

The Hydrogeologist

Newsletter of the
GSA Hydrogeology Division

Fall 2012
Issue No. 77



The Annual GSA Meeting is coming up, and the schedule is now final! See page 6 a list of scheduled Hydrogeology Division Events, Pardee Keynote Symposium P4, and page 10 for the Topical Sessions sponsored by the division. Remember to check the meeting website for many (23) other co-sponsored topical sessions that are part of the technical program. Also remember to look for field trips, short courses, and other events on the meeting website and in the current issue

of GSA Today (which has a very good map of Charlotte in it, by the way).

See you in Charlotte!

Steve Ingebritsen & Alicia Wilson

Hydro Division Chair

Hydro Joint Technical
Committee Program
Representative



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Steve Ingebritsen
Chair
GSA Hydrogeology
Division

Innovation

In my office files there is a xerox copy of a letter from O.E. Meinzer to C.V. Theis dated 6 November, 1937. It is a critical, three-page single-spaced review of the classic paper that would eventually be published as "The significance of the cone of depression in ground-water bodies" (Economic Geology, v. 33, p. 889-902). At the time Meinzer had already been Geologist-in-Charge of the USGS Ground-Water Division for a quarter century, and Theis was still a relatively young staff

scientist stationed in Albuquerque. Among my favorite passages are:

"I submitted your paper to some of the men in the office [they were all men then] and found that it made a very unfavorable impression. I therefore made a critical study of it and am returning it to you with numerous criticisms..."

"In the first place it is evident that the paper is poorly written ... there are certain difficulties in your style that make it difficult to understand your papers. Critical reading shows that back of the confusion of language is somewhat of a confusion of thought."

"It occurs to me, also, that you are not sufficiently familiar with the ground-water literature, or perhaps rather with the results of studies that have not yet been adequately expressed in the published literature...."

Finally, in a handwritten note next to the signature block, Meinzer notes that ***"If you should decide not to give the paper at this meeting I will not object...."***

Of these excerpts perhaps the most telling is the 4th, because it suggests that Meinzer was not yet convinced of the validity of the quantitative approach to the non-equilibrium problem that had been introduced two years previously in Theis' great 1935 paper (Transactions American Geophysical Union, p. 519-524).

I received a copy of this Meinzer-Theis letter from a colleague in the USGS New Mexico District office in the early 1980s, when I was still in graduate school. At the time I found it absolutely shocking – it seemed to me as if the "Father of Ground-Water Hydrology" was trying to stifle one of his most brilliant offspring. Now, 30 years later, it seems to me emblematic of the nature of scientific progress. Even the best of us – and Meinzer was a wonderful scientist and manager – may not immediately appreciate innovation, and even true innovators like Theis may need extraordinary persistence in order to convince a critical mass of their colleagues.

Please see **Chair** on page 7

The Hydrogeologist

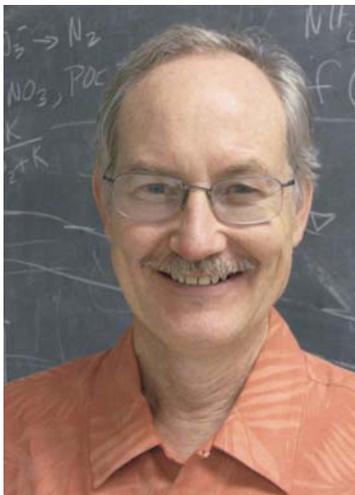
The Hydrogeologist is a publication of the Hydrogeology Division of the Geological Society of America. It is issued twice a year, to communicate news of interest to members of the Hydrogeology Division. During 1998, the publication moved from paper-based to electronic media. The electronic version may be accessed at: <http://gsahydro.fiu.edu>. Members of the Hydrogeology Division who have electronic mail will receive notification of all new issues. Other members will continue to receive paper copies.

Contributions are material are most welcome, and should be directed to the Editor. Submission as a Word or WordPerfect document is most expedient. **The deadline for the Fall issue is January 15, 2013.**

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Parkhurst 2012 O.E. Meinzer Award Recipient



David L Parkhurst

continued to work for the USGS during and after college, working on several geochemical issues, including the development of the PHREEQ model in 1980, with subsequent publications that have been cited for this award. David continued to work on model development, in addition to other topics in organic and inorganic geochemistry. David has produced a large body of impactful papers, from which the award committee recognized four seminal papers as having significantly advanced the science.

