

WRD RETIREES

NEWSLETTER 160

August 2013

An organization of retirees of the Water Resources Discipline, U.S. Geological Survey, whose purpose is to keep its members in touch with each other and their former agency.

PRESIDENT'S MESSAGE

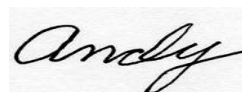
I am very happy to announce to the membership that our Reunion Chairman, **Derrill Cowing**, in Maine, along with his committee, has been hard at work getting all the details squared away for the October 2014 WRD Retirees Reunion. As past chairpersons know, it takes much planning to pull off an effort of this magnitude. After much time and effort selecting a qualified hotel, and approving and signing the contract, Derrill is in the process of planning the meals, choosing the side trips, and working out all final details. (See page 3 of this newsletter for more information.)

We in the mid-Atlantic states tend to complain in the summer about the heat, and in the winter about the cold, but are generally happy with spring and fall, except when it rain excessively. Here in Virginia the humidity can be overwhelming at times also, but the old saying is "stick around a few days and the weather will change." We are lucky to have the mountains, ocean, rivers, lakes, and many activities available within a short distance from us.

I am sorry to announce that the Hydrologic Technician Scholarship failed to materialize this year. News of a Federal hiring freeze may have caused students not to apply early enough for the committee to evaluate their applications or in time for us to award the scholarships. We really do appreciate the efforts of the Awards Committee to make the Hydro Tech Scholarship program the huge success that it is. There is no problem with our finances, as you can see by the Treasurer's report. We will begin the recruitment process earlier next year, because there are time limits for students to properly prepare their paper work. Please spread the word to your colleges that we plan to give out scholarships for the 2014 school year.

As you know, I have been urging members to step up and volunteer to serve as officers for the WRD Retirees, especially for the offices of President and Secretary. The President serves for one two-year term, and my term expires at the end of 2013. Bill Boning is "retiring" from being Secretary after eleven years of great work. Bill will be moving away from Herndon, and he has been a loyal and dedicated officer, and he will surely be missed. I am now happy to tell you that we do have volunteers for President, Secretary, and most of the other national and regional positions. After much discussion between current officers and potential volunteers, Ethan T. "Tim" Smith of Reston is willing to serve as President, and I plan to give the job of Secretary a try. We will announce the full slate of candidates and provide a voting ballot in the November 2013 Newsletter.

There is much concern about locating water employees who are retiring, or who have already retired, and may want to become members of the WRD Retirees organization. Due to changes at the USGS, we no longer may receive personal information about retirees, such as home contact information and email addresses. This makes it challenging for us to locate these retirees and invite them to join us. ***This is a request to all WRD Retiree members, to notify the National Officers (by mail, e-mail, or phone) of any potential retirees you may know or hear about.*** We would also ask anyone at the Water Science Centers for information about people about to retire. In this way, you can help us get these potential members on board.



National Officers: Clarence W. Anderson, President Alberto Condes, Vice President Charles W. Boning, Secretary Celso Puente, Treasurer Charles Nethaway, Archivist	Regional Directors: Sharon Goss, Northeast Richard M. Bloyd, Southeast C.R. Burchetti, Central Chester "Chet" Zenone, Western	Newsletter Staff: Editor: Charles Nethaway Layout Editor: Merilee Bennett NR: Anna Lenox SR: Vivian Olcott CR: Richard Hawkinson WR: John Klein	Address: WRD Retirees P.O. Box 280 Herndon, VA 20172-0280 Phone (703) 648-5641 Web Page: WRDRetirees.org Email: wrdr retirees@usgs.gov
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What's New in Research?

New Tools for Understanding River Velocities

By Jerad Bales, Acting Associate Director for Water

The acoustic Doppler current profiler (ADCP) has revolutionized USGS discharge measurement. Sections that previously were unmeasurable can now be measured in a matter of minutes (fig. 1). With the ability to sample several times a second, an ADCP provides an efficient means of gathering detailed hydrodynamic data for understanding flow patterns in complex systems. Along with depth measurements, the ADCP uses sophisticated algorithms to measure three-dimensional velocity fields based on information measured by each of four acoustic beams.



Figure 1. Unmeasurable flooded section, which can now be measured using boat-mounted acoustic Doppler current profiler.

USGS recently developed the Velocity Mapping Toolbox (VMT) to process and visualize ADCP data (Jackson, R.P., USGS Fact Sheet 2013-3028, available at <http://pubs.usgs.gov/fs/2013/3028/pdf/fs2013-3028.pdf>).

Spatial distributions of depth-averaged velocities and vertical distributions of velocities are useful for understanding circulation patterns in streams, lakes, reservoirs, and estuaries. Because many flow systems are stratified, VMT users can extract, average, and visualize ADCP velocity data from any user-defined layer of interest. As a result, circulation and constituent transport patterns above and below a density interface (e.g., thermocline, halocline, or turbidity current) can be studied and understood. VMT includes the capability to export depth- and layer-averaged velocity data in a geo-referenced format for direct comparison to output from hydrodynamic models or for display in a geographic information system.

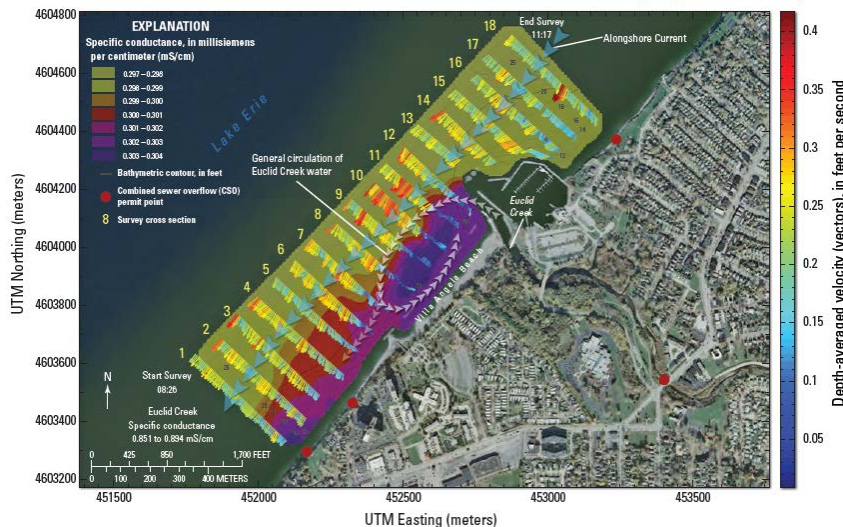


Figure 2. Depth-averaged velocity and near-surface conductance near the confluence of Euclid Creek with Lake Erie, Ohio (from Jackson, 2013)

VMT information can be combined with other data to provide detailed understanding of transport phenomena. Figure 2 shows velocity distributions and near-surface specific conductance near the outfall of a creek into Lake Erie. Conductance data were collected using an autonomous underwater vehicle (Jackson, R.P., USGS Fact Sheet 2013-3018, available at <http://pubs.usgs.gov/fs/2013/3018/pdf/FS2013-3018.pdf>).

