

Divining Rod

Vol. XXXI, No. 2 • April 2008

NMSU Student Tests Method to Measure Evaporation at Elephant Butte Reservoir

by Sara Ash, WRRRI

A current study is underway to measure evaporation from Elephant Butte Reservoir with the eddy covariance method, which requires expensive, complex instrumentation. Jimmy Moreno, a doctoral civil engineering student at New Mexico State University (NMSU) and a WRRRI student grant recipient, along with his advisor Salim Bawazir, a civil engineering assistant professor at NMSU, wants to determine whether a different method will work.

“We’re looking for simple yet accurate methods that use relatively inexpensive equipment or rely on measurements currently being taken at weather stations,” Jimmy said. “The eddy covariance method now used is a direct method of determining latent energy flux, or evaporation.” While the benefit of this method is its directness, the sensors required are complex, sensitive, and expensive.

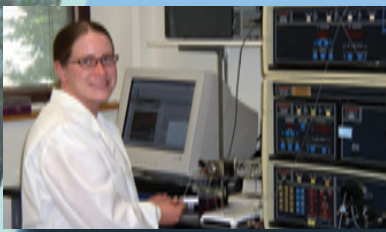
As water evaporates from the lake, water vapor swirls upward in eddies of various size and frequency. NMSU researchers have equipped two off-shore towers in Elephant Butte Reservoir with fast response instrumentation to measure these eddies, including a three-dimensional sonic anemometer. Unlike standard anemometers, it measures wind speed in three directions (parallel, perpendicular, and vertical to the sensor) at the rate of 60 Hz – fast enough to measure the eddies. However, “the more complex the sensors are, the more can go wrong with them,” Jimmy notes. “Rainfall and dust can affect the sensors, so it is difficult to get complete data. They are also expensive. An eddy covariance system (sensors only) costs anywhere from \$20,000 to \$30,000.”



Jimmy wires the sensors to the data logger.



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2008 Upcoming Meetings

- May 5-6 *12th Annual Water Reuse & Desalination Research Conference*, The Westin Tabor Center, Denver, CO
<http://www.watereuse.org/Foundation/2008conf/Index.htm>
- May 18-23 *A Living River Approach to Floodplain Management, Association of State Floodplain Managers Annual Conference*, Reno, NV
<http://www.floods.org/>
- May 28-31 *Urbanization of Irrigated Land and Water Transfers, A USCID Water Management Conference*, Scottsdale, AZ
<http://www.uscid.org/08conf.html>
- June 9-12 *The Winters Centennial: Will Its Commitment to Justice Endure?* UNM School of Law, Utton Transboundary Resources Center, and The American Indian Law Center, Inc., Hyatt Regency Tamaya Resort, Albuquerque, NM
http://www.uttoncenter.unm.edu/winters_conference.html
- June 24 *The Importance of the Colorado River for Arizona's Future*, Arizona WRRC's Annual Conference, Arizona Biltmore Resort and Spa, Phoenix, AZ
<http://www.cals.arizona.edu/AZWATER>
- June 30-July 2 *2008 AWRA Summer Specialty Conference: Riparian Ecosystems and Buffers*, The Founders Inn and Spa, Virginia Beach, VA
http://www.awra.org/meetings/Virginia_Beach2008/
- July 26-30 *Soil and Water Conservation Society, 2008 Annual Conference*, Starr Pass, Tucson, AZ
http://www.swcs.org/en/conferences/2008_annual_conference/
- August 12 *2008 New Mexico Water Research Symposium*, Macey Center, Socorro, NM
<http://wrri.nmsu.edu>
- October 20-22 *Surface Water Opportunities in New Mexico*, WRRI's 53rd Annual New Mexico Water Conference, Embassy Suites, Albuquerque, NM
<http://wrri.nmsu.edu>

2008 New Mexico Water Research Symposium Call for Abstracts

Abstracts for consideration for presentations and/or posters at the 2008 New Mexico Water Research Symposium will be accepted through July 3, 2008. Abstracts related to any and all water research and management topics will be considered, but abstracts that exhibit multi-disciplinary work are strongly encouraged. Abstracts must not exceed 250 words and must be submitted online via the New Mexico Water Resources Research Institute's homepage (<http://wri.nmsu.edu>). All accepted abstracts will be made available to participants.

