



**California Institute
for Water Resources**

University of California
Agriculture & Natural Resources



ANNUAL REPORT **2025**



**CALIFORNIA
INSTITUTE
FOR WATER
RESOURCES**



California Institute for Water Resources

The California Institute for Water Resources (CIWR) integrates California's research, extension, and education programs to develop solutions for water management challenges. CIWR focuses on:

- Leading and supporting water resources research in collaboration with academic and agency partners in California
- Communicating research through engagement, extension, and media
- Coordinating resources across California's academic institutions and connecting researchers, communities, industry, and public agencies.

CIWR is based within University of California Agriculture and Natural Resources (UC ANR). Through our projects and programs, we work with collaborators across the state, including: University of California (UC) campuses and the Cooperative Extension (UCCE), California State University (CSU) campuses, federal and state agencies, local governments, and community-based organizations.

History

The first UC Water Resources Center was funded by the California State Legislature in 1957 to provide research and training for water resources in the state. The Center was alternatively housed at UCLA, UC Berkeley, UC Davis, and UC Riverside through 2009.

In 2011, the California Institute for Water Resources was founded as a statewide entity within the University of California, the state's land grant institution, which supports Cooperative Extension.

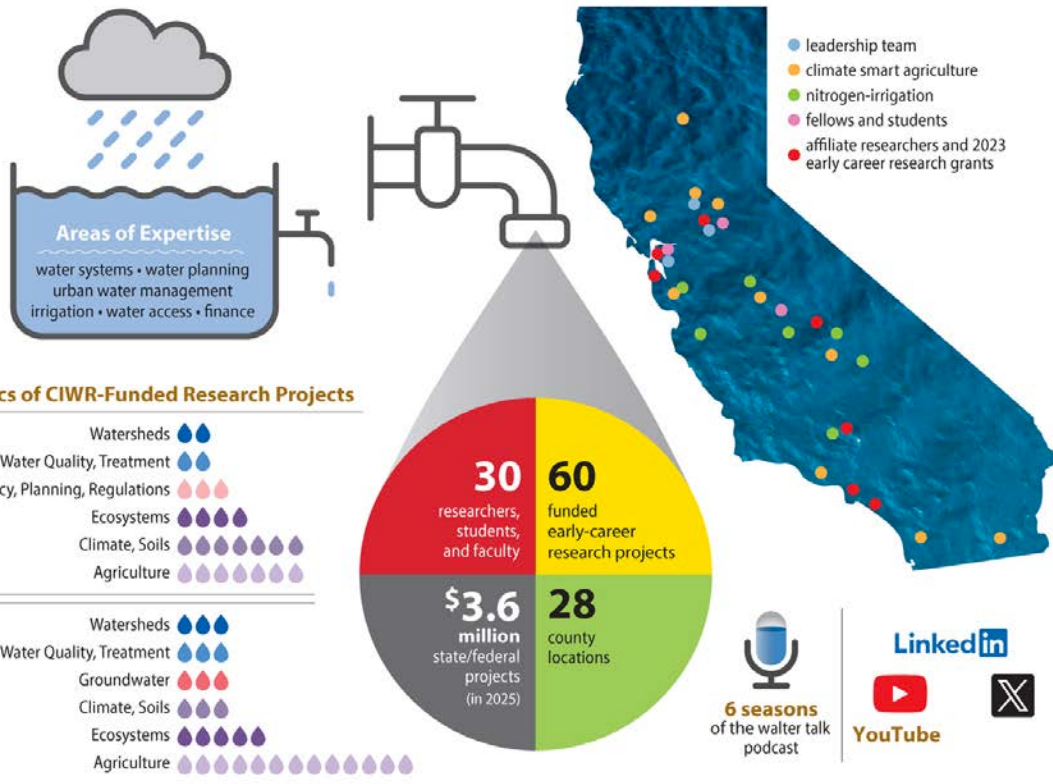


Sacramento-San Joaquin Delta

IMPACTS

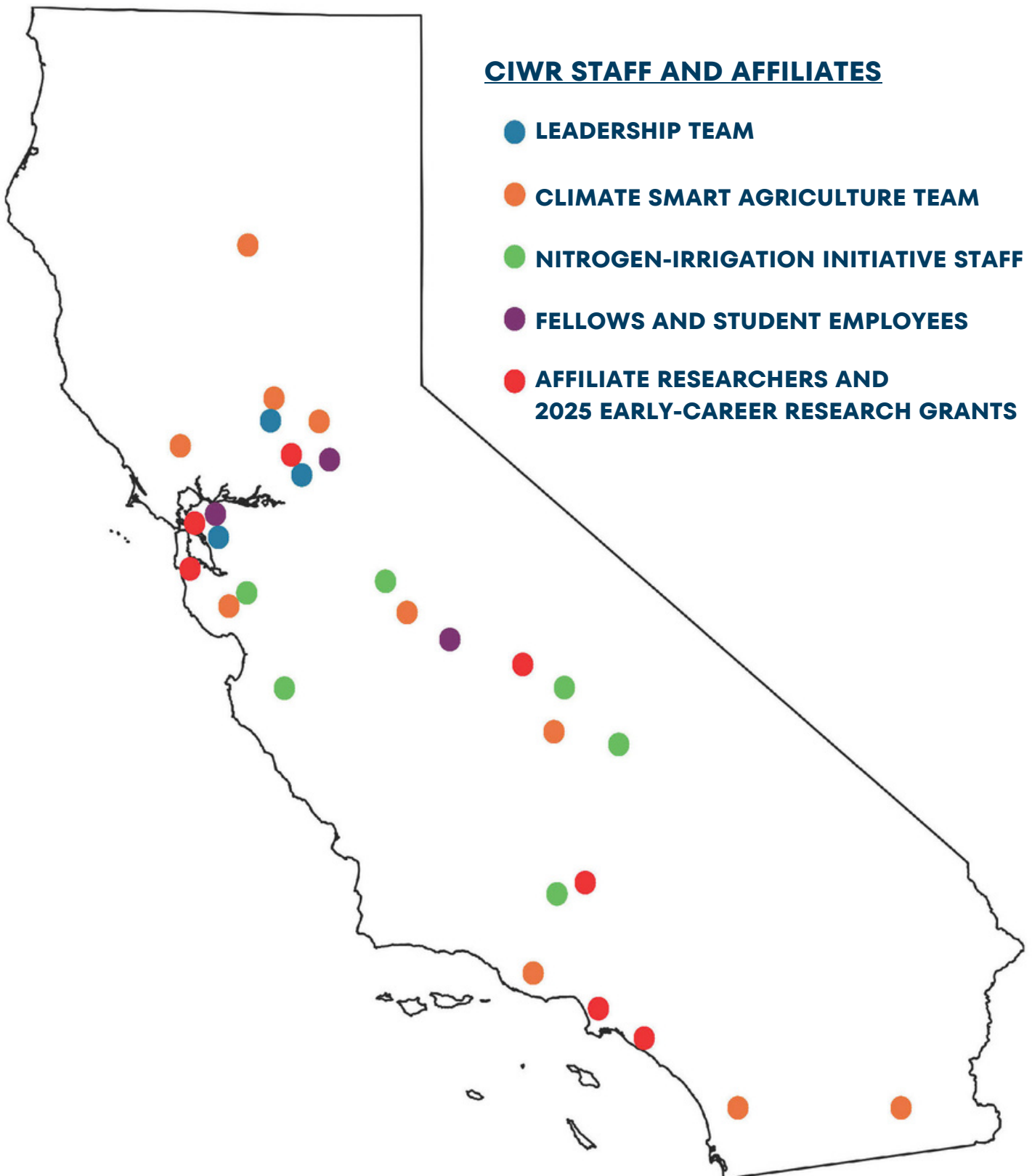


California Institute for Water Resources ciwr.ucanr.edu



UNIVERSITY OF CALIFORNIA
Agriculture and Natural Resources

LOCATIONS



PEOPLE



Hope Hauptman, Ph.D.

Project Scientist

Darrene Hackler, Ph.D.

*Water and Workforce Initiatives
Manager, Project Scientist*



Jonathan Kaplan, Ph.D.

*Senior Economist,
Project Scientist*

Erika Cassio Madrazo, Ph.D.

Project Scientist



Erik Porse, Ph.D.

*Director, Cooperative
Extension Specialist*

Divya Prakash, M.A..

Research Specialist



Camilo Salcedo, Ph.D.

Project Scientist

Rachel Shellabarger, Ph.D.

*Academic Coordinator, Nitrogen and
Irrigation Initiative Program Manager*





Sam Sandoval Solis, Ph.D.

*Faculty Affiliate, Professor of
Cooperative Extension, UC Davis*

Daniel Swain, Ph.D.

*Associate Professional Researcher,
Climate Scientist*



Hope Zabronsky, M.S.

*Academic Coordinator, Climate
Smart Agriculture Program Manager*

Climate Smart Agriculture Team



Nicki Anderson

*Community Education Specialist,
Ventura & Santa Barbara Counties*

Caddie Bergren

*Community Education Supervisor,
Merced County*



Amanda Charles

*Community Education Specialist,
