

Special Collection: Sustainable Groundwater in Agriculture

Title: Sustainable Groundwater in Agriculture

Organizers (conveners) with their contact information and short biography:

1. Isaya Kisekka: ikisekka@ucdavis.edu
2. Michele Reba: michele.reba@usda.gov
3. Debasmita Misra: debu.misra@gmail.com
4. Thomas Harter: thharter@ucdavis.edu
5. Andrew M O'Reilly: andrew.oreilly@usda.gov
6. Cameron Holley: c.holley@unsw.edu.au

Short bios:

Isaya Kisekka: Dr. Kisekka is a Professor of Hydrology and Agricultural Water Management in the Department of Land, Air, and Water Resources and the Department of Biological and Agricultural Engineering at the University of California Davis. Dr. Kisekka also serves as the Director of the UC Davis Agricultural Water Center. Currently, his research is focused on sustainable groundwater management in agriculture considering the impact of land management on groundwater quantity and quality.

Michele Reba: Dr. Reba is a Research Hydrologist and lead scientist at the USDA ARS Delta Water Management Research: Jonesboro, AR. Her innovative work focuses on irrigation conservation, irrigation automation, rice straw management, edge-of-field monitoring of water quality and greenhouse gas emissions, and artificial recharge of the alluvial aquifer.

Debasmita Misra: Dr. Misra Dr. Debasmita Mishra is a professor in the Department of Geological Engineering, University of Alaska Fairbanks, USA. His research interests include non-isothermal multiphase fluid flow and transport in porous media, characterization of ge resources and subsurface hydraulic properties, numerical methods and artificial intelligence applications, remote sensing, and geophysical methods.

Thomas Harter: Dr. Harter is a Distinguished Professor and Distinguished Professor in Cooperative Extension at the Department of Land, Air, and Water Resources at UC Davis. Dr. Harter's research and extension emphasize the nexus between groundwater and agriculture. His research focuses on nonpoint-source pollution of groundwater, sustainable groundwater management, groundwater and vadose zone modeling, groundwater resources evaluation under uncertainty, groundwater-surface water interaction, and contaminant transport. His work uses a range of numerical, statistical, and stochastic modeling approaches, often with field research, to evaluate the impacts of agriculture and human activity on groundwater flow and contaminant transport in the complex aquifer and soil systems.

Andrew M O'Reilly: Dr. O'Reilly is a Research Hydrologist at the USDA ARS Watershed Physical Processes Research: Oxford, MS. His research interests include Vadose-zone and groundwater hydrology, groundwater modeling, contaminant transport and fate, green infrastructure, managed aquifer recharge, integrated water resources management

Cameron Holley: Dr. Holley is a Professor in the School of Law, Society and Criminology at UNSW Law & Justice. He is a former Head of School and is a current co-chair of the International Network of Environmental Compliance and Enforcement (INECE) Academic Committee, a member of the Taskforce on Earth System Law, a member of the Steering Committee for the Global Water Institute and a former Director of the Connected Waters Initiative, UNSW Sydney. He is a member of the Global Risk Governance

- **Guest editors with their contact information**

Same as organizers (see above)

- **Journal chosen**

Journal of the ASABE or *Journal of Natural Resources and Agricultural Ecosystems*

- **Description of suitable topics and types of articles**

Groundwater sustainability refers to the preservation and responsible management of groundwater resources in a way that meets the needs of present generations without compromising the ability of future generations to meet their own needs. This special collection will include a select number of presentations that were given at the 3rd International Conference, “Toward Sustainable Groundwater in Agriculture: Linking Science and Policy” held in San Francisco California from June 17-20, 2024. More information about the conference can be found at <https://www.watereducation.org/foundation-event/toward-sustainable-groundwater-agriculture>. This special collection is soliciting papers from a wide range of topics related to the sustainable use of groundwater in agriculture including the topics below:

