

2023 UCOWR/NIWR Annual Water Resources Conference Preliminary Program - subject to change

(only presenters are listed; co-authors will be listed in the Event App Program and abstracts will be available for viewing)

Blue = Special Session

Orange = Interactive Session (Panel, Workshop, Participatory)

Gray = General Technical Session

* = student involved in the oral student presentation competition.

Presenters - Use 'Ctrl F' to search for your name and find your place in the program.

Monday, June 12 (Pre-conference Field Trips)

8:30 AM - 1:30 PM Jack's Solar Garden

1:00 PM - 4:00 PM Cache la Poudre River History Tour

1:00 PM - 4:00 PM CSU Hydraulics Laboratory Tour

[Click here to visit the website for more info on these opportunities! Sign up during registration.](#)

Tuesday, June 13

7:30 AM - 3:30 PM Registration

7:30 AM - 8:30 AM Breakfast

8:30 AM - 9:50 AM Plenary Session I - **Crystal Tulley-Cordova**, Navajo Nation Dept. of Water Resources; **Jason Robison**, University of Wyoming College of Law

9:50 AM - 10:10 AM Break

10:10 AM - 11:50 AM **Concurrent Sessions I (90 minutes) (Moderator)**

Session 1 (Wagner et al.) New Strategies for Managing Irrigation Water Depletion 1 (Moderator TBD)

10:10 AM	Case Study Comparing Flow Meter Volumes to Changes in Depth to Groundwater of the Ogallala Aquifer Among Seven Irrigation Wells Near Bushland Texas	David Brauer
10:25 AM	The Irrigators' Dilemma: What Games Teach Us About Conserving Ground Water	Brent Auvermann
10:40 AM	The Effects of Producer-initiated Groundwater Conservation on the Hydrology of the Ogallala Aquifer in Northwest Kansas	Bridget Guerrero
10:55 AM	Estimating the Impact of Groundwater Allocations on Irrigation Behavior and Energy Use: Implications for Groundwater Policy Design	Karina Schoengold
11:10 AM	USDA-NIFA's Water Q&Q: A Broad-based Program Intended to Reduce the Water Footprint of Agriculture	James Dobrowolski
11:25 AM	It's All Over but the Drying: Transitioning Land-use Paradigms in the Southern Ogallala Region	*Edward Rhodes

Session 2 Connect with Sea Grant to Leverage and Amplify Your Water Resources Work

10:10 AM Participatory Session led by **Karen Bareford**

TUESDAY

Session 3	(Megdal/Kartha) Building Water Resiliency in Arizona (Moderator TBD)	
10:10 AM	Panel Discussion Panelists: Sharon Megdal, Rebecca Bernat, Kristen Johnson, Vineetha Kartha, Kathryn Sorenson	
Session 4	(Braithwaite/Buck) Valuing Environmental and Human Health Benefits in Water Management (Moderator TBD)	
10:10 AM	The Effects of Extreme Weather on Interconnected Agricultural and Environmental Systems	Steven Buck
10:25 AM	The Value of Forests in Providing Drinking Water: A Natural Capital Approach	Travis Warziniack
10:40 AM	Panel Discussion Panelists:	
Session 5	(Heinse/Godwin) Addressing the Educational Gaps: Are Water Education Programs in the Western States Creating a Sufficient Workforce for a Climate-changed Agriculture? (Moderator TBD)	
10:10 AM	Talks followed by Panel Discussion Panelists: Robert Heinse, Derek Godwin, Holly Nelson, Eric Dunker, James Ekins	
Session 6	Water Quality 1 (Moderator TBD)	
10:10 AM	SipSafe Program: Findings from Two Years of Lead Testing in Drinking Water at Child Care Facilities	Jason Barrett
10:25 AM	MAppFx: Production Well Nitrates Northern Guam Lens Aquifer	Nathan Habana
10:40 AM	Flood Management for Private Wells: Utilizing QMRA and a Survey to Understand Well User Health Risks and Perceptions after Hurricane Harvey	Anna Gitter
10:55 AM	Critical Zone Processes Shaping Stream Water Temperature in a Karstic Watershed	*Lexie Orr
11:10 AM	Exploring the Controlling Factors on the Process of Salt Transport within the Upper Colorado River Basin Using APEX-MODFLOW-Salt	Zaichen Xiang
11:25 AM	Characterization of the Fate and Transport of Salts in Colorado River Basin using Machine Learning Approaches	*Mohamed Fawzy Mahmoud

11:50 AM - 1:00 PM UCOWR Delegate Luncheon / Everyone else Lunch on their own

1:00 PM - 2:30 PM Concurrent Sessions II (90 minutes) (Moderator)

Session 7	(Wagner et al.) New Strategies for Managing Irrigation Water Depletion 2 (Moderator TBD)	
1:00 PM	The Irrigation Innovation Consortium: A Five-Year Retrospective	Amy Kremen
1:15 PM	Sustainability of Irrigated Agriculture Under Changing Climatic Conditions	Scott Bradford
1:30 PM	Panel Discussion: Addressing Aquifer Depletion in the Lower Mississippi River Basin through the National Center for Alluvial Aquifer Research Panelists: TBD	Drew Gholson

