



NEVADA DROUGHT PLANNING WORKSHOP:

Thinking Ahead for Dry Times

WORKSHOP SUMMARY

September 27th, 2022 DRI, Reno, Nevada

Nevada's variable climate makes drought preparedness important but challenging. The California-Nevada Adaptation Program (CNAP) at the Desert Research Institute (DRI), the NOAA National Integrated Drought Information System (NIDIS) program, the Nevada Division of Water Resources (NDWR), and the Nevada State Climate Office co-hosted a workshop to address some of the drought planning challenges. This workshop builds on the momentum from the 3-part [Drought in Nevada Workshop Series](#) and was designed to encourage networking and collaboration between stakeholder agencies at the federal, state, and community level.

The workshop objectives were based on key takeaways from the previous workshop series and a belief that Nevada's best path towards drought resilience lies in creating opportunities for stakeholder organizations to work together in this effort. This workshop was open to state, local, tribal, and federal stakeholders involved in drought planning, mitigation, and communication related to Nevada.

WORKSHOP INTENDED OUTCOMES:

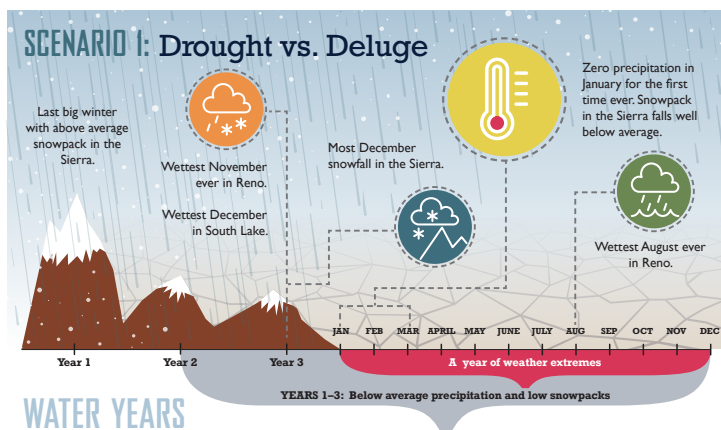
- Raise awareness of plausible drought scenarios
- Network across silos and strengthen partnerships
- Identify potential follow-up actions to improve drought resiliency

The workshop began with an overview of past, current, and future drought conditions presented by Dr. Dan McEvoy, the western regional climatologist at DRI, titled "[Climate, Weather, and Drought in Nevada: Looking Back at the Past and Ahead Towards the Future.](#)" The bulk of the workshop focused on two small-group exercises that used plausible drought scenarios to bring people together to start thinking about and discussing how drought and cascading impacts will affect people, industries, and natural resources in the state (Figures 1 and 2).

Table 1. Nevada Drought Planning Workshop Participants

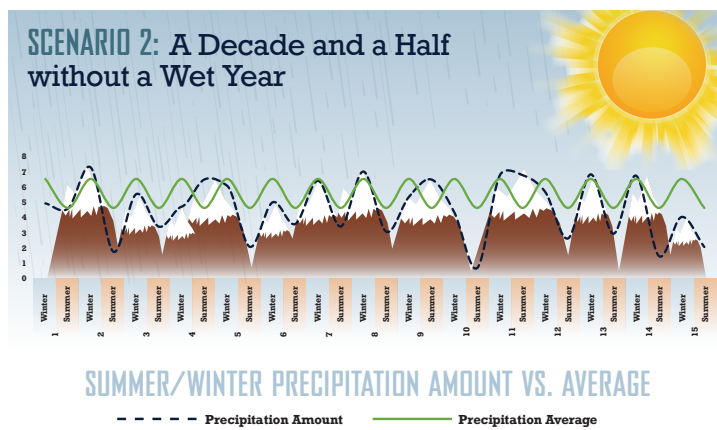
CATEGORY OF REPRESENTATION	COUNT
Public Utility	6
Environmental/Land Management	5
Agriculture	4
Emergency Management	3
Data/Information-Providing Agency	2
Elected Official	2
Residential Property Management	2
Tribe	2
Water Management Agency	2
Consultant	1
No affiliation	1
Total Participants	30

FIGURE 1



The state has been in drought for three years. At the end of the third water year, reservoir levels are low, soils are dry, and range conditions are poor. It's now the fourth water year. During the fourth water year, precipitation is near to slightly above normal. However, the distribution of precipitation is unusual. The fall and winter storms that do occur deliver substantial snowfall to the mountains and heavy rains in the valleys, but they are fewer in number than usual and separated by long dry spells. Thunderstorms develop earlier in the summer than normal. Many of the thunderstorms are severe, delivering very heavy rains and causing flooding. They are also spotty, with some locations receiving multiple inches of rain, others less than half an inch, and some places none at all.

