

# Wisconsin Ground Water Association Newsletter



## President's Message

Greetings Everyone! It's hard to believe that the last time I wrote my President's message the crocuses were just popping out of the ground. Although it may irritate some of us outdoor enthusiasts that Spring is unwilling to let go of Wisconsin, it is great to see that the spirit of spring is alive and well in our organization. Wonderful and exciting things are happening in WGWA. We had a successful Annual Meeting in March which resulted in a renewal of our sense of purpose, and a reorienting and solidifying of our mission. Our current President-elect, Jim Drought, was also announced at the meeting and Jim and his planning committees are already hard at work planning the Fall Field Trip, scheduled to begin and end at the Delafield BrewHaus on Saturday, September 19<sup>th</sup>, and the 2010 Annual Meeting. I am also pleased to announce that Lori Huntoon has accepted a WGWA Board Member position and we look forward to Lori's continued contributions to the organization.

Technical meetings have been stimulating WGWA on a regional level as well this Spring, with Mark Gordon from the Wisconsin Department of Natural Resources addressing the topic of changes to the NR 700 series of rules at meetings of both the North Central and Southeast Regions. The Southeast Region will be holding a fantastic luncheon meeting regarding the Southeast Wisconsin Groundwater Study this summer. The meeting is tentatively scheduled for July 22<sup>nd</sup>, and Daniel Feinstein, John Jansen and Robert Biebel have graciously agreed to address the topic.

In other exciting news, WGWA hopes to draw local media attention to the July 22<sup>nd</sup> meeting and expand the distribution list for the invitation to this and other similar events, through an alliance with the Milwaukee 7 Water Council. WGWA is currently in the process of becoming a member of the Council, which describes itself as a "Unique partnership of professionals that can be best described as a powerful collaboration among private industry, academic institutions, civic organizations and government that are committed to building the Milwaukee region into the world's water hub and [leader in] water sustainability." WGWA and the Water Council will undoubtedly both benefit from the partnership and I anticipate a much-needed enhancement of the visibility of our group and look forward to the increased opportunities to fulfill the WGWA mission.

Paula Richardson, WGWA President

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The newsletter is published four times per year. If you have any suggestions or submissions, please contact us at: Wisconsin Ground Water Association, c/o Troy Thompson, W174 N7507 Joanne Drive, Menomonee Falls, WI 53051. Email: [wgwainfo@wgwa.org](mailto:wgwainfo@wgwa.org); Web site: <http://www.wgwa.org>. The deadline for submissions to the 3rd quarter of 2009 newsletter is August 15, 2009.

## WGWA Plans Fall Field Trip

The 2009 fall field trip has been scheduled for Saturday, September 19. The trip will include a visit of glacial and bedrock sites in southeastern Wisconsin, and will be lead by area experts from the consulting community, academia, and government. It will begin and end at the Delafield BrewHaus. A post-event hospitality and networking party will be held at the BrewHaus. More information on the field trip, including the itinerary and registration form, will be distributed in the near future and will be posted on the WGWA web site.

## WGWA 25th Anniversary and Annual Meeting

The culmination of 25 years of service to the State of Wisconsin was celebrated by the Wisconsin Ground Water Association at their Annual Conference in Stevens Point in September. The celebration featured an exciting and interesting set of presentations keynoted by George Kraft of the UW Stevens Point. Abstracts for the various oral and poster presentations are provided [HERE](#). The Big Bonus was the attendance by many past and present officers of the Association which represented the most ground-water leadership gathered in one room in recent memory. Many of these past officers, like Tom Riewe, Margy Blanchard, Bruce Hensel, Doug Cherkauer, Dennis Lawton, George Kraft, George Mickelson, Lori Huntoon Pencak, and John Jansen are current or former leaders of Wisconsin's engineering companies, government agencies, and universities. With old friendships renewed, the wrap-up cocktail session lasted long into the evening.