Sonoma, Marin, & Mendocino Counties*

Climate Smart Agriculture Team (continued)

Danielle Duyst

*Community Education Specialist,
Tulare & Kern Counties*



Juan Gonzales

*Community Education Specialist,
Northern San Joaquin Valley*

Michael Jaquez

*Community Education Specialist,
San Diego County*



Lizzeth Mendoza

*Community Education Specialist,
Butte, Glenn & Tehama Counties*

Heather Montgomery

*Community Education Specialist,
Sutter & Yuba Counties*

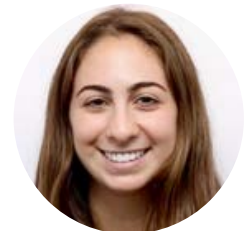


Ana Resendiz

*Community Education Specialist,
Imperial County*

Bailey Smith-Helman

*Community Education Specialist, Santa
Cruz, Monterey, and Santa Clara Counties*



Becca Xu

*Community Education Specialist,
South Bay Area*

PROGRAMS & PROJECTS

CIWR runs programs and projects in collaboration with partners throughout California, all focused on applied research, extension, and education for 21st Century water management.

WATER SYSTEMS

Water Resources Research



CSA

Climate Smart Agriculture



NIWR

National Institutes for
Water Resources



NII

Nitrogen and Irrigation Initiative



STUDENTS AND EVENTS

Supporting Engagement and Futures



WISER

Extension Programs for Watersheds



WATER SYSTEMS

Research Projects in Water Resources

CIWR focuses on applied research for water management through systems-based and participatory approaches. We work with collaborators across California's universities and the Cooperative Extension.

Projects

California Wastewater Needs Assessment

As part of a first-of-its-kind assessment of water-related sanitation needs in California, CIWR conducted a baseline study of community-based needs and visited communities throughout the state experiencing wastewater challenges through a field campaign.

COEQWAL: Collaboratory for Equity in Water Allocation

CIWR is supporting a use case of the COEQWAL project focused on drinking water. The use case will evaluate risks to community water systems in the Sacramento-San Joaquin Delta dependent on surface water given changes in climate and system operations. CIWR is also leading an evaluation of water system reliability in South-of-Delta water systems that rely on the State Water Project.

Participatory Modeling of the Colorado River

CIWR is supporting a project, led by Utah State and funded by the Cooperative Institute for Operations in Hydrologic Research (CIROH), to use participatory modeling of Colorado River water management to understand perceptions and attitudes towards risk. We bring together water managers and experts to participate in online modeling session.

Systems Modeling of Nitrogen Management

CIWR is evaluating drivers of decision-making for nitrogen management and developing statistical and simulation models to understand the effectiveness of enhanced management practices for fertilizer and irrigation use.