TUESDAY

Session 8 (Dobrowolski) Best of the Best: Impact, Outcomes, and Challenges from the USDA-NIFA Water for Agriculture CAP Grants (Moderator TBD)		
1:00 PM	Building and Researching Stakeholder Engagement for Water Quality and Quantity Management: The Water for Ag Project	Kathryn Brasier
1:15 PM	Transforming Drainage: Storing Water in the Landscape to Increase Resiliency and Reduce Nutrient Losses	Jane Frankenberger
1:30 PM	Stakeholder-Driven Modeling in Support of Groundwater Sustainability: the Floridan Aquifer Collaborative Engagement for Sustainability (FACETS) Project	Wendy Graham
1:45 PM	The Future of Water in a Desert River Basin Facing Climate Change and Competing Demands: A Holistic Approach to Water Sustainability in Arid and Semi-Arid Regions	Alex Mayer
2:00 PM	Engaged Research to Inform Management and Governance of the Ogallala Aquifer	Meagan Schipanski
2:15 PM	Developing and Promoting Water-, Nutrient-, and Climate-smart Technologies to Help Agricultural Systems Adapt to Climate and Societal Change	Bruno Basso
Session 9 (Callaway/Buck/Warziniack) Interstate Collaboration and Barriers to Transboundary Water Management (Moderator TBD)		
1:00 PM	Panel Discussion Panelists: Beth Callaway, Steven Buck, Stephanie Nummer-Fantozz, Rachele Eby, Amy Shallcross	
Session 10 (Robison/Hansen) Management in the Colorado River Basin (Moderator TBD)		
1:00 PM	Colorado River Basin: Economic Incentives and Urban & Agricultural Water Use	Bonnie Colby
1:15 PM	Rethinking Our Relationship with Nature: The Binational Restoration Process for the Colorado River Delta	Osvel Hinojosa-Huerta
1:30 PM	Cornerstone at the Confluence: Navigating the Colorado River Compact's Next Century	Jason Robison
1:45 PM	Arizona Colorado River Visualization Enterprise	Kathryn Sorensen
2:00 PM	Panel Discussion	
Session 11 (Baker/Firth) Strategies to Enhance Farmer-led Conservation Delivery and Adoption for Nutrient Loss Reduction (Moderator TBD)		
1:00 PM	Farmer Engagement through Action	Rachel Curry
1:15 PM	Farmer-Led Watershed Groups: Key Resources and Partnerships for Success	Mike Daniels
1:30 PM	Expanding Capacity and Potential: Mini-grant Programs to Jumpstart Local Efforts	Lexi Firth
1:45 PM	Effectiveness of Farmer Outreach and Engagement Methods to Encourage Cross-basin Idea Pollination	Amanda Gumbert
2:00 PM	Evaluative Thinking: A 'Best Management Practice' for Effective Programs	*Brittany Isidore
2:15 PM	One Good Idea, the Not-Quite-YouTube for Conservation Farming Practices	Jenny Seifert
Session 12 Water Quality 2 (Lucas Gregory)		
1:00 PM	Edge of Field Runoff Analysis following Grazing and Silvicultural Best Management Practices in Northeast Texas	Lucas Gregory
1:15 PM	New Practices for Water Quality Enhancement in Missouri	Gurbir Singh

TUESDAY

1:30 PM	Monitoring Algae Blooms in Small Lakes Using Drones: A Case Study in Southern Illinois	Ruopu Li
1:45 PM	A Recurrent Neural Network Approach to Predict Harmful Algal Bloom in a Lake Using Continuous High Frequency Data	*Ibrahim Busari
2:00 PM	Thresholds and Hierarchical Structure in Cyanobacterial Harmful Blooms, Lake Fayetteville, Four Years of Data	Brian Haggard
2:15 PM	Occurrence and Characteristics of Microplastics in Urban Rainwater Runoff and in Oysters from the Mississippi Gulf Coast	James Cizdziel

2:30 PM - 2:50 PM Break**2:50 PM - 4:20 PM Concurrent Sessions III (90 minutes) (Moderator)****Session 13 (Wagner et al.) New Strategies for Managing Irrigation Water Depletion 3 (Moderator TBD)**

2:50 PM	State of Irrigation Systems in Kansas: Survey Report	Jonathan Aguilar
3:05 PM	Improving Estimates of Corn Evapotranspiration using Remote Sensing-based Crop Coefficients	Allan Andales
3:20 PM	Dynamic Hydro-Economic Optimization Model for Sustainable Agricultural Water Management: A Case Study of Oklahoma Panhandle Region	Yiqing Yao
3:35 PM	Linking Irrigation Water Management to Ecosystems Services in a Semi-arid Environment	Abia Katimbo
3:50 PM	Sustaining Irrigated Agriculture in the Middle Rio Grande: Insights from Accounting for Climate Change and Agricultural Management Interventions	Ali Mirchi
4:05 PM	Mismanaging Irrigation because of Heat-related Visual Crop Cues: Evidence from the Mississippi Delta	Nicolas Quintana

Session 14 (Buck/Hansen) Planning for a Future with Uncertain Climate (Moderator TBD)

2:50 PM	Collaborative Modeling as a Mechanism for Addressing Water Uncertainty	Kristi Hansen
3:05 PM	Modeling Uncertainty in the Effects of Climate Change on Agricultural Land and Water-use.	*Munib Inam
3:20 PM	Exploring the Use of Decision Making under Deep Uncertainty for Long-Term Planning in the Colorado River Basin	Rebecca Smith
3:35 PM	Panel Discussion	

Session 15 (Hrozencik/Potter/Bruno) The Economics of Water Scarcity in the Western U.S. (Moderator TBD)