Presenters whose papers are accepted for oral presentations will be limited to a 20-minute talk. All speakers and poster presenters must register for the symposium by August 4, 2008. The registration fee for everyone, including speakers, poster presenters, and other attendees is \$20. The fee will be waived for students presenting an accepted paper or

poster. The fee includes lunch, breaks, and a notebook with abstracts. Registration is online via the WRI's homepage.

Final symposium agendas will be emailed to poster presenters and speakers in early August and will be posted on the WRI website.

We encourage you to share this call for abstracts with your colleagues and students. Students are especially welcome to attend and present.



Timetable

Abstract Deadline

July 3, 2008

Notification Acceptance

July 21, 2008

Registration Deadline

August 4, 2008

Symposium Reception

August 11, 2008
5:30-6:30 pm

Symposium

August 12, 2008

Location

Macey Center
New Mexico Tech Campus
Socorro, NM



Technical sessions will be organized around the following topics:

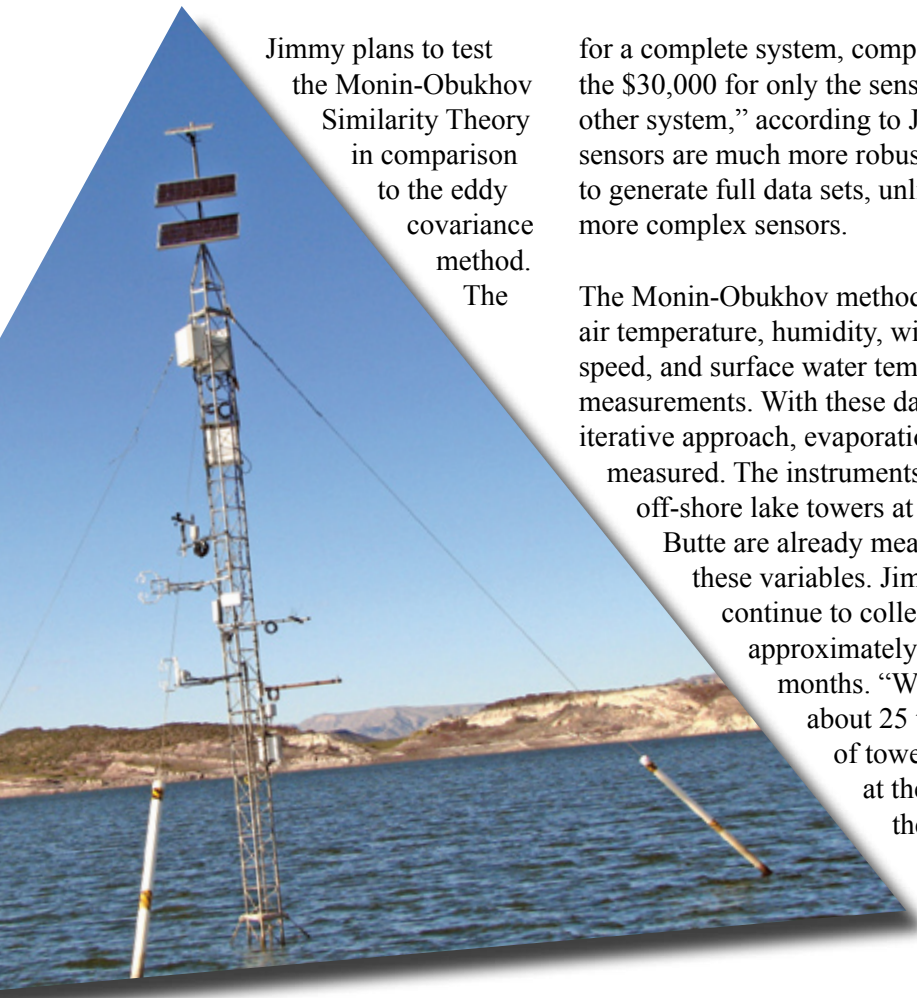
- ◆ Water and wastewater treatment and reuse
- ◆ Erosion and sediment control
- ◆ Reservoir evaporation
- ◆ Economics and policy analysis
- ◆ Watershed assessment, planning, and management
- ◆ Wetlands and riparian issues
- ◆ Agricultural, industrial, and municipal water use
- ◆ Drinking water
- ◆ Atmospheric, surface, and groundwater modeling
- ◆ Impacts of climate variability on water resources
- ◆ Ground and surface water
- ◆ Fish and wildlife; endangered species
- ◆ Water supply
- ◆ Water management
- ◆ Impaired water
- ◆ Desalination
- ◆ Pollution prevention
- ◆ Water security
- ◆ Ecosystem services
- ◆ Public health
- ◆ Water quality
- ◆ Hydrogeology
- ◆ Hydrology

Student Competition

The Outstanding Student Presentation Award will recognize exceptional student contributions to the meeting. The presentations and posters will be judged by the session attendees and a panel of judges. The winners of the competition will be announced through the WRI website and newsletter.

