



**WESTERN WATER
ASSESSMENT**
A NOAA RISA TEAM

Building Resilience to Compound Hazards in the Intermountain West

Western Water Assessment

Benét Duncan, WWA Managing Director

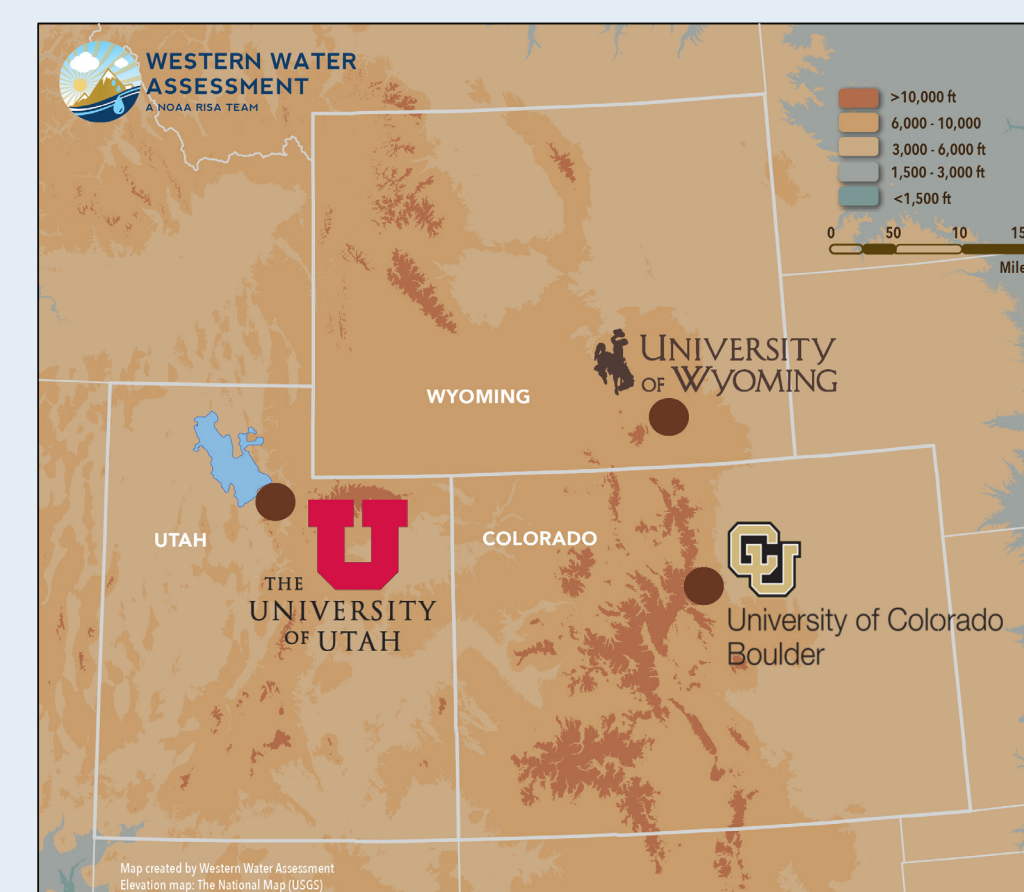
Ben Livneh, WWA Director

WESTERN WATER ASSESSMENT is proud to be part of CIRES, and we are excited to share that we were refunded as a NOAA Regional Integrated Sciences and Assessments (RISA) program through August 2026. We welcome CIRES researchers and staff to reach out with opportunities for collaboration.

Our vision is to build water sector and community resilience to compound hazards in Colorado, Utah, and Wyoming, with a particular focus on underserved Indigenous and small rural communities and utilities. We will also integrate social and physical sciences to advance resilience science from theory to practice. Research projects fit within two themes: resilient water systems and resilient communities. We will be tracking resilience metrics to identify needs and opportunities and evaluate our success in building resilience. We will also conduct a small-grant competition in Wyoming to build the resilience of underserved communities and leverage successes to inspire other communities to engage in climate adaptation actions.