These data suggest that bacteria-laden stormwater discharging from the creek likely are impacting the recreational beach southwest of the creek discharge. Recent

USGS-led advances in hydrologic data collection are continuing the legacy of USGS leadership in the monitoring and understanding the Nation's water resources.

SEVENTEENTH WRD RETIREES REUNION 2014
Portland, Maine

Thursday, October 2 - Saturday, October 4, 2014

By Derrill Cowing, Local Arrangements Committee Chair (retired 2001)

We hope you can join us in October 2014 to renew old friendships and start some new ones. The official Registration Form will be issued in the February 2014 newsletter with information about the venues, registration costs and planned events.

One of the most enjoyable activities of WRD Retirees is the reunion held every two years. Locations of the reunions are rotated among the WRD Regions to enable retirees from various parts of the country to attend easily. Our 2014 Reunion in Portland, Maine will give retirees living in the eastern USA an excellent opportunity to attend.

"We are planning some great activities for the event! Reunions typically feature field trips, a gala banquet, local tours, a general business meeting, and a hospitality room that is always a favorite gathering place. This reunion will have that and a little more. Plans call for an optional Friday evening trip on the Casco Bay Ferry to Peaks Island in the Bay for a full-scale lobster seashore style dinner!! A Saturday bus excursion will travel from Portland to the foothills of the White Mountains for a viewing of the usually spectacular fall foliage of New England. Rumors also are being circulated about a trip to Freeport (home of LL Bean's flagship stores and many other first class outlets). How about a local brewery tour??"

Although October 2014 is more than a year away, the committee wanted to give you plenty of opportunity to plan to attend. The committee has already begun scoping out local hotels, and transportation opportunities to and from the reunion are many. Most hotels have a complimentary shuttle from the Portland International Airport (PWM). Major airlines serving Portland are Southwest, United, Delta, US Airways, and Jet Blue. The AMTRAK station is about 2 miles from the hotel with "Downeaster" train service from Boston. I-295 and I-95 provide direct easy access to the city.

Transportation will be arranged for reunion events outside the hotel and you can find many excellent restaurants and bars within a couple of blocks of the hotel. If you plan to drive to Portland, you have an opportunity to visit places like Acadia National Park, the Green Mountains of Vermont, the White Mountains of New Hampshire, the Great Coast of Maine along US Route 1, the historic City of Boston, and the other early American historic areas of New England. By the summer of 2014, there will likely be an international ferry with service from Portland to Halifax, NS, Canada for adventurous souls.

The committee members are: **Rick Fontaine** (ME & HI), **Bill Bartlett** (MD), **Walton Low and Marion Fisher** (ME & NM), **Alan and Carolyn Lumb** (VA), and **Derrill and Mary Jean Cowing** (ME).

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Ted Arnow writes about the story on Kilroy was Here: "I remember 'Kilroy Was Here' scrawled on every toilet stall in California, Hawaii, and points west all through WW II. He sure got around! Then about 50 years after the war ended, a trace of him turned up in rural Utah. We were on a narrow road in Morgan County, and my wife wanted to stop and collect some plants for the Herbarium at the University of Utah. While she was at it, I wandered back to check under an old concrete bridge we had just crossed. To my amazement and delight I saw those famous three words inscribed under the roadbed. There was no way I could tell when Kilroy had been there."



Bill and Shirley Boning enjoyed a 13-day river cruise in France in June. "The cruise began in Monaco, then to Nice, and then to the cruise ship in Avignon. In Avignon we visited the Palace of the Popes, a huge Gothic palace built in the 14th century as a fortification for the pontifical court. It seemed that every city we stopped at had a central market, with a huge variety of things to purchase. We visited many cities that were of medieval age, with city walls that were substantially built. Most of these were of Roman construction. Of particular interest was Pont du Gard, a Roman aqueduct that was built to carry water across the Gardon River. The aqueduct was built about 2000 years ago and is now a UNESCO World Heritage

Site. From Avignon, we took a bus south to Arles where we saw the ancient amphitheater where gladiators fought (it is now used for bull fighting), then after boarding the ship again we went up the Rhone River to Lyon, stopping at various cities along the way. At Lyon we switched to the Saone River, traversing it as far as the water would allow, and concluded the tour with a bus excursion to Paris where our tour ended. On the bus to Paris, we stopped at Dijon, the capital of Burgundy. Many rivers in Europe were at flood stage, but the water had receded enough that our schedule was not interrupted although there were many low bridges to pass under. And we should mention the wine – we had all we wanted at dinner and there were a number of wine tastings at wineries along the way, as well as wine tasting on the ship. A very enjoyable tour!"



Bob and Libby Burchett took a road trip in late May to attend their granddaughter Alex graduation from Birmingham Southern college in Birmingham, Alabama. "Those of you who attended my retirement party in Austin, Texas will remember Alex as the cute little 7 year old girl that gave an absolutely wonderful speech standing on a chair behind the podium. On our way to Birmingham we stopped for a visit with **Harry Barnes** and his son Denny in Meridian Mississippi. We had a great visit and lunch. Harry says hello to all of his colleagues. As you can see in the attached photo Harry is looking great."

George T. Cardwell writes from New Orleans, "In reading the May Retirees Newsletter, I noted a discrepancy between the Memoriam for **Alfred H. Harder** and the listing for him in the Directory. [Ed. Note: Al's last address according to the Social Security Death Index (SSDI) was Boise. We could not confirm his Vacaville, CA address or which location was correct.] Al and I were friends and colleagues in Louisiana for 8-10 years before his transfer to Boise. He was a good guy and fine hydrologist. You volunteers do a great job with the Retirees and maintaining an up-to-date Directory. I am well-suited in New Orleans now, where all my immediate family resides. **John Musser**, Chairman of the Baton Rouge, LA group keeps me informed re my fellow LA Retirees and I occasionally am able to join them for lunch in Baton Rouge. I celebrated my 92nd birthday on July 16."

Dale Cotter writes, "Thanks for your work in keeping us informed. And, thanks for the new directory! Not much new with **Gerry** and me. We keep plodding along. In the membership by State section, **Al Harr** and **Pat Holt** should be removed from Wisconsin. Al died April 17, 2012, and Pat now lives in Lawrenceville, GA."

Jim Daniel related to **Charles Nethaway**, knowing that he occasionally writes poetry, "You'll appreciate this. I tell folks that one of the reasons (there are many) I don't 'Twitter' (has that become a verb?) is that the only thought worth reading that can be expressed in less than 140 characters is probably a Haiku."

L. J. Dantin sends us, "My wife, **Earlene**, is recuperating from heart surgery. This has taken a good amount of time. She is doing well."

