SECURE WATER FUTURE NEWSLETTER

April - June 2026

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SWF



Highlights

- **Press Release**
  - "How a Sapling and a Viral Candy Made California the World's Pistachio King"
  - "State Board of Food and Agriculture to visit UC Merced on April 7 to hold meeting focusing on agricultural research and innovation"
- **Events**
  - UCOWR 2026 Annual Conference
  - In case you missed it...
    - Field to Lab UCM
  - SEG/AGU Hydrogeophysics Workshop
  - California County Cafe Series
- **Bulletin Board**
- **Research**
  - Nature-based solutions to reduce carbon emissions, control groundwater overdraft, and conserve avian biodiversity with multi-benefit conservation planning- ***Link***
  - Recent publications
- **Team Member Spotlight**
  - Kira Waldman
  - Erika Reynoso

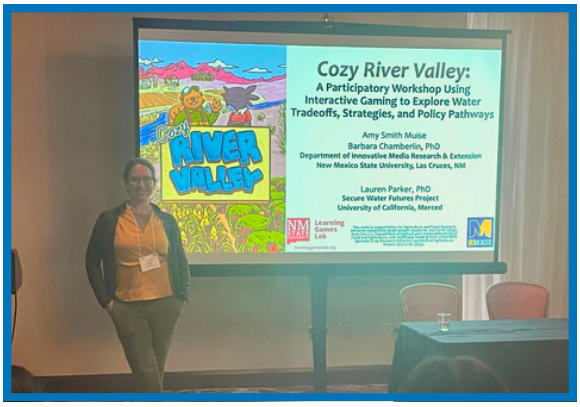
Upcoming Events

SEG/AGU Hydrogeophysics Workshop

July 20-22, 2026

California County Cafe Series - DWR & CSAC

July 29, 2026



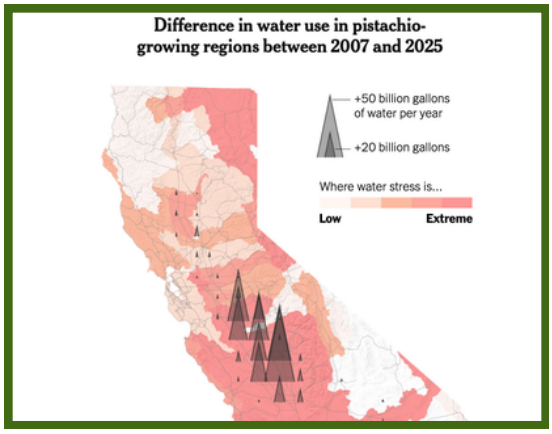
During the UCOWR conference, SWF Team Member Amy Muise led a successful workshop introducing Cozy River Valley

Press Releases

How a Sapling and a Viral Candy Made California the World's Pistachio King

Julie Creswell and Jacqueline Gu, 2026

Pistachio orchards now cover 600,000 acres in California, a dramatic increase from the 100,000 acres recorded in 2001. This expansion offers several benefits. According to Josue Medellin-Azuara, pistachios are comparably more tolerant to droughts than other nuts, allowing farmers to maintain high profits. However, the continued expansion of nut orchards has raised concerns, especially for regions where water is scarce.



Figures for gallons of water were derived from OpenET's estimates for pistachio water use between 2020 and 2023, World Resources Institute

State Board of Food and Agriculture visit UC Merced on April 7 to hold meeting focusing on agricultural research and innovation

April 3, 2026

cdfa CALIFORNIA DEPARTMENT OF FOOD AND AGRICULTURE

The California State Board of Food and Agriculture heard updates from researchers at the University of California - Merced on the campus Agricultural Experimental Station and the Secure Water Future collaborative. President of the California State Board of Food and Agriculture, Don Cameron, expressed how important UC Merced for research in the valley and a "critical partner in the Farms, Food, Future (F3) initiative.

Invited speakers included SWF team members: Joshua Viers, Thomas Harmon, Josué Medellín-Azuara, and John Abatzoglou

SWF in San Antonio



UCOWR 2026 Annual Conference - UCOWR & NIWR

Monday - Wednesday, June 8-10, 2026

The Secure Water Future team presented at several sessions at the University Council for Water Resources in San Antonio in June. Helen Dahlke chaired a session on connecting water measurement with management decisions, with presentations from Ahmed Mashaly, Josué Medellín-Azuara, and Jorge Preciado. Bob Sabie and Alfonso Torres-Rua presented in a session on tools for integrated insights for water measurement, management, and markets, chaired by Katherine Hegewisch.