Desolation Wilderness, California



Resilience Planning for Urban and Community Water Systems

CIWR leads and supports engaged research to improve tools and planning models for urban and community water systems resilience.

Benefits and Impacts of SB 1157

CIWR leads a multi-university research project to evaluate benefits and impacts of the indoor water use standard for urban water systems. Implemented through Senate Bill 1157, the indoor standard will set efficiency targets for indoor fixtures and toilets through 2030. The team, including CIWR, UCLA, OWP at Sacramento State, UC Riverside, and UC Merced, is developing tools and models to forecast water demand and assess effects of future standards on water and wastewater systems. The Department of Water Resources and the State Water Resources Control Board will use the findings to provide recommendations in 2028.

Southern California Water Resilience

As part of the COEQWAL project and through a drinking water use case led by Kristin Dobbin of UC Berkeley, CIWR is analyzing water supply resilience and vulnerability for Southern California urban and community water systems that rely on the State Water Project for a portion of supplies. CIWR is developing network modeling to evaluate future risks for urban water demand given current and future water availability.

Urban Water Systems and Finance

CIWR's projects are developing demand forecasting tools and evaluating changes in urban water agency finances over time with drought and system growth. We have created statistical and hydrologic models, along with decision-support software, to understand how urban water demand will change in the future and evaluate the financial viability of water systems with drought using large-scale data analysis.

Understanding Community-Based Needs for Wastewater and Sanitation

Through the California Wastewater Needs Assessment, a statewide collaboration led by Greg Pierce and UCLA's Luskin Center for Innovation, CIWR conducted a baseline survey of community wastewater needs and led a field campaign to visit sites across California in collaboration with local partners. CIWR collected and analyzed survey results from over 100 experts, non-profits, and managers to understand baseline needs and identify hotspots of sanitation issues.



CALIFORNIA WASTEWATER NEEDS ASSESSMENT (WWNA): BASELINE SURVEY

The California Wastewater Needs Assessment (WWNA) is a four-year project (2023-2027) to provide information on California's sanitation system needs for wastewater in communities served by both, small and large wastewater systems. In the project's early phases, the University of California Agriculture and Natural Resources (UCANR) team, conducted a baseline survey of sanitation issues to provide a rapid assessment that illustrates the scope of challenges faced by communities across the state.

Overview

The WWNA team conducted outreach to understand community sanitation needs.

The outreach was divided into three parts. First, a survey collected information on sanitation issues and needs in communities. Survey responses were sought from government agencies, technical assistance providers, private sector companies, journalists, academics, university extension, non-governmental organizations, and community advocates.

Second, a spatial database of communities with increased vulnerability to inadequate wastewater services was compiled based on survey results. The database includes locations of mobile home and recreational vehicle (RV) parks, farmworker housing, federal and state campgrounds, disadvantaged communities, and tribal communities.

Third, a field campaign will visit sites identified by the survey and surrounding areas to provide more context to survey results and document first-hand accounts of known issues, these efforts will be described in a follow up report.

Part 1. Survey **Part 2. Spatial Analysis** **Part 3. Field Campaign**

Part One. Survey Results

The WWNA project team sent the survey to 166 potential respondents and received 112 answers (response rate of 67%). Of the respondents, 71 offered information on specific communities where they know sanitation issues exist. From these, 36% said that they know of these issues because "they live or work" in the communities, and 34% said they have a "professional relationship or responsibility to the community," all demonstrating that survey results largely draw from first-hand experiences.

Importantly, survey results refined definitions* being used for two concepts:

"Sanitation is the access to safe, functional, affordable, and dignified collection and disposal of wastewater from human uses; including adequate sanitation systems, practices, and wastewater treatment to protect public health and the environment."

"Sanitation equity is achieved when social, geographic, economic, cultural, and demographic attributes no longer predict people's access to or quality of sanitation."

*The survey terms and definitions may differ from standard regulatory terms because the WWNA Team sought information beyond the Water Boards typical purview. Before launching the final survey, multiple iterations with volunteer participants helped refine wastewater-related terms for clarity and effectiveness. This ensured the questions were well understood and yielded meaningful responses, aligning with the survey's overall objective. As a result, these tailored terms and definitions are specific to this report and the Baseline Survey Analysis.

Summary fact sheet with results from surveys

Water and Wildfire

Following the devastating January 2025 wildfires in Southern California, UCLA, UC ANR, and Arizona State University founded the Water Supply and Wildfire Research and Policy Coordination Network, led by UCLA, with the goal of exploring the opportunities and limitations for water supply adaptation to manage wildfires at the Wildland-Urban Interface. The coordination network has brought together researchers, policymakers, and non-profit experts to understand multifaceted challenges of water management for wildfire. To date, the network has held three workshops each with over 50 participants and experts, and produced 13 reports, papers, and blogs.

In addition, CIWR co-sponsored educational events by UC ANR's Fire Network and was an active voice in research communications to promote science-based information on water and wildfire for media, especially during the 2025 Los Angeles wildfires.



Media and Interviews:

- LA Times
- NBC News
- Wall Street Journal
- Civil Engineering Source
- CNN





Climate Smart Agriculture Program

In 2018, UC ANR and the California Department of Food and Agriculture (CDFA) developed a joint program to provide technical assistance in applying for and implementing Climate Smart Agriculture practices, which help agricultural producers build climate change resilience, increase water-use efficiency, and reduce greenhouse gas emissions.

UC ANR's team of Community Education Specialists provides technical assistance, outreach, and education to increase the adoption of climate smart agriculture practices targeted at soil health, manure management, and water use efficiency across California. Through the Climate Smart Agriculture team's programs and outreach, we:

- Establish and maintain grower connections
- Develop and present flyers, case studies, blogs, and newsletters
- Lead trainings, field days, on-farm visits, and workshops
- Participate in research and communicate findings
- Support project design, application, implementation, monitoring, and verification of local, state, and federal financial incentive programs
- Tailor assistance to especially support socially disadvantaged, non-English speaking, and priority population farmers and ranchers

Impacts

Since 2019, UC ANR's Climate Smart Agriculture Team has provided in-depth technical assistance to more than 3,300 farmers and ranchers in 33 counties, including presentations at 225 field days. The CSA team has supported over 540 successful projects that are expected to save an estimated 10.21 billion gallons of water and reduce greenhouse gas emissions by more than 439,400 metric tons of carbon dioxide-equivalent.



