

**Announcement
and
Call for Papers**

**Managing Limited Groundwater and Surface
Water Supplies to Meet Irrigation Demands
Challenges, Opportunities and Solutions**

13th International Conference on Irrigation and Drainage



USCID

The U.S. society for irrigation and drainage professionals

Cooperating Organization

Groundwater Resources Association of California

**October 26-29, 2021
Sacramento, California**

Introduction

During the last five years, the water supply throughout the Western United States has been subject to an unprecedented level of scrutiny and change. For those responsible for managing water resources, these changes feel more severe than any issues of the previous 100 years. Variability in water supplies combined with decreasing groundwater levels have led to additional regulations that further complicate the task of providing a reliable, sustainable flow of water to users.

For 2020, California has required the production of groundwater management sustainability plans for medium and high priority basins to halt overdraft, as a result of the Sustainable Groundwater Management Act (SGMA) of 2014. The SGMA is the first major statewide legislation to impact the fundamental approach to water supplies since 1914, when the Water Commission Act was approved to create a system of water rights for California.

The regulatory requirements stemming from the SGMA are forcing water managers to modify their water management and planning options. Unfortunately, the regulations have translated into a potential for loss of water of agricultural use. Land fallowing and ag retirement ideas have been floated as solutions, with estimates of taking up to 1,000,000 acres of agricultural land out of production in California alone.

In order to move forward, water managers are looking for innovative solutions to modernize facilities to maximize the performance of their irrigation systems. As districts and local, state and federal government agencies modernize, water users can subsequently modernize local infrastructure to improve performance at the farm-scale, increasing crop production while decreasing irrigation water use. The goal of increasing crop production with less water is needed to move towards a new era of sustainability.

Irrigation and water district managers, as well as government agencies, must consider transitioning from solely water supply management to both supply and demand management, integrating management, infrastructure and governance. To effectively sustain water use and management, while dealing with the complexity of water supply and demand issues, local entities will have to become increasingly involved in decision making, support and communication efforts.

This USCID Conference in Sacramento, California, will provide a unique forum for water district staff, water agency staff, irrigation and drainage specialists, consultants, and academics to share innovative solutions and learn from each other's experiences. This Conference will bring together many water resources professionals with experience and interest in governance, policy, management, financing and technical issues related to sustainable basin management, including the difficult tasks seen in transitioning to supply and demand management. Conference Topics and Sub-Topics are listed on the following pages.

Who Should Attend?

The Conference will provide a forum for water district staff, irrigation and drainage specialists, consultants, equipment suppliers and academics to share innovative solutions and learn from other's experiences. **Water resources professionals from around the world** are also encouraged to attend.

Conference Format

A half-day study tour on Tuesday morning will be followed by lunch and a Plenary Session featuring presentations of broad interest to irrigation managers. Focused oral presentations during **Technical Sessions** and a **Poster Session** will occur on Wednesday and Thursday. Invited speakers will offer their perspectives during meals. The Conference will conclude with a Friday study tour. Receptions, meals, breaks and tours will provide excellent networking opportunities. An **Exhibition** will feature organizations providing products and services related to water resources.

Call for Papers

Abstracts of proposed papers addressing the **Conference Topics** are invited. Abstracts will be accepted for either a 20-minute oral presentation, or for the Poster Session. Conference Topics follow.

Accepted authors will be invited to prepare an electronic version of their paper for the **Proceedings**, which will be distributed following the Conference. Authors are asked to submit a draft manuscript for a peer review. Preparing a paper for the Proceedings is the preferred method of participation, to capture the information presented during the Conference. However, **authors may choose to not prepare a paper for the Proceedings**. If a paper is not prepared for the Proceedings, an abstract with author and co-author information will be included. Authors will also be invited to provide a .pdf version of their oral presentation for inclusion in the post-Conference Proceedings.

Submission of an abstract will constitute an agreement that the author will register for the Conference at the reduced author registration fee, attend the Conference, and make an oral or poster presentation in person. **USCID will not provide funding, nor seek funding from donors or other sources, for authors or other participants to attend the Conference.** Please do not submit an abstract if funding for your participation is unlikely.

