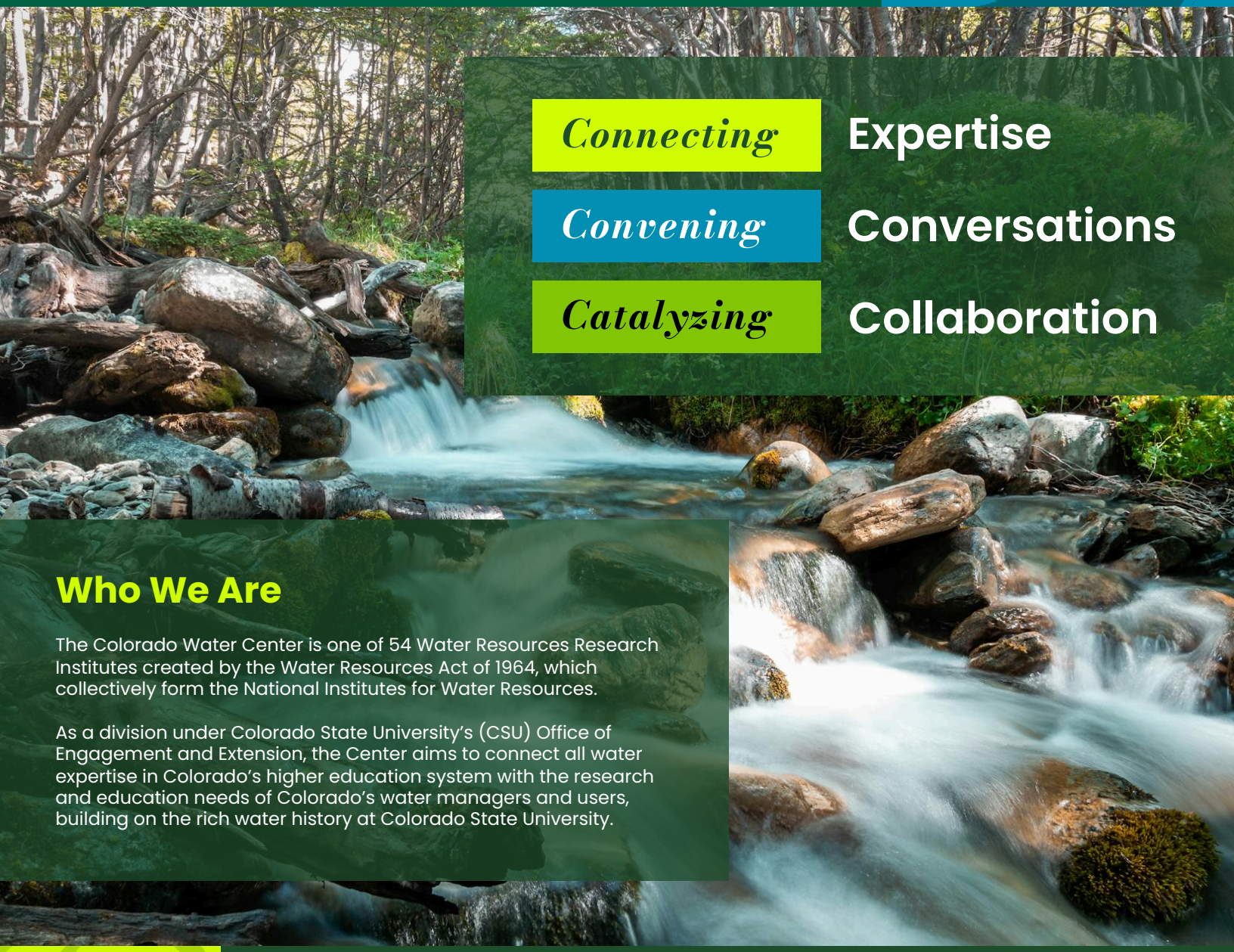
COLORADO WATER CENTER

COLORADO STATE UNIVERSITY



Connecting Expertise

Convening Conversations

Catalyzing Collaboration

Who We Are

The Colorado Water Center is one of 54 Water Resources Research Institutes created by the Water Resources Act of 1964, which collectively form the National Institutes for Water Resources.