## WGWA Hosts Technical Speakers at Regional Meetings

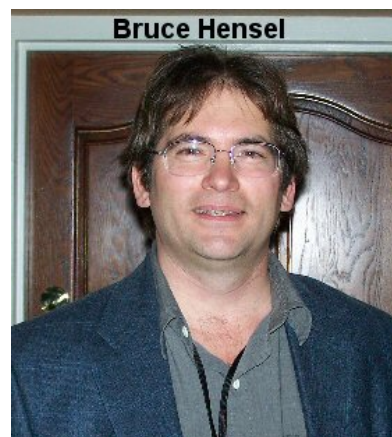
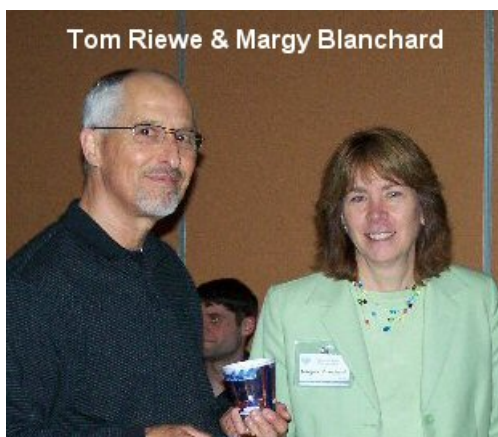
### STATUS OF CHANGES TO THE NR700 SERIES

Mark Gordon, Chief of Policy and Technical Resources for the Wisconsin DNR's Remediation and Redevelopment Program, spoke on the status of eight changes to the NR 700 Rule series. In total 20 separate rules have seen or are seeing changes. Mark explained the details of eight specific rules and took questions for the attendees. Additional information is available on the WGWA website as well as the DNR website ([http://dnr.wi.gov/org/aw/rr/wi\\_regs/index.htm](http://dnr.wi.gov/org/aw/rr/wi_regs/index.htm)). Mark's presentations took place May 14<sup>th</sup> in Wausau, WI and May 19<sup>th</sup> in West Allis, WI.

### SOUTHEAST WISCONSIN GROUND WATER STUDY

WGWA will be hosting a panel discussion on the continuing Southeast Wisconsin Ground Water Study. This presentation will be held July 22<sup>nd</sup>, 2008 at 11:30am in the Todd Wehr Auditorium on the MSOE campus. Highlighting this event will be keynote speakers Daniel Feinstein of the United States Geologic Survey, Dr. John Jansen of Aquifer Science & Technology - Reukert/Mielke, Inc., and Robert Biebel of the Southeastern Wisconsin Regional Planning Commission. A luncheon is available for this event. To sign up please contact Aaron Schneider, WGWA SE Wisconsin Regional Coordinator, at [aschneider@fsnw.com](mailto:aschneider@fsnw.com) or 414.302.1801.

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## Water Wars Come to the Andes

### ***In Peru, as glaciers decline and droughts increase, conflict and tension rise***

ICA, Peru - Two decades ago, the strip of land between the Pacific Ocean and the Andean foothills was empty except for the occasional fig or carob tree. But the northern end of perhaps the world's driest desert – a harsh and unforgiving climate – is now the center of Peru's export agriculture industry.

Rising demand for irrigation and drinking water is draining the aquifer faster than it can recharge, and a scheme to channel more water from the Andean highlands, which receive seasonal rainfall, is pitting big agribusinesses on the coast against Quechua-speaking llama herders in the mountains.

Experts say the conflict is just one sign of rising tensions over water use as supplies of the vital resource dwindle and shift with changes in climate.

"Water belongs to the people who need it most, and we need it most," says Gino Gotuzzo, of the Farmers Association of Ica, who grows asparagus and some other crops on about 60 acres of desert. Up the mountain, however, Quechua-speaking farmers say plans to channel runoff to coastal farms will dry up the spongy high-mountain wetlands where they pasture llamas and alpacas, ruining their livelihood.