Herb Freiberger says, "**Pat** and I are doing well here in Bel Air, MD. Our health has been good. The only problem at this particular point in time is that we have had a full week of 100 + degree temperatures with humidity that has almost matched it. We could use a break. It just dawned on me that I haven't contributed to this part of the newsletter in perhaps 2-3 years. During that time, nothing spectacular has happened here on the home front. Pat is secretary of our community Board of Directors Homeowners Association (HOA) that, at times, keeps her very busy. She has done a very good job but the downside to that is, as in any community HOA, she may have worked herself into a lifetime job. You probably

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won't believe this but I am the editor of our quarterly community newsletter! I guess stranger things have happened in the world but not many. Other than that, the yard (only one-quarter acre) keeps me busy when it's not 100 degrees. Also, Pat and I have attended numerous wine tastings and dinners. On another front, travel has been a big part of our lives during the last several years. We have two time-shares and we used them more than we have been able to in the past. We have stayed in places in PA, NC, VA, and FL. We have also been fortunate to visit Hilton Head SC with our daughter Kathy and son-in-law Mark on several occasions. An interesting thing happened after the second visit to SC, which was in 2012 and the first day of the 2012 Retirees Reunion in Boise, ID. Pat and I flew out of Charleston SC to Baltimore, to Albuquerque, NM, to Portland OR to Boise for the reunion in one day (11 Hours). That means we set foot in every one of our WRD's four regions in one day. Sounds pretty cool but I would never do it again! The Boise reunion (especially the happy hour) made things easier after that flight. In fact, the whole reunion was fantastic as well as the city of Boise. This past April, Pat and I, my sister Dotty, her husband Tom and their daughter Laura and her husband Brit went on a 19-day trip to Europe. The main event was an 8-day river cruise up the Danube River. It started in Budapest, Hungary with numerous stops in Slovakia, Austria and Germany and ended with a side trip to Prague, Czech Republic. From there we took the train to Munich, Germany and surrounding areas to visit with Dotty's and my cousins. It was a great trip and I highly recommend a river cruise. Both Pat and I look forward to seeing many of you in Portland, ME in October 2014. Best regards to all of you."

Walter Jones of New Jersey writes as follows: "Since I retired I have kept busy by playing golf, babysitting my 3 yr old grandson two days a week, going to the gym, and working part time as a game day groundskeeper at Trenton's AA baseball team, the Trenton Thunder. I regularly golf with fellow USGS retirees **Woody Centinaro, John Dudek, and Mike Deluca**. My wife **Maureen** and I belong to a dinner group that dines once a month that includes the above mentioned retirees and our spouses. I love retirement but do miss my friends at USGS. I now live in Westampton, NJ. Thanks for the newsletter and keep up the good work."

Bill Kirby sent us a nice check for dues and the Hydro Tech Scholarship fund. He said, "Many thanks for your work in keeping the WRD family together – publishing the Newsletter and Directory, keeping up the web page, organizing the Reunions, and promoting the local meetings and gatherings."

John and Joyce Klein write, "**Merilee and Charles**—great newsletter (#159). Thanks for your intense efforts. I am forwarding it to several who have not joined WRD retirees."

Undine LeGrand, recent widow of **Harry E. LeGrand, Jr.**, wrote to us to tell us of Harry's passing. She said, "Thank you for the May, 2013, Newsletter. Harry and I always looked forward to each copy. I am sorry to inform you of Harry's death. I am enclosing a copy of his obituary and also a copy of the Tribute to him which one of the North Carolina Senators, Senator Richard Burr, wrote and submitted to Congress. This tribute was sent to Harry two weeks before he died. He was so surprised and pleased. We had lived in Raleigh, NC, for forty years until we moved to Crossville, TN, five years ago to be near a son. Harry was buried in Raleigh. I am enclosing a check to be used for WRD Newsletters."



Joe and Kaycee Moreland are alive and well. They report, "We enjoyed a 10-day visit to Scotland in late February and early March to celebrate our 20th anniversary (and Joe's 70th birthday). We thoroughly enjoyed the trip and met some wonderful people. In May, we traveled to Lacey, Washington to attend grandson Blake Moreland's graduation from Saint Martins University. Blake was Captain of the University soccer team and graduated magna cum laude with a degree in Biology. He is now attending graduate school in Phoenix and is planning on a career in physical therapy. In July, for 5 nights we were blessed to host three 12-year-old Chinese girls who were attending a summer program at St. Paul's Lutheran School. Although the girls had only rudimentary English skills, we bonded immediately and had an unforgettable experience introducing them to American food and culture including a wiener roast at the beach (capped off with S'Mores). Our reward was an awesome 7-entree Chinese feast cooked from scratch with no assistance from 'Mama or Papa.' Many tears were shed during our goodbyes."

Clint Nagel write, "I just read the May issue of the WRD newsletter and supplement. Nice job as always. I also read that you are about to undergo another round of chemo again. I must say that I am sorry to hear that. I love your optimism and I want to tell you that our thoughts and prayers are with you and your family at this time. Even though we never met, we have been in contact over the newsletter and I appreciated working with you. Hopefully there will be more articles by me to you in the future. I can only imagine the work that is involved by you and others on the newsletter. My wife and I put together our church directory and at times it is like rounding up cats trying to get information and updated pictures, etc. I

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can only imagine what it would be like for you and your com padres in putting out the newsletter. Please take care and good health to the future.”

Doug Posson writes to us, “Thanks so much for the new WRD Retirees Directory. It’s a labor of love, I’m sure. I see the list of Mainers has grown from 3 to 5! All the best from Lobster Land.”

Billy Robinson told us some sad news from Denver, “2012 was a sad year for me. I lost my dear wife, **Doris Rae**, to Alzheimer’s disease, and one of my twin sons, Steven, in a sudden death. My other twin son, Thomas, and my daughter, Susan, are taking care of me. I hope 2013 is a better year. Sincerely, Billy.”

Lamar Sanders writes, “Enclosed are my dues. Sorry to have let it slip through the cracks. Thanks so much for the newsletter!”