In support of David's Meinzer Award, four papers were cited (see insert). These papers highlight David's work related to the development and application of geochemical modeling software. The first paper describes the development and use of the computer program PHREEQE which models geochemical reactions. PHREEQE can calculate pH, redox potential and mass transfer as a function of reaction progress.

The second paper cited for the Meinzer describes the formulation of a geochemical mole-balance model that includes a term for uncertainty, greatly enhancing inverse geochemical modeling.

PHREEQE was further advanced with the development of PHREEQC, as described in the third paper cited for the Meinzer award. PHREEQC advances the original program to include speciation and saturation-index calculations, batch and one-dimensional transport calculations and inverse modeling. The fourth

paper also cites the development of a geochemical model, PHAST. PHAST further extends PHREEQC to a multicomponent, reactive solute transport model capable of simulating geochemical reactions in three-dimensional saturated groundwater flow systems.

The development of PHREEQE, PHREEQC and PHAST have resulted in numerous publications on geochemical model development and application by David and other researchers around the world. The user-friendly environment, accessibility, flexibility and power of these codes have enabled advances in a variety of fields, and are incorporated in at least 7 other codes. Given these vital contributions to hydrogeology David Parkhurst is this year's recipient of the GSA Hydrogeology Division's O.E. Meinzer Award.

Papers Cited For The Meinzer

Parkhurst, D.L., Thorstenson, D.C. and Plummer, L.N. (1980). PHREEQE--a computer program for geochemical calculations. U.S. Geological Survey Water-Resources Investigations Report 80-96, 195 p.

Parkhurst, D.L. (1997). Geochemical mole-balance modeling with uncertain data. *Water Resources Research*, v. 33, no. 8, p 1957-1970.

Parkhurst, D.L. and Appello, C.A.J. (1999). User's guide to PHREEQC (version 2)--A computer program for speciation, batch-reaction, one-dimensional transport, and inverse geochemical calculations. U.S. Geological Survey Water-Resources Investigations Report 99-4259, 312 p.

Parkhurst D.L., Kipp, K.L. and Charlton, S.R. (2010). PHAST Version 2--A program for simulating groundwater flow, solute transport and multicomponent geochemical reactions. U.S. Geological Survey Techniques and Methods 6-A35, 235 p.



Katz Receives the 2012 George Burke Maxey Distinguished Service Award



Dr. Brian Katz
U.S. Geological Survey

The 2012 Burke Maxey Distinguished Service Award is presented to Dr. Brian Katz. Dr. Katz received his B.Sc. in Chemistry from SUNY Oneonta and his M.Sc. in geochemistry from the University of Colorado, Boulder. Dr. Katz then worked for the USGS in Long Island, N.Y. and then in Maryland. He was accepted into the USGS Graduate School Program, and after completing environmental engineering courses at John Hopkins University, he earned his Ph.D. in geology from Florida State University, where he is now an adjunct professor in the Department of Earth, Ocean and Atmospheric Sciences, in addition to continuing to work for the USGS at the Tallahassee office.

Brian's current research focus is on the use of environmental isotopes and other chemical tracers to determine sources and chronology of contamination in groundwater and springs in karst aquifers, assessing the impact of waterwater disposal on groundwater quality, and quantifying hydrochemical interactions between groundwater

and surface water. He has authored over 100 journal articles, USGS reports and other publications, and has mentored newly hired USGS scientists.

Brian has contributed to the Geological Society of America Hydrogeology Division for several years in the position of Secretary/Treasurer. He was elected to this position in 2006 and continues in this role today, stepping down at the end of the 2012 Annual Meeting in Charlotte. The secretary/treasurer position is responsible for coordinating many of the Division's activities, managing all financial transactions including the Division's various foundation funds supporting Division awards, lectureships, and student research programs, and for maintaining a record of Division business. Brian's savvy management of Division funds has allowed our Division to remain in great financial shape throughout recent economic fluctuations, enabling us to grow our principle and maximize our growth fund.

Brian's contributions to the Division extend beyond financial management, and included attending numerous Management Board meetings, Annual Meetings, Leadership Training Workshops and on-line and in-person Management Board and GSA Planning meetings. In each of these instances he has sacrificed his own professional development in order to attend. Brian has also assisted in booking rooms for various events during the Annual Meetings, such as the student reception, distinguished lectures, and ordering the luncheon and reception meals. Brian can also be seen regularly volunteering to help out at the luncheon and student reception, in addition to staffing the Division's booth in the exhibit hall.