Peruvian officials brush aside the specter of "water refugees." As supplies dwindle, they say, they can channel water from the highlands, where rain falls between October and April, or divert rivers that flow east to Amazonia, which receives more precipitation than its sparse population uses.

Nevertheless, droughts associated with El Niño events in the 1980s and 1990s spurred increased migration from rural areas to cities in Peru, and the exodus from Brazil's chronically drought-stricken northeast is one factor in that country's Amazonian deforestation.

With cities growing and agriculture expanding throughout South America, experts predict that climate change will exacerbate water scarcity, increasing conflicts between competing users, pitting city dwellers against rural residents, people in dry lands against those in areas with abundant rainfall, Andean mining companies against neighboring farm communities, and eucalyptus plantation operators on the Argentinean and Uruguayan plains against farmers who say the trees are sucking the water table dry.

In Peru, officials say the problem is not water scarcity, but Nature's poor distribution. More than two-thirds of the



country's 29 million people live on the dry western side of the Andes, where less than 2 percent of the country's water flows, while only one-fourth live in Amazonia, which can get more than 80 inches of rain a year.

But plans to redistribute water by rerouting rivers or drilling through the Andes raise questions for which neither politicians nor scientists have easy answers. How much water can be piped from reservoirs in the Andean highlands or Amazonian cloud forest without damaging those ecosystems? Who has priority: thirsty cities or food producers? Subsistence farmers or export agribusinesses? Poor rural communities or revenue-generating mines? Agriculture or hydroelectricity?

On Peru's coast, virtually every city has its eye on an uphill neighbor's water supply. In neighboring Bolivia, street protests in 2000 and 2004 known as the "water wars" forced two private companies, Bechtel and Suez, to give up water management concessions. City planners in Quito, Ecuador's capital, are looking to the Amazon to replace water supplied by dwindling glaciers. And Brazil plans to meet its growing energy needs by damming rivers throughout the Amazon, which critics say could further disrupt the region's hydrology.

The Intergovernmental Panel on Climate Change predicts that by 2020 upwards of 1.5 billion people worldwide will be facing water stress, including anywhere from 7 million to 77 million in Latin America.

"Inherent in these projections," said IPCC Chairman Rajendra Pachauri, "is the potential for conflicts and the disruption of peace."

With nearly 9 million people, Lima, Peru's capital, is the second-largest desert city in the world, after Cairo. It grew up beside a river that slices down from the Andean highlands to the Pacific Ocean. Many such coastal

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valleys contain vestiges of pre-Hispanic canals and irrigation systems, a sign that water management has been a challenge for several millennia.

"Lima is a thirsty city," says Guillermo León, president of the board of directors of the state-run water and sanitation company, SEDAPAL. In shantytowns lacking water hookups, residents must buy water from tank trucks. They use less than one-third the amount of water used by residents of wealthier districts, but pay four or five times as much for the water.

Water stress is also serious on the Bolivian Altiplano, the two-mile-high plain near Lake Titicaca, an area that is home to more than 3 million people. That region's rivers provide an average of 132,000 gallons of water per person per year – scarcely enough for household use, even if Bolivians are thrifter than US families, who can use up to 400 gallons a day, according to the U.S. Environmental Protection Agency.

Often, the scant water available is polluted. Three-quarters of wastewater in Peru is dumped untreated into rivers, lakes and the Pacific Ocean, and the Health Ministry has identified dozens of rivers polluted with lead, cadmium, arsenic, mercury and other metals from mining operations.

In the Andes, these problems are exacerbated by demand for water for irrigation. About 80 percent of Peru's water goes to agriculture, and only 8 percent of farm land uses water-conserving systems like drip irrigation, according to Abelardo de la Torre, head of the new National Water Authority, which is overseeing the design of watershed management plans throughout the country.