2:50 PM	An Agent-Based Model of Agricultural Water Markets under Appropriative Rights and Droughts	*Reetwika Basu
3:05 PM	Anticipatory Effects of Regulation: The Case of California's Groundwater	Ellen Bruno
3:20 PM	Electricity Demand by the Irrigated Sector in Response to Climatic Shocks	Aaron Hrozencik
3:35 PM	Impacts of Water Scarcity on Human Respiratory Health in the Western United States	Gabriela Perez-Quesada
3:50 PM	The Economic Implications of Declining Snowpack for Tribal and Irrigated Agriculture Water Supplies	Nicholas Potter
4:05 PM	Paper Water, Wet Water, and the Recognition of Indigenous Property Rights	Leslie Sanchez

TUESDAY**Session 16 Lightning Talks (Moderator TBD)**

2:50 PM	Comparing Climate Signals in Delta Blue Intensity and Ring-width Tree-ring Chronologies of Yellow Pines (<i>Pinus jeffreyi</i> and <i>P. ponderosa</i>) Near Lake Tahoe in the Sierra Nevada, USA	Franco Biondi
2:55 PM	Riverine Fluxes of CO ₂ and CH ₄ of a Regulated River	Fernando Rojano
3:00 PM	Inter-Professional Education for Drinking Water-Related Public Health Management	Matthew O. Gribble
3:05 PM	Public Surveys Expose the Disconnect between Perceived Contaminant Sources and Water Quality Data in Arequipa, Peru.	Gary Vanzin
3:10 PM	A Just Transition Towards Regenerative Community Infrastructures	*Laura Supple
3:15 PM	From High in the Sky to Deep Underground: Using Remote Sensing to Develop Estimates of Groundwater Pumping in the Upper Colorado River Basin	*Nicholas Jadallah
3:20 PM	Question and answer with first group	
3:30 PM	Removal of Dyes and Emerging Contaminants by 2-Dimensional Porous Nano-materials	*Bhavya Joshi
3:35 PM	Water Quality Impacts of Water and Sediment Control Basins (WASCoBs) in Central Illinois	*Sara Lambert
3:40 PM	Evaluating WASCoB's Influence on Water Quality, Phosphorus, and Sediment Trapping	*Sierra Mertz
3:45 PM	Wetland Accretion Rate Model of Ecosystem Resilience (WARMER) and Its Application to Coastal Transportation Infrastructure	*John Anderson
3:50 PM	Evaluating the Impacts of Cattle Grazing Management on the Water Quality of Surface Runoff in Central OK	Austin Phillippe
3:55 PM	Identifying Emerging Wildfire Related Concerns for Water Utility and Water Managers in the Pacific Northwest	Julie Padowski
4:00 PM	Water Footprint Assessment of Water Sensitive Urban Design Plans to Meet the Challenges of Climate Change	*Rashid Farooq
4:05 PM	Question and answer with second group	

Session 17 Science Communications

2:50 PM	Workshop Facilitators: Amy Kremen, Ashley Patterson
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2:50 PM - 4:20 PM Field Trip: CSU Library, Water Resources Archive – Patty Rettig**4:20 PM - 5:20 PM Career Panel for Student and Young Professionals****5:30 PM - 7:30 PM Welcome Reception and Poster Session**

Wednesday, June 14

- 7:30 AM - 3:30 PM Registration
- 7:30 AM - 8:30 AM Breakfast -Roundtable Discussions
- 8:30 AM - 9:20 AM Plenary Session II - **David DeWalle**, Penn State University, Warren Hall winner; **Emile Elias**, USDA Southwest Climate Hub
- 9:20 AM - 9:40 AM Break
- 9:40 AM - 10:40 AM **Concurrent Technical Sessions IV (60 minutes) (Moderator)**

Session 18 (Wagner et al.) New Strategies for Managing Irrigation Water Depletion 4 (Moderator TBD)		
9:40 AM	Identifying Barriers to Adoption of Cover Crops in the Southern Great Plains	Allen Berthold
9:55 AM	Climate-smart Agriculture to Conserve Water Resources and Sustain Crop Production in the Texas Rolling Plains	Paul DeLaune
10:10 AM	Evaluating the Impact of Regenerative Agricultural Practices on Soil Health and Water Quality in Altus, Oklahoma	*Jack Edwards
10:25 AM	Profitability Comparisons of Regenerative Agricultural Practices in Deficit-Irrigated Systems	Donna McAlister
Session 19 (Kisekka) Southwest Groundwater and Sustainable Agricultural Systems under a Changing Climate 1 (Moderator TBD)		
9:40 AM	Impact of Soil Health Management Practices on Soil Hydraulic Properties in Irrigated Agriculture: A Meta-analysis	Sangeeta Bansal
9:55 AM	Impacts of Soil Health Practices on Soil Moisture Retention in an Arid Agroecosystem	*Ibukunoluwa Fademi
10:10 AM	Quantifying Long-Term Regional Groundwater Quality Benefits from Agricultural Practices	Thomas Harter
10:25 AM	Southwest Groundwater and Agricultural Sustainability	Isaya Kisekka
Session 20 (Tracy/Cabot) Remote-Sensing Satellite Data and Modeling to inform Intrastate Water Conservation Programs in the Colorado Basin (Moderator TBD)		
9:40 AM	Panel Discussion Panelists: Perry Cabot, John Tracy, Charlie Ferrantelli, Brenna Mefford, James Prairie, Sara G. Larsen, Forrest Melton	
Session 21 Human Dimensions 1 (Moderator TBD)		
9:40 AM	Community Response to Floods in the Cache River Watershed of Southern Illinois: Application of a Proposed Framework for Assessing General and Specified Community Resilience	*Raymond Bieri
9:55 AM	Insights and Program Improvements gained from Four Years of SC Adopt-a-Stream's Community Scientist Knowledge and Motivation Surveys	Katie Callahan
10:10 AM	Irrigator Endowment Effects vs. Non-pecuniary Benefits: Water Market Experiments in Washington State	*Suhina Doel
10:25 AM	Urban Irrigable Lands Index (UILI)- Land Use Analysis of Integrated Land and Water Management in the Colorado River Basin	Gretel Follingstad