Earl Skinner sent us his dues including for 2014. He added, “If I’m not around in 2014 to read it, maybe **Ruth** will enjoy it.” Earl continued with his news, “I still enjoy reading the newsletter, so, I’ll tip my hat to all of you there with a big thanks for the job you’re doing keeping all of us ‘way out here’ informed. YOU’RE JUST GREAT !!! I’m an avid reader and that consumes a good deal of my time. I have now finished my ‘whodunit’ novel, ‘The Hell-Cat Incident,’ so I have more time to devote to other worthwhile pursuits. The novel is a fiction about a shooting that supposedly occurred at the Hell-Cat Hunting Club located in western Cleburne County, AR, less than a mile from where I lived for the first ten years after coming back home to Arkansas. Except for the Hell-Cat Hunting Club, all names of people and places within Cleburne County were changed, but kept close enough to the actual people and places that local readers will recognize them. I’ve completed a brief history of Camp Heber, a CCC camp that was located here at Herber Springs where I currently live. A short version was included in “Lakes Lifestyle,” a magazine published by the local newspaper, “The Sun Times.” I did a longer full-length version of the story that the “Sun Times” published in the newspaper. They’ve published more than a half dozen of my articles, including one they asked me to write on Cleburne County Cares, a local crisis-help organization. I was on their Board of Directors for about eight years, and president of the Board for one year. Another article of mine they published was a full-page story with pictures about Jake Smith, a local icon who was a friend and neighbor of mine when I lived in western Cleburne County. A human-interest story of mine they published was, ‘Love ‘Em, Don’t Abandon ‘Em,’ a story of a female Weimaraner that was dumped deep in the forest as she was about to give birth to 10 puppies. She cared for them the best she could by catching squirrels and other small animals until she grew too weak. Luckily, she and the puppies were found by a hiker who went home, brought back his ATV, hauled them out, and delivered them to an animal shelter. Two pups died right away because their bodies were too weak to process food. The mother and eight remaining puppies were nursed back to health and taken to at Wal-Mart parking lot where all were adopted – a sad but true story. Keeping up my yard and garden is a ‘labor of love’ for me. It gets more and more difficult at my age, however, because I run out of energy really fast, even though I’m in reasonably good health. Caring for them cuts into my fishing time; that’s the down side of those efforts.” Appreciatively yours, Earl Skinner



Gloria Stiltner visited Europe in July, telling us, “Bogdan Aligica, our now 35-year-old friend from Romania who has visited **Roy** and me each year for the last ten years, was happy to have me finally visit his homeland. I was there July 2-9. I had a wonderful time and the food was great. I did not feel like I was in a foreign country as I did when I was in Italy. We visited some fabulous castles (including Dracula’s castle) and monasteries. The Parliament building in Bucharest is bigger than the Pentagon and full of marble and massive crystal chandeliers. We stayed at the most beautiful Lodges. We drove through the Carpathians Mountains. I got to visit ‘Gloria Grup,’ the business that Bogdan named after me, and I had the privilege of meeting his mother in Campina. The plane ride home was tougher than going over and then when we got to Dulles we had to stand in line for 60 minutes for passport and customs. We had two cars the entire time and Bogdan and Laura have a young man who works for them that helps take care of the kids: Ianu (3) and Tudor (11 months) were with us the entire trip. Romania is on the same latitude as Virginia so we had similar weather.” Gloria added, “I really like the format of this latest WRD Retirees Newsletter you did!! Thanks to you!”

Susan Trapanese retired on June 30, 2013. She writes, “My time with USGS and particularly NWIS has been very rewarding. I feel privileged to have been part of USGS and working with many teams that support the Water Mission. I am particularly proud of the support and accomplishments of the NWIS teams. I value the contributions and dedication

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that each of you has made over the years to the National Water Information Systems. NWIS has a rich history and exciting future – the NWIS Vision, the new time-series processing via AQUARIUS and the continued innovations in the delivery of water data via the web. Your contributions to and support of the USGS Water Mission are even more relevant now as our nation faces the challenges of climate change. I will look forward to using 'NWIS' water data and services as a member of the general public.”

Ken and Mary Vanlier report: “We moved from Tuscaloosa to Gainesville, FL, in January of 2006. We moved because we needed to be closer to one of our children in case of some medical or other emergency. We felt that the 600 mile distance from our daughter Kathryn here in Gainesville and our son in Earlysville, VA placed undue stress on them as well as on us. Kathryn lives some three blocks away here in Gainesville. The move was a wise one as I have had three major surgeries plus other hospital stays in the past 5 years and Mary had her third hip replacement some five years ago. The presence of Kathy and her husband, Jeff, during these incidents made things a lot easier and less stressful. We have a small patio home with a small pool in an area with a lot of walking paths and bicycle trails. We walk most days and swim most every day in the summer. My duties as ‘pool boy’ provide me with considerable upper-body exercise. We are both doing well and enjoying the Florida weather. **John and Judy Ritter** also moved to Gainesville to be near their daughter. We meet for our WRD Retirees luncheon regularly. During 2006, our first year here, we were visited by **Milt and Pam Hackett** and by **Rich Brown** who arrived on his motorcycle. **Jim and Anita Rollo** have also stopped in. But we haven’t had any visits by any retirees for the last several years – so if you are in the vicinity of Gainesville, give us a call and come see us. Incidentally, this move to Gainesville was the 7th city we have lived in since joining the Survey in 1950 and that doesn’t include moving to Tuscaloosa twice. We also made three intra-city moves. Our special thanks to the newsletter crew. We really enjoy keeping track of what’s happening to others through the newsletters.”

C.T. Welborn provided the “TEXAS WRD RETIREES NEWSLETTER 5, May 15, 2013”

There was the famous “Lost Weekend”; I had lost a whole week. I was thinking May 22 instead of May 15th. Anybody that would like to take over this newsletter is more than welcome. I’m losing my marbles. Anyway **Frank and Cindy Wells and Willard Gibbons** and friend made it to the Nutty Brown Restaurant for a delicious meal. A friend of the Wells, Jan Bundebart, who retired from the U.S. Dept. Education, was at the meeting. Cindy and Frank invited Jan to the meeting. They celebrated Jan’s birthday while we were there with large pieces of chocolate and coconut cream pie.

I guess this is the third meeting I have missed, two this year. Ruffi, Joe Selguero, has leased the restaurant to a lady who will be selling herbs and vitamins. I will be seeing Joe about once a week. We go out for lunch. No Mexican food. We may have a new place to meet and eat, come September 18 (???), 2013 (???).

Please keep **Libby Burchett** in your thoughts and prayers while she fights the esophageal cancer which has invaded her. I wish that you out there would send me your comings and goings. I need news to go in a newsletter. We will not have another meeting until the third Wednesday in September and it will be in a new location unless it’s Nutty Brown.

Herb Stevens, WRD Retiree, Dies from 2011 Listeria Outbreak

On Tuesday, July 23, 2013, Herb Stevens passed away in a Littleton, Colorado hospital after nearly two years of fighting the illness allegedly caused by listeria-tainted cantaloupe purchased on August 10, 2011 from a local supermarket in Littleton. Three days earlier, on July 20, 2013, another 2011 listeria victim, Charles Palmer, 72, of Colorado Springs died. Of nearly 150 people across the country who got sick, 33 have now died.

Herb, who retired as a hydrologist from USGS in 1989, never did fully recover after contracting the illness, although he was able to go home from the hospitals and nursing facilities. He attended at least one of the Denver WRD Retirees luncheons in 2012. Herb and his wife, Elaine, would have been married 62 years on September 8.

[Ed. Note. A full obituary article will appear in the WRD Retirees Newsletter’s November 2013 Issue.]