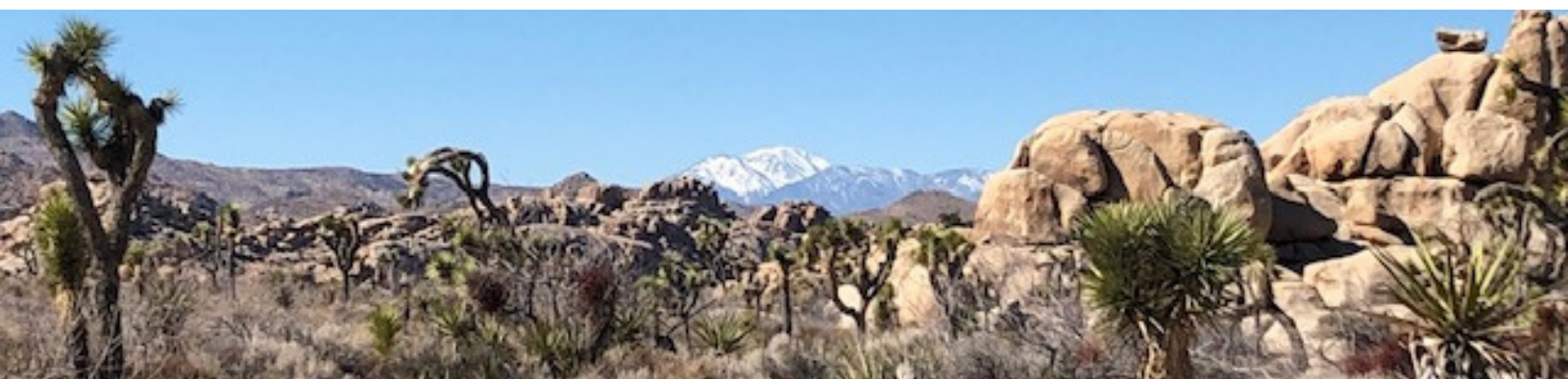
*Climate Smart Agriculture
Team Training*

NIWR

National Institutes for Water Resources

CIWR represents California in the National Institutes for Water Resources, a national network of water institutes in states and territories. NIWR institutes work with the U.S. Geological Survey (USGS) to support water research and student training through the Water Resources Research Act (WRRRA). In California, CIWR uses WRRRA funds to support projects by early-career researchers at University of California campuses, California State University campuses, and UC Cooperative Extension (UCCE) offices. For the 2023-2025 grant cycle, CIWR's funded projects include:

- **Jackie Atim** of Kearney Agricultural Research and Extension Center (sorghum production)
- **Nail Moonilall** of UC Davis (regenerative agriculture)
- **Erin Bray** of San Francisco State University (river modeling)
- **Kristin Dobbin** of UC Berkeley (drinking water system consolidations)
- **Sarah Light** of UCCE Sutter-Yuba (cover crops)
- **Abdelmoneim (Moneim) Mohamed** of UCCE Stanislaus, San Joaquin, and Merced Counties (modeling for deficit irrigation)
- **Chris Olivares Martinez** of UC Irvine (groundwater contamination and climate change)
- **Jorge Pesantez** of CSU Fresno (water distribution systems demand)
- **Danielle Zoe Rivera** of UC Berkeley (community-based flood risk resilience)





Nitrogen and Irrigation Initiative

The Nitrogen and Irrigation Initiative (NII) is a joint program for research and extension, with the goal of improving nitrogen and irrigation management in California. Through the program, UC ANR Advisors, Specialists, and Staff Research Associates (SRAs) deliver educational content, training, and consultations to growers and consultants in the San Joaquin Valley and Central Coast. The NII is a collaboration of CDFA, UC ANR, and UC Davis. Within UC ANR, the program is led by the Kearney Agricultural Research and Extension Center (KARE) and CIWR.

We work directly with growers, farm workers, and consultants to improve nitrogen use and irrigation efficiency. UC ANR Advisors and staff researchers collaborate with growers to deliver science-based, practical information for on-farm nitrogen and water management.

Activities

The NII program focuses on four main activities to improve irrigation and fertilizer management:

- *Educational Resources*-
Printed materials, videos
- *On-Farm Trials*-
Demonstrations to promote best practices for irrigation and nitrogen management
- *Training Events*-
Webinars, workshops, field days, trainings, and one-on-one field visits
- *Grower Consultations*-
Individualized grower consultations to make recommendations and assist with implementation