Photos by Stephen Nowaczek

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Jimmy plans to test the Monin-Obukhov Similarity Theory in comparison to the eddy covariance method.

The

for a complete system, compared to the \$30,000 for only the sensors of the other system,” according to Jimmy. The sensors are much more robust and tend to generate full data sets, unlike the more complex sensors.

The Monin-Obukhov method requires air temperature, humidity, wind speed, and surface water temperature measurements. With these data and an iterative approach, evaporation can be measured. The instruments on the two off-shore lake towers at Elephant Butte are already measuring these variables. Jimmy will continue to collect data for approximately two more months. “We have about 25 to 30 feet of tower exposed at the lake, but the lake is rising,”

Jimmy

energy flux. I need to develop the equations to put into the program.” Once the program has been written, the data will be entered, and the results will be compared to the results from the eddy covariance method. Hopefully, the Monin-Obukhov method will prove to be an effective method for calculating evaporation from Elephant Butte.

“Measuring evaporation from the lake is important in understanding the distribution and management of water,” Jimmy said. “You can do a water budget of the inflows and outflows, but it is more complicated than that. Some of the water seeps into the ground; some water enters the system from the ground, and some of it is lost to evaporation.” Knowing exactly how much water is lost to evaporation will help researchers and water planners to better understand the water budget of the Rio Grande.

One of the off-shore research towers at Elephant Butte Reservoir equipped with a krypton hygrometer, three-dimensional sonic anemometer, and other sensors.

Monin-Obukhov method is an alternative to measuring evaporation that is less expensive and requires less complex instrumentation. One limitation is that it is an indirect method that uses an iterative approach, so the calculation of results is a bit more complicated. However, the variables this method uses are basic variables measured by instrumentation already in place. “It costs approximately \$7,000

mentioned. “It is expected to rise 20 to 25 feet, so in a couple of months, we might have to take down the sensors.”

Jimmy will use quality-control-checked data from 2005 through the present for calculating evaporation. “All of the necessary data are being collected,” he said. “Since it is an iterative approach, we need to develop a computer program to compute the Monin-Obukhov latent

Jimmy plans to complete his doctoral research by the end of the year and obtain his P.E. license. His advisor, Salim Bawazir, is the principal investigator of ongoing evaporation research funded by the New Mexico Office of the State Engineer, Interstate Stream Commission at Elephant Butte Reservoir. 💧

WRRRI Awards Grant to New Mexico Tech Student

by Valerie Kimble, New Mexico Tech

Andrea Higdon, a 25-year-old chemistry major at New Mexico Tech, is using a \$5,000 grant from the Water Resources Research Institute (WRRRI) to assess the iron geochemistry of natural waters within the Valles Caldera National Preserve, a pristine and protected area in northern New Mexico.

“This has been a great experience to receive research funding as an undergraduate,” said Andrea, a senior at New Mexico Tech who will graduate in May.

Andrea is studying the chemistry of iron in natural waters. Iron is an important nutrient for aquatic microbes and is also a concern for water-treatment professionals.

Most of Andrea’s research is conducted in the

Andrea’s early collegiate years were spent near her hometown of Portland, Oregon; she then transferred to Simmons College in Boston, Massachusetts, but rising tuition rates forced her to look elsewhere.

Her father had spent a year working in Albuquerque and had heard good things about New Mexico Tech. Andrea later transferred to the science and engineering research university in Socorro.

“The tuition was right, which is not the case for most out-of-state students,” she said. “It’s also unusual to find a small school with such a strong science program – I really liked that.”

Andrea may continue this research as a graduate student in chemistry at New Mexico Tech, but is also examining other possible research projects in aqueous geochemistry.

“It would be cool to go to Antarctica,” she said with a wide smile.

