been resistant.

"We are striving to utilize every drop we receive and make sure it is not wasted," Monroe said. "During the extreme droughts like if the one we are in persists and we experience significant decline in our water sources we would ask our communities to reduce outdoor watering. Eventually, we could restrict outdoor watering."

This last comment, while perhaps a nod to increasing pressure from environmental groups for Utah to adopt more aggressive water conservation measures like the turf rebate programs common in other states, will likely not be enough to appease water-wise activists who insist that projects like Washington County's Lake Powell Pipeline and Iron County's Pine Valley Water Supply pipeline project are not the answer to threats posed by ongoing drought.

“The point we’ve been making all along is that dealing with future water issues requires looking at both the demand and the supply side. If you can reduce the demand side, that’s likely to be more reliable and cheaper over time," said Richard Spotts, who lives in St. George and previously worked with the Bureau of Land Management as a planning and environmental coordinator.

While there is not yet widespread consensus on how to address the problem of demand, be it through conservation measures or water pipelines or discouraging population growth in an area already strained for water resources, data abounds on the supply situation. Many government and non-profit agencies host online platforms (several are referenced in the text above) where the public can explore the impact of rising temperatures on the local water supply and compare recent precipitation to historical averages. The United States Geological Survey is also offering an Ecological Drought National Webinar Series that is free to all interested parties, with webinar dates throughout February and March.

No matter where you look, the answer to whether we are still in a problematic drought is loud and clear:

"We're looking at a persistence here of drought throughout the four corners states as well as California and Nevada, unless something changes," said Simeral. "We've got 98% of the region that's currently in drought. And we're seeing impacts in the agricultural community, to ecosystems, water resources, snow drought and elevated fire danger."

Let it rain.