As a division under Colorado State University's (CSU) Office of Engagement and Extension, the Center aims to connect all water expertise in Colorado's higher education system with the research and education needs of Colorado's water managers and users, building on the rich water history at Colorado State University.

2024 Annual Report

By The Numbers

3.5 M
Media Reach

128
Presentations Given

858
Media Mentions

7,700+
Presentation Attendees

3,655
Social Media Followers

64 Students Supported

6 University Collaborations in Colorado

Our Mission

We facilitate outreach, education, and applied transdisciplinary research to address complex and evolving water-related challenges facing Colorado, the west, and beyond, by:

- Building relationships between higher education and Colorado's water institutions.
- Providing Colorado communities with the skills and knowledge to engage in water discussions.
- Educating and inspiring the next generation of water leaders.

Our Focus

Provide Education and Training

- Empower Colorado's water leaders to secure and advocate for our valuable freshwater resources.
- Support water education through undergraduate and graduate-level course and program offerings, Extension programs for Colorado communities, and K-12 learning initiatives.
- Disseminate water knowledge across a broad range of topics and disciplines.

Catalyze Meaningful Collaboration and Engagement

- Serve as a primary nexus between Colorado's institutions of higher learning and a diversity of water resource stakeholders, including state and federal agencies, non-governmental organizations, community members, the private sector, and our global network of partners and affiliates.
- Bridge the gaps between community members, scientists, and policymakers by strengthening water literacy.
- Connect diverse water stakeholders to higher education resources and expertise needed to ensure clean and reliable water for all.
- Facilitate and support collaborative water dialogues and projects.

Facilitate the Development and Use of Actionable Water Science

- Foster university, faculty, and student-led research across the state.
- Connect university research to key information needs of water resource stakeholders in Colorado and beyond.

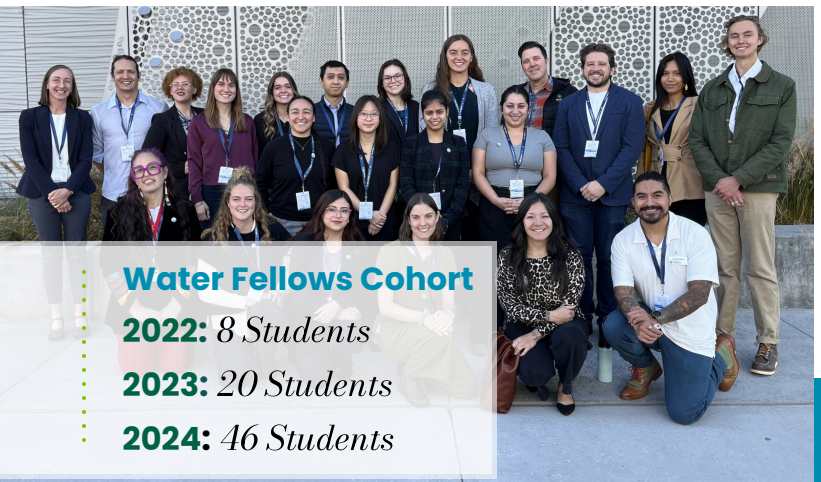
Program Highlights

Water Education and Workforce Development

To address the needs of communities and industry employers across the state, the Colorado Water Center hosted the first ever Colorado Water Workforce Summit in Denver in April 2024. Approximately 130 water professionals, educators and students came together to discuss how water workforce needs and gaps could be better addressed through education and training. A water career and education fair held on the second day of the Summit connected high school and college students with water-related employment and training opportunities in Colorado. Action items from the Summit will be used to develop next steps and collaborations around water workforce projects in 2025.

The Colorado Water Center was proud to become the host institution for Colorado Project Water Education Today (WET) in September 2024, making the Center a one-stop shop for water education for students of all ages. Through workshops and hands-on programming, Colorado Project WET trains K-12 educators across Colorado to bring innovative water science education into their classrooms. As the host institution of Project WET, the Center plans to significantly expand water education opportunities for Colorado's youth.

In 2024, the Center expanded our successful Colorado Water Fellows Program beyond Colorado State University to five additional Colorado academic institutions. The 2024 Water Fellows cohort includes 46 students from 35 unique majors and six institutions. The year-long program builds the next generation of water leaders by connecting graduate and undergraduate students to careers and opportunities in the water field. Students are provided a $1,000 stipend to participate in professional development activities, including attending water conferences, engaging in monthly meetings with water experts, and exploring summer water internships and job opportunities.