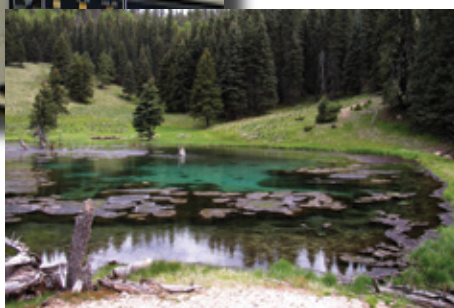
She dreams of Antarctic streams and glacial melt waters that run during the day and re-freeze at night.

She and Dr. Pullin are currently developing a proposal for funding from the National Science Foundation to conduct research in Antarctica.

“It never hurts to apply,” she said. 💧



Top: Andrea works in the lab.



Right: Alamo bog lake, where Andrea conducts some of her field work.

Grant funds were used to finance travel expenses to the preserve, as well as to pay for Andrea to travel to New Orleans in April for a meeting of the national American Chemical Society (ACS).

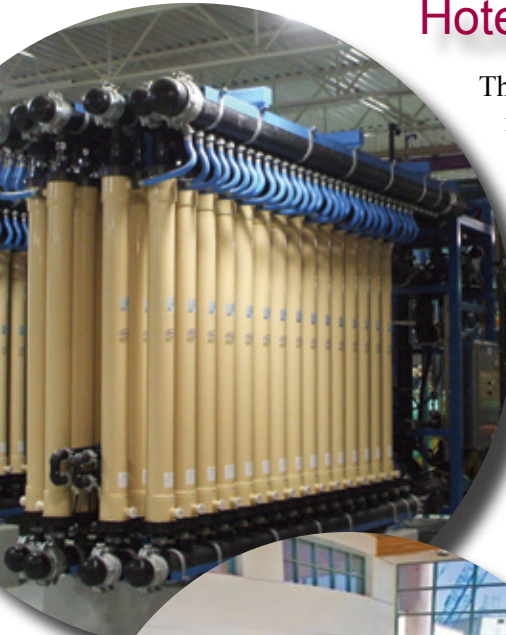
Andrea will present a paper at the ACS meeting entitled, *Iron (II) Oxidation in New Mexico Waters: Experimental Development of a Molecular-Level Predictive Model*, co-written with her advisor, Dr. Michael Pullin, an assistant professor of Chemistry at New Mexico Tech.

lab in developing a scientific model. The model will then be tested at the preserve, an 89,000-acre property situated inside a collapsed volcanic crater.

Valles Caldera (*caldera* is Spanish for crater) was a private ranch until 2000, when Congress created the national preserve from a well-known expanse of acreage known as “the Baca Ranch” in New Mexico’s Jemez Mountain Range.


53rd Annual New Mexico Water Conference

Hotel Information



The conference will be held at the Albuquerque Embassy Suites Hotel & Spa. A block of rooms has been reserved at the hotel for conference participants. The rate for a single or double room per night is \$129 plus taxes. The block of rooms is available on a first-come, first-serve basis, and the cut-off date is *Saturday, September 20, 2008*. Individual reservations can be made by calling the Embassy Suites Hotel at 1-800-362-2779. To receive the conference rate, identify yourself as a participant with New Mexico Water Resources. Guests can make reservations online at <http://www.embassysuitesalbuquerque.com> and enter the group/convention code NMW to receive the group rate.


Tour Information



On Monday afternoon, October 20, conference participants will have an opportunity to tour water projects in Albuquerque that are nearing completion. Those interested will meet at the conference hotel, Embassy Suites Hotel & Spa, Ocotillo I ballroom, at 1:00 pm. Our host, John Stomp of the Albuquerque Bernalillo County Water Utility Authority, will give us an overview of the tour projects.

At 1:30 pm, participants will board tour buses and travel to Albuquerque's new diversion facilities on the Rio Grande. The diversion facilities consist of 24 sections of bladder dams each capable of independent operation. The facilities include fish screens and a fish by-pass to protect the endangered silvery minnow. The new water pump station will also be available for touring. San Juan/Chama water will be diverted from the Rio Grande at a rate of approximately 84 mgd.

After viewing the diversion facilities, tour participants have the option of going to either the Water Treatment Plant (WTP) or the Bear Canyon Recharge Demonstration Project.



