Janet Quinney Lawson
Institute for Land, Water & Air
UtahStateUniversity

Land, Water & Air Business Literacy: Issue 3

Understanding Water Storage

About 95% of Utah's water supply comes from snowpack. As snowpack varies from year to year, Utah uses a system of reservoirs to capture the annual runoff from snow melt and store water needed during drier seasons or years. Water managers measure and model water availability to optimize use of this critical natural resource.

Rivers, Streams, and Reservoirs

Runoff—fed largely by snowmelt and groundwater—replenishes Utah's reservoirs. Across the state, 171 stream gauges measure water depth and flow rate (water volume over time) in rivers and streams. Of those, 18 are currently flagged as extreme, meaning they are measuring below the lowest level ever recorded at that location.

Runoff does not always correlate directly with snowpack accumulation. Even in a record snowpack year like 2023, soil moisture deficits can reduce runoff: snowmelt first saturates dry soils before it can reach rivers or recharge groundwater. Think of rivers and streams as a checking account—easy to access for today's needs, but ideally with a portion set aside in savings (reservoirs) for future use.

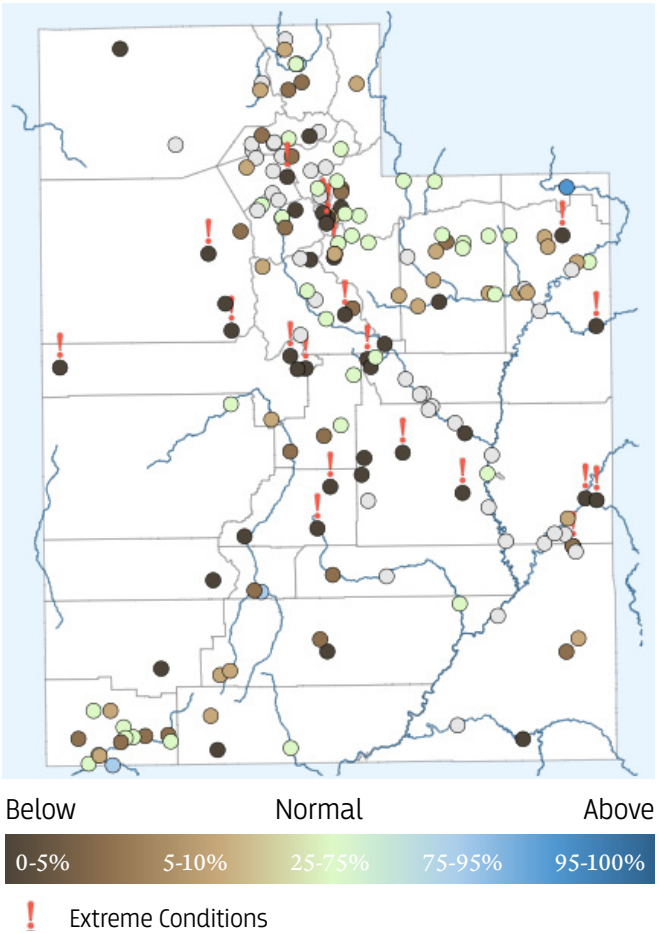
Our ability to meet short-term water needs depends largely on reservoir levels. Statewide, reservoirs are about 38% full as of May 2026. These reservoirs function as savings accounts, accumulating funds (water) that can be transferred to the checking account (rivers) when current needs arise.

Some Utah reservoirs are also supplemented by trans-basin diversions in addition to runoff generated within their own watersheds. Most notably, water from the Colorado River is pumped from eastern Utah's Colorado River Basin into the Great Salt Lake watershed through the Central Utah Project. Between local use and deliveries to the state's most populous areas, Colorado River water accounts for 27% of all water used in Utah.

Key Terms

Soil Moisture Deficit: Water use by plants exceeds precipitation, leaving soil dry.
Evapotranspiration: Combined water vapor lost to the atmosphere from evaporation and plant use (transpiration).
Sublimation: Water vapor lost to the atmosphere directly from snow and ice without first melting into water.

Figure 1: Stream Discharge May 2026



Source: USGS, Utah Water Conditions

Groundwater

Groundwater storage represents a long-term investment. Replenishment of that storage—known as groundwater recharge—depends primarily on snow accumulation and melt. Withdrawals, or groundwater use, can in turn erode or deplete that investment portfolio.

Groundwater measurements offer insight into the health of our long-term water storage. Because groundwater accumulates over far longer time periods than surface water, excessive withdrawals—especially when sustained over many years—can cause groundwater-fed springs, streams, and wetlands to dry up. Over the past decade, 67% of Utah's groundwater wells have been drawn down. When pumping becomes excessive, levels can drop low enough to trigger formal management plans and potential pumping restrictions.

Nature's Fees

As with any banking system, fees are part of every transaction. Within the water cycle, water naturally returns to the atmosphere through evaporation from bodies of water and sublimation from snow. Plants also release water into the air through transpiration.

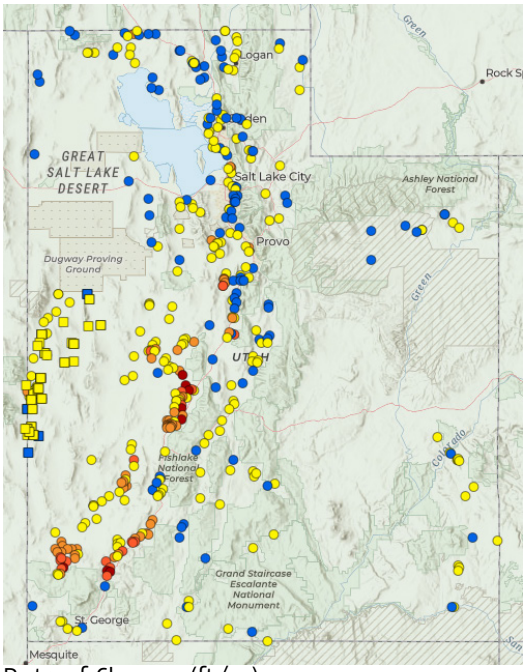
Improvements in technology are making it easier to measure and model these losses, or natural "fees," so we can better predict how much water will be available for use.

In warm, dry climates like Utah's, these fees are naturally high, and they rise sharply during hot, dry periods. Hot, dry conditions also increase plants' water needs, deepening soil moisture deficits and reducing the efficiency of spring runoff.

What is ahead for summer 2026?

Utah is heading into summer with a thin water budget. State leaders are adapting policies for the long haul, shifting Utah toward more efficient water use over time, but the difference this season will hinge on the choices individuals and businesses make day to day.

Figure 2: 10-Year Groundwater Trends



Source: UGS, Utah Groundwater Data Hub

With reduced income (snowpack) and a low balance in the checking account (runoff), Utahns will be living off savings (reservoirs) and long-term investments (groundwater) — and hoping for a windfall next winter. The same hot, dry conditions that drive up nature's fees also raise wildfire risk, making water and fire two parallel concerns.

Visit drought.utah.gov for a dashboard of current conditions and resources on how individuals and businesses can conserve water and reduce wildfire risk this summer.

Sources

Utah Division of Water Resources Snowpack (Statewide Map)
Utah Water Conditions - U.S. Geological Survey
Deciphering the Numbers for Utah's Record-Breaking Snow Drought
Winter - USU Today
Utah Division of Water Resources Reservoir Levels (Statewide Map)

For more information, contact:

Brian Steed
Executive Director
brian.steed@usu.edu

Anna McEntire
Managing Director
anna.mcentire@usu.edu

Stephanie Frohman
Associate Director
stephanie.frohman@usu.edu