The need for efficient irrigation will become critical within the next few decades, as ice caps disappear from the Andes, where most of the world's tropical glaciers are located, and where small farmers depend on meltwater during the dry season.

Outside La Paz, Bolivia, the Chacaltaya glacier, once billed as the world's highest ski resort, is nearly gone. And Ecuador plans to pipe water from the eastern side of the Andes to supplement the dwindling supply from two receding glaciers that provide Quito's drinking water.

In 1991, tropical Andean glaciers covered some 1,065 square miles, with 70 percent in Peru, 20 percent in Bolivia, and the rest in Ecuador, Colombia and Venezuela. Since then, glaciers have disappeared from Venezuela and are shrinking in the other countries. Calculations show a loss of nearly 10 percent per decade.

Ironically, the increased melting means a water bonanza now, but César Portocarrero, an engineer who helps

small farmers install drip irrigation systems in Peru's Cordillera Blanca, named for its snow-capped peaks, said he has seen an increase in conflicts between neighbors and communities, which may be an early sign of water stress.

It is not clear how much the loss of glacial runoff will affect drinking water supplies downstream. Experts say much of the decrease can be offset by expanding reservoirs to catch water during the rainy season.

But potable water will not be the only casualty. A World Bank study indicates that glacial melt it is likely to raise generating costs at hydroelectric dams on rivers fed by melt water.

Nevertheless, a hydroelectricity revival is underway in South America, especially in water-rich Amazonia. Not only will that add to the competition for water, but environmentalists also worry that dams like the controversial project on the Madeira River in western Brazil will block the flow of nutrient-bearing sediments and fish migration routes.

Dams may also change the hydrological cycle in Amazonia, which affects precipitation in the Andes. Climate models and scientists do not agree on exactly what changes will occur in Amazonia. Some will depend on whether El Niño cycles are more frequent or intense. Researchers are handicapped by a lack of historical data from Amazonian countries.

"We know more now than we did 20 years ago, but we still don't know half of what we need to know," said José Marengo of Brazil's National Institute of Space Research in Sao Paulo. "There are few studies and little meteorological data. There are huge data gaps in all the countries. In hydrological data, there are series of 20 or 30 years, when we would need 100 years or more to see if there is a cycle of flooding and drought."

Small farmers in the Andes, however, say there is already sufficient cause for alarm. Concerns over water shortages and salinization of pasture and crop land have spurred protests against large mines in Piura, in northern Peru, and near Oruro, in southern Bolivia, by farmers who say there is not enough water to go around.

Meanwhile, the tension continues between export agribusinesses on Peru's southern coast and the small farmers upstream. Large-scale farmers on the coast have more efficient irrigation systems, but the profusion of wells is pumping water out of the aquifer nearly twice as fast as it can recharge, according to Javier Chiong of the Ministry of Agriculture in Ica.

Large farmers downstream are calling for a major infrastructure project to channel water from the highlands, dispersing some of it through canals in the desert to

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recharge the aquifer. Small farmers and llama herders upstream say the scheme could dry the Andean bogs, an ecosystem about which little hydrological data exist.

"There's a lack of planning," said Gotuzzo of the Farmers Association of Ica. "And it's the poor people who will suffer the most. The rich will be able to solve their problems."

*This article originally appeared at The Daily Climatem published by Environmental Health Sciences*

## Expedition to bursting, undersea volcano yields marvels

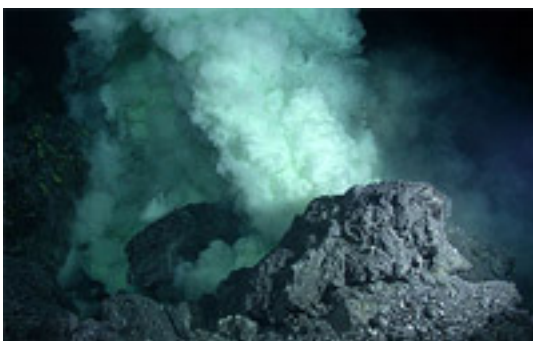
*Courtesy National Science Foundation and World Science staff*

"This research allows us, for the first time, to study undersea volcanoes in detail and close up," said Barbara Ransom, program director in the National Science Foundation's Division of Ocean Sciences, which funded the research. "NW Rota-1 remains the only place on Earth where a deep submarine volcano has ever been directly observed while erupting."