WEDNESDAY**Session 22 Water Resources Management (Moderator TBD)**

9:40 AM	A Self-Assessment Framework and Rating System for One Water Cities	*Donya Dezfooli
9:55 AM	Platform Template for Easy Deployment and Operation of Sensors in Support of Water Resources Management Projects	Ciprian Popoviciu
10:10 AM	Characterization of the Relationship between Water Use Intensity and Land Use Planning	*Mahshid Mohammad Zadeh
10:25 AM	Improving SWAT's Irrigation Algorithm to Facilitate Water Management and Conservation in Irrigated Regions	Zaichen Xiang

Session 23 Examining the Right-of-Way Challenges for Navajo Nation, USA, Indian Allotments in Connections to the Navajo-Gallup Water Supply Project

9:40 AM Participatory Session led by **Bernadette Romero-Benally**

10:40 AM - 11:00 AM Break

11:00 AM - 12:00 PM Concurrent Technical Sessions V (60 minutes) (Moderator)**Session 24 (Wagner et al.) New Strategies for Managing Irrigation Water Depletion 5 (Moderator TBD)**

11:00 AM Panel Discussion: Overcoming the Challenges of Regenerative Ag Systems in Water-Limited Environments
Panelists: **Katie Lewis, Paul DeLaune, Kevin Wagner, Allen Berthold**

Session 25 (Kisekka) Southwest Groundwater and Sustainable Agricultural Systems under a Changing Climate 2 (Sharon Megdal)

11:00 AM	Innovative Educational Modules for Sustaining Groundwater and Irrigated Agriculture in the Southwest	Shannon Norris-Parish
11:15 AM	Selecting Cover Crop mixes for Water-limited Environments of Southwestern US	Debankur Sanyal
11:30 AM	Streamflow Simulation using SWAT Model for Rio Grande Watershed	*Sumeet Sharma
11:45 AM	Exposure to Climate Stressors for California Winegrapes under a Changing Climate	Ning Zhang

Session 26 Policy (Moderator TBD)

11:00 AM	Blue Carbon and Beyond: Challenges and Opportunities for Landowners	Naveen Adusumilli
11:15 AM	The Potential of Combining Water Banks with Virtual Water to Increase Water Availability in the Intermountain West	Christopher Lant
11:30 AM	Opportunities and Potential Conflict with Technological Advances in Remote Sensing in Groundwater Governance	Jacob Petersen-Pearlman
11:45 AM	Assessing Stakeholder Perceptions of Water Sharing Arrangements in the South Platte River Basin	*Jesse Jo Rego

Session 27 Watershed Management 1 (Moderator TBD)

11:00 AM	Evaluation of Post-wildfire Seeding Treatment for Rangeland Restoration in the Colorado River Basin	Tadesse Abitew
11:15 AM	Assessment of Land Treatment Practices for Reducing Wind-driven Erosion in Rangeland Landscape in the Western U.S. using the APEX Model	*Gunho Cho

WEDNESDAY

11:30 AM	Watershed Protection Plan Improved with Bacterial Source Tracking Data: Adaptability in Implementation	Annalee Epps
11:45 AM	Trends in the Eucha-Spavinaw Watershed Show Management Limitations to Reducing In-stream Nutrient Concentrations	*Erin Grantz
Session 28 (Gribble) Water Resources Use and Environmental Change: Emerging Challenges for Environmental Health Equity (Moderator TBD)		
11:00 AM	Water Contaminants: A Potentially Modifiable Risk Factor for Pediatric Cancer in Nebraska	Azar Abadi
11:15 AM	Human Adaptation to Deteriorating Water Quality from Over-exploited Aquifers	Peter Knappett
11:30 AM	Nationwide Inequities in Regulated Drinking Water Contaminants at Various Spatial Resolutions	Anne Nigra
11:45 AM	Groundwater Resources and Arsenic: Exploring Potential Links between Water Scarcity and Arsenic Concentrations in the San Luis Valley, Colorado	Ryan Smith
Session 29 Extension (Moderator TBD)		
11:00 AM	Colorado's Agricultural Water Quality Program Outreach and Extension	*Christina Welch
11:15 AM	Improving Surface Water Quality in Texas Through Public Outreach and Education	Leanne Wiley
11:30 AM	Tapping the Well that is Private Property to Address Community-Scale Challenges	Andrea Ludwig
11:45 AM	Enhancing Producer Knowledge and Adoption of Irrigation Water Management Practices Through Education in the Mississippi Delta	Dillon Russell

12:00 PM - 1:50 PM Awards Luncheon**2:00 PM - 3:15 PM Concurrent Technical Sessions VI (75 minutes) (Moderator)**

