Leading the Way

PEOPLE, POLICIES, AND PRACTICES TO PROTECT AND CONSERVE GROUNDWATER

2017 Groundwater Foundation National Conference

GROUNDWATER FOUNDATION

GROUNDWATER GUARDIAN

GROUNDWATER GUARDIAN GREEN SITE

October 24-26, 2017
The Grove Hotel
Boise, Idaho

Thank you...

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Boise City Public Works
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ADDITIONAL CONFERENCE SUPPORT

Idaho Water Education Foundation
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National Ground Water Association
Valmont Foundation

Poster Sessions/Exhibits

Poster sessions and exhibits will be up throughout the conference. Be sure to visit each one and get your prize postcard initialed to be eligible for the prize drawings on October 26. Must be present to win.

Collaborative Awareness Building: The Nebraska MEDS Coalition
The Groundwater Foundation, Lincoln, Nebraska

Focus on People for Technology Success
Kylen Hunt, CropMetrics, Omaha, Nebraska

Irrigation Efficiency
James Burks, Senninger Irrigation, Clermont, Florida

Local Groundwater Protection: Boise Public Works
Catherine Chertudi, City of Boise, Idaho

Protecting Idaho's Water
Amy Williams, Idaho Department of Environmental Quality, Boise, Idaho

Source Water Awareness
Kathryn Elliott, Idaho Department of Environmental Quality, Boise, Idaho

Study of Ecuador's Pita River Basin's Aquifer Using Chemical and Nuclear Techniques
Eliana Barragán, Escuela Politécnica Nacional, Quito, Ecuador

Tools for Groundwater Education
The Groundwater Foundation, Lincoln, Nebraska

Conference Agenda

TUESDAY, OCTOBER 24

12:00 p.m. **Conference registration desk opens**
Exhibit area opens for display setup

2:00 – 4:00 p.m. **TOUR: Restoring a Jewel and Protecting Groundwater** *(meet at The Grove Hotel)*
(preregistration required)
Contaminated soils were found during the construction of a new park site along the Boise River in 2015. The history of the site for gravel extraction and industrial uses raised concerns about the types of contamination possible and the extent to which the contamination had migrated. The tour will explore the issues and lessons learned from the identification of the contamination through the completion of the park that was added to the "Ribbon of Jewels" along the Boise River Greenbelt.

The tour will begin and end at The Grove Hotel, with transportation to and from the park areas provided. Walking shoes are recommended.
Speakers: Catherine Chertudi, City of Boise Solid Waste Program; Wendy Larimore, City of Boise Parks and Recreation

5:00 – 8:00 p.m. **Opening Reception** *(Boise WaterShed Environmental Education Center, 11818 W Joplin Road)*
Sponsored by Valmont Foundation
Join us for a celebration of Boise's groundwater protection accomplishments and kickoff to the 2017 Groundwater Foundation National Conference at the Boise WaterShed Environmental Education Center. The Center promotes water stewardship through exhibits, public art, and programming. Located at the West Boise Water Renewal Facility, the LEED-certified building features an exhibit hall, a library, a theater/community room, and artwork. The two acres surrounding the education center, known as the River Campus, is a park-like experience that integrates public art, exhibits, landscaping and a wate. Explore the grounds, play on the exhibits, enjoy a cocktail and heavy hors d'oeuvres, and network with other conference participants.

A shuttle will be available to and from The Grove Hotel, starting at 4:45 p.m. and ending at 8:00 p.m.
Comments at 6:15 by: Catherine Chertudi, City of Boise Groundwater Guardian Team Leader; Representative, Idaho Department of Environmental Quality

Welcome!

We're so glad you're here! The Groundwater Foundation is committed to connecting people, businesses, and communities to make all of us part of the solution for clean, sustainable groundwater. Thank you for leading the way to protect and conserve groundwater. Learn from the experiences of others, make connections, and go back to your community armed with new ideas to safeguard this precious resource.
Once again, thank you for joining us!