It is clear that Brian is willing to do anything and everything to serve the Hydrogeology Division of the GSA, and we would like to acknowledge his service with the presentation of the Burke Maxey Distinguished Service Award.



Cardenas is the Inaugural Recipient of the Kohout Early Career Award



Dr. M. Bayani Cardenas
University of Texas at Austin

“He [Dr. Cardenas] has a gift: a combination of deep understanding and simplicity of presentation”

Dr. Vitaly A. Zlotnik, Citationist

The 2012 Kohout Early Career Award is presented to Dr. M. Bayani Cardenas of the Department of Geological Sciences at the University of Texas at Austin. Dr. Cardenas was born in Goettingen, Germany, but grew up in his native country of the Philippines. He obtained his BS from the University of the Philippines-Dilimann in 1999 before going to the University of Nebraska-Lincoln for his MS in Geology, studying under Vitaly Zlotnik. Dr. Cardenas and his young family then moved to Socorro, New Mexico where he completed his Ph.D. with Dr. John Wilson at the New Mexico Institute of Mining and Technology, supported by the Frank M. Kottolowski Fellowship administered by the NM Bureau of Geology and Mineral Resources. The Cardenas family then moved to Austin, Texas where Bayani started as an Assistant Professor at UT Austin in 2006,

receiving tenure and promotion to Associate Professor in 2011.

Dr. Cardenas' research began in modeling, developing a model of point bar deposits while working towards his MS at UNL. It is noted by his citationist that in the acceptance letter from the resulting manuscript Bayani is addressed as 'Dr. Cardenas'; this was before he had even received his MS, an indication of his bright future ahead.

The research Bayani conducted for his PhD work focused on modeling groundwater-surface water interactions, an area in which he remains an active and prominent researcher. His use of multi-physics modeling to quantify coupled turbulent channel flows with heat flow and biogeochemical solute transport within the streambed revolutionized the field; figures from these papers are often used in talks and classrooms around the world.

While Dr. Cardenas continues to use and develop modeling tools for evaluating groundwater/surface water interactions, he has also explored several other research areas. He often combines field, experimental and theoretical methods in labs and field sites all around the world. His current studies on coastal aquifers and free convection of groundwater near volcanic crater lakes are particularly appropriate for this award, as Kohout was a pioneer in the study of density-driven groundwater convection.

Bayani's accomplishments are many and diverse, including invited lectures, awards from the American Geophysical Union and National Science Foundation, the accomplishments of his students, and the volume of grants he has received. As such, Dr. Cardenas is the perfect inaugural recipient for the Kohout Early Career Award, and the GSA Hydrogeology Division would like to acknowledge the contributions he has made to the science in his short time thus far as a member of the community. We anticipate and look forward to many more years of exceptional research.



Charlotte 2012: Hydrogeology Division Events

As in past years, the Hydrogeology Division will continue its tradition of hosting numerous events throughout the GSA Annual meeting to encourage and foster ongoing and new relationships between members. The schedule below highlights the Hydrogeology Division events.



2011 Student Reception

Luncheon, Awards and Business Meeting

Tuesday, November 6 will be a busy day, starting with the Hydrogeology Division Luncheon and Awards Ceremony beginning at 11:45 am (although the line-up to get in usually starts earlier!), in the Westin Charlotte Grand Ballroom C. The Business meeting will follow the lunch and awards in the same location. Tickets for the luncheon can be purchased when you register for the conference for \$43.00; these tickets are usually sold out before the conference and are difficult to get once the conference has begun. The luncheon is an excellent opportunity to meet and network with many of the leading hydrogeologists at GSA.

Birdsall-Dreiss Lecture

Later on Tuesday afternoon is the Birdsall-Dreiss Lecture, given by Jay Famiglietti, from 4:30 pm to 5:30 pm in CCC Ballroom Division A. If you have not had a chance to hear one of his lectures on this tour, this is one of your last chances!

Student Reception

Following the Birdsall-Dreiss lecture is another chance for students to get together with many other members of the Hydrogeology Division to enjoy appetizers, a free drink (thanks to the Diodato Student Travel and Beer Fund) and get a chance to win a prize at the annual Hydrogeology Division Student Reception. The reception will be held from 5:45 pm to 7:45 pm in the CCC Ballroom Division A, or a nearby foyer.