Nitrogen Management Training Workshop

<https://nii.ucdavis.edu/>

NII Impacts

Program Highlights Through April 2025

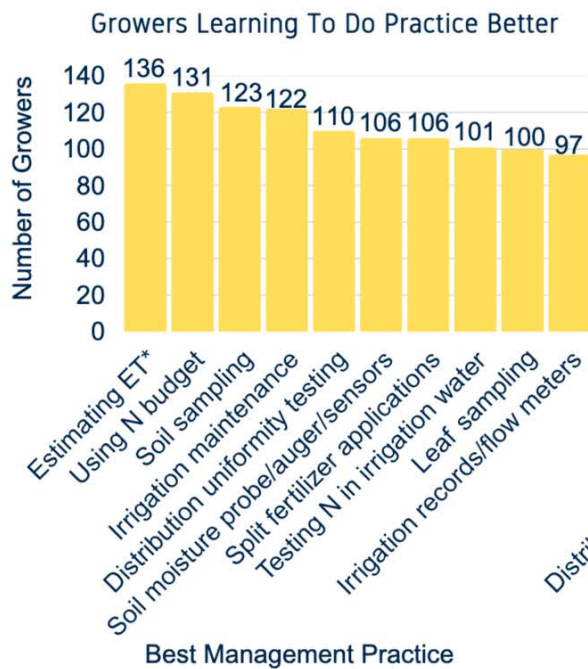

542
On-farm
Consultations


6
Field Days


48
Annual/Multi-
Year Farm Trials


96
Educational
Events


+5,000
Participants



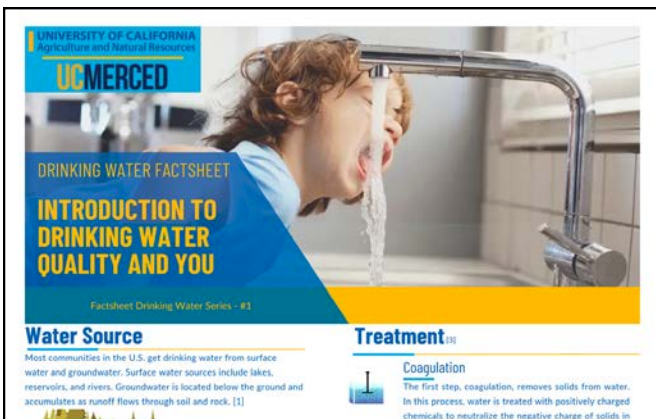
Tabling at World Ag Day

WISER

Watershed Information Science and Education Resources

The UC Watershed Information & Science Extension Resources (WISER) Program is a statewide initiative to strengthen community capacity, science communication, and access to research-based information on drinking water, water quality, and watersheds.

Starting in 2023, CIWR and the FEWS-US Lab at UC Merced (Colleen Naughton), in collaboration with UC Berkeley's GrizzlyCorps program, have developed and published educational resources for drinking water and water quality in California. We developed fact sheets on water quality contaminants and testing, as the first in a line of extension materials available for communities and agencies to help provide information for communities with questions on water quality and safety.



Current WISER products and resources include:

- Water quality factsheets for drinking water, nitrates, and microplastics
- Science communications
- Education and student training



**FEWS-US Lab
at UC Merced**
(<https://fews-us.org/>)



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UC Cooperative Extension
University of California
Agriculture & Natural Resources



The California Water Course

The California Water Course is an applied education program designed to build water literacy among residents, community advocates, entry-level professionals, and others engaged in California's water sector. The course provides participants with a grounded understanding of water systems, water science, and the complex policy landscape governing water use across the state. Spanning approximately 24 hours of self-guided learning alongside 16 hours of in-person instruction, the curriculum covers the natural and human-made components of water systems, the hydrology of California's diverse river types, urban and agricultural water supply systems, and the full range of state and federal policies governing surface water rights, groundwater management, recycled water, tribal water rights, and environmental flows. The course is also delivered in two languages, English and Spanish. The course aims to equip participants to evaluate water management in their own regions and critically engage with water policy decisions affecting their communities.

The California Water Course was developed by Sam Sandoval Solis. In 2025, it enrolled 78 participants, 52 of whom completed the program. The course is expanding to four new areas: San Francisco/Bay Area, Sacramento Basin, San Joaquin - Tulare Basins and Indigenous Water Guardians.

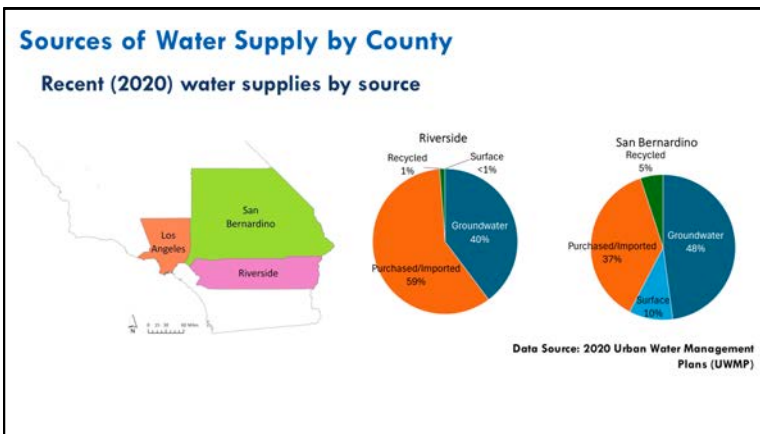
STUDENTS AND FELLOWS

Supporting Water Futures

Student employees and fellows at CIWR work with our staff on applied research projects for water resources policy and management. Our students undertake projects ranging from data analysis and modeling to development of extension and outreach materials. Since 2023, CIWR has supported ten student employees along with two fellows from UC Berkeley's GrizzlyCorps program.

Examples of Projects

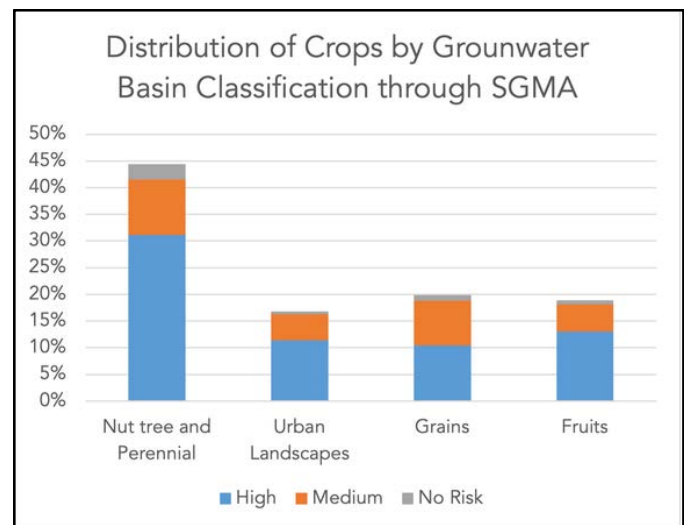
Assessing Urban Water Supply Resilience



Evaluating Crops in Groundwater Dependent Areas of California

2025 CIWR Student Employees and Fellows

Nate Barton (UC Riverside)
Ramya Chandrasekara (San Diego State)
Natalia Wilson (UC Davis)
Aatefa Rahimi (UC Davis)
Claudia Nunez (UC Davis)





EVENTS

In 2025, CIWR sponsored events with partners through the Climate Smart Agriculture program, the Nitrogen and Irrigation Initiative, and projects.