The WTP is in the final stages of completion this fall and will be preparing for operation. The "state of the art" WTP includes pre-sedimentation ponds, Actiflo sand ballasted sedimentation, ozone, and granular activated carbon filtration. This facility has a capacity of 92 mgd and is expandable to 120 mgd, the largest water treatment facility in New Mexico.

The Bear Canyon Recharge Demonstration Project is the first operating artificial recharge site in the state; it is a project of the Albuquerque Bernalillo County Water Utility Authority that was designed to demonstrate the effectiveness of artificial recharge through an in-stream infiltration system. Participants will get to see the Project during an active recharge period. The tour will include a look at the outfall and delivery system, the infiltration reach, the monitoring equipment, and components of public outreach efforts. The project manager, Stephanie Moore of DBS&A, will provide participants with an overview of the project, including details on the design of the monitoring system, a review of data collected during the first year of operation, and discussion of the adaptive management plan.

Tour buses should arrive back at the hotel around 4:30 pm. *Please sign up for the tour along with your choice of either the WTP or Bear Canyon project when you register so that we can plan accordingly.*

Surface Water Opportunities in New Mexico

Preliminary Program, October 21-22, 2008

Tuesday, October 21

- 8:15 Welcome by WRRRI Director *Karl Wood* and NMSU President *Michael Martin*
- 8:45 Welcome by Albuquerque Mayor *Martin Chavez*
- 9:00 Overview of Albuquerque's Water Vision and Projects
John Stomp, Albuquerque Bernalillo County Water Utility Authority
- 9:45 *Break*
- 10:15 Economics and Legal Limitations of Using Surface Water for Municipal Supply
John D'Antonio, Office of the State Engineer

Regulatory Challenges of the State's Shift from Groundwater to Surface Water as a Source of Municipal Water Supply
Robert Pine, NMED Drinking Water Bureau
- 11:00 Return Flow Efficiency
Phil King, New Mexico State University
- 11:30 El Paso's Experience in Surface Water Treatment—Lessons Learned
Ed Archuleta, El Paso Water Utilities
- 12:00 Luncheon: Albert E. Utton Memorial Water Lecture, "100 Years of Water Management in New Mexico—Stories about the People Involved"
John W. Hernandez, Water Resources Consulting Engineer
- 1:30 Secure Water Act—Senate Bill 2156
Legislative Intent, *Mike Connor*, Office of Senator Jeff Bingaman, INVITED
Impact on U.S. Geological Survey Programs, *Mark Myers*, Director, INVITED
Impact on Bureau of Reclamation Programs, *Robert W. Johnson*, Commissioner, INVITED
- 2:30 Rio Grande Salinity Management Program
Dale Doremus, NMED, and *Ari Michelsen*, TAMU

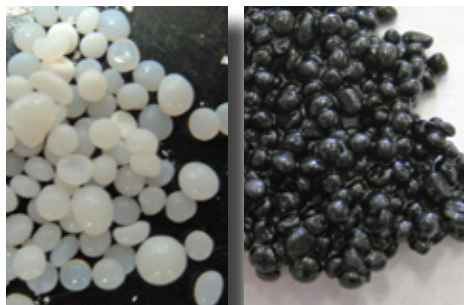
- 3:00 *Break*
- 3:30 Panel: New Mexico Municipal Representatives on the Use of Surface Water for Their Cities
Santa Fe, *Claudia Borchert*
Alamogordo, *Pat McCourt*
Las Vegas, *George Dufour*
Ruidoso, *Randall Camp*
Portales, *Orlando Ortega Jr.*
- 5:00 Adjourn

Wednesday, October 22

- 8:00 Evolution of Markets for Water Rights and for Bulk Water
Lee Brown, H2O Economics
- 8:30 Just Add Water: Eastern NM Rural Water System Status Report
Scott Verhines, ENMRWA
- 9:00 Update Regarding the Navajo Settlement and the Navajo-Gallup Pipeline
Tanya Trujillo, Interstate Stream Commission, and *John Leeper*, Navajo Nation
- 9:30 Municipal and Other Uses of Gila Settlement Water
Craig Roepke, Interstate Stream Commission
- 10:00 *Break*
- 10:30 The Bear Canyon Recharge Demonstration Project,
Stephanie Moore, Daniel B. Stephens and Associates
- 11:00 Lower Rio Grande Project Operating Agreement: Settlement of Litigation
Gary Esslinger, Elephant Butte Irrigation Dist.
Jesus Reyes, El Paso County Improvement Dist. #1
Filiberto Cortez, Bureau of Reclamation
- 12:00 Adjourn

NMSU Student Synthesizes Arsenic and Fluoride Adsorbent

by Sara Ash, WRRRI



Calcium oxide (left) and manganese oxide (right) impregnated sol-gel derived activated alumina, two of the adsorbents synthesized by Arely Torres, Laura Nuñez, and Ryan McCool in Dr. Deng's lab at NMSU.