Session 30 (Wagner et al.) New Strategies for Managing Irrigation Water Depletion 6 (Moderator TBD)		
2:00 PM	Effects of Irrigation Methods on Watermelon Production and Water Use Efficiency in the Texas High Plains	Andrea Leiva Soto
2:15 PM	Challenges in Obtaining a Water Budget for a Tailwater System in Sunflower County, MS	Amanda Nelson
2:30 PM	Effects of Partial Root-zone Drying (PRD) Technique and Strategic Deficit Irrigation on Cotton Yield in Central High Plains	Jonathan Aguilar
2:45 PM	Center Pivot Water Allocation Strategies Under Limited Irrigation	Robert Schwartz
3:00 PM	Improve Yield and Water Use Efficiency in Delayed-planting Corn under Limited Irrigation	Qingwu Xue
Session 31 (Paige/Fernald) Hydrologic Processes and Human Water Systems (Moderator TBD)		
2:00 PM	Systems Approach to Understanding Human-Water Interactions	Thushara Gunda
2:15 PM	Key Socio-Institutional Drivers of Human-Water Systems in Western Watersheds	Jamie McEvoy
2:30 PM	Simplifying the Complex: Indicators to Characterize Socio-hydrologic Systems	Fabian Nippgen
2:45 PM	Key Drivers of Watershed Biophysical Processes in Western Watersheds	Carlos Ochoa
3:00 PM	Discussion	

WEDNESDAY

Session 32	Smart Irrigation: Upskilling Our Workforce using an Online Micro-credential, Kit-based Approach for Teaching Irrigation Fundamentals and Internet-of-Things Sensor Technology	
2:00 PM	Participatory Session led by Jay Ham (Deana Namuth-Covert, Allan Andales, Nathan Clark, Kellie Enns, Jill Zarestky, Jennifer Martin, Ian Aksland)	
Session 33	Economics 1 (Moderator TBD)	
2:00 PM	Past is Prologue: The Effect of Yesterday's Adverse Weather on Agricultural Risk Management Today	*Calvin Bryan
2:15 PM	A Simple Method of Water Valuation for Climate Planning	Frank Ward
2:30 PM	The Role of Off-season Precipitation and Irrigation Water Use in Groundwater Sustainability	Amer Al-Sudani
2:45 PM	A Spatiotemporal Analysis of Livestock Production in the Texas High Plains and Southern Ogallala Aquifer Depletion	Lal Almas
3:00 PM	Statistical Investigation of Economic & Climate Signals in Groundwater Data	Bonnie Colby
Session 34	Watershed Management 2 (Moderator TBD)	
2:00 PM	Assessing Indicators of Forest Restoration Success across a Chronosequence of Afforested Cropland in Cypress Creek National Wildlife Refuge	*Maggie Herrmann
2:15 PM	Bridging The Gap Between Floodplain Management & Watershed Management	Michael Kuitu
2:30 PM	Linking Climate, Forests, and Limu: Examining the Influence of Environmental Change on Groundwater Dependent Ecosystems in Keauhou	Leah Bremer
2:45 PM	Three Rivers QUEST: Success in Collaboration	Melissa O'Neal
3:00 PM	The Watersheds and Landscapes of the Delaware Basin and Estuary: 2023 Status and Trends	Andrew Homsey

2:00 PM - 3:15 PM Field Trip: CSU Library, Water Resources Archive – Patty Rettig

3:15 PM - 3:35 PM Break

3:35 PM - 4:50 PM

Concurrent Technical Sessions VII (75 minutes) (Moderator)		
Session 35	(Kauffman) East is East and West is West: Interstate River Basin Governance of Drought and Flood in the USA (Moderator TBD)	
3:35 PM	Panel Discussion Panelists: Sharon Megdal, John Tracy, Jerry Kauffman	
Session 36	Workshop: A Mobile, Hands-On Soil Health Testing Kit for Producers to Increase Conservation Adoption in Semi-Arid Production Regions	
3:35 PM	Workshop led by Joseph A. Burke, Katie L. Lewis, and Jourdan M. Bell	
Session 37	(French/Brown) The STEPP Initiative: Standardizing Stormwater BMP Efficiency Studies and Implementing a National Verification Program (Moderator TBD)	
3:35 PM	Panel Discussion Panelists: Chris French, Seth Brown, TBD	

WEDNESDAY

Session 38	(Colby) Offering Water Resource Economics for Non-Economists: University & Non-Academic Settings (Lynne Lewis)	
3:35 PM	Panel Discussion Panelists: Bonnie Colby, Mehdi Nemati, Ariel Dinar, Kristi Hansen	
Session 39	Engineering (Moderator TBD)	
3:35 PM	Improved Characterization of Single-family Residential Water Uses with High-resolution Flow Monitoring	*Cibi Vishnu Chinnasamy
3:50 PM	Developing Low-cost, Internet-of-things Sensors for Measuring Soil Salinity: Obstacles, Options, and Opportunities	Jay Ham
4:05 PM	Development and Deployment of Internet of Things (IoT) Sensors in Aquaponics Experiments	Nathan Howell
4:20 PM	Predicting Coastal Residential Property Damage During Extreme Storm Event using a Multivariable Ensemble-Based Machine Learning Approach	Md Golam Rabbani Fahad
4:35 PM	Saturated Woodchip / Lignocellulose Reactors Reveal that Coupled Redox Domains may Enhance Overall Pharmaceutical and Nutrient Attenuation in Constructed Wetlands and Analogous Nature-based Treatment	Jonathan Sharp
Session 40	Watershed Management 3 (Moderator TBD)	
3:35 PM	Developing a Framework for Implementation of Alternative Water Sources and Water Conservation Practices in Maryland: Integrating Hydrodynamic and Agent-Based Models	Masoud Negahban-Azar
3:50 PM	The Value of Demand Reduction and Storage Capacity in Alleviating Predicted Water Shortage in Semi-arid River Basins.	*Ahmed Gharib
4:05 PM	Georgia Flow Incentive Trust: Building from Science and Stakeholder Engagement to Better Drought Response	Kristin Rowles
4:20 PM	The Future of Aquatic Flows In the Anthropocene Epoch	Richard Palmer
4:35 PM	A Human-natural Framework for Assessing, Forecasting and Managing Watersheds for Coastal Resiliency along the Gulf of Mexico	Christopher Anderson