Selected Workshops, Presentations, and Events

Water Supply and Wildfire: Introductory Presentation (Conference co-organizer and sponsor). Water Supply and Wildfire Workshop #1. August 18, 2025. Sacramento, CA.

COEQWAL Drinking Water Use Case: Public Workshop #2 (Virtual, March 4, 2025) and *Public Workshop #3* (Virtual, July 14, 2025). (Co-Organizers).

Financial Impacts and Decisions in California Agriculture with the Sustainable Groundwater Management Act (Invited Speaker). California Food and Agriculture Board. August 5, 2025. Sacramento, CA.

Water Quality and Groundwater Recharge Training. Kearney Research and Extension Center. Parlier, CA. November 13-14, 2025. (Co-Organizers)

Selected Workshops, Presentations, and Events (continued)

Climate Smart Agriculture Resources for Dairies. UCCE Sonoma and ANR Climate Smart Agriculture Program Workshop. January 14, 2025. Santa Rosa, CA. (Co-organizer and Presenter).

SWEEP Presentation at the California Small Farms Conference hosted by CAFF. February 24, 2025. Online. (Presenter).

Programs 101 Event in Partnership with Glenn RCD and UCCE. March 6, 2025. Orland, CA. (Co-organizer and Presenter).

Soil Health & Irrigation Event. Hosted by UCCE, American Farmland Trust, and Sierra Resource Conservation District. March 25, 2025. Kearney Agricultural Research and Extension Center, Parlier, CA. (Co-organizer and Presenter).

Spring TAP Networking Workshop 2025. UCCE and ANR Climate Smart Agriculture Program Workshop. April 22, 2025. Yuba City, CA. (Organizer and Presenter).

Agave Farm Field Day – Presentation on CDFA's SWEEP & HSP programs. June 4, 2025. Campo, CA. (Co-organizer and Presenter).

Soil Conservation Practices for Managing Diseases, Nitrogen, and Soil Health in Vegetable Production Systems. HSP Demonstration Project and Field Day. June 17, 2025. Thermal, CA. (Co-organizer and Presenter).

Extending Technical Assistance to Small-Scale Diversified Farmers. 2025 CDFA OARS Technical Assistance Conference. Sacramento, CA. (Presenter)

2025 Fall TAP Networking Workshop. UCCE and ANR Climate Smart Agriculture Program Workshop. October 15, 2025. Yuba City, CA. (Organizer and Presenter).

Climate Smart Agriculture Financial Incentives and Technical Assistance. CARCD Annual Conference November 19, 2025. Sacramento, CA. (Presenter).

Climate Smart Agriculture Incentives. California Annual Almond Conference December 10, 2025. Sacramento, CA. (Presenter).

Selected Workshops, Presentations, and Events (continued)

Boots on the Ground: Enhancing Extension for Nitrogen and Irrigation Management in California. NRCS Conservation Innovation Grant (CIG) Showcase. July 27, 2025. St. Louis, MO. (Presenters)

SB 1157 Analysis Benefits and Impacts Study: Technical Advisory Panel and Public Working Group presentations. California Department of Water Resources. (Webinar Co-Organizers and Presenters)

Sustainability Forum: Social Equity in Water Resources and Infrastructure, Part I. Environment and Water Resources International Congress. American Society of Civil Engineers. May 22, 2025. Anchorage, AK. (Session Co-Organizers and Presenters)

Expanding Water Workforce and Dialogues. National Institutes for Water Resources Annual Conference. February 25, 2025. Washington, D.C. (Panel Co-Organizers).

Policy Approaches to Wastewater Management in the U.S. Rosenberg International Forum on Water Policy: Madrid Workshop. January 28, 2025. Madrid, Spain. (Workshop Co-Organizers and presenters)

Panel Presentations on Water and Equity, 60th Anniversary AWRA, UCOWR, and NIWR Conference





Sacramento-San Joaquin Delta Tour



Rosenberg Regional Fellows (Vietnam)



Wastewater Needs Assessment Team



*Tijuana River Binational Event
co-sponsored by CIWR*



Tabling at the Eco-Farm Conference



Climate Smart Agriculture team training

PUBLICATIONS

Reports, Articles, and Abstracts

Courtney Crosson, Stephanie Pincetl, Caroline Scruggs, Neha Gupta, Rashi Bhushan, Sybil Sharvelle, Erik Porse, et al. (2025). "Acceptance of a Net Zero Urban Water Future: Challenges and Strategies for a Sociotechnical Shift of Water Systems". *Frontiers in Water*. 7(25)

Rosenberg, David, Anabelle Myers, Reza Morovati, Collins Stephenson, Hadia Akbar, and Erik Porse. "Reasons We Have Hope for Consensus on Colorado River Management". *Journal of Water Resources Planning and Management*. (2026). 152(1).

Porse, Erik, Greg Pierce, Faith Kearns, Edith de Guzman, Camilo Salcedo, and Hope Hauptman. "Adapting urban water supply infrastructure and policies for wildfire in the 21st Century." *Environmental Research Letters*. (2025). October 2025.

Prakash, Divya. Erik Porse, Mehdi Nemati, Rachel Shellabarger, and Ariel Dinar. "Tracking Nitrogen Policy and Practices: Lessons from California's Central Valley Growers." *Agricultural and Resource Economics ARE Update*. (2025). Vol. 29, No. 1. Sept/Oct 2025.

Prakash, Divya. Erik Porse, Mehdi Nemati, Rachel Shellabarger, and Ariel Dinar. "Adoption Patterns of On-Farm Nutrient Management Practices and Nitrogen Application Rates in California's Central Valley." *California Agriculture*. (2025). October 2025. 79(2).