Darcy Lecture

Tuesday is not the only day with Hydrogeology Division events. On Monday November 5 from 5:00 pm - 6:00 pm S. Majid Hassanizadeh will give his Darcy Lecture in CCC Room 213A.

We hope to see all of you out at these Hydrogeology Division events!



Chair from page 2

Memorializing the history of hydrogeology in Wikipedia?

While doing a cursory online search to explore the background of the Meinzer-Theis letter discussed above, I noticed that neither O.E. Meinzer or C.V. Theis has a dedicated Wikipedia entry – though there is a “stub” entry for the Meinzer Award. Other biographical resources are available online, notably a 15-page biography of Theis by his colleagues Robert R. White and Alfred Clebsch and an encyclopedia.com entry about Meinzer. However, for many of us Wikipedia is becoming a first resort for information, and some scientific communities (e.g. the mathematicians) have made a concerted effort to memorialize their history in Wikipedia. Should we consider doing the same?

2012 GSA Annual Meeting in Charlotte, North Carolina (November 3-7)

The Hydrogeology Division is sponsoring or co-sponsoring 52(!) technical sessions, a Pardee Symposium, and two Distinguished Lectures (Darcy and Birdsall-Driess) at the 2012 GSA Annual Meeting. Other Hydro Division events include the Student Reception, the Luncheon, Awards, and Business Meeting, two Management Board meetings, and a staffed booth in the exhibit hall.

Thank you

This will be my last “Chair's Corner”, so I want to thank all of you for the opportunity to serve as your Chair, and to particularly thank some of the individuals who have kept the Hydrogeology Division running smoothly during my tenure. I've

found the Hydrogeology Division to be wonderfully functional, with lots of positive inertia and many caring members who are always willing to pitch in. I've also learned that some GSA Divisions (which I won't name) sometimes have trouble maintaining a website, or putting out a newsletter, or contributing to the technical program at GSA meetings. That is definitely not the case in Hydro Division.

Our Joint Technical Program representative Alicia Wilson deserves most of the credit for the wonderful Charlotte program; be sure to thank and congratulate her at the meeting. Ed Harvey was a wonderfully organized Chair; I have tried to emulate him as much as possible, have frequently relied on his advice as immediate Past Chair, and look forward to joining him in the ranks of Past Chairs in Charlotte. Andrea Brookfield and Mike Sukop make sure that Hydro Division DOES have a useful and functional newsletter and website. Our Secretary/Treasurer Brian Katz, the longest-serving member of the Management Board, has been our institutional memory and will be the very deserving recipient of the 2012 George Burke Maxey Distinguished Service Award.

Warm regards,

Steve Ingebritsen

2012 Hydrogeology Division Chair



Do you have an interesting idea for a short scientific article? Perhaps an opinion on a new policy or technique? Any exciting news in your professional life? Upcoming conferece? An announcement of interest to the hydrological community? If so, why not publish it in The Hydrogeologist? Send your submission ideas to andrea@kgs.ku.edu

STUDENTS, WE WANT TO HEAR FROM YOU TOO!

Or to Tour as 2013 Birdsall-Dreiss Lecturer



Dani Or has been selected as the 2013 Birdsall-Dreiss Distinguished Lecturer. The lectureship is given to one person annually by the GSA Hydrogeology Division; Or is the 35th GSA Birdsall-Dreiss lecturer.

Dr. Or is a professor of Soil and Terrestrial Environmental Physics and Director of the Institute of Terrestrial Ecosystems (ITES) in the Department of Environmental Systems Science at the Swiss Federal Institute of Technology (ETH) Zurich in Switzerland. His research focuses on mass and energy transport in porous media, on mechanics of abrupt landslides and avalanches, and on linking physical processes and biological activity in soils. Dr. Or has authored or co-authored over 170 refereed publications, co-authored a book, and over 270 proceeding papers and abstracts. Dr. Or is Editor in Chief of the Vadose Zone Journal, recipient of the Kirkham Soil Physics Award (2001), Fellow of the Soil Science Society of America (2004), elected chair of the 2008 Gordon Research Conference on Flow and Transport in Permeable Media (Oxford, UK), and was elected 2010 Fellow of the American Geophysical Union. The two Birdsall-Dreiss lectures for 2013 will be based on recent findings on the quantitative basis for evaporation dynamics

from terrestrial surfaces and on biophysical processes controlling microbial life in unsaturated soils.

