



# SAVE THE DATE



U.S. Geological Survey, Colorado Water Science Center

USGS 'STREAM' Workshop:

Science, Technology, Research, and Evaluations for Actionable Management

September 24, 2025

Lakewood, Pueblo, and Grand Junction, CO

Hybrid Format with Virtual Option



## Agenda

**8:30 AM**      **Introduction** - Matt Ely, U.S. Geological Survey – Director, Colorado Water Science Center  
[Matt Ely | U.S. Geological Survey](#)

Morning Session

### Water Data - Utility and Innovation

*Water data are essential for effective management and conservation of water resources and informing decisions that support water supply and ecosystem health. Innovations in data collection, such as remote sensing technologies, smart sensors, and real-time monitoring systems, enhance our ability to gather accurate and timely information about changing water conditions. These advancements can facilitate a deeper understanding of hydrological processes and enable stakeholders to respond swiftly to challenges such as drought, pollution, and infrastructure needs. By harnessing these innovative approaches, we can optimize water resource management, promote sustainability, and enhance resilience in the face of ever present environmental and financial challenges.*

**9:00 AM**      **Harnessing the Power of Water-Data Networks** - Brandon Forbes, U.S. Geological Survey – Branch Chief, Hydrologic Data, Colorado Water Science Center [Brandon T Forbes | U.S. Geological Survey](#)

*This talk will focus on the different types and value of water-data networks and where data are available.*

**9:30 AM**      **Multiparameter Probes and the Water Science they Support** – Tanner Chapin, U.S. Geological Survey – Supervisory Hydrologic Technician, Colorado Water Science Center [Tanner W Chapin | U.S. Geological Survey](#)

*This talk will focus on the environmental questions or issues that can be addressed with multiparameter probes and continuous monitoring data.*

**10:00 AM**      **BREAK**

**10:30 AM**      **The Smart Gage Concept and Why it Matters** - Allan Lee, U.S. Geological Survey – Hydrologic Technician, Colorado Water Science Center [Allan M Lee | U.S. Geological Survey](#)

*This talk will examine the advantages derived from the interconnectivity of water-data networks.*

**11:00 AM**      **Data in Action: Arkansas Basin Salinity Web-Interface and Short Term Salinity Forecasts** - Lisa Miller, U.S. Geological Survey – Hydrologist, Colorado Water Science Center [Lisa D Miller | U.S. Geological Survey](#)

*This talk presents an example of a study that uses water-data networks, multiparameter probes, and the smart gage concept to model water-quality data.*

**11:30 AM      Lunch**

Afternoon Session

### **Water Supply: Sources and Vulnerabilities**

*Understanding the sources of water and their inherent vulnerabilities can be critical for sustainable water-supply management and protection of essential ecosystems. Various water sources, including surface water, groundwater, and snowpack, present unique challenges to water managers and users. By addressing these challenges, stakeholders can develop targeted strategies for conservation, risk mitigation, and sustainability of water resources. Data from USGS water-data networks designed to monitor these water sources enhance our knowledge of these systems and support water managers by fostering resilience in our ever-changing world.*

**1:00 PM      Understanding Snowpack Variability and Its Relation to Annual Runoff** – Graham Sextone, U.S. Geological Survey – Research Hydrologist, Colorado Water Science Center [Graham Sextone | U.S. Geological Survey](#)

*This talk will present the importance of understanding inter-annual and long-term variability associated with snowpack conditions around Colorado. Also presented is the effect that spatial variability of snow has on modeling annual runoff at select locations.*

**1:30 PM      Trends in Snowpack Chemistry in the Upper Colorado River Basin** – Garrett Akie, U.S. Geological Survey – Hydrologist, Colorado Water Science Center [Garrett Akie | U.S. Geological Survey](#)

*This talk will present statistical trends in water-quality constituents and explore the meaning of those trends and their potential impact on water supply.*

**2:00 PM      Changing groundwater dynamics in the Upper Colorado River Basin**– Connor Newman, U.S. Geological Survey – Research Hydrologist, Colorado Water Science Center [Connor Patrick Newman | U.S. Geological Survey](#)

*Groundwater supports streamflow and provides water for human use in the Upper Colorado River Basin, but forecasts of groundwater availability remain uncertain. This talk will discuss observed changes in groundwater dynamics during the past 20 years and highlights future opportunities.*

**2:30 PM      BREAK**

**3:00 PM      Assessing Post-Wildfire Effects on Water Quality in Buckhorn Creek and North Fork Big Thompson River** – Many Ruckhaus, U.S. Geological Survey – Hydrologist, Colorado Water Science Center [Many Ruckhaus | U.S. Geological Survey](#)

*This talk will present findings from a USGS study that investigated post-wildfire impacts to water quality in severely burned areas of a watershed that supplies source water to multiple municipalities on the eastern slope of Colorado.*

**3:30 PM      Understanding Algal Proliferation and Impacts in Blue Mesa Reservoir** – Katie Walton-Day, U.S. Geological Survey – Hydrologist, Colorado Water Science Center [Katie Walton-Day | U.S. Geological Survey](#)

*This talk will present findings from a USGS study that characterized chemical and physical conditions in and upstream from Blue Mesa Reservoir. Included in the presentation will be potential ‘drivers’ of the algal system, remote sensing techniques tracking algal plumes, and discussion of possible methods to alert water managers of algal-induced toxicity.*

**4:00 PM      Closing Thoughts: Lessons learned and available USGS resources** – Matt Ely, U.S. Geological Survey – Director, Colorado Water Science Center