Porse, Erik. Jonathan Kaplan, Khalil Lezzaik, David Babchanik, and Patrick Maloney. "Quantifying Replacement Rates from Indoor and Outdoor Urban Water Conservation Rebates in California." *Journal of the American Water Resources Association*. (2025). Volume 61, Issue 2. April 2025.

Porse, Erik. "Fifty Years of Water Research Projects in California: Keyword Analysis and Qualitative Coding with Natural Language Processing (NLP) Models." (2025). *Journal of Contemporary Water Research & Education*. Volume 182, Issue 1.

Gordon, Phoebe E., Rachel M. Shellabarger, and Luke Milliron. "Listening to Podcasts Improves Learning Outcomes among California Orchard Growers." *HortTechnology* 36, no. 1 (2026): 66–71.

Swain, D.L., Abatzoglou, J.T., Albano, C.M., Brunner, M.I., Diffenbaugh, N.S., Kolden, C., Prein, A.F., Singh, D., Skinner, C.B., Swetnam, T.W. and Touma, D. (2025). “Increasing Hydroclimatic Whiplash Can Amplify Wildfire Risk in a Warming Climate.” *Glob Change Biol*, 31: e70075.

Swain, D.L., Prein, A.F., Abatzoglou, J.T. et al. “Hydroclimate volatility on a warming Earth.” *Nat Rev Earth Environ* 6, 35–50 (2025).

Camponuri SK, Heaney AK, Cooksey GS, Vugia DJ, Jain S, Swain DL, Balmes J, Remais JV, Head JR. “Recent and Forecasted Increases in Coccidioidomycosis Incidence Linked to Hydroclimatic Swings, California, USA.” *Emerg Infect Dis*. 2025 May; 31(5):1028-1032.

CIWR Supported Research

Bray, E.N., Modar, N., and J. Dozier. (2025). “Atmospheric controls on river temperature: Sensitivity of river temperature downstream of a dam to changes in a Mediterranean climate.” *Journal of Hydrology: Regional Studies*. 60, 102500.

Alfaro, A. M., & Pesantez, J. E. “Data-Driven Regression Tree Model for Predicting Residential Water Demand Using Property Characteristics.” *World Environmental and Water Resources Congress 2025* (pp. 589-597).

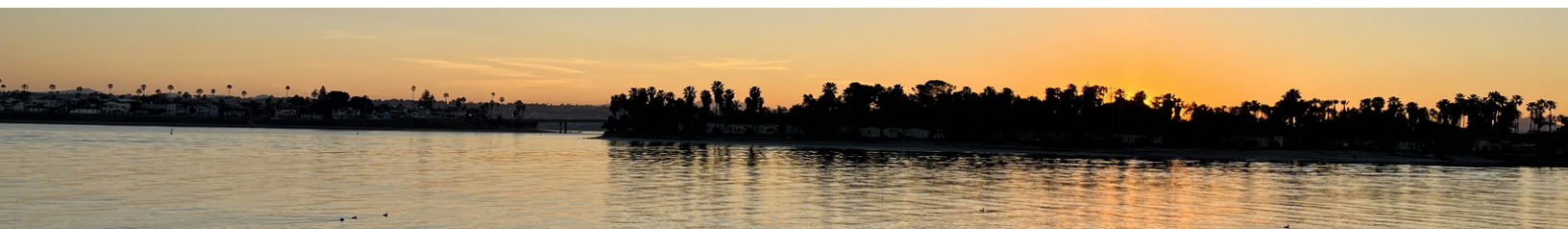
Christina Lazcano. “The Effects of Soil Health Management Practices on Soil Organic Carbon Persistence and Accrual in Napa County, CA Vineyards.” 2025 Soil and Water Conservation Society International Annual Conference, Costa, Mesa, CA.

Christina Lazcano. “Comparing Saturated Hydraulic Conductivity of Napa Valley Vineyard Soils Under Different Soil Health Management Practices.” University of California, Davis 36th Annual Undergraduate Research Scholarship and Creative Activities Conference.

Christina Lazcano. “Understanding vineyard soil health and how it can support the success of the wine industry.” 10th annual Southern Oregon Grape Day. Oregon State University.

Dobbin, K., Pierce, G. and McBride, J. “Recent Trends in Water System Consolidation: Lessons from California”. *Journal AWWA*. 117:5, 10-17. American Water Works Association.