Arsenic and fluoride are found in relatively high concentrations along the U.S.-Mexico border. Groundwater wells in Columbus, New Mexico, and Palomas, Mexico, contain arsenic and fluoride concentrations that are potentially a health hazard, especially to small children. Arely Torres, an undergraduate chemical engineering student at New Mexico State University, received a WRRRI student research grant to test the effectiveness of sol-gel derived, alumina-based adsorbents in places like Columbus and Palomas.

The aim of her project is to make a new adsorbent that is better than the available adsorbents and is selective to arsenic and fluoride. "People always ask me, 'Isn't fluoride in water a good thing?'" she said. "It is good, but as with everything, too much can be detrimental. It affects the teeth and bones of small children especially."

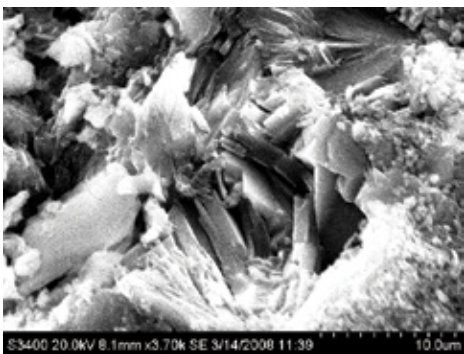
Arely synthesized three different adsorbents in the laboratory: aluminum, calcium oxide, and manganese oxide. "We took a chemical that is viscous and mixed it with water and boiled it for a really long time," she said. "We let it sit, and it creates a gel." The gel is then mixed, drop by drop, with another solution that reacts with the gel to make beads. "It takes a really long time," she noted. "It took months to make less than two pounds."

Batch experiments were performed with twelve samples with different initial concentrations for each of the three adsorbents. The beakers were placed in shakers, and Arely took samples at 5, 15, and 30 minutes, then at 1, 1.5, and 2 hours over the course of two to three days to see which adsorbent was the most efficient.

After synthesizing and testing the efficiency of the three adsorbents, Arely obtained samples of two commercially available activated-alumina adsorbents, F-200 and H156. Arely compared the efficiency of the commercially available adsorbents with the ones she synthesized in the lab. The commercially available H156 appears to be the most promising because it is a mixture of zeolites and alumina.

Due to this finding, the next step in Arely's research is to test how well the natural zeolites found in New Mexico adsorb arsenic and fluoride. "If zeolites have potential, that is good because they are naturally available and cheaper," Arely said. "If not, then we will have to step back a stage. We are continuing to test the efficiency of the synthesized adsorbents to make sure our results are accurate."

Lucy Mar Camacho, an affiliate assistant professor at NMSU, is working with Arely and will continue with the project after Arely graduates. "She has taught me so much—experimental techniques, stuff that I didn't know about, and things that