WRD NEWS

Directory Changes - August 2013

Baker, Mrs. Claud "Margaret" (W) 1325 Sherwood Dr, Concord CA 94521-3352 -- address
Bartlett, William (13) Bill retired May 3, 2013 -- conversion to member from affiliate
Burr, Michael J (10) (Denise) 1932 Simmons Ave SE, Huron SD 57350 -- address
Collier, Mrs. Charles "Pat" (W) 14290 Placid Cove, Strongsville OH 44136, phone 440-268-9085 -- address, phone
Edwards, Thomas K (03) (Kathy) 2916 219th St, Ocean Park WA 98640, keebnw@aol.com, phone 503-730-7975 -- address, phone, email
Emerson, Douglas G (08) 701-425-8226 -- phone
Fidler, Mrs. Richard "Kathy" (W) kbfid27@gmail.com -- email
Fretwell, Marvin O (99) (Ardith) 8021 E Keats Ave, Unit 238, Mesa AZ 85209, phone 480-289-9334 -- address, phone
Goddard, Kimball (10) (Leigh) Bend OR
Goolsby, Donald (01) (Barbara) 5412 Emerald Bay Lane, Lady Lake FL 32159, phone 352-391-5335, cell 720-480-2571 -- spouse, address, phone
Hardt, William F (84) (Sylvia) 6653 E Carondelet Drive, Apt 230, Tucson AZ 85710 -- address
Hardy, Mark (11) (Cathy) 724 W Rush Ct, Eagle ID 83616 -- address
Harr, C Albert (84) (Evelyn) 5746 Norfolk Dr, Madison WI 53719-1660 -- address
Hofmann, Joan A (86) 240 W Coventry Dr, Franklin NC 28734-1381 -- address
Hollyday, Mrs Estes "Susan" (W) sshollyday@gmail.com -- email
Holt, Mrs C L R "Patricia" (W) 2180 Sandown Ct, Lawrenceville GA 30043-4093 -- address
Hubbard, Larry L (90) 910 South Middle Street, Colfax WA 99111 -- address
Koopman, Mrs Francis "Florence" (W) Francis died May 15, 2013 -- death of member
Kraemer, Thomas F (11) (Jo) 343 West Falmouth Highway, Falmouth MA 02540, cell 703-975-2339 -- spouse, address, phone
LeGrand, Mrs Harry "Undine" (W) Harry died March 21, 2013 -- death of member
McGreevy, Laurence J (88) 55 Chase Street, Westminster MD 21157, phone 410-848-5308 -- address, phone
McGreevy, Laurence J (88) Spouse Joan died Nov 29, 2012
Meade, Robert (96) Spouse Mereth died May 26, 2013 -- death of Spouse
Meyer, Gerald (80) (Libby) 110 Wood Rd, Los Gatos Meadows, Apt B102, Los Gatos CA 95030, phone 408-354-0322, meyer26@comcast.net -- address, phone, email
Moshinsky, Edward W (95) (Margaret) 231 Woods Dr, Lansdale PA 19446-6234 -- address
Nickles, Mrs James A "Cindy" (W) 733 Robertson Way, Sacramento CA 95818 -- address
Norling, Wayne (12) 13709 Bistram Rd, Grantsburg WI 54840-7237 -- address
Olmsted, Franklin (88) (Jean) 650-493-3468 -- phone
Posson, Douglas R (02) (Linda) P.O. Box 12066, 2 Ben Paul Lane, Rockport ME 04856 --address
Robinson, Billy Paul (85) Spouse Doris died Dec 2, 2012 -- death of spouse
Spinello, Anthony (06) 352 11th St, Apt 1L, Brooklyn NY 11215-4025 -- address
Steele, Karen S (04) (Gary Adair) P.O. Box 450165, Grove OK 74345-0165 -- address
Stevens, Mrs Herb "Elaine"(W) Herb died July 24, 2014 -- death of member
Williams, Myrtle Deloris (03) Apt 125, 12429 Farms Dr, Austin TX 78758 -- address

New Members

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Peters, Charlie (13) (Leslie Hearn) 2020 Chamberlain Ave, Madison WI 53726, 608-238-8343, capeters53@gmail.com
Plummer, L. Niel (12) (Phyllis) 5993 Upland Meadows Ct., Gainesville VA 20155m 703-743-1767, nplummer@hotmail.com
Prakken, Laurence "Larry" (13) 50 Berkeley Street #B233, Satellite Beach FL 32937, LbPrakken@gmail.com, 321-777-6089
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Too Hot to Touch: The Problem of High-Level Nuclear Waste

By William M. Alley and Rosemarie Alley

On Labor Day in 1954, President Eisenhower appeared on television to announce the start of construction of the Nation's first nuclear power plant. The plant was to be built in the small town of Shippingport, Pennsylvania on the Ohio River, about 25 miles (40 km) west of Pittsburgh. The site was not far from Titusville, Pennsylvania, the birthplace of the petroleum industry, and was almost on top of one of the world's greatest coal fields. The Pittsburgh utility had come onboard the demonstration project for one basic reason—pollution control. Pittsburgh, once the “Smoky City,” had instituted strict air pollution requirements, and the local citizens were resisting plans for a coal-fired power plant.

President Eisenhower, recovering from a heart attack in Denver, Colorado, made good use of the new television medium to dramatize the event. The President held up a large neutron-generating “magic wand” for the viewers to behold. As he waved the atomic-age magic wand over a neutron counter, an electronic signal traveled 1200 miles (1900 km) from Denver to Shippingport. The signal activated an unmanned, remote-control bulldozer which began to break ground for the new plant. It was an impressive feat. The local crowd rose to their feet and applauded. Two weeks later, Lewis L. Strauss, Chairman of the Atomic Energy Commission, delivered his oft-cited speech that “Our children will enjoy in their homes electrical energy too cheap to meter.”

Signed into law a few months earlier, the Atomic Energy Act of 1954 opened the way for peaceful uses of the atom. For the first time, civilians were allowed to join the elite nuclear club by building and operating privately-owned nuclear power plants. Soon thereafter, the Atomic Energy Commission announced its Power Demonstration Reactor Program. The program offered free nuclear fuel for up to seven years, money for research and development and, in some cases, a large part of the capital needed to build nuclear plants. One member of Congress characterized it as an attempt to “force-feed atomic development” with tax dollars.

In the euphoria of abundant and cheap energy just around the corner, the question of what to do with the radioactive waste from the nuclear power plants rarely came up. Nor were there many concerns about the high-level nuclear waste that had been accumulating at Hanford and other atomic weapons plants since the start of the Manhattan Project. For many years, the problem of nuclear waste would go unrecognized or be considered trivial. Predictions that the problem would almost solve itself would prove miserably wrong.

By the late 1960s, a general optimism prevailed that there would be a permanent site for high-level nuclear waste by 1980. Time and again, the date would be revised. In 1982, the Nuclear Waste Policy Act mandated that the federal government begin accepting high-level wastes for burial in a geologic repository by January 31, 1998. The government was so sure of itself that it signed binding agreements with the utilities to accept responsibility for the waste by this date. A few years later, the Office of Technology Assessment for the US Congress suggested that the 1998 goal was unrealistic but expressed “considerable confidence” that a repository would be operating by 2008 and a second by 2012, “even if significant delays are encountered.” Newly revised predictions of the date for an operational repository continue to be pushed further and further into the future, as the dates of previous predictions recede into the past.