Please submit a 250-300 word abstract by **June 4, 2021**, with this information at the top of the page:

- the paper title
- author and co-author names and affiliations
- address, phone, fax and e-mail for each author

Your abstract should be submitted as an attached .doc or .docx file to uscid@aol.com. Use the senior author surname as the file name, e.g., jones.doc. This Call is also available at www.uscid.org/21caconf.html.

2021 Sacramento Conference Topics and Sub-Topics

1. Groundwater

- ◆ *Conjunctive Use*
- ◆ *Recharge*
- ◆ *Storage*
- ◆ *Groundwater/Surface Water Connectivity*
- ◆ *Managed Aquifer Recharge*
- ◆ *Characterizing Irrigation Canal Leakage and Groundwater Recharge*
- ◆ *Groundwater Rights*
- ◆ *Sustainable Groundwater Management Act*
- ◆ *Groundwater Wells — well design, rehabilitation, aquifer testing, borehole geophysics, borehole cameras*
- ◆ *Isotope Analysis*
- ◆ *Safe Yield/Sustainable Yield*
- ◆ *Groundwater Quality Issues, including saline intrusion*
- ◆ *Groundwater Pumping and Subsidence*
- ◆ *Use of Geophysics for Aquifer Characterization*
- ◆ *Modeling*
- ◆ *Produced Water*
- ◆ *Case studies*

2. Basin Water Management/ Governance/Jurisdictional Issues

- ◆ *Basin Supply and Demand Management*
- ◆ *Regional Management Governance Structures (JPAs, MOUs)*
- ◆ *Accounting and Enforcement of Water Use*
- ◆ *Implementing Sustainable Groundwater Basin Rules*
- ◆ *Groundwater Sustainability Agencies*
- ◆ *Sustainable Groundwater Management Act*
- ◆ *Groundwater Sustainability Plans*
- ◆ *Case Studies*

3. Competing Agricultural, Urban and Environmental Uses

- ◆ *Shared Facilities*
- ◆ *Surface Water/Groundwater Exchanges*
- ◆ *Recycling/Oil Field Produced Water*
- ◆ *Desalinization and Waste Water Reuse*
- ◆ *Legal and Political Issues/Water Rights*
- ◆ *Case Studies*

4. Basin Water Planning

- ◆ *Integrating Regional Water Resources*
- ◆ *Integrated Water Planning and Implementation*
- ◆ *Shared Storage and Conveyance Projects*
- ◆ *Reservoir Management and Operation Modeling*
- ◆ *Watershed Management/Climate Change Impacts*
- ◆ *Stakeholder Involvement*
- ◆ *Case studies*

5. Water Supply and Demand Management

- ◆ *Urban and Agricultural Irrigation Conservation*
- ◆ *More Crop per Drop Consumed*
- ◆ *On-Farm Irrigation Scheduling*
- ◆ *Deficit Irrigation/Drought Management*
- ◆ *Mobile Labs/Assistance to Growers*
- ◆ *Salinity and Water Quality Management*
- ◆ *Case studies*

6. Water Transfers

- ◆ *Water Rights Concerns on Water Transfers*
- ◆ *Improvements in Ag/Urban Water Transfers*
- ◆ *Interstate Compacts*
- ◆ *Endangered Species Concerns/Constraints*
- ◆ *Water Markets and Water Pricing*
- ◆ *Social Equity of Transfers*
- ◆ *Environmental Permitting and Policy*
- ◆ *Case Studies*

7. Surface Water Supply

- ◆ *Impacts of Climate Change*
- ◆ *Drought*
- ◆ *Modeling*
- ◆ *New Supplies*
- ◆ *Basin Planning*
- ◆ *Irrigation with Effluents, Reclaimed or Saline Water*
- ◆ *Water Archives*
- ◆ *Conservation*
- ◆ *Weather Modification*
- ◆ *Impacts of Urban Drainage on Water Supply*
- ◆ *Improved Irrigation Efficiency*
- ◆ *Case studies*