The Markets Team showed up in force to host a session on market-based strategies for water management, chaired by Ellen Bruno and featuring presentations from Alvar Escriva Bou, Andrew Ayres, and Sarah Null.



In addition, Jack Severson and Lauren Parker presented in separate sessions on experiential learning for building the next generation of water leaders and fostering trust-based professional networks for catalyzing collaborative action, respectively.

Beyond traditional conference presentations, Amy Muise led a successful workshop introducing Cozy River Valley and gaming concepts for teaching about agricultural water management and tradeoffs.

The conference also provided opportunities for the SWF team to strengthen connections. The team took the shared in-person time to collaborate, come up with pithy paper titles, and enjoy San Antonio with friends and colleagues!



APRIL – JUNE 2026

In case you missed it...



Field to Lab by Field Curious and Secure Water Future

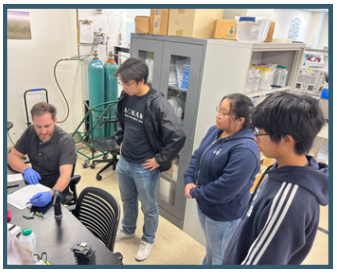
Feb. 2026 - Mar. 2026

In partnership with ¿Field Curious? and Secure Water Future, this workshop gave students the opportunity to conduct a short research project and perform analyses to learn field and lab techniques.

The program provided opportunities for...

Water quality research: students learned how to collect water for quality testing and why water quality is important

Soil science: students tracked soil moisture with sensors made at UCM and spent a day in the lab testing soil for moisture, bulk density, and nutrients





SEG/AGU Hydrogeophysics Workshop

Monday - Wednesday, July 20-22, 2026
Boise, Idaho, USA

ABOUT THE EVENT

The SEG/AGU Hydrogeophysics Workshop is an opportunity for researchers from geophysics and hydrology to share recent advances in the field of hydrogeophysics.

KEYNOTE SPEAKERS

Prof. Andrew Binley:
Professor of Hydrogeophysics, Lancaster University

Dr. Daniella Rempe:
Associate Professor, The University of Texas at Austin

Dr. Dale Rucker
Chief Technical Officer, Certerrra Subsurface-HGI

ADDITIONS

Short Course

Electrical and Hydraulic Properties of Granitic Soils will be held, 18–19 July 2026

Dr. Dale Rucker

Field trip to Dry Creek Experimental Watershed after final day of workshop, 22 July

Upcoming Events

CALIFORNIA DEPARTMENT OF WATER RESOURCES

California County Cafe Series - DWR & CSAC

Wednesday, July 29, 2026

The Department of Water Resources (DWR) and California State Association of Counties will be convening roundtable-style gatherings for county staff. The series is scheduled in response to feedback received from counties in 2023, where counties emphasized the benefits of sharing information and practices.

The purpose of the Cafe Series is to...

- Provide timely, actionable information on drought conditions, funding, and state and partner efforts
- Support implementation of County Drough Resilience Plans
- Strengthen coordination and maintain a connected network

Bulletin

Utah State University

- If you're interested in collaborating with Utah State University on developing factsheets in the semi-arid Southwest, reach out to Dr. Scott Hotaling (*scott.hotaling@usu.edu*) to explore opportunities for engagement.

New Mexico State University

- Dr. Heerema (*rjheerem@nmsu.edu*) has plans for future Extension outreach opportunities to deliver practical research results to New Mexico agricultural stakeholders, including a field day in the Mesilla Valley during the upcoming growing season (tentatively, late August).



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Recent Research

Nature-based solutions to reduce carbon emissions, control groundwater overdraft, and conserve avian biodiversity with multi-benefit conservation planning

Liying Li, Erin Hestir, Joshua H. Viers, José M. Rodriguez-Flores, John T. Abatzoglou, Wendy Haw, Josue Medellin-Azuara (2026) ScienceDirect

Due to climate change, the effectiveness of static reserve systems is decreasing, especially for land and water experiencing temperature and hydrological extremes. Using an integrated framework that couples species distribution models with economic opportunity models to evaluate sustainability and biodiversity outcomes in the California Central Valley, the study highlighted how conservation actions can deliver biodiversity gains and support sustainability.