FIGURE 2



Over the last fifteen years, precipitation has been below normal most years. Much of the shortfall is related to a lack of winter precipitation. In most years, the first winter-type storm arrived weeks later than usual, giving rise to a longer summer/fall dry season. Temperatures have been normal to somewhat warmer than normal. As a result, the April 1 snowpack has been below normal most years. Every three or four years, there has been a year when precipitation is near or even, in some places, slightly above normal. However, there have been no "good winters" – a winter with much above normal rain and snow. Summer rainfall has been variable, with some drier than usual summers, some normal, and a few very wet summers.

Participants randomly self-sorted into six groups of 5-7 people. A notetaker was assigned to each group and participants were provided with a small group guide, scenario descriptions, questions for each scenario, and accompanying graphics titled Scenario 1: Drought vs. Deluge and Scenario 2: A Decade and a Half Without a Wet Year (Figures 1 and 2). Conversations across the six groups varied based on the expertise and sectors represented in each of the groups. Several themes were common in most, if not all, of the group discussions:

1. **Local, local, local:** Each group discussed, in varying ways, that a bottom up approach to addressing drought in Nevada includes the need for (1) local acknowledgment of the problem(s); (2) local access to resources, including sustained funding and expertise for proactive drought planning and infrastructure; and (3) local planning that can be scaled up to state-wide efforts and region-wide collaborations. Local solutions will lead the way to state and regional resiliency.
2. **Nevadans in the know:** There is a need for iterative and sustained education about drought impacts and potential future drought focused on Nevada citizens.
3. **For good measure:** Almost all groups discussed the need for more data—how water is used, as well as environmental monitoring and observations. The workshop organizers note that given the cost of developing and acquiring new sources of data, a focus on supporting practitioners, managers, and the public to effectively utilize existing data and tools is likely a better immediate approach. Existing data resources such as the US Drought Monitor also need to be utilized within their intended capacity.
4. **Adapt and mitigate:** All groups acknowledged the likelihood of water use patterns shifting in some way across sectors in Nevada. Adaptation and mitigation looks very different in each water use sector—land managers, producers, and public water systems have different tools and priorities to consider in planning for drought. The ability for various water users, managers, and suppliers to plan for and implement mitigation measures is often limited by factors including staff capacity and accessible funding.
5. **Scarcity drives innovative action and new collaboration:** Several groups noted there is a nascent willingness to shift to a system that promotes collaboration and flexibility, rather than adversarial approaches. Achieving system-level change that promotes collaboration and flexibility will require consistent support from stakeholders, policy makers, and state leadership.

Closing out the workshop, we were fortunate to have a discussion with four panelists: Carlie Henneman, water program director for the Walker Basin Conservancy, Edwin James, general manager for the Carson Water Subconservancy District, Chris Moreno, environmental scientist for the Nevada Department of Agriculture, and Bill Elliott, the emergency program manager preparedness and operations for the Nevada Division of Emergency Management. Their conversation provided a diverse perspective of the challenges and opportunities to address drought resiliency in Nevada. Highlights from the discussion include:

- Regulators, communities, and various water users need to think beyond what next year's hydrologic conditions will be. It is best to plan now for the long term, rather than respond with knee-jerk reactions. Sustained droughts will force decision making. Successful mitigation efforts hinge on the accessibility of funding for investment in long-term adaptation.
- It will be key for regulators and decision makers to continue to expand new and different ways of interacting with water users.
- Having recognized champions for water-related issues as well as ongoing collaboration are vital to making progress. Ongoing conversations and public outreach need to be expanded. Regulatory flexibility is another important component for enabling progress and resilience.
- It takes time for perceptions to change. Be patient!

Workshop participants embraced the networking aspect of the event. Specifically, the opportunity to interact with people from different organizations who shared diverse perspectives about the challenges of drought planning was appreciated. The drought scenarios posed to the group were a catalyst for robust discussions in which participants learned from each other about the many challenges, realities, and options for future drought planning.

In reviewing the group discussion notes and post-workshop evaluation responses, the workshop conveners identified three areas to take short-term actions in the next 12-24 months.

These include:

- Convening similar workshops focused on bringing people together to promote discussion and collaboration in other regions of Nevada
- Developing resources that identify funding sources, drought and climate information, and tools
- Host targeted workshops that focus on specific topics, issues, solutions, and actions

Please visit the [Nevada Drought Planning Workshop: Thinking Ahead for Dry Times](#) page on the Drought.gov website for more information about the drought scenarios and discussion questions.