Meanwhile, high-level radioactive waste from electricity generation and weapons production remains scattered among 121 sites in 39 States. As of 2012, the United States had accumulated almost 70,000 tons of spent fuel from nuclear reactors. In addition, about 20,000 giant canisters of defense-related high-level radioactive waste will need a final resting place.

More than a half century has passed since Eisenhower waved his magic wand. The Shippingport plant has come and gone. It shut down in 1982, after 25 years of successful operation. By any measure, it is well past the time to tackle the waste problem. No magic wand will make it go away.

MEETINGS & GATHERINGS



Boise Retirees Breakfast, May 14, 2013

Pictured are (L to R):

Front row (seated): Lois Douglas, Gene Blessing, Mary Luscombe, Carleene Kjelstrom, Luther Kjelstrom

Second row: Glenda Blessing, Bob Luscombe, Muffy Lindholm, Jerry Lindholm, Bob Harper, Theresa Sanchez

Third row: Mark Hardy, Glen Sisco, Karen Kenyon, Steve Lipscomb, Bruce Parks, Bill Harenberg, Jean Harenberg, Leona Harper, Fred Peter

Back row: Paul Woods, Robin Woods, Barbara Pinkerton, Kathy Peter

Steve Lipscomb Speaks at Boise Retirees Breakfast in May 2013

At the Boise Retirees breakfast on May 14, Steve Lipscomb, Director of the USGS Idaho Water Science Center, spoke about his recent trips to the Middle East including Jordan, Israel and the West Bank. Last August Steve traveled to Amman, Jordan, with personnel from the USDA Foreign Agricultural Service, EPA and Sutron Corp., for the purpose of installing water-quality monitoring equipment at a public water-supply pumping plant. The equipment included a YSI 6820 multi-parameter sonde with temperature, conductivity, pH, DO and turbidity sensors. Steve also provided training to personnel from the Jordanian Ministry of Water on the calibration, operation and maintenance of the instruments. In April of this year, Steve traveled with the same team to Israel and the West Bank to install and provide training on similar equipment. In addition to the water-quality monitoring equipment, all of the stations were equipped with weather-monitoring and satellite-telemetry equipment. Data from the stations are transmitted in real time and posted on a common website with access provided to the Jordanians, Israelis and Palestinians. The project was part of an ongoing effort in the region by the U.S. and other countries to encourage hydrologic and meteorological data sharing among the three parties.

Who Were the Halbergs?

By Jerry Butler, 3/27/2013, "Arkansas Democrat-Gazette"
Contributed to the Newsletter by Retiree Earl Skinner of Heber Springs, Arkansas



Edith and Henry Nicholas Halberg were a married couple when they moved from their home in Massachusetts to the Pulaski Heights area in Little Rock in the 1950s. He was the hydrologist for the U.S. Geological Survey who shepherded the aquifers of Arkansas. **[Ed. Note: Henry (1914-1998) was a geologist in the Arkansas Water Resources District office after other USGS assignments; went to university at M.I.T. in the 1930s.]** He wrote the book, *Uses of Water in Arkansas*, and scientific journal articles about water quality.

Edith Halberg shared Henry's passion for civic affairs, the environment and birds, serving as an early leader in the Arkansas Audubon Society. The Halbergs had no children, but one Saturday each month Edith Halberg would invite neighborhood kids into her home on North Country Club Boulevard and the Halbergs would teach them about nature, especially birds. They called their gathering the Arkansas Explorers Club. One of those Explorers was Gary Graves, who is now an ornithologist for the Smithsonian Institution. Graves answered a request to share his recollections about the Halbergs with this note:



"I came along well before the Halberg Ecology Camp was born. But I arguably had a more informative experience as one of the early members of the Arkansas Explorers Club. The monthly meetings were usually attended by four to eight kids ranging in age from 10 to 17 years old. The 'curriculum' was focused on the natural history of North American birds. I never missed a meeting. It was the highlight of my middle-school years, which otherwise were pretty bleak. The Halbergs were transplants from Massachusetts in the mid-1950s. They were steeped in the deep and scientifically oriented birding culture of the Boston area, exemplified by birding legends such as Ludlow Griscom. They didn't have any birth children of their own, but they always seemed to have a small pack of kids around them in their leisure lives. The core

group (Bruce Tedford, David Hunter and I) became enthusiastic birders. We were doing 'big years' in Arkansas back in the early '70s. Although the Halbergs' study group was largely focused on birds, the mentoring included ample amounts of ecology and environmental science. The Halbergs and their cadre of friends (e.g., the Jamisons, Scarletts, Daniels, etc.) made sure that the kids had a ride on Pulaski County Audubon field trips. The experience was priceless and we got to see close-up how senior birders comported themselves. Tedford followed his interests to Louisiana State University, where he received a doctorate with a dissertation on Avian Physiology. Tedford is now an associate professor at Arkansas Tech. I ended up at the Smithsonian."



In 1979, Edith Halberg telephoned Bill Fulton, who was environmental education director in the Arkansas Department of Education. As was her habit, she came to the point rather quickly, and asked him why Arkansas didn't have an ecology camp. In Fulton's memory, that phone call was the first spark in the movement toward what has become the Halberg Ecology Camp. (See http://www.arbirds.org/halberg_ecology_camp.html)

The first encampment was held at Camp Ozark a few miles west of Clearfork where the ecology camp now meets. Before 1995, it was called the Arkansas Audubon Ecology Camp. In 1995, the Arkansas Audubon Society met atop Petit Jean Mountain and voted to rename the camp the Halberg Ecology Camp in honor of

the couple's energy and service when the camp was in its infancy. During those early years and even after 1995, the couple served the camp in almost every capacity, as directors, fundraisers, treasurers and recruiters. Though the Halbergs were people of modest means, upon her death in 2002 a portion of their estate was bequeathed to the Arkansas Audubon Society and earmarked to help sustain the camp that bears their name. Art Johnson, emeritus professor of biology at Hendrix College in Conway, served on the Audubon committee with the Halbergs that organized the first camp. He attended Edith Halberg's funeral. **[Ed. Note: Edith Marshall Halberg died October 19, 2002. She was born in 1908 in Boston, MA.]** At the graveside, he looked up and saw a flock of American white pelicans flying over. As the last 'amen' was said, the formation of pelicans tipped their wings. Johnson says he likes to think of it as "a salute to the couple who had done so much for Arkansas birds, the ecosystem that supports them and the children who will inherit the Earth."

Photo Credits: Photos are taken from a YouTube slide show of one of the 2013 Halberg Ecology Camps.