8. Conjunctive Use of Groundwater and Surface Water

- ◆ *Aquifer Recharge/Storage/Recovery*
- ◆ *Upgrading Conveyance Infrastructure*
- ◆ *Irrigation and Drainage System Improvements*
- ◆ *Water Banking/Storage*
- ◆ *Groundwater Pumping Regulation*
- ◆ *Augmentation of Supply*
- ◆ *Municipal Water Reuse*
- ◆ *Return Flow Management*
- ◆ *Case Studies*

9. Technologies

- ◆ *Evapotranspiration and Consumptive Use*
- ◆ *Instrumentation / Sensors*
- ◆ *Flow Measurement*
- ◆ *SCADA, Monitoring, and Water Balance Accounting*
- ◆ *Operational Reporting on Water Rights Changes*
- ◆ *Remote Sensing and GIS/GPS*
- ◆ *Modeling and Decision Support Systems*
- ◆ *Precision Irrigation*
- ◆ *Smart Phone/Mobile Device Applications*
- ◆ *Small-Scale Irrigation Technologies*
- ◆ *Case Studies*

10. Finance and Economics

- ◆ *Economic Impacts of Supply Shortages*
- ◆ *Economic Benefits of Infrastructure*
- ◆ *Economic Benefits of Water Conservation*
- ◆ *Infrastructure Risk Management*
- ◆ *Bonding and Other Financing Vehicles*
- ◆ *Cost Sharing Challenges and Benefits*
- ◆ *Challenges of Rate Increases*
- ◆ *Case Studies*

11. Ag/Urban Environmental Conflicts

- ◆ *Environmental Flows*
- ◆ *Inter-State Compacts*
- ◆ *Tribal and Treaty Obligations*
- ◆ *Groundwater Management Issues*
- ◆ *Ag to Urban Transfers*
- ◆ *Economic Future of Groundwater Mining*
- ◆ *Case Studies*

12. Policy

- ◆ *Funding Irrigation Operations and Maintenance and Management*
- ◆ *Conversion of Land and Water from Agricultural to M&I Use*
- ◆ *Dealing with Aging Irrigation Infrastructure — Impacts, Rehabilitation and Replacement, and Funding*
- ◆ *Adapting to Declining Water Supplies for Irrigation*
- ◆ *What's Next for Water Conservation*
- ◆ *Interstate/Transbasin Water Transfer Issues*
- ◆ *Case Studies*

Planning Committee Members

David E. Bradshaw, Co-Chair, Metropolitan Water District of Southern California, Sacramento, California

Randy Hopkins, Co-Chair, Provost & Pritchard Consulting Group, Clovis, California

Stuart Styles, Co-Chair, California Polytechnic State University, San Luis Obispo, California

Ricardo Aguirre, WEST Consultants, Inc. Tempe, Arizona

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Tony Wahl, Bureau of Reclamation, Denver, Colorado

Conference Schedule

Abstracts Due	June 4, 2021
Notify Authors	June 18, 2021
Preliminary Papers Due	October 15, 2021
Conference	October 26-29, 2021
Final Papers Due	November 30, 2021



USCID

The Mission of the United States Committee on Irrigation and Drainage is to promote progressive and sustainable irrigation, drainage and flood control practices in support of food and fiber production and public safety, recognizing that sustainability embodies economic, social and environmental goals.

USCID is a nonprofit professional society whose members share an interest in the planning, design, construction, operation and maintenance of irrigation, drainage and flood control works; agricultural economics; water law; and environmental and social issues affecting irrigated agriculture.

USCID is the United States member of the **International Commission on Irrigation and Drainage** (ICID), an association of more than 70 countries. Founded in 1950, ICID is a non-governmental organization dedicated to the sound and responsible management of water resources. Its central purpose is to promote the development and application of the sciences and techniques of irrigation, drainage, flood control and river channel stabilization.

USCID publishes the *USCID Newsletter*, proceedings of USCID meetings and special reports; organizes and sponsors periodic technical meetings and conferences; and distributes ICID publications. Since 1986, USCID has organized more than 50 regional, national and international meetings throughout the U.S. These meetings address contemporary issues affecting irrigated agriculture, offering a multi-disciplinary evaluation of problems and solutions.