Scientists first watched eruptions at NW Rota1 in 2004 and again in 2006, said Bill Chadwick, an Oregon State University volcanologist and chief investigator on the expedition. This time, however, they found that the volcano in the Pacific had built a new cone 40 meters high and 300 meters wide.

"That's as tall as a 12-story building and as wide as a full city block," Chadwick said. "As the cone has grown, we've seen a significant increase in the population of animals that lives atop the volcano. We're trying to determine if there is a direct connection between the increase in the volcanic activity and that population increase."

Animals in this unusual ecosystem include shrimp, crab, limpets and barnacles, some of which are new species. "They're specially adapted to their environment," said Chadwick, "and are thriving in harsh chemical conditions that would be toxic to normal marine life. Life here is actually nourished by the erupting volcano."

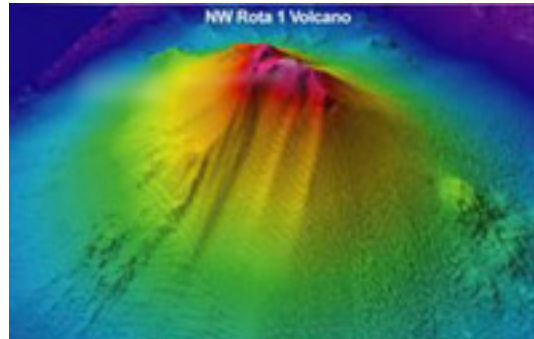


*Lava erupts onto the seafloor at NW Rota-1, creating a cloudy, extremely acidic plume. (Credit: WHOI)*

Verena Tunnicliffe, a biologist from the University of Victoria, Canada, said that most of the animals are dependent on diffuse hot water venting that provides basic food in the form of bacterial filaments coating the rocks. "It appears that since 2006 the diffuse venting has spread and, with it, the vent animals," Tunnicliffe said. There are profuse populations of shrimp on the volcano, with two species able to cope with the volcanic conditions, she added.

"The 'Loihi' shrimp has adapted to grazing the bacterial filaments with tiny claws like garden shears," said Tunnicliffe. "The second shrimp is a new species—they also graze as juveniles, but as they grow to adult stage, their front claws enlarge and they become predators." The Loihi shrimp was previously known only from a small active volcano near Hawaii, far away. It survives on the fast-growing bacteria and tries to avoid the hazards of the volcanic eruptions. Clouds of these shrimp were seen fleeing volcanic bursts, researchers said.

The other species attacks the Loihi shrimp and preys on marine life that wanders too close to the volcanic plumes and dies. "We saw dying fish, squid, etc., raining down onto the seamount, where they were jumped on by the volcano shrimp," Tunnicliffe said.



*A three-dimensional reconstruction of the NW Rota1 volcano. The top is 540 meters (1,770 feet) underwater. (Credit: NOAA)*

NW Rota1 provides a one-of-a-kind natural laboratory for the investigation of undersea volcanic activity and its relation to chemical-based ecosystems at underwater vents, where some biologists think life on Earth originated.

"It is unusual for a volcano to be continuously active, even on land," Chadwick pointed out.

"This presents us with a fantastic opportunity to learn about processes we've never been able to directly observe before," he said. "When volcanoes erupt in shallow water they can be extremely hazardous, creating huge explosions and even tsunamis. But here, we can safely observe an eruption in the deep ocean and learn valuable lessons about how hot lava and seawater interact."