Interested institutions should contact Dani Or at dani.or@env.ethz.ch to schedule a lecture on one of the following topics:

How do porous terrestrial surfaces control evaporation into the atmosphere?

Globally, evaporation consumes about 25% of solar energy input and is a key driver for the hydrologic cycle, whereby 60% of terrestrial annual precipitation returns to the atmosphere via transpiration (40 %) and soil evaporation (20%). Quantifying evaporation is important for assessing changes in hydrologic reservoirs, surface energy balance and climatic processes, and for many industrial and engineering applications. Key (1972) commented that “evaporation is a commonly practiced art, but a neglected science” - interactions of evaporating surfaces with internal liquid and vapor transport below and with atmospheric controls above remain largely empirical. Despite basic similarities, evaporation from porous media is significantly different than from free water surfaces due to withdrawal of liquid from internal pore spaces and nonlinear interactions between drying surfaces and the air boundary layer. Porous media properties determine abrupt transitions from initially high evaporation rate (stage 1) to a slower diffusion-controlled stage 2. This well-documented behavior is attributed to disruption of capillary liquid continuity essential for supplying surface evaporation. New findings highlight nonlinear behavior of drying porous surfaces due to enhanced vapor fluxes from remaining active pores as they become increasingly isolated. Increased spacing between active pores under low atmospheric demand (thick boundary layer) results in significant increase in evaporative flux per pore that may compensate for the reduced evaporative surface area (progressively drying

Please see [Or](#) on Page 11

Where in the World?



This edition's photo:

This edition's photo was taken from Google Maps.

Hint: You'll hopefully be within 300 miles of this location in early November.

Send your guess and photos for future editions to andrea@kgs.ku.edu

See page 11 for information about last edition's photo.



Want to know what's going on within the GSA Hydrogeology Division?

Then visit our website at <<http://gsahydro.fiu.edu>>

OR

Join the GSA Hydrogeology Division **facebook** group

to catch up on the latest events or find out how you can become more involved with our activities

2012 GSA Annual Meeting Program Schedule

Hydrogeology Division

Session Title	Day	Time	Room
T106. Arsenic: Fate and Transport in Natural Waters and Aquifers from Basin to Pore-Space Scale I	SU	8 a.m.–noon	213D
T86. Estimation Techniques and Controls on Natural and Artificial Recharge	SU	8 a.m.–noon	213A
T105. Groundwater–Surface Water Interactions: Advances in Measurement and Modeling Techniques I	SU	8 a.m.–noon	213BC
Hydrogeology (Posters)	SU	9 a.m.–6:30 p.m.	Hall B
T87. Building Capacity for Hydrologic Science in Water-Stressed Regions of the World (Posters)	SU	9 a.m.–6:30 p.m.	Hall B
T106. Arsenic: Fate and Transport in Natural Waters and Aquifers from Basin to Pore-Space Scale II	SU	1:30–5:30 p.m.	213D
T88. Geological and Hydrogeological Characterization Studies at CO ₂ Sequestration Sites	SU	1:30–5:30 p.m.	213A
T105. Groundwater–Surface Water Interactions: Advances in Measurement and Modeling Techniques II	SU	1:30–5:30 p.m.	213BC
T100. Biogeochemical Processes Influence the Environmental Fate of Contaminants: The Role of Hydrology and Ecology in the Chemical Evolution of Water	MO	8 a.m.–noon	213D
T89. Groundwater–Surface Water Interactions: Approaches for Improved Decision Making for Water Resource Issues	MO	8 a.m.–noon	213A
T95. The Biscayne and other Eogenetic Karst Aquifers: Characterization, Modeling, and Management	MO	8 a.m.–noon	213BC
T106. Arsenic: Fate and Transport in Natural Waters and Aquifers from Basin to Pore-Space Scale (Posters)	MO	9 a.m.–6 p.m.	Hall B
T105. Groundwater–Surface Water Interactions: Advances in Measurement and Modeling Techniques (Posters)	MO	9 a.m.–6 p.m.	Hall B
T89. Groundwater–Surface Water Interactions: Approaches for Improved Decision Making for Water Resource Issues (Posters)	MO	9 a.m.–6 p.m.	Hall B
Hydrogeology I: Rock Properties and Physical Processes	MO	1:30–5:30 p.m.	212AB
T94. Dissolved Gases and Bubbles in Groundwater: Applications and Emerging Topics	MO	1:30–4:45 p.m.	213A
T98. Hydrogeology and Geochemistry of Shales	MO	1:30–5:30 p.m.	213BC
GSA Hydrogeology Division: Henry Darcy Distinguished Lecture	MO	5–6 p.m.	213A
Hydrogeology II: Groundwater Management	TU	8 a.m.–noon	212AB
P4. Shale Gas Development and Hydraulic Fracturing Impacts on Water Resources in the United States	TU	8 a.m.–noon	Ballroom Div. B
T101. Hydrology of Urban Groundwater, Streams, and Watersheds	TU	8 a.m.–noon	213A
T96. Riparian Ecohydrology and Stream-Aquifer Interactions: Fluxes across the Surface-Subsurface Interface	TU	8 a.m.–noon	213BC
T90. Coastal Surface Water–Groundwater Interactions (Posters)	TU	9 a.m.–6 p.m.	Hall B
T107. Comparisons of Flow and Chemistry in Eogenetic and Telogentic Karst Aquifers (Posters)	TU	9 a.m.–6 p.m.	Hall B
GSA Hydrogeology Division: Birdsall-Dreiss Distinguished Lecture	TU	4:30–5:30 p.m.	Ballroom Div. A
T93. Advances in Hydrology and Sustainable Water Management in Coastal Environments	WE	8 a.m.–noon	207A
T102. Hydraulic Fracturing for Resource Development or Remediation: Methods, Results, and Industry-Regulatory Response to Environmental Impacts on Ground and Surface Waters	WE	8 a.m.–noon	207BC
T101. Hydrology of Urban Groundwater, Streams, and Watersheds (Posters)	WE	9 a.m.–6 p.m.	Hall B
T91. The Hydrology of Headwater Catchments (Posters)	WE	9 a.m.–6 p.m.	Hall B
T90. Coastal Surface Water–Groundwater Interactions	WE	1:30–5:30 p.m.	207A
T103. Groundwater Model Calibration and Uncertainty Analysis	WE	1:30–5:30 p.m.	207BC