Mission Bay, San Diego, CA



NUMBERS

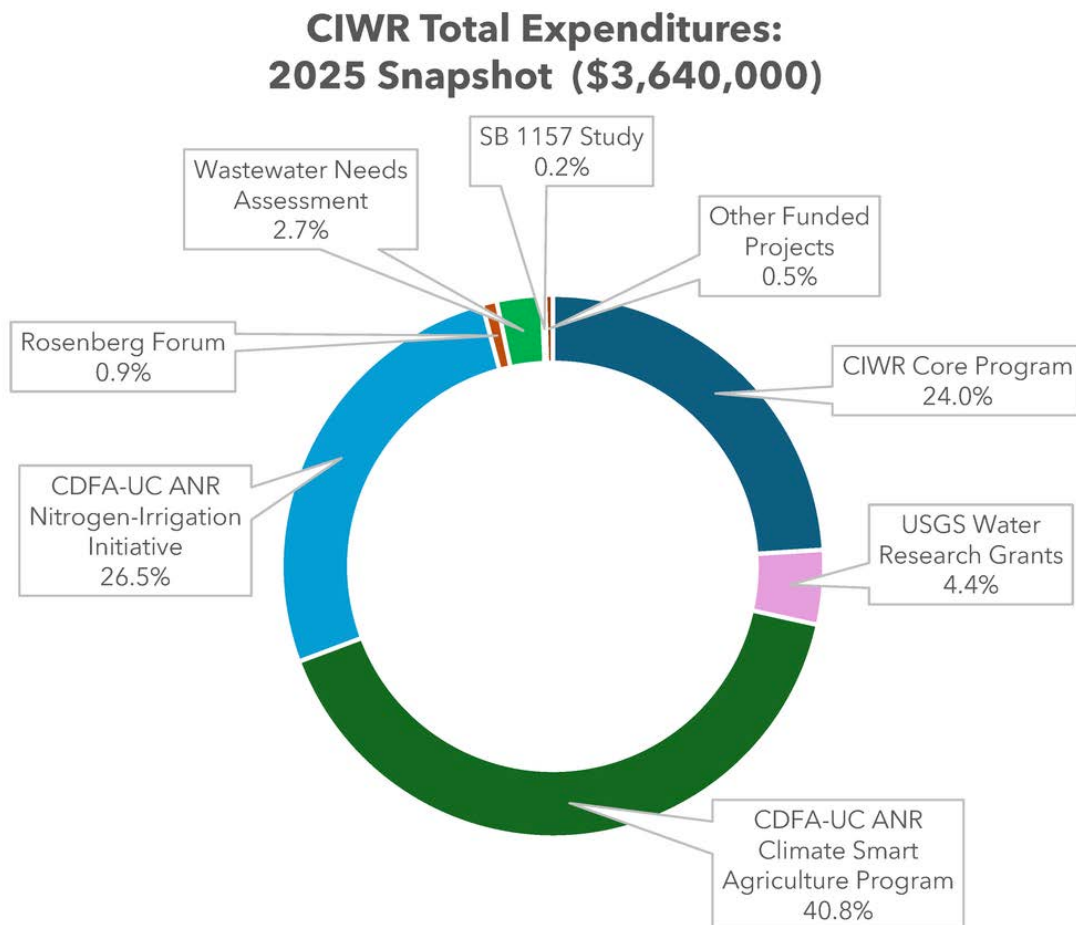
Networks of Collaboration

As a statewide program within the University of California, our staff, students, and fellows are based in counties and at campuses across California to serve communities throughout the state.

31 researchers, educators, students, and fellows

28 counties

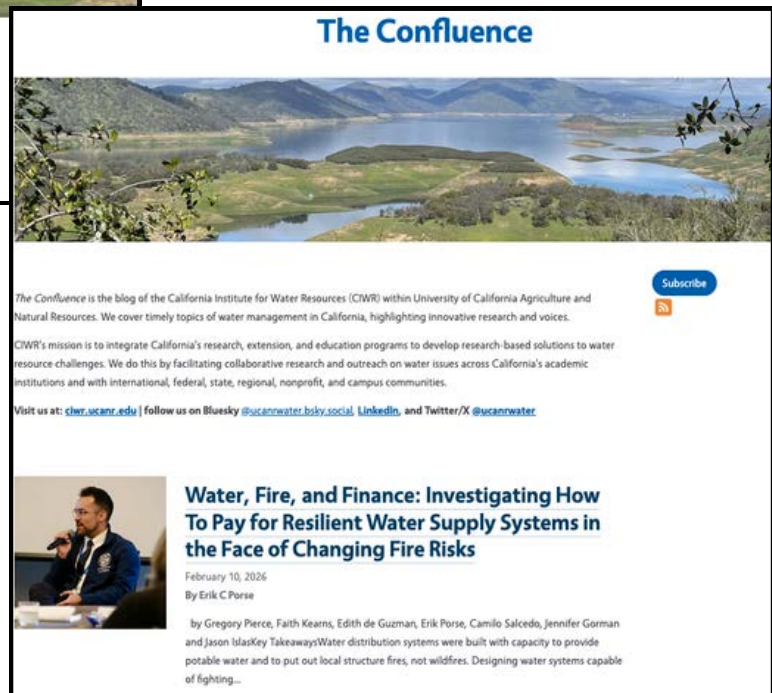
\$3.6 million of state and federal funding for projects throughout California.



COMMUNICATIONS

An Active Voice in California Water

CIWR is a leader in research communications for water management and climate science in California through our website, our blog “The Confluence” and Daniel Swain’s “Weather West” blog, social media, and more.



CIWR's Faculty Affiliate Sam Sandoval Solis maintains the

California Virtual Water Tour

A unique platform for exploring California water management

WEATHER AND WATER EXTREMES

From Applied Research to Mass Audiences

CIWR is a hub within UC ANR for research on weather and climate extremes that drive extreme droughts and floods affecting California's communities, natural and working lands, and water resources. Our work spans research characterizing drivers of hydroclimate extremes to applying climate change models to water systems analysis to public engagement for weather and climate.

Weather and water extremes in a warming California

California is no stranger to extreme weather. The state's water resources infrastructure and policies are fundamentally linked to hydroclimate shifts on time scales ranging from weeks to decades. CIWR's interdisciplinary and cross-institutional weather and climate-related research, which spans topics from reservoir operations, atmospheric river characterization, landscape aridity effects on wildfire, and systems reliability to future precipitation, addresses key knowledge gaps for agencies and the public.

Engaging large audiences on weather, climate, and water

Daniel Swain is a global leader in weather, climate, water, and wildfire-related public engagement and science communication activities. Serving as a media liaison on these topics, In 2025, Daniel gave hundreds of news media interviews and assisted journalists in developing accurate and accessible coverage surrounding California weather and climate-related events, as well as late-breaking research findings. Daniel also offered recurring live, virtual "weather and climate office hours" on YouTube, during which members of the public can interactively engage, and is widely active on other social media channels. Daniel's public engagement portfolio reaches tens of millions annually, including 2 million annual visitors to the [Weather West blog](#) and an overall social media reach of 40 million people.



Weather
West

Weather & Climate
With Dr. Daniel Swain

ALUMNI

Leadership

We all stand on shoulders. CIWR's current programs and projects are a result of a decade of work by its founders:

Doug Parker, *Director Emeritus* (2011-2022)

Faith Kearns, *Research Communications Director* (2013-2023)

CIWR Research Grant Recipients (2011-2026)

Amanda Banet
Amir Haghverdi
Andrew Fisher
Andrew Gray
Brent Haddad
Scott Jasechko
Scott Hauswirth
Carolina Balazs
Haizhou Liu
Daniel Geisseler
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