Groundwater Foundation Staff
Groundwater Foundation Board of Directors

WEDNESDAY, OCTOBER 25

7:30 a.m. **Conference registration desk opens** *(2nd Floor Landing)*
Continental Breakfast and Networking Opportunities
Exhibits open

8:00 a.m. **Welcome** *(Evergreen)*
We all rely on groundwater, and groundwater relies on the people, policies, and practices to protect and conserve it now and for the future.
Jane Griffin, Groundwater Foundation President, Lincoln, Nebraska; Elaine Clegg, Council President, City of Boise, Idaho

8:30 a.m. **Opening Plenary - Groundwater in a Climate-Changed World: Risks and Opportunities**
As the effects of a warming planet begin to take hold, groundwater protection has never been more important, presenting both risks and opportunities for effective groundwater management.
Pat Mulroy, Non-resident Senior Fellow for Climate Adaptation and Environmental Policy for The Brookings Institution and Practitioner in Residence for the Saltman Center for Conflict Resolution at the UNLV William S. Boyd School of Law, Las Vegas, Nevada

9:30 a.m. **Networking Break** *(2nd Floor Landing)* - Sponsored by National Ground Water Association
Exhibits open

	ENHANCING GROUNDWATER KNOWLEDGE THROUGH RESEARCH *(Aspen)*	UNDERSTANDING AND MITIGATING RISKS TO GROUNDWATER *(Cedar)*
	Moderator: Chris Barnett, Marion County Wellfield Education Corporation, Indianapolis, Indiana	Moderator: Lee Orton, Orton Management Associates, Lincoln, Nebraska
10:00 a.m.	**Baseline Water Quality Assessment of Groundwater for Domestic Supply** *Gem County, Idaho faces population growth and land use changes, creating the need to assess groundwater used for drinking water.* James Bartolino and Candace Hopkins, U.S. Geological Survey, Boise, Idaho	**Risks of Nitrates and Other Agricultural Contaminants to the Groundwater of the Nation** *Nitrate and other agricultural contaminants create a complex set of issues for the U.S.* Robert Swanson, U.S. Geological Survey Nebraska Water Science Center, Lincoln, Nebraska
10:30 a.m.	**An Approach to Investigating Sources of Nitrate in Groundwater** *A sampling approach allows independent monitoring results to be combined with those from partner agencies to identify trends.* Flint Hall, Idaho Department of Environmental Quality, Boise, Idaho	**Modernized Evaluation of Risks in a Source Water Protection Area** *After 25 years of successful source water protection, the program was updated with enhanced protective strategies.* Gayle Galbraith, City of Dayton Water Department, Dayton, Ohio
11:00 a.m.	**Long Distance Dye Tracing to Track Groundwater Flow** *A dye tracing program documents groundwater velocities, flow paths, and other physical parameters in a basalt aquifer applied to water quality sampling and modeling.* Neal Farmer, Idaho Department of Water Resources, Boise, Idaho	**Promoting Source Water Protection and Groundwater Quality** *State level efforts provide statewide and community strategies to protect groundwater and ensure its sustainability.* Ed Hagan, Amy Williams, Idaho Department of Environmental Quality, Boise, Idaho

11:30 a.m. **Networking Break** *(2nd Floor Landing)*
Exhibits open

11:45 a.m. **Recognition Roundtable Luncheon** *(Evergreen)*
Sponsored by Marshfield Utilities
Chat with Groundwater Guardians team representatives about how they've faced groundwater challenges in their community head-on during this interactive luncheon.
Roundtable Panelists: Chris Barnett, Indianapolis-Marion County, Indiana; Andy Belanger, Las Vegas Valley, Nevada; Catherine Chertudi, Boise City, Idaho; Marge Cook, Desert Hot Springs, California; Lisa Corbitt, Mecklenburg County, North Carolina; Gayle Galbraith, Dayton, Ohio; Cathy Lotzer, Marshfield Area, Wisconsin; Tim McLelland, Hamilton to New Baltimore Groundwater Consortium, Ohio; Kirk Welch, North Plains Groundwater Conservation District, Texas