3:50 PM - 4:50 PM JCWRE Editors and Associate Editors Meeting

5:00 PM - 6:00 PM Speed Networking for Students

Thursday, June 15

7:30 AM - 10:00 AM Registration

7:30 AM - 8:30 AM Breakfast

8:30 AM - 9:50 AM Plenary Session III - Jeffrey Basara, University of Oklahoma; Kevin O'Donnell, Global Sustainability Executive

9:50 AM - 10:10 AM Break

10:10 AM - 11:40 AM Concurrent Technical Sessions VIII (90 minutes) (Moderator)

Session 41 Education (Moderator TBD)

THURSDAY

10:10 AM	Collaborative Development of an 'Introduction to Freshwater' Undergraduate Course	Tracy Boyer
10:25 AM	CUREs for Water Pollution: Engaging Undergraduates in Water Resources Research	Michael O'Driscoll
10:40 AM	Teaching Online with Articulate Storyline	Natalie Carroll
10:55 AM	Peril or Progress? Emerging Artificial Intelligence technologies in the classroom	Mike Pease
11:10 AM	Investigating Requisite Professional and Practical Skillset for Workforce Preparedness of Engineering Graduates in the 21st Century Water Industry: An Exploratory Study	*Ibukun Osunbunmi
11:25 AM	City of Wilmington Green Jobs Program	Martha Narvaez
Session 42 (Paige) Increasing DEI in Western Water Management (Ginger Paige)		
10:10 AM	Panel Discussion Panelists: Staci Emm , Professor and Extension Educator, University of Nevada (Reno) Stefan Tangen , Tribal Liaison, North Central Climate Adaptation Science Center Otakuye Conroy-Ben , Sustainable Engineering & the Environment, Arizona State University Jackie Tinetti , The Council of State Governments West	
Session 43 Agriculture 1 (Moderator TBD)		
10:10 AM	Real Time Monitoring of Groundwater Levels in Wintergarden Region	Taofiki Saliyu
10:25 AM	A Sensor-based Peer Learning Agricultural Network for Crop Production and Water Resource Management	Xin Qiao
10:40 AM	Evaluating Demand Management at the Field Scale through Direct and Indirect Measurements of Conserved Consumptive Use	Joseph Cook
10:55 AM	Rate and Timing Influence Water Use Efficiency in West Texas Row Crops	Glen Ritchie
11:10 AM	Water-Smart Agriculture and Greenhouse Gas Emissions: Can We Tackle Both?	Jake Mowrer
11:25 AM	Carbon Footprint Estimate for Irrigated Corn Production in the U.S. Great Plains to Promote Sustainable Irrigation and Agricultural Best Management Practices	Mary Foltz
Session 44 Modeling 1 (Moderator TBD)		
10:10 AM	The Community-enabled Life-cycle Analysis of Stormwater Infrastructure Costs (CLASIC) tool	*Tyler Dell
10:25 AM	Development of Flood Inundation Map using Aerial Imagery, Satellite Data and ICPR4 Expert	Hafiz Ahmad
10:40 AM	Multi-Source Heterogeneous Data Fusion and Artificial Intelligence based Intelligent Flood Inundation Mapping Systems	Erfan Goharian
10:55 AM	Hydrograph Separation Method (HSM) for the Design of Storm Drain Inlets	Walter Silva
11:10 AM	A Generalized Procedure for the Parameterization, Sensitivity, and Uncertainty Analysis of a Small Watershed Scale Hydrological Model	Mahesh Maskey
11:25 AM	Modeling Investigation of Groundwater Availability in Louisiana and Southwest Mississippi, USA	*Shuo Yang

THURSDAY**Session 45 Hydrology 1 (Moderator TBD)**

10:10 AM	Estimating Soil Moisture at High Spatial Resolutions Using Meteorological Variables at a Study Region in Northern Colorado	* Boran Kim
10:25 AM	Comparative Assessment of Drought Indices in the Upper Colorado River Basin	Mohammad Hadi Bazrkar
10:40 AM	How Precipitation and Potential Evapotranspiration Drive Modern Drought Trends Relative to a Millennial-length Baseline	Kyungmin Sung
10:55 AM	Investigating the Impact of Irrigation Practices on Hydrologic Fluxes in a Highly Irrigated River Basin	* Mohammed Almahawis
11:10 AM	Retrospective and Statistical Analyses of Agriculture and Groundwater in Arizona Through the Lens of Groundwater Management and Access to Surface Water	* Danielle Tadych
11:25 AM	Sustainability Signaling in Aquifers	Robert Mace

11:40 AM - 1:00 PM Lunch on your own**1:00 PM - 2:30 PM Concurrent Technical Sessions VIII (90 minutes) (Moderator)****Session 46 (Silber-Coats/Elias/Steele) Water Scarcity Solutions for the Southwest in a Changing Climate (Moderator TBD)**