Chadwick said that volcanic plumes behave completely differently underwater than on land, where the eruption cloud is filled with steam and ash, and other gases are invisible.

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Shrimp at NW Rota1. (Credit: WHOI)

“In the ocean, any steam immediately condenses and disappears and what is visible are clear bubbles of carbon dioxide and a dense cloud made of tiny droplets of molten sulfur, formed when sulfur dioxide mixes with seawater,” Chadwick said. “These volcanic gases make the eruption cloud extremely acidic—worse than stomach acid—which is another challenge for biological communities living nearby.” Ocean acidification is a serious concern because of human-induced carbon dioxide accumulating in the atmosphere. “Submarine volcanoes are places where we can study how animals have adapted to very acidic conditions,” Chadwick said.

During the April 2009 expedition, aboard the University of Washington’s ship R/V Thompson, the scientists made dives with Jason, a remotely controlled sub operated by the Woods Hole Oceanographic Institution.



Scientists control a research sub from a ship. (Credit: Verena Tunnicliffe)

Chadwick said that “it was amazing how close Jason can get to the eruptive vent because the pressure at a depth of 520 meters [about 1,700 feet] in the ocean keeps the energy released from the volcano from becoming too explosive.” Some of the most intriguing observations came when the volcano slowly pushed lava up and out of the erupting vent.

“As this was happening, the ground in front of us shuddered and quaked, and huge blocks were bulldozed out of the way to make room for new lava emerging from the vent,” Chadwick said.

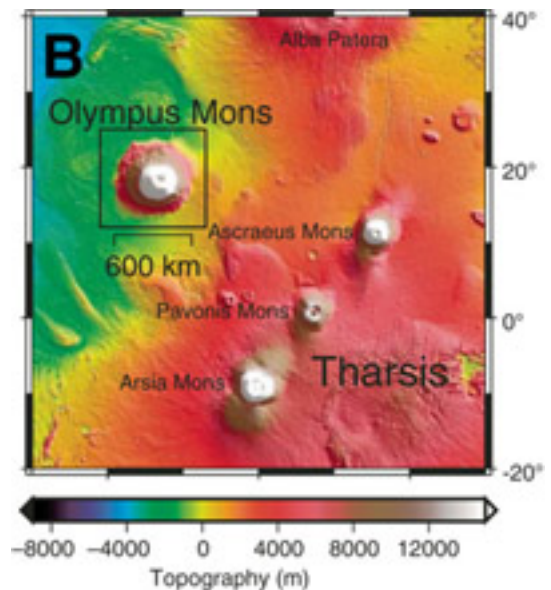
## Martian Mountain May Answer Big Question

Courtesy Rice University and World Science staff

The Martian volcano Olympus Mons is about three times Mount Everest’s height. But it’s the small details that geologists Patrick McGovern and Julia Morgan are looking at in thinking about whether the Red Planet ever had – or still supports – life.

In simulating the mountain’s formation by computer, McGovern and Morgan reached the conclusion that ancient water may still be trapped underneath. Their findings are published in February’s issue of the research journal *Geology*.

Color indicates height in meters. (courtesy Rice U.)



The researchers, at Rice University in Texas, found that only the presence of ancient clay sediments, implying water, could account for the volcano’s asymmetric shape.

Olympus stands almost 15 miles (24 km) high but has a very shallow slope. That slope hints at what lies beneath, said the researchers. They suspect if they were able to stand on the northwest side and start digging, they’d eventually find clay sediment deposited there billions of years ago, before the mountain was even a molehill.

The European Space Agency’s Mars Express spacecraft has in recent years found abundant evidence of clay on Mars. This dovetails with a previous theory that where Olympus Mons now stands, a layer of sediment once rested that may have been hundreds of meters (yards) thick.

Morgan and McGovern found in their computer models that volcanic material was able to spread to Olympus

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sized proportions because of the clay's friction-reducing effect, a phenomenon also seen at volcanoes in Hawaii.