Or from Page 8

surface) and thus sustain a constant evaporation rate. Evaporative fluxes from heterogeneous surfaces (texture, fractures) are spatially non-uniform as shown by thermal imaging, and often lead to enhanced evaporative losses relative to evaporation from uniform surfaces. Implications of the findings for estimates of evaporative losses used in hydrological and climate models will be discussed.

Biophysical processes shaping bacterial life in soils – an unexplored universe under our feet

By some accounts exploring the microbial diversity found in soils represents an uncharted scientific frontier at a scope similar to that of space exploration. The immense diversity of soil microbial life is attributed to the complex and heterogeneous pore surfaces and spaces with highly dynamic aqueous and chemical microenvironments. In most unsaturated soils a flickering aqueous network defines nutrient

diffusional pathways and shapes microbial dispersion patterns. We quantitatively explored effects of microscale hydration on biophysical interactions affecting microbial dispersion and controlling coexistence of competing bacterial species inhabiting unsaturated surfaces. The rapid fragmentation of the aqueous phase yields a surprisingly narrow range of hydration-enabled motility, and marks the onset of flux limiting and heterogeneous diffusion fields that promote coexistence. Conditions promoting coexistence occur under mild unsaturated conditions within matric potential values of a few kPa nearly independent of soil or rock type. The spontaneous spatial organization of interacting microbial populations and formation of consortia shaped by dynamic diffusion fields and trophic interactions offer a fascinating and robust level of self-organization that support high diversity found in soil. The resulting length scales for interactions offer new insights into biogeochemical function of soil microbes and could guide bioremediation activities of the subsurface.



Cape Cod, MA



The MMR is a 22,000 acre military facility on the western Cape Cod. The MMR is presently the home to the Camp Edwards army-training site, the Otis Air National Guard Base fighter squadron, the Massachusetts National Cemetery and several smaller military and civilian tenants.

The MMR overlies the Cape Cod aquifer, which is composed of mostly sandy unconsolidated sediment deposited at the edge of retreating ice sheets approximately 15,000 years ago. Military activities, primarily from the 1940s-1970s introduced chemical wastes into the Cape Cod aquifer. The Impact Area Groundwater Study Program is cleaning up contaminated soil and groundwater from some of these plumes.