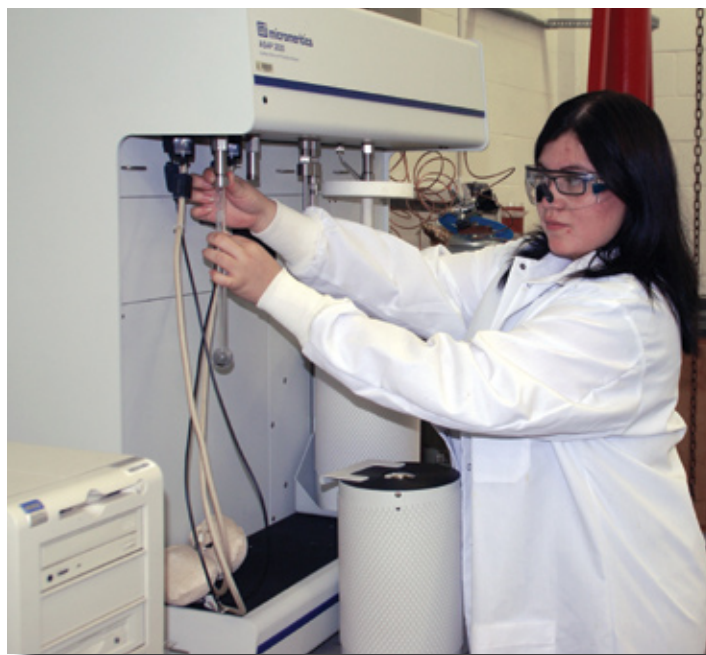


Scanning electron microscope image used to determine the crystal structure of the zeolite (image by Lucy Mar Camacho).

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I didn't think about doing," Arely said, "It is nice working with her; she takes so much into consideration."

Arely said this project helped her to decide whether or not to pursue graduate work because her advisor, Shuguang Deng, an associate professor of chemical engineering at NMSU, gave her the responsibilities and independence of a graduate researcher. She will graduate in May and has been accepted to the University of Kansas' doctoral catalysis program. She hopes to work with the Center for Environmentally Beneficial Catalysis. "I would like to stay in the environmental field while still doing chemical engineering. My goal is to work on minimizing waste from production. Rather than remediation, I would like to keep it from happening in the first place." 💧



Arely works with an adsorption unit in the lab.

NMHU Student Investigates Arsenic Contamination in Gallinas River

by Sean Weaver, New Mexico Highlands University

It is early morning, and Bildad Eta Eyong is literally thigh deep in his work searching the Gallinas River for insects.

As the primary source of water for Las Vegas, New Mexico, the approximately 98-square-mile Gallinas River watershed cuts across time, through Precambrian, Paleozoic, and Mesozoic strata. Along its journey from Elk Mountain to the Pecos River, the Gallinas accumulates varying traces of arsenic through erosion.

"In general, you find arsenic from geologic or mining sources," said Bildad, a graduate student at New Mexico Highlands University. "Here in the Gallinas, the source is geology from the shale formations that dominate the major part of the watershed."

Bildad hopes, through his study of invertebrates along the watershed, to provide a better understanding of arsenic levels in the river compared to water samples taken throughout the year.

"During spring runoff, the level is high, but at other times it doesn't register," Bildad said. "There's an advantage to using the invertebrates. They can tell you how the levels are affecting the water system, not just at a point in time as with a water sample test."

In addition to examining the levels of arsenic in invertebrates, Bildad is studying how the levels move up the food chain along the watershed.

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Top: Bildad performs chemical analysis of the water samples.

Right: He records sampling site characteristics.



“Some fish prey principally on invertebrates,” Bildad said. “If the invertebrates are the main food source, that’s another reason why they’re so important to study.”

Dr. Edward Martinez, Bildad’s adviser for the project, says the work of Bildad and other graduate students who are studying arsenic levels in plant life and urban runoff will give researchers a baseline for future research.

“I don’t like to call it contamination, since the levels are naturally occurring,” Martinez said. “It’s important to see how urban activities are impacting the watershed and to examine things we can mitigate in the future.”

“The invertebrates have a lifespan of months, so we’re getting a different picture,” Martinez said. “We can use the invertebrates to test the water quality and the health of the stream. Since the 1980s, the EPA has begun to accept using invertebrates to determine water quality. The invertebrates live there and are exposed to the contaminants throughout their life cycle.”

To assist in his research, Bildad received a \$5,000 grant from the New Mexico Water Resources Research Institute through the WRRRI Student Research Grant Program. The grant will help Bildad pay for lab analysis.

“To get the metals out of the sediments, we need to send them out,” Bildad said. “It’s fortunate the program exists, since it really helps. The research project could have been completed without the grant, but it would have taken much longer, since we would have been trying to find out how we can pay for the analysis.”

Bildad said he hopes one day to take his experience in analyzing water quality back to his native country, Cameroon, and help improve the lives and health of his countrymen.

According to the CIA World Factbook, water contamination is a top environmental concern for the African country of 18 million, and the risk is very high for waterborne infectious diseases.