Charlie Peters Retires From the Wisconsin Water Science Center



Charles A. "Charlie" Peters, Director of the Wisconsin Water Science Center, retired on August 2, 2013 after a distinguished and productive career. Charlie began his USGS career in 1979 as a hydrologic technician in his native state of Indiana. In 1981, he took advantage of the Survey's Upward Mobility program and became a hydrologist in what was then known as the Illinois District. Charlie worked in the Coal Hydrology Program, the Low-level Radioactive Waste Program, and on the National Water Quality Assessment (NAWQA) program during his stint in Urbana-Champaign. During this time he met and married his wife, Leslie Hearn. In 1986, Charlie and Leslie moved to the Denver Federal Center to work on the Yucca Mountain Project. While in Denver he worked on gas phase circulation, perched water, and unsaturated zone geochemistry. He also enjoyed the Nuggets and Rockies, and he and Leslie had two children, Luke and Lily. In 1994, Charlie accepted a position as Study Unit Chief of the Western Lake Michigan NAWQA and moved his young family to Madison, Wisconsin. It was here that Charlie's leadership and management skills were honed.

Charlie doggedly pursued opportunities to coordinate science within USGS and among various agencies, serving as co-chair of the Methods and Data Comparability Board, as a member of the National Water Quality Monitoring Council Steering Committee, and as co-founder and co-chair of the Lake Michigan Monitoring Coordination Council. In addition to all of these positions, in 2000 Charlie became the Associate District Chief of the Wisconsin District. In 2003 he became the Director of the Wisconsin Water Science Center.

Charlie was a passionate and vocal leader in the Wisconsin WSC, the Northeastern Region of WRD, and the Midwest Region. He built on a strong foundation of top-notch scientists in Wisconsin and worked hard to protect his people so they could pursue their science. Charlie continued to actively pursue the integration of science, cross-center pollination of ideas, breaking historical institutional barriers, sharing of funding and personnel, and always looking for a better, more thoughtful way to run USGS. Charlie was a key leader in many of the multi-center initiatives in the Midwest Region, especially in coordinating science and funding for the Great Lakes Restoration Initiative.

Charlie's viewpoints and enlightening candor will surely be missed not only by his friends and colleagues within Wisconsin state and local agencies, the USEPA Great Lakes National Program Office, USGS offices outside Wisconsin, and of course by those closest to him in the Wisconsin Water Science Center.

We WRD Retirees welcome Charlie into our organization!

IN MEMORIAM

Elizabeth M. "Betty" Cain, 83, of Harrisburg, Pennsylvania, died peacefully on, April 11, 2013 in her home. She was a retired Administrative Assistant with the USGS and was a member of the Holy Family Roman Catholic Church, Harrisburg. She was the widow of Martin F. Cain and is survived by daughter, Mary P. Cain; son, Frank J. Cain; sister, Lois C. White; granddaughter, Kelly Perez and husband, Angel, and several nieces and nephews. Mass of Christian Burial was held at the Holy Family Roman Catholic Church of Harrisburg with Burial in Jermyn Cemetery, Jermyn, PA. Memorial contributions may be made to Holy Family R.C. Church, 555 So. 25th St., Harrisburg, PA 17104 or Heartland Hospice Memorial Fund, 333 N. Summit St., P.O. Box 10086 Toledo, Ohio 43699-0086.

Ray E. Cunningham, 91, died in Ocala, FL on October 22, 2012 at Ocala Regional Medical Center. He was born March 23, 1921 in Rogersville, Alabama to Charlie and Clara Favors Cunningham. Mr. Cunningham was a Hydrologist for the U.S. Geological Survey. Mr. Cunningham was a founding member of the H.O.P.S. (Historical Ocala Preservation Society); he wrote many articles about the history of Ocala and authored several books about Southern life. He was a Square Dance instructor and caller, and after retiring he and his wife traveled the country visiting all 48 contiguous States. Mr. Cunningham was a veteran of World War II and Korea, serving with the U.S. Navy Seabees and U.S. Army. He was preceded in death by his wife Bernice in 2006. He is survived by his daughters, Lois Heinzman, Carol Justice, and Janet Nowell; three grandchildren and three great-grandchildren. A graveside funeral was held at the Florida National Cemetery with Full Military Honors. Those who wish may make a memorial contribution to Hospice of Marion County in his memory.



Dale M Ferree, 71, of Oklahoma City passed away on November 14, 2012. Dale was born on November 14, 1940. Dale worked in the Oklahoma Water Science Center for many years. In addition to being in the field with the Hydrologic Studies Section, Dale produced many USGS Open File Reports, including as principal author, "Ground-water quality data for Oklahoma, 1981," OFR 83-686; 'Ground-water quality data for Oklahoma-1982-84," OFR 85-417; and "Ground-water assessment of the Central Oklahoma aquifer, Oklahoma: Hydrologic, water-quality, and quality-assurance data 1987-'90," OFR 92-641. Dale is survived by his wife, Carolyn.

Marvin Joseph Fishman, 81, of Denver passed away Saturday, June 15, 2013. Marvin was born on April 15, 1932 to Alex and Ruth Fishman. Born in Colorado, he lived in the Denver area for most of his life. Marvin was at the University of Colorado at Boulder in the 1950s and belonged to Phi Sigma Delta fraternity. After university, Marvin joined the USGS. In the 1950s Marvin was one of several WRD scientists who summarized factors affecting the transport of radioactivity by water (Journal AWWA, v. 50, no.5). Marvin authored "Analytical Techniques of Water Quality" in "A History of the Water Resources Division, USGS, Volume VI, 1957-1967." In 1966 he and Sanford C. Downs prepared WSP 1540-C, a manual of procedures for determining several elements in freshwaters and brines by atomic absorption spectrometry. Marvin retired in 1990. At the time of his retirement he was a supervisory hydrologist at the Denver National Water Quality Laboratory. He is survived by his wife, Florine. Marvin was laid to rest at Mt. Nebo Cemetery in Aurora, CO.



Cecilia Martha Gabrysch, 77, passed away on July 29, 2013 after a long battle with cancer. Cecilia was born in Ft. Worth, TX and raised in Ranger, TX by Aunt and Uncle William and Agnes Bourdeau because of the death of her mother when she was days old. She married her loving husband Robert, "Bob," on June 22, 1956; they then moved to Houston in 1961 and lived in the Garden Oaks area to raise their family. Bob retired from the USGS in 1991 where he had worked for many years in the Houston WRD office. Cecilia became a teacher which she loved tremendously and worked for various school districts throughout Texas. Her hobbies consisted of fishing, and working on stained glass. She is survived by her husband Robert; son, Robert Wayne; daughter-in-law Angela; grandchildren; Kinsey, Ella, Bobby, Alyssa; great grandchild Emma; Thelma Zunker and Anita Gabrysch of Falls City; Catherine Kasberg of San Angelo, and numerous nieces and nephews. She is preceded in death by her parents; Ed and Martha Mooney; son Brian; siblings; Mary Reilly, John and Bill Bourdeau. Interment was held at the Falls City Cemetery.