- Link to publication here

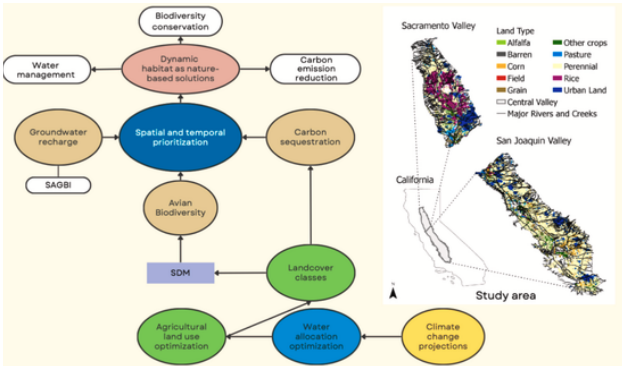


Figure visualizes the methodological workflow and study area. The study area is the Central Valley of California, comprising the Sacramento and San Joaquin Valleys and occupying the central portion of the state (Grey polygon).

More Recent SWF Publications

Dynamic Water Budget Modeling to Fill Knowledge Gaps and Improve Water Management in Arid and Semi-Arid Regions
Ahmed F. Mashaly, Austin M. Hanson, Kevin A. Perez, Alexander G. Fernald (2026) Wiley Online Library

Agricultural Water Manager Perspectives on Water Markets in Utah
Britta L. Schumacher, Matt A. Yost, Jessica D. Ulrich-Schad, Burdette Barker, Sarah E. Null (2026). Wiley Online Library

Rapid contemporary shrinking and loss of ice-capped summits in the western United States
Eric Gilbertson, John T. Abatzoglou, Kathryn E. Stanchak, and Scott Hotaling (2025) Taylor & Francis

Wildfire disasters are increasingly in the news, yet less land is burning globally – here's why
Mojtaba Sadegh, John Abatzoglou and Seyd Teymoor Seydi (2025) The Invading Sea

Navigating Growing Prospects and Growing Pains of Managed Aquifer Recharge
Dave Owen, Helen E. Dahlke, Andrew T. Fisher, Ellen Bruno, Michael Kiparsky (2025) NGWA

Team Member Spotlight



Kira J. Z. Waldman is graduating with her PhD in Hydrology from the University of California, Davis this summer, where she studies groundwater quality, geogenic contaminant mobilization, managed aquifer recharge, and groundwater–surface water interactions under increasingly variable hydrologic conditions. Supported through Secure Water Future, her research integrates geology, hydrogeochemistry, and applied hydrologic science to investigate how groundwater systems and connected watershed ecosystems respond to climate-driven hydrologic change, recharge practices, and evolving groundwater governance frameworks. Her work spans agricultural groundwater systems in California's Central Valley as well as headwater meadow systems in the Sierra Nevada, with a broader focus on watershed resilience in a changing climate.
Beyond research, Kira is passionate about helping people build meaningful relationships with rivers, watersheds, and one another through place-based and experiential learning. She participated in CASA ELE in both 2022 (Tuolumne) and 2025 (Yampa) and served as a graduate student facilitator for the 2023 UC Water Academy Wildfire & Water program focused on disturbance, resilience, and watershed recovery. These experiences contributed to the development of a framework for experiential watershed education centered on immersion, integration, and application in dynamic watershed systems that will be published this summer. She also co-authored a commentary on experiential water education and collaborative leadership in the American West through the CASA ELE program with her incredible 2025 cohort (Cliburn et al., 2026). Building from these experiences, she co-developed and taught a graduate seminar on the Colorado River Basin at UC Davis alongside fellow CASA ELE teammates Lindsay Murdoch and Daniel Rothberg (link to blog post). Kira is especially interested in how watershed-based learning experiences can foster community, stewardship, and motivation as society navigates a new climate reality in water science and management. When she is not researching groundwater or teaching about water systems, she can often be found brewing beer and sharing it with friends somewhere in her favorite home-state playground: the California Sierra Nevada.

Intern Spotlight

Erika Reynoso, as of May 2026, is a recent college graduate with degrees in Psychology and Public Health. She plans to pursue a masters degree in epidemiology and biostatistics following a gap year. As an intern with Secure Water Future, she served as a content writer, creating newsletters, writing annual glossy reports, and managing an article and media dashboard to track relevant Secure Water Future research and media mentions. Beyond content production, Erika assisted students during field-to-lab research prorgrams hosted by Secure Water Future and ¿Field Curious?. This summer, she is designing a "SWF Throughout the Years" retrospective slideshow and assisting with operations for the Super Soaker Water Academy. Erika is deeply interested in how data tracking, creative media, and programs can strengthen community resilience and public health. When not working with Secure Water Future, she can be found hiking or participating in film competitions in the San Joaquin Valley.



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