WWA PRIORITIES AND PARTNERS

WWA is headquartered in CIRES at CU Boulder, with PIs and partners at CU Boulder and the Universities of Utah and Wyoming. We conduct innovative research in partnership with decision makers, helping them make the best use of science to manage for climate impacts. This includes:



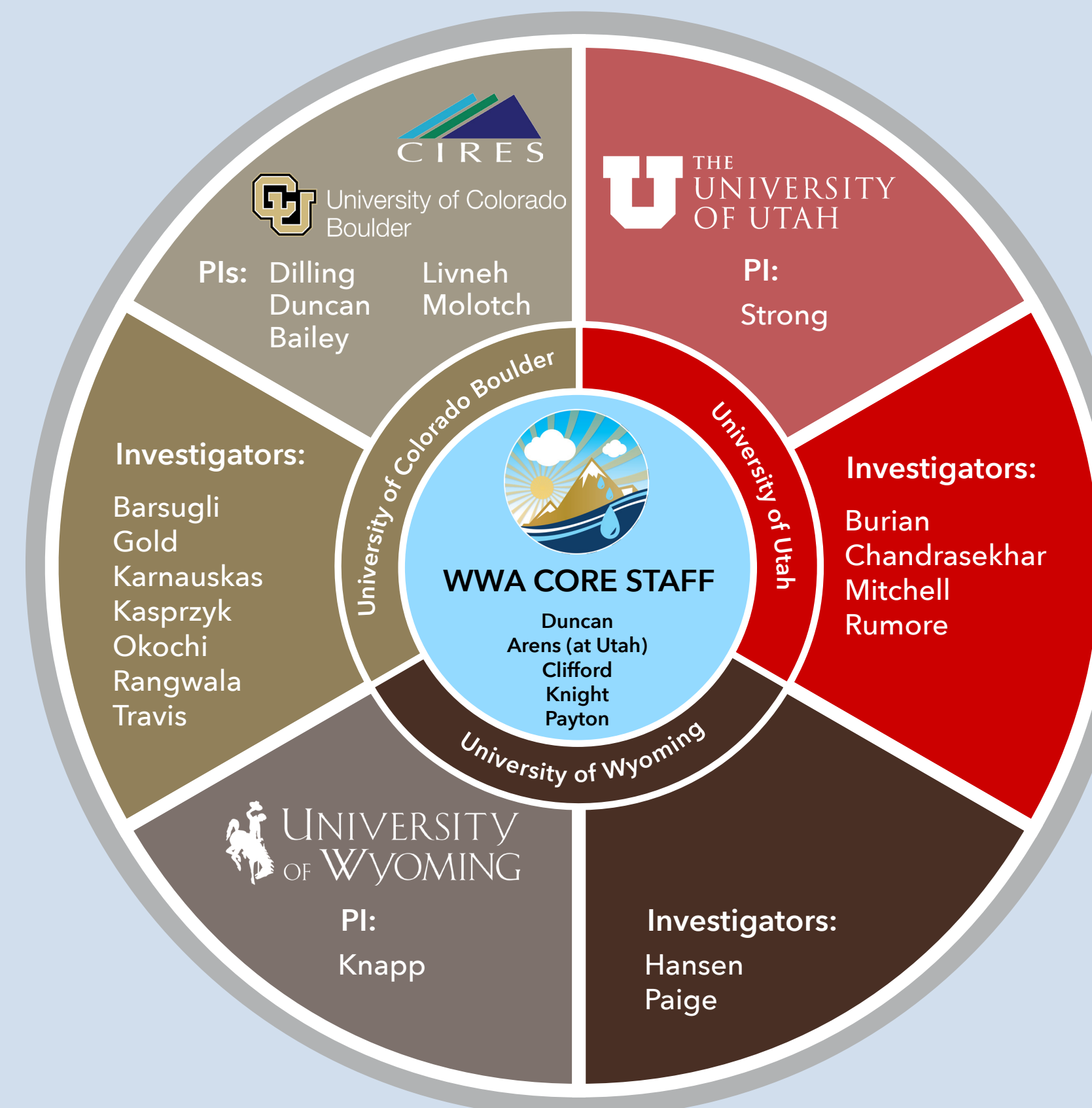
- Working directly with communities and water systems to build resilience to compound hazards
- Centering the needs of frontline communities
- Advancing user-relevant research on snowpack, wildfire, and water supply
- Integrating and prioritizing social science research techniques

WWA PROGRAM GOALS, 2021-2026

1. Prioritize justice and equity in all of our research and outreach activities through project selection, research questions, partners, and outreach opportunities
2. Diagnose whether and how compound hazards pose a challenge to resilience
3. Create a baseline measure of how frontline communities view their resilience challenges and opportunities
4. Track how resilience is changing with project partners
5. Document whether and how WWA activities build resilience on the ground

HOW WE WORK

WWA is led by our PI group, which includes physical and social scientists from CU Boulder, University of Utah, and University of Wyoming. The WWA core staff team works full time to advance our projects in partnership with PIs. WWA investigators engage on research and outreach projects, and add a wealth of expertise across disciplines.