1:00 PM	Innovative Water Transactions To Address Water Supply Variability	Bonnie Colby
1:15 PM	Locally-led Climate Adaptation Pathways to Agricultural and Water Resilience in Diverse Regions of New Mexico	Connie Maxwell
1:30 PM	An Atlas of Solutions to Water Scarcity in the Southwest	Noah Silber-Coats
1:45 PM	Panel Discussion	
	Panelists: Emile Elias, Sam Fernald, Aaron Hrozencik, Isaya Kisekka, Amy Kremen	

Session 47 Human Dimensions 2 (Moderator TBD)

1:00 PM	Communication Research to Minimize Obstructive Water Partisanship and Increase Adoption of Water Research Findings	Sadie Hundemer
1:15 PM	Factors that Shape Knowledge Co-production in Participatory Modeling	Wendy-Lin Bartels
1:30 PM	Transitions in Urban Water Governance: A Framework for Decision-making and Institutional Change in U.S. Water Suppliers	Tamee Albrecht
1:45 PM	Indigenous and European Place Names Along Streams and Waterways in Delaware (Lenapehocking)	* Elizabeth Shields
2:00 PM	Advancing Regional Water Supply Planning to Develop Equitable and Robust Infrastructure Investment and Management Pathways	David Gold
2:15 PM	Writing the River	* Jake Friedman

Session 48 Agriculture 2 (Moderator TBD)

1:00 PM	Understanding the Interacting Effects of Climate and Land Use on Geographically Isolated Wetlands	Frances O'Donnell
1:15 PM	Dust in the Wind: Impacts of Water Scarcity on Particulate Matter Concentrations	Alex Maas
1:30 PM	A Decade of Saturated Buffer Research: Results from Long-Term Monitoring in Iowa	* Gabriel Johnson

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1:45 PM	Analysis of Factors Associated with Dis-Adoption of Irrigation Best Management Practices	*Evelyn Osei
2:00 PM	On-Farm Evaluation of Conservation Production Systems for Environmental and Economic Benefits	Dave Spencer
2:15 PM	Producer Interviews and Analysis as a Tool for Science Communication in Agriculture	*Lacy Barnette
Session 49	Water in the Archives: A Conversation with Hydrophilic Librarians (Patricia Rettig)	
1:00 PM	Panel Discussion led by Patricia Rettig Panelists: Andrew Lippert, Michele Potter, Lisa Crane, Sarah Jones	
Session 50	Hydrology 2 (Moderator TBD)	
1:00 PM	Making Research in Water Resources More Reproducible: ASCE's Reproducibility Review Program	James Stagge
1:15 PM	Sensitivity Analysis and Parameter Estimation for Holistic Hydrologic Modeling using SWAT+	Salam Abbas
1:30 PM	Surface-Groundwater Connection and Water Quality in a Rapidly Urbanizing Intermountain Basin, Southwestern Montana	*Skye Keeshin
1:45 PM	A Web-based Decision Support System for a Better Understanding of Riverine Flood Hazards in the U.S.	Mahshid Ghanbari
2:00 PM	Initial Results of a Multi-Region, Multi-Year Analysis of Flood Timing, Magnitude, and Severity as Measured Compared to National Water Model Predictions	Iman Maghami
2:15 PM	Incorporating Flowpaths as an Explicit Measure of River-floodplain Connectivity to Improve Predictions of Floodplain Sediment Deposition	Jonathan Czuba

2:30 PM - 2:50 PM Break

2:50 PM - 4:05 PM Field Trip: CSU Library, Water Resources Archive – Patty Rettig

2:50 PM - 4:05 PM Concurrent Technical Sessions VII (75 minutes) (Moderator)

Session 51	Student Perspectives on DEI and Water Related Initiatives	
2:50 PM	Participatory Session led by Karen Schlatter (Theresa Centola)	
Session 52	Using a Temporal Configuration Approach to Quantify Streamflow Properties	
2:50 PM	Participatory Session led by Richard Koehler	
Session 53	Modeling 2 (Moderator TBD)	
2:50 PM	Assessing Hydrologic Fluxes in the Upper Colorado River Basin using the SWAT+ Model	*Muhammad Raffae
3:05 PM	Evaluating Historic and Future Changes of Soil Temperature, Vegetation Distribution, and Permafrost Degradation in the Arctic	Aleksey Sheshukov
3:20 PM	Seeking Best Management Practices for Salinization Mitigation in Irrigated Agricultural Regions Using an Integrated Hydro-Salinity Model	*Soheil Nozari
3:35 PM	Uncertainty Quantification of Salinity Transport Simulation for Integrated Hydrological Models	Seonggyu Park

THURSDAY

3:50 PM	Hydro-Economic Modeling System for Understanding the Dynamics in the Food, Energy, and Water Nexus in California	Enrique Triana
Session 54	Economics 2 (Moderator TBD)	
2:50 PM	Economic Value of New Jersey Tributaries to the Delaware River	Lydia Franks
3:05 PM	Policies to Achieve Sustainability in the Colorado River Basin under Climate Change Conditions and Growing Demand: A Hydro-economic Analysis	Daniel Crespo
3:20 PM	Water Market Design Features and Transaction Costs: A Comparative Analysis of Two Snowfed River Basins in the Arid Western United States	Loretta Singletary
3:35 PM	The Effect of Cropland on Drinking Water Treatment Costs: A Cost Function Analysis of Municipal Groundwater Systems in Wisconsin	James Price
3:50 PM	Efficiency and Equity of Posted Price Markets for Irrigation Water	*Dawoon Jeong