What may be trapped underneath is of great interest, said the researchers. Fluids embedded in an impermeable, pressurized clay sediment would allow the kind of slipping motion that would account for Olympus Mons' spread-out northeast flank – and they may still be there. Scientists already know Mars has water thanks to NASA's Phoenix lander, which scratched through the surface to find ice underneath the red dust last year.

The deep reservoir under Olympus Mons "would be a favored environment" for heat-loving organisms, as a protected area heated partly by nearby volcanic activity, Morgan and McGovern wrote. Finding the source of heat will be a challenge, they admitted, although a series of seismic stations on Mars might help by picking up on ground movements.

## Conferences, Meetings, and Courses

### Selected Ground Water-Related Conferences and Meetings (June– December 2009)

- Jun 14-18. **American Water Works Association ACE09.** San Diego, California
- Jun 21-24. **Association of American State Geologists 101st Annual Conference.** Park City, Utah
- Aug 30-Sep 2. **2009 Annual Water Symposium: Managing Hydrologic Extremes.** Scottsdale, Arizona
- Sep 19 (tentative). **WGWA Fall Field Trip.** Southeastern Wisconsin
- Oct 1-3. **Washington State Ground Water Association Fall Convention.** Seattle, Washington
- Oct 12-15. **Midwest Ground Water Conference.** Includes the 2009 NGWREF McElhiney Lecture and the 2009 NGWREF Darcy Lecture. St. Louis, Missouri
- Oct 18-21. **2009 GSA Annual Meeting—From Volcanoes to Vineyards: Living with Dynamic Landscape.** Portland, Oregon
- Oct 19-20. **FET Environment 09 Conference.** Pewaukee, WI
- Oct 21-22. **IGSHPA Technical Conference and Expo 2009.** Grapevine, Texas
- Oct 22-23. **Water and Land for Renewable Energy in the Southwest.** Tucson, Arizona
- Oct 26-28. **Association of State Drinking Water Administrators 24th Annual Conference.** Portland, Oregon
- Oct 12. **Indiana Ground Water Association Bi-Annual Convention & Trade Show.** Kokomo, Indiana

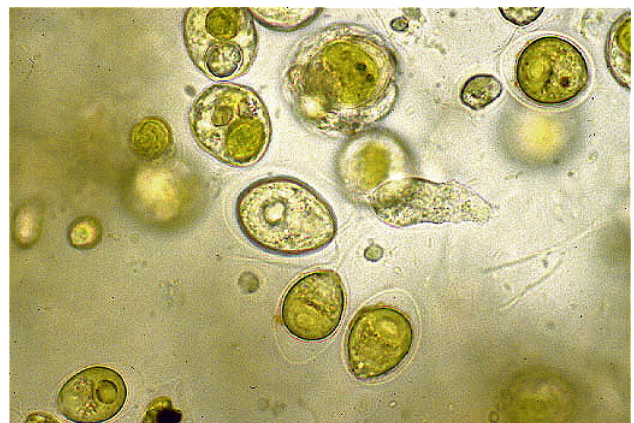
### Selected Ground Water-Related Courses and Online Seminars (June– December 2009)

- Jun 10. **Ground Water and Well Microbiology: Water Well Microbiology Issues Webinar, Module 3 (#815).** NGWA, Online
- Aug 17-18. **Isotopic and Hydrogeological Characterization of Fractured Rock Settings (short course #395).** NGWA, Columbus, Ohio