CORE PROGRAM AREA: RESILIENCE METRICS AND EVALUATION

Social science research has developed many metrics for tracking resilience, but these are often based in theory and not applied in practice. We aim to co-develop and track metrics of resilience with water managers and communities, taking the metrics from theory to practice.

CORE PROGRAM AREA: RESEARCH INTEGRATION ACTIVITIES



Research integration takes research the “last mile” to support its use by decision makers and others. This requires deep, lasting relationships with stakeholders and can lead to the identification of new research projects with tangible impacts on decisions. WWA Research Integration Specialists (RISs) have the capacity to foster these long-term relationships, taking science to practice beyond academia. RISs seek to build relationships with frontline communities to understand and center their needs. In the coming years, they will advance projects to help meet those needs.

RESEARCH THEME: BUILDING RESILIENT COMMUNITIES



4 connected research projects will help build community resilience to compound hazards. These projects are guided by our understanding of stakeholder needs in the region, gained through our relationships with communities that include Tribes, small rural communities, and others.



Current and future research needs in WY frontline communities



Sense of place and adaptive capacity in frontline communities



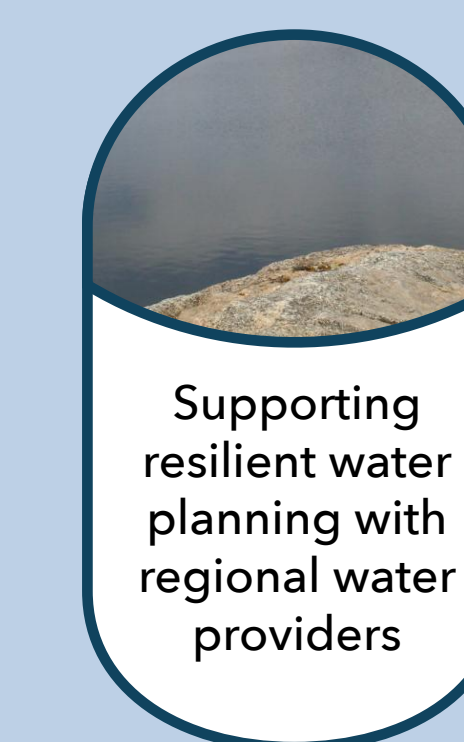
Understanding social networks to facilitate resilience



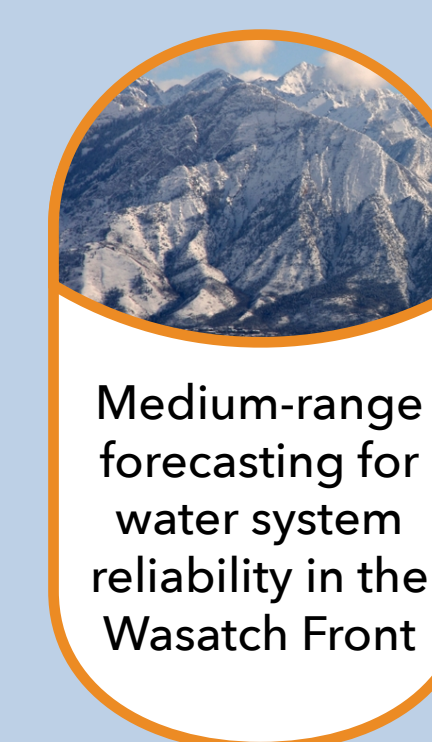
Building climate resilience in rural gateway communities

RESEARCH THEME: BUILDING RESILIENT WATER SYSTEMS

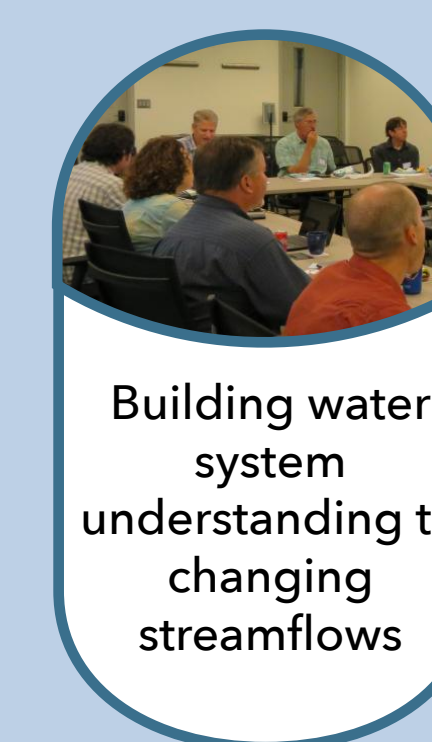
6 interdisciplinary projects will help build water systems that are resilient to compounding hazards. These projects focus on understanding connected extremes and compound hazards with multiple partners in the context of building a reliable and resilient water system across scales.