	ENHANCING GROUNDWATER KNOWLEDGE THROUGH RESEARCH *(Aspen)* Moderator: Steve Mossman, Mattson Ricketts Law Firm, Lincoln, Nebraska	**EDUCATION AS A GROUNDWATER PROTECTION TOOL** *(Cedar)* Moderator: Cathy Lotzer, Marshfield Utilities, Marshfield, Wisconsin
1:00 p.m.	**Multiple Partnerships for Groundwater Monitoring** *Aquifers in Georgia vary in composition and vulnerability to contamination. Groundwater used for drinking water was assessed for 29 pesticides through multiple partnerships.* Gary Hawkins, University of Georgia Crop and Science Department, Watkinsville, Georgia	**Raising Awareness About Groundwater as Source Water** *Groundwater supplies 95% of Idahoans' drinking water. A robust set of education and outreach tools was developed to raise awareness in classrooms and communities.* Kathryn Elliott, Idaho Department of Environmental Quality, Boise, Idaho
1:30 p.m.	**Groundwater Flow Model of the Wood River Valley Aquifer** *Rapid population growth, land use changes, and concern over groundwater sustainability led to a study of the Wood River Valley.* Allan Wylie, Idaho Department of Water Resources, Boise, Idaho	**Water on Wheels: A Mini-Museum that Travels** *This mobile learning experience travels to schools and festivals with interactive displays about the water cycle, water usage, and more.* Michelle Dry, Center for Applied Earth Science and Engineering Research, University of Memphis, Memphis, Tennessee
2:00 p.m.	**Using Rock Chemistry Data to Understand Water Resources** *A study looks at the relationship between groundwater and surface water in a designated Groundwater Management Area.* Ken Neely, Idaho Department of Water Resources, Boise, Idaho	**A Win-Win-Win Situation** *Cooperation and communication between partners led to efforts to increase pervious area and decrease flooding in a karst area of springs and sinkholes.* Lena Beth Reynolds, University of Tennessee Extension, Athens, Tennessee

2:30 p.m. **Networking Break** *(2nd Floor Landing)*
Exhibits open

	EFFECTIVE GROUNDWATER MANAGEMENT TOOLS *(Aspen)* Moderator: Kirk Welch, North Plains Groundwater Conservation District, Dumas, Texas	PROTECTING GROUNDWATER THROUGH POLICY *(Cedar)* Moderator: Andrew Belanger, Southern Nevada Water Authority, Las Vegas, Nevada
3:00 p.m.	**City of Boise Compost Facility and Groundwater Protection** *Adaptive management has been employed to protect groundwater near a newly opened organic waste composting facility.* Catherine Chertudi, Boise Public Works Department, Boise, Idaho; Michael Murray, PhD, HDR Engineering, Boise, Idaho	**Effective Water Conservation Through Regulation and Incentives** *Drought conditions in the Colorado River Basin have led to conservation incentive programs and ordinances to achieve water savings.* Chaunsey Chau-Duong, Southern Nevada Water Authority, Las Vegas, Nevada
3:30 p.m.	**High Accuracy Topography Data to Improve Water Management** *Select case studies in the High Plains Aquifer of Nebraska where data is being utilized to improve water management decisions.* Doug Hallum, Conservation and Survey Division, University of Nebraska-Lincoln, North Platte, Nebraska	**Governance, Fairness, and Adaptive Capacity in Groundwater Curtailment** *A 12.9% water curtailment affects farmers in groundwater districts along the Eastern Snake River Plain.* Meg du Bray, Katrina Running, Idaho State University, Pocatello, Idaho
4:00 p.m.	**Well Construction and Groundwater Protection** *Rules and standards for sealing and constructing wells help protect against groundwater contamination.* Thomas Neace, Idaho Department of Water Resources, Boise, Idaho	**Permitting Wells and Managing Groundwater Contamination Sites** *Managing data to accurately identify contamination sites and the proximity to proposed well locations is critical to the permitting process.* Lisa Corbitt, P.G., Mecklenburg County Public Health Groundwater and Wastewater Services, Charlotte, North Carolina
4:30 p.m.	**Post-Harvest Deep Soil Sampling** *Post-harvest deep soil sampling offers an efficient, effective management tool for producers to determine the effectiveness of their land application practices and impact on water quality.* Ralph Fisher, U.S. EPA, Boise Operations Office, Boise, Idaho	**Idaho Water Measurement Program** *The program functions statewide to establish, maintain, and implement state water measurement and reporting standards.* Brian Ragan, Idaho Department of Water Resources, Boise, Idaho

5:00 p.m. – 6:00 p.m. **Cocktail Hour** *(Evergreen)*
Continue networking, conversation, and connections! Enjoy complimentary drinks and appetizers.