### EPA Ground Water-Related On-Line Courses (June– August 2009) (free, see [www.clu-in.org](http://www.clu-in.org))

- Jun 4. **Enhanced Attenuation of Chlorinated Organics: A Site Management Tool** (11:00 AM-1:15 PM EDT)
- Jun 9. **Protocol for Use of Five Passive Samplers** (2:00 PM - 4:15 PM EDT)
- Jun 11. **In Situ Bioremediation of Chlorinated Ethene - DNAPL Source Zones** (11:00 AM - 1:15 PM EDT)
- Jun 16. **An Improved Understanding of LNAPL Behavior in the Subsurface** (2:00 PM - 4:15 PM EDT)
- Jun 16. **Estimating Risks from Petroleum Hydrocarbons using Spreadsheets** (11:45AM- 1:45PM EDT)
- Jun 23. **LNAPL Characterization and Recoverability** (2:00 PM - 4:15 PM EDT)

Bacteria, the tiniest free-living cells, are so small that a single drop of liquid contains as many as 50 million of them.



## WGWA Board Meeting Minutes March 24, 2009

**.Attendees:** Lee Trotta, Paula Richardson, Jim Drought, Aaron Schneider, Troy Thompson

**Minutes** from previous meeting were not addressed.

**The Treasurer's Report** was unavailable but Aaron heard from Becky that "membership was behind last year's pace at the time of the conference". Aaron continued that his efforts to contact SE Region members indicated that members were getting "not much communication (i.e., emails) from WGWA. They want to know what is changing". It was decided that an email reminder on membership was needed. Paula asked Aaron to send her the names of those members not getting emails.

**Enhanced Visibility** was encouraged by Jim Drought. He had just returned from the NGWA Leadership Conference in DC with Mike Raimonde and got some good tips which he hopes to incorporate. A newsletter enhancement might include more consistency in distribution and contributors. We were all tasked to brainstorm people who could write a regular column in the newsletter in order to take some of the journalistic burden off of Troy. Troy's goal is to keep the newsletter under ½ megabyte in size (so as not to clog home computers) and, therefore, he provides links to larger files. Jim hoped for future improvements in the

web page and area meetings also. Social networking is desired by our members and may take new and different forms. We may need professional advice on incorporating such changes.

**The Annual Meeting** was reviewed by Paula. She brought up Mary Anderson's suggestions and continued cooperation with AWRA was discussed. Feedback was that WGWA bends to fit AWRA plans and not vice versa (to the detriment of our identity). Our career counseling to students should be more valuable than that given at AWRA. The next AWRA Conference will be in Madison. Paula suggested waiving the WGWA membership fee for those attending the WGWA Conference. Lee suggests involving our Treasurer in that discussion before deciding.

**Board Vacancies** were discussed. There are two vacancies. Lee will contact both Larry Wehrheim and Lori Huntoon about their desire to fill those vacancies.

**SE Regional Meeting** is being planned by Aaron around an NR700 talk on April 28 or 29 at lunchtime.

**Next Board Meeting** is being planned as a face-to-face meeting by Paula in mid-April (20-23) in the evening at the Delafield Brewhouse. Lee suggested inviting a representative of PEC to that meeting.

## Treasurer's Report

Transactions Between January 1 and March 31, 2009

Account Name	Withdrawals	Deposits	Total
<b>Certificate of Deposit</b>	—	—	<b>\$5,376.47</b>
General Funds			
Beginning Balance 01/01/2009			\$6,658.43
2009 Membership Dues	—	\$575.00	
Spring Conference Costs	\$1,835.31	—	
Spring Conference Registration Fees & Sponsors	—	\$1,945.00	
Expenses (Office, Postal, Printing, etc.)	\$303.87	—	
Web Site and Newsletter Services	\$500.00	—	
Telephone Conference Expenses	\$110.01	—	
<b>Ending Balance 3/31/09</b>			<b>\$6,429.24</b>
<b>All Funds Balance 3/31/09</b>			<b>\$11,805.71</b>



## The 2009 Board, Committee, and Area Coordinators

### President (2009)

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### At-Large Board Members

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Lori Huntoon (2009-2011)

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#### Education Committee

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#### Western Area

Position open

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#### Northeast Area

Position Open

#### Southeast Area

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