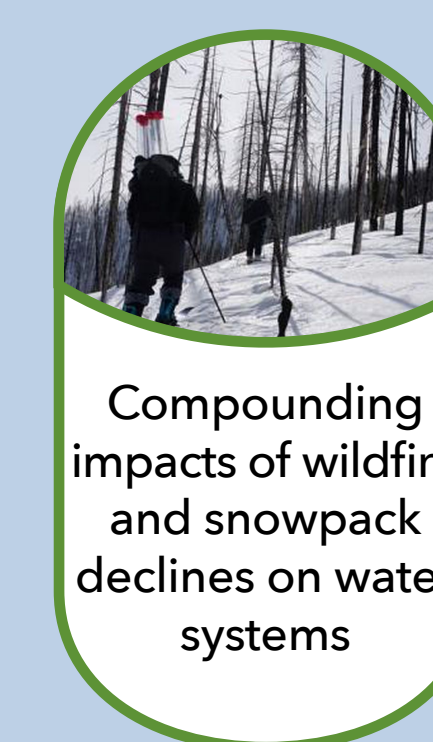
Supporting resilient water planning with regional water providers



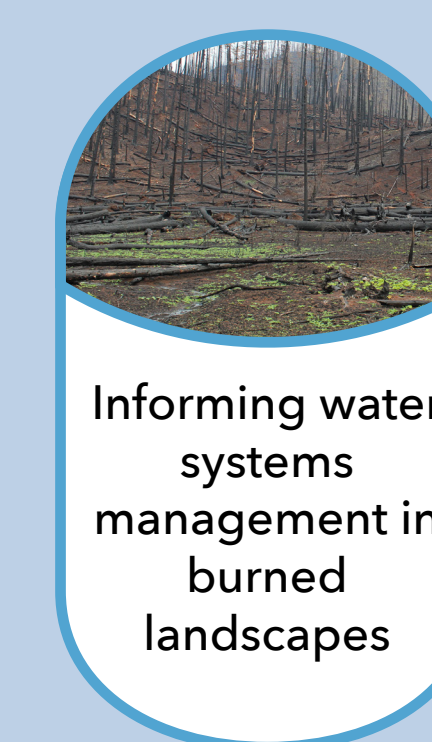
Medium-range forecasting for water system reliability in the Wasatch Front



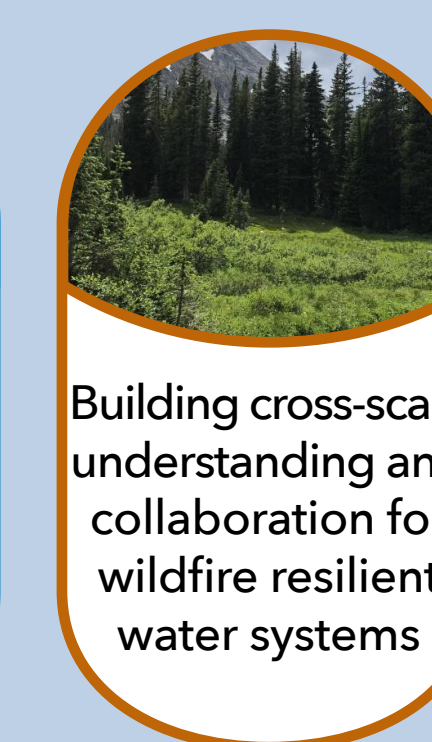
Building water system understanding to changing streamflows



Compounding impacts of wildfire and snowpack declines on water systems



Informing water systems management in burned landscapes



Building cross-scale understanding and collaboration for wildfire resilient water systems

LEARN MORE AND CONNECT

We welcome CIRES researchers and staff who are interested in collaboration!

Learn more at www.colorado.edu or contact WWA Co-PI and Managing Director Benét Duncan at benet.duncan@colorado.edu.