Poster Presenters

Welcome Reception and Poster Session: **Tuesday 5:30 PM - 7:30 PM** (* = student presenter in poster competition; judges pre-assigned)

1	Kaylyn Bautista	Rehabilitating Groundwater Observation Wells in Carbonate Island Karst: Phase 1 of the Monitoring System Expansion and Rehabilitation Program (MSERP), Guam, USA
2	*Kehinde Bosikun	Complex Network Analysis of Temperature across the United States
3	*Justin Bowen	Hydrologic Responses to Management of Surface Water Resources: A Model Design Study
4	*Sarah Brickman	Impact of Soil Health Management Practices on Soil Hydraulic Properties in Irrigated Agriculture: A Meta-analysis
5	*Kaylie Carver	Improving Water Use Data and Understanding of Rural Water Suppliers
6	*Christopher Cobos	Soil Water Dynamics In Semi-Arid Cotton Conservation Systems
7	Joseph Cook	Reducing Water Conflict through Student Led Rancher Funded Irrigation Administration in the Brush Creek System
8	*Wenyi Cui	Influence of Organic Amendments on Nitrogen Dynamics under Agricultural Managed Aquifer Recharge (Ag-MAR)
9	Adekunle Olorunlowo David	Modelling Rainfall Intensity by Optimization Technique in Abeokuta, South-West, Nigeria
10	Md Golam Rabbani Fahad	Mitigating the Impacts of Future Climate Change on Urban Stormwater Infrastructure in Alabama through Updating IDF Curves for Major Urban Areas
11	*Jose Garcia	Investigating Modeling for the Decline of the Southern Carrizo-Wilcox Aquifer
12	Flor Guerrero	Spatial Differentiation of Stream Geochemistry in a Subwatershed Affected by Coal Mining in Appalachia
13	*Santiago Guevara-Ocana	Development of a Pilot Smart Irrigation System for Peruvian Highlands
14	*Justin Higa	Quantifying Sediment and Phosphorus Loss from Streambank Erosion in Two Illinois Agricultural Watersheds
15	*Pardis Hosseini	Assessment of Salinity Impact on Crops' Green and Blue Water Footprints in a Semi-arid Agricultural Watershed using SWAT-MODFLOW-Salt
16	*Salar Jarhan	Poor Performance or Indication of Water Losses? Insights into Watershed Structure and Water Losses from Hydrologic Model Simulation across Spatial Scales
17	*Harpreet Kaur	Cover Crop Impacts Water Quality in a Tile-terraced No-till Field
18	Shahbaz Khan	Moringa Leaf Extract Mitigates the Adverse Impacts of Drought Stress and Improves Yield and Grain Quality of Rice (<i>Oryza sativa</i> L.) via Enhanced Physiological, Biochemical and Antioxidant Activities
19	*Lizzie Long	Model Estimated Nitrogen Emissions from Corn Fields under Different Fertilizer and Irrigation Management
20	Abel Mahowe	Assessing the Impact of Land Use Changes on Rainfall Runoff on Lilongwe River Catchment
21	*Fabian Maldonado	Investigating the Possible Factors Causing the Increase of Salinity Levels in the Carrizo-Wilcox Aquifer, Winter Garden Region
22	*Anna Grace McCarty	Assessment of Atmospheric Deposition in Arkansas and Tennessee
23	*Victor Oladoja	Spatiotemporal Characteristics of Soil Moisture in Texas, United States: A Complex Network Analysis
24	*William Ottenheimer	Do Managers of Dams with Greater Purpose Complexity Deviate Further from Rule Curves?
25	*Carson Roberts	Cover Crops Affect Irrigation Water Use in Cotton
26	*Bernadette Romero-Benally	Examining the Right-of-Way Process for Navajo Nation USA Indian Allotment Lands in Connection to the Navajo-Gallup Water Supply Project
27	*Joseph Saenz	Evaluating Alternative Sustainable Water Sources for the Corpus Christi Area
28	*Kaitlyn Smith	Evaluation of Wetland Treatment to Improve Discharge to Baffin Bay
29	Dave Spencer	Farmer Perceptions and Preferences on Conservation Practices and Information Transfer

30	*Abigail Spiers	Impacts of Intensifying a Corn-Soybean Rotation with Winter Wheat on Nitrate Leaching in Southern Illinois
31	*Tina Sullivan	Drought Defense Options for Cropping Systems in the Intermountain West
32	*Avalokita Tuladhar	Quantifying the Impact of Climate Change and Land Use Change on Water Quality in the Nanticoke River Watershed
33	*Travis Tyler	Making Streamflow Forecasts More Accessible: A Mobile App for the National Water Model using Flutter
34	*Hannah Van Dusen	Regional Variability of Post-fire High and Low Flows across Western U.S. Watersheds
35	Maria Jhonnie Villareal	Drilling Deep Observation Wells in Carbonate Island Karst – The Monitoring System Expansion and Rehabilitation Program, Guam
36	*Ildo Vivero	Analysis of Discharge Locations for Corpus Christi Desalination Plants
37	*Zhuanlin Wang	Seasonal Land Fallowing Policy as a Strategy for Sustainable Management of Groundwater: Evidence from China
38	*Alyssa Wentzel	A Comparative Analysis to Improve Delaware’s Statewide Microplastics Strategy