Evening **Dinner On Your Own**
Explore downtown Boise on your own, or meet in the hotel lobby at 6:15 p.m. for group dinner options.

THURSDAY, OCTOBER 26

7:30 a.m. **Conference registration desk opens/Networking Opportunities** *(2nd Floor Landing)*
Exhibits open

8:00 a.m. **Sparkplug Breakfast** *(Evergreen)*

GROUNDWATER SUSTAINABILITY

Moderator: Catherine Chertudi, City of Boise, Idaho

8:30 a.m. **High and Dry: Meeting the Challenges of the World's Growing Dependence on Groundwater**
A growing global population, widespread use of industrial chemicals, and climate change increasingly threaten groundwater. Managing this vital resource has proven to be a daunting task. Drawing on examples from around the world, the Alleys identify lessons learned in communicating and working with stakeholders on groundwater use and protection and examples of how individuals and groups are making a difference.
Bill Alley, National Ground Water Association, San Diego, California; Rosemarie Alley, Science Writer, San Diego, California

9:30 a.m. **Replenishing Groundwater for Sustainability**
For years, the Orange County Water District has been working to transform wastewater into drinking water, and recharging it into a groundwater basin in the largest planned indirect potable reuse project in the world.
Adam Hutchinson, Orange County Water District, Fountain Valley, California

10:00 a.m. **Networking Break** *(2nd Floor Landing)*
Exhibits open

WORKING TOGETHER TO PROTECT AND MANAGE GROUNDWATER

(Aspen/Cedar)

Moderator: Jane Griffin, The Groundwater Foundation, Lincoln, Nebraska

10:15 a.m. **Strategic Partnerships for Groundwater Protection**
A steady decline in groundwater over the last 20 years and has escalated both management and education efforts in response in the conservation district. Strategic partnerships and the Groundwater Guardian team have helped create new initiatives or augment existing programs.
Kirk Welch, North Plains Groundwater Conservation District, Dumas, Texas

10:45 a.m. **Collaboration in Wellfield Management and Groundwater Protection**
For over 20 years, the Marion County Wellfield Education Corporation has provided support to businesses overlying the wellfield to protect the drinking water of nearly 1 million people. This session will summarize 20 years of experiences and challenges of wellfield management.
Chris Barnett, Lawrence Community Development Corporation, Lawrence, Indiana; John Mundell, Mundell & Associates, Inc., Indianapolis, Indiana; Pam Thevenow, Marion County Public Health Department, Indianapolis, Indiana; Haley Waldkoetter, Mundell & Associates, Indianapolis, Indiana

11:15 a.m. **Finding the Ways that Work: Groundwater Management in the Western U.S.**
Creating successful groundwater management systems is a considerable challenge for many communities. A look at the tools, approaches, and challenges that are part of successful groundwater management.
Kate Gibson, Daugherty Water for Food Global Institute, Lincoln, Nebraska

11:45 a.m. **Conference Wrap Up and Prize Drawings** - Must be present to win

12:00 p.m. **Conference Adjourns**

Groundwater Foundation Staff

Jane Griffin, President
Jennifer Wemhoff, Program Communications Manager
Sara Brock, Program Manager

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Lee Orton, Orton Management Associates, Lincoln, Nebraska
Steve Seglin, Ex-Officio, Legal Counsel, Crosby, Guenzel LLP, Lincoln, Nebraska
Kirk Welch, North Plains Groundwater Conservation District, Dumas, Texas

Conference Advisory Committee

Andrew Belanger, Southern Nevada Water Authority, Las Vegas, Nevada
Chris Barnett, Marion County Wellfield Education Corporation, Lawrence, Indiana
Amy Williams, Idaho Department of Environmental Quality, Boise, Idaho
Catherine Chertudi, City of Boise, Idaho

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We connect people, businesses, and communities through local groundwater education and action, making us all part of the solution for clean, sustainable groundwater.

GROUNDWATER FOUNDATION

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