- Toward Sustainable Groundwater Supplies in Agricultural Landscapes
 - Best Management Practices to Sustain Groundwater Supply (agricultural practices)
 - Climate Change Adaptation (within the groundwater-agriculture nexus)
 - Groundwater Governance
 - Groundwater Management: Data, Monitoring & Modeling
 - Groundwater Management & Policy: Design, Challenges, and Insights
 - Groundwater-Surface Water Interaction in Irrigated Regions
 - Irrigation and Sustainability
 - Managed Aquifer Recharge in Agricultural Landscapes
 - Recharge Mapping
- Toward Sustainable Groundwater Quality in Agricultural Landscapes
 - Agrochemicals (incl. Phosphorus, Pesticides) Monitoring, Modeling, Policy
 - Best Management Practices to Protect Groundwater Quality (agricultural practices)
 - Emerging Contaminants at the Groundwater-Agriculture Nexus
 - Nitrogen Losses to Groundwater - Characterization and Monitoring
 - Nitrate Monitoring, Modeling, and Policy
 - Nonpoint Source Pollution in Animal Farming (incl. Pathogens, Pharmaceuticals)
 - Policy, Regulations, and Management of Agricultural Groundwater Pollution Sources

- Salinity Assessment, Monitoring, and Policy
 - Cross-Cutting Themes at the Groundwater-Agriculture Nexus
 - Artificial Intelligence at the Groundwater-Agriculture Nexus
 - Economic and Policy Challenges to & Opportunities for Sustainable Groundwater in Agricultural Regions
 - Energy/Biofuel – Groundwater Nexus
 - Environmental Justice and Groundwater in Rural/Agricultural Regions
 - Global Food Security - Groundwater Nexus
 - Globalizing Actions in the Groundwater-Energy-Food-Environment Nexus
 - Groundwater and Livelihoods
 - Groundwater-Dependent Ecosystems (GDEs)
 - Sustainable Groundwater Policies for Agricultural Landscapes - Lessons Learned
 - EU Water Framework Directive Upcoming 25 Year Anniversary
 - National and Global Examples
 - Sustainable Groundwater Management Act (SGMA) 10 Year Anniversary
- **Qualifications for participation such as requiring that authors presented at a specific conference**

Not Applicable

- **Dates for submission, author notification, first review completion, revisions, final notification, target for publication**

The collection opens Sept. 1, 2024 and closes Nov. 1, 2025. Papers will be published as they are accepted and complete final editing, layout, and payment. If you have any questions, contact me at Kati Migliaccio at klwhite@ufl.edu.

- **How to submit**

Using ScholarOne, select the collection name in step one. If page charge waivers are approved for the manuscript by the community editor (CE), the CE should notify the [Director of Publications](#) of the manuscript number and number of pages waived above the first three.

Instructions for interested authors:

- 1) Submit your manuscript to the *Journal of ASABE* or *Journal of Natural Resources and Agricultural Ecosystems* before the deadline of Nov. 1, 2025.
- 2) Submission will follow ASABE procedures (<https://www.asabe.org/JournalAuthors>) and should use the latest template (<https://www.asabe.org/ManuscriptTemplates>).
- 3) Indicate in the submission letter that the manuscript should be considered for the 2024 Sustainable Groundwater in Agriculture Special Collection. Send an email to the Editor (NRES Community Editor klwhite@ufl.edu) indicating your Collection submission.
- 4) Papers included in the Special Collection will receive several additional benefits: The first three printed pages will be free. (Full-page charges will apply to the remaining pages.) Public access will be free for the remainder of the year of publication plus two additional years (i.e.,

through 2025). Open access may be purchased by authors at a discounted rate. Papers will be highlighted in an introductory article and will include an identifying logo.

Each paper will go through a full peer-review process following ASABE procedures. The 2024 Sustainable Groundwater in Agriculture Special Collection will require contributions from many reviewers. We expect each author will serve as a reviewer for other manuscripts when requested.