“Studies like this are not done on a day-to-day basis in Cameroon,” said Bildad, who plans to pursue a Ph.D. after he gains more experience in the field. “We have industrial cities, and there is much contamination.” 💧

NMSU Professor Honored for Conservation Work

Linda Fresques, New Mexico State University

A. Salim Bawazir, assistant professor of civil engineering, has been recognized as the “Outstanding Conservationist for 2007” from the Sierra Soil and Water Conservation District of New Mexico. The award was presented at a meeting in Elephant Butte on December 11, 2007. Eugene Atkins from the USDA Natural Resources Conservation Service and Merry Jo Fahl of SSWCD presented the award.

The Sierra SWCD chose Bawazir because of his work on evapotranspiration monitoring of saltcedar and other plant communities, which documented water savings from the control of saltcedar. Bawazir is also researching native plant restoration techniques that assist SWCDs with their restoration efforts after saltcedar control. The awards are given out annually by the state association of SWCDs.

Bawazir has been instrumental in the completion of a joint investigation with Sierra SWCD, U.S. Bureau of Reclamation, and Jornada Resource Conservation and Development for measuring evapotranspiration depletion of treated and non-treated saltcedar. This study was the first of its kind, using state-of-the-art water measurements to actually show potential water savings associated with saltcedar control and management. In addition, the study measured a reduction in soil salinity levels post-treatment, indicating improved site potentials for restoration and rehabilitation.

Bawazir provides leadership and evaluation of the various projects. His mentoring activities include design of each project, monitoring data collection, evaluation of results, and

publication of results. AMP students get valuable field experience and learn about the academic work involved in basic research projects.

“His tireless and selfless efforts have not only assisted in scientific advances for water conservation but have in no doubt shaped the lives of countless students who will be our future leaders for conservation,” Atkins said.

Bawazir is currently involved with Sierra SWCD, Bureau of Reclamation, Jornada RC&D, and St. Cloud Mine in investigating the use of zeolite for arid land restoration. This project has shown promising results at establishing riparian vegetation without the need for irrigation and has the potential to provide economic benefits within Sierra County and beyond.

Professor Bawazir has contributed to many projects funded through the WRRRI, and we congratulate him on receiving this well deserved honor. 💧



Assistant Professor A. Salim Bawazir (NMSU Photo).

Reports Available

Rio Grande Compact Commission Report—The findings of the 68th annual meeting of the Rio Grande Compact Commission have been published. Contact WRRRI at 575-646-4337 for a copy of the report.

WRRRI Technical Completion Report 342—Solar Desalination of Brackish

Water Using Membrane Distillation Process, by Shuguang Deng, New Mexico State University

The objective of this research was to evaluate the thermal efficiency of different solar collectors as water heaters and to determine the process parameters of the membrane distillation

process using a hollow fiber membrane module for brackish water desalination through experimental and process modeling studies.

The report is available for download on WRRRI's website at <http://wrrri.nmsu.edu>, or contact WRRRI for a hard copy.

53rd Annual Water Conference Registration Form *Surface Water Opportunities in New Mexico, October 20-22, 2008*

Name _____
Badge Name _____
Affiliation _____
Mailing Address _____
City, State, Zip _____
Phone No. _____ Fax No. _____
Email _____

Amount Enclosed _____
Purchase order enclosed. No. _____
Please bill my credit card: (Visa, MasterCard, Discover)
Card No. _____
Expiration Date _____
Signature _____

Registration Fees

Please check the following:

- Registration \$175 received by Sep. 12 (Early Bird)
- Registration \$225 from Sep. 13 through Oct. 6
- Registration \$250 after Oct. 6 and at the door
- Full-time** student registration \$75
- Luncheon ticket(s) for guest(s) \$40/guest _____
- I will attend the tours on Monday, Oct. 20
 - I will go to the Water Treatment Plant **OR**
 - I will go to the Bear Canyon Recharge Demonstration Project

The registration fee includes all conference functions (as well as lunch) and a copy of the proceedings on CD to be published after the conference. The registration fee will be refunded if written notice of cancellation is received by October 6, 2008. A \$25 cancellation fee will be charged.

Payment Information

Send this form with a check made payable to:
NMWRRRI
MSC 3167
New Mexico State University
P.O. Box 30001
Las Cruces, NM 88003-8001

Register Online

Check WRRRI's homepage for updated information about the conference. You can also register for the conference at <http://wrrri.nmsu.edu>. Choose the Water Conference link and follow the instructions. Purchase order or payment must be received by mail to confirm registration.



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