The MMR has been the site of many hydrogeology research activities, including the famous large-scale natural gradient tracer tests from the early 1990s. These studies looked into the spatial movements for non-reactive tracers, in addition to variability of hydraulic conductivity and dispersion in this heterogeneous aquifer. The MMR site has been, and continues to be, an active research site for hydrogeologists.

Some information for this article was taken from the USGS website.

Congratulations to Dr. David Boutt of the University of Massachusetts-Amherst in being the first to correctly identify this photo as the Cape Cod research site on the Massachusetts Military Reservation (MMR). Congratulations to Dariusz Chlebica, Mike Chapman, Bob Abrams, Mike Frimpter and Kathryn Hess for also correctly guessing this location.

This photo was taken during the NovCare conference held in May 2011 at the Cape Cod site. Perhaps Dr. Boutt had an unfair advantage, as he also identifies himself as one of the people at the drill rig in the far left.



BULLETIN BOARD

AGU Fall Meeting

The AGU Fall Meeting will be held December 3-7 in San Francisco in the Moscone Convention Center. Registration fees will increase after November 2, so register today!

NGWA Ground Water Expo

The NGWA Ground Water Expo will be held December 4-7 in Las Vegas. Registration fees will increase after November 9, so register today!

GSA 2013 Denver, CO

Celebrate 125 years of the GSA at the 2013 GSA Annual Meeting that will be held on October 27-30 in Denver, CO.

Upcoming deadlines:
Field Trip Proposals - Dec. 3, 2012
Technical Session Proposals - Jan. 8, 2013

GSA Section Meetings

Northeastern: Bretton Woods, NH, Mar. 18-20 2013
Southeastern: San Juan, Puerto Rico Mar. 20-21 2013
South-Central: Austin, Apr. 4-5 2013
North Central: Kalamazoo, MI, May 2-3 2013
Rocky Mountain: Gunnison, CO, May 15-27 2013
Cordilleran: Fresno, CA, May 20-22 2013

PLACE YOUR ANNOUNCEMENT HERE

From the Editor....

Welcome to the Fall 2012 edition of the Hydrogeologist (the Oktoberfest edition!). Yes, I am aware that in Munich they celebrate in September, but I'm pretty close.

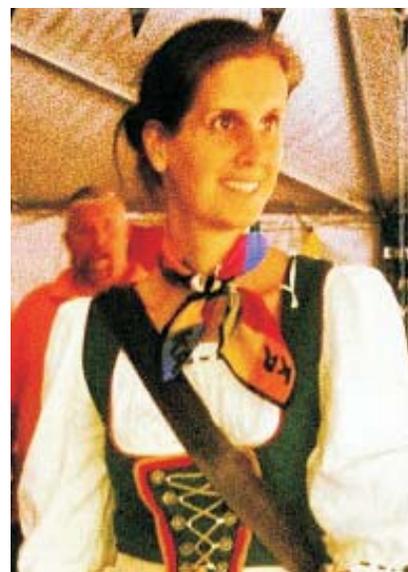
I'd like to give a shameless plug for the newest addition to the KGS website (my employer). Several members of the GeoHydro section have recently developed an online tool called the Kansas High Plains Aquifer Atlas. Although I had nothing to do with it, I encourage you all to check it out:

http://www.kgs.ku.edu/HighPlains/HPA_Atlas/index.html

As usual, forward any comments or article ideas to andrea@kgs.ku.edu.

I hope to see you all in Charlotte!

Andrea



Hydrogeology Division Contacts

2012 Management Board

Chair: Steve Ingebritsen (Ingebritr@sbcglobal.net)

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Second Vice-Chair: Alan Fryar

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Secretary-Treasurer: Brian Katz

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Past Chair: Ed Harvey

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Standing Committees

Technical Program Committee: Alicia Wilson - 2012 (Charlotte)

Nominating Committee: Carol Wicks (Chair), Scott Bair, Ed Harvey

Meinzer Award Committee: Mike Edmunds (Chair), Mary Jo Baedecker, Bayani Cardenas, Graham Fogg, Kamini Singha

Birdsall-Dreiss Lecturer Committee: Susan Hubbard (Chair), Jeffrey McDonnell, Jay Famiglietti

Burke Maxey Distinguished Service Award Committee: Ira Sasowsky (Chair), Laura Lautz, Mary Anderson

Kohout Early Career Award Committee: Steve Van der Hoven (Chair), Scott Tyler, Janet Herman, Shaul Hurwitz, Maddie Schrieber

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