Water Fellows Cohort

2022: *8 Students*

2023: *20 Students*

2024: *46 Students*

The Water Literate Leaders (WLL) of Northern Colorado Program continued to expand its impact, building water knowledge and capacity of community leaders for improved decision-making and dialogue around water planning and management. In May 2024, we celebrated the graduation of 20 community leaders from the program and welcomed 21 new leaders in the fall for the 2024-25 cohort. WLL participants engage in and learn about complex regional water issues, including urban, agricultural, environmental, recreational, and business perspectives via presentations, dialogue, and field trips.

Water Quality & Access

Increasing salinization of water and soil resources in the South Platte River Basin poses a threat to agricultural production and municipal water supplies. The Colorado Water Center facilitates stakeholder engagement on South Platte salinity, working to identify stakeholder needs and translate them into research questions and applicable science. The goal of the stakeholder group is to better understand salinity sources, loads, trends, and potential impacts in order to develop collaborative solutions and management strategies in the municipal, agricultural, water-supply, and environmental context of the Basin.

The Colorado Water Center is actively partnering with local, county, and state organizations and leaders to tackle critical water quality and affordability challenges in mobile home park communities. In 2024, in response to resident-identified water quality concerns, we co-facilitated the planning and distribution of 400 water filters to a local mobile home park. Our work with communities is ongoing, focusing on both short- and long-term solutions to improve water quality and access.

Agricultural Water Management

The Colorado Water Center's latest agricultural water management research and extension activities are focused on efficient irrigation, alternative low-water use crops, and conversion to dryland production methods. In the northeastern plains region, maximizing the yield and economics of black-eyed pea production in dryland cropping systems is a current research priority. On the western slope, water conservation pilot programs are being assessed for conserved crop consumptive use, forage reduction, grass recovery, and soil health impacts, while drones, AI, and 3D printing are being used to develop more efficient irrigation methods and measurements.

Expanding Our Impact

Coordinating Water Engagement & Research Across Colorado

The USGS 104B Graduate Research Grants Program

In 2024, funds provided by the U.S. Geological Survey through the 104B State Grants program were used to invest in Colorado's future water workforce. Funds were made available to graduate students at universities across the state to support their research and education, while addressing critical water issues in Colorado. Projects include:

- High Efficiency Nitrogen Removal from Reclaimed Water
- Toxic Mixture Effects of Contaminants in Direct Potable Reuse Water vs. Drinking Water
- Modeling Colorado Water Supply Reservoirs: Moving Toward Sustainable Water Management
- Impacts of Freshwater Salinization on Drinking Water Corrosion Control Efficacy and Disinfection Byproduct Formation
- Wastewater Impacted Waters: An Investigation of Unregulated Disinfection By-product Formation in Downstream Rural and Urban Communities in Colorado
- Recognizing the Value of Agricultural Water in Colorado Water Management Decisions
- Evaluating Changes in Colorado's Snow Dynamics on Alpine to Prairie Forest Success

Colorado Water Conservation Board Seed Grant Program

The Colorado Water Center administers the Colorado Water Conservation Board's Seed Grant program to support implementation of the Colorado Water Plan. In 2024, funding was provided to researchers at CSU to address a wide range of water management challenges, and included:

- Hydrologic Modeling to Investigate Irrigation Impacts on The White River Stream-Aquifer System
- Streamflow Prediction for Colorado Ungauged Basins
- Producer-Led Solutions to Overcoming Adaptation Barriers for Colorado Agriculture

The CSU Water Research, Education, and Extension Seed Grant Program

In 2024, the Colorado Water Center provided funding for three projects integrating research, outreach, and educational activities to create actionable information and tools to improve water management practices. Projects included:

- Winter Pea Crop Rotations as an Approach to Make Summer Irrigation Water Available for Temporary Water Sharing Arrangements
- Advancing Water Management in Agricultural and Rural Areas through the Utilization of Giant 3-D Printed Measurement Flumes
- An Undergraduate-Driven Exploration of Vertical-Slot Fishways for Front Range Fishes