Albert C. "Al" Harr, 89, died on April 17, 2012. Al was born on September 4, 1922. In the early 1960s Al co-authored USGS Circular 420 which reported on the occurrence and distribution of stable strontium as well as Water Supply Paper 1496-C that reported the beta activity of strontium. Al spent much of his career in the Utah and Colorado offices of the Quality of Water Branch (QWB) of the Utah District. Much of his work supported the water-quality portion of multidisciplinary interpretive studies, both in the Salt Lake Valley, UT, and in eastern Colorado. Al retired from WRD in 1984. He and his wife lived in Madison, WI, for many years of their retirement. Surviving Al is his wife, Evelyn.

IN MEMORIAM

Sumner Griggs Heidel, 96, passed away on March 24, 2013 in Silver Spring, MD. Sumner was predeceased by his beloved wife Tommie Heidel and his sons James and David. He is survived by his grandchildren Andrew Heidel, Anne H. Kapoor, Emilie and Amanda Heidel; by daughters-in-law Patricia and Laura Heidel; and three great-granddaughters. A memorial service was held at Glenmont United Methodist Church, Silver Spring, MD. In lieu of flowers, memorial contributions may be made to Glenmont United Methodist Church.



Merle E. Huber, 86, passed away Thursday, April 18th, at Kinkora Pythian Home, Duncannon, PA. Merle was born in Steelton, PA on August 14, 1926, the son of the late Ernest and Susie I. (Prowell) Huber. He was a retired Administrative Assistant at the USGS in Harrisburg, PA. He was also a private book dealer. He served in the U.S. Army as a Tech 4th grade in WW II. Merle was the treasurer of the Ironstone Ridge Nature Center. He was a member of the Camp Hill United Methodist Church, the Civil War Roundtable and NARFE. He was an AARP volunteer tax preparer. Merle spent many summers vacationing along the Tay River near Perth, Ontario. He was the widower of Mary Jean Huber. He was also the widower of Eleanor Ruth Stepp Huber. Surviving are: a daughter, Patricia Huber Rudy, wife of Mike Rudy and a granddaughter, Andrea L. Hoffman, wife of Joshua Hoffman. Memorial services were held at the Camp Hill United Methodist Church in Camp Hill, PA. Graveside services were held in Chestnut Grove Cemetery in Marysville, PA. Memorial contributions may be made to [Alzheimer's Association](#), 3544 North Progress Ave., Suite 205, Harrisburg, PA 17110.



Gordon G. Jamison, 91, Lincoln, died on May 2, 2013. Gordon was born on November 1, 1921 to William R. and Marie (Gibbs) Jamison. He was a veteran of World War II, serving in the Army from 1942-1946. He completed his B.S. from South Dakota State College in 1947 and came to work for the USGS as a hydrologic engineer for the WRD Surface Water Branch in Pierre, SD in 1948. Gordon later transferred to the Nebraska office, working in Bridgeport in the 1950s and Ord in the 1960s. In 1968 he moved to the Basic Records Section in Lincoln and retired in 1978. Gordon was a member of St. Mark's United Methodist Church, VFW, and American Legion. Gordon was a long time Kiwanis member, and a 50-year member of the Masonic Lodge #297 in Lincoln. He is survived by daughters, Jean (Phil) Hood, Judy (Dennis) Cetak; son, Gary (Priscilla) Jamison; four grandchildren and four great grandchildren. He is preceded in death by first wife, Luella Jamison; second wife, Elaine Wagner-Jamison; granddaughter, Jennifer Jamison; one brother and one sister. Funeral Services were held at St. Mark's United Methodist Chapel. Memorial contributions may be made to Masonic Lodge #297.

Kenneth Konishi, 79, of Wailua Houselots, Kauai, HI, passed away at Garden Isle Health Care on May 8, 2013. He was born in Eleele on February 6, 1934, and retired from the USGS as a Hydraulic Engineer Technician. He is preceded in death by his parents, Tatsuichi and Eiko Konishi; brother, Charles Konishi; sisters, Sachiko (Fumio) Hanki; Harumi (Kumeo) Amaki; brothers-in-law, Tom Matsuoka; Isao Ito. He is survived by his wife, Mabel Konishi; son, Keith (Natalie) Konishi; daughter, Melanie (Aaron) Furugen; sisters, Ann Matsuoka; Yaeko Ito; Edith (Masami) Kojiri; sister-in-law, Betty Konishi; five grandchildren and three great-grandchildren. A memorial service was held at All Saints Episcopal Church in Kapaa. Frank "Red" Morris, now of Southport, NC, sent Kenneth's obituary to us and added, "I hired Kenneth about 1958 when I was on the island of Kauai and worked with him until I transferred to Alaska in 1962. I believe Kenneth spent his entire career on the island of Kauai."

Richard H. Johnston died in 2009 and his wife, **Mary Louise Johnston**, died in 2012, according to his son, Richard F. Johnston. Richard was a ground-water hydrologist for WRD. When stationed in Las Vegas, NV, he worked on the ground-water systems at the Nevada Test Site. Working under the Yucca Flats project, Richard studied the occurrence of radioactivity in the aquifer near Paleozoic rocks after the Billby nuclear test explosion. Richard took on an international assignment with US AID, 1963-1965, on a water-resources investigation of a 65,000-square-kilometer basin study in Nigeria. While assigned to the Ground Water Branch in Albany, NY, Johnston produced ground-water investigations in the Niagara Falls area and in eastern Schenectady County. Later, Johnston's career took him to the Southeastern Limestone Aquifer Project (RASA) and the National Water Summary. Richard retired in 1984.

Donovan Kelly, 71, died on May 2, 2013, in Hamilton, VA. He was born Dec. 12, 1941, in Erie, PA, and graduated from McDowell H.S. He earned his undergraduate degree in Geology from Penn State University in 1963 and his Master's degree in technical writing from Rensselaer Polytechnic Institute in Troy, NY in 1966. Donovan worked for the USGS for 31 years and was Chief of Public Affairs when he retired in 1997. He was also a freelance humor writer, contributed articles to the Washington Post, élan Magazine, the Loudoun Times Mirror, and Morgan Messenger among other publications and was author of the book, *Crummy But Good Restaurants*. During his career at the USGS, Mr. Kelly covered numerous geological events and hazards including earthquakes, volcanoes and the volcanic eruption of Mt. St. Helens. Donovan's communications and writing styl earned him awards throughout the federal writing arena. In 1987 he

IN MEMORIAM

received a citation for Meritorious Service. He was a prolific and polished writer and produced thousands of press releases for the USGS. It was during his retirement that Donovan re-discovered his ability and love for humor writing. He wrote monthly lifestyle and humor columns for the Morgan Messenger in Berkeley Springs, WV, winning several awards for his essays. He also wrote a monthly column for *élan Magazine* and was a contributor to the Washington Post and numerous local newspapers. He had the most fun writing a book on *Crummy but Good Restaurants* that included reviews of restaurants that you would hesitate to take your mother in, but served delicious or interesting food. The arrival of grandchildren in his life was a great joy and became a focus of his every day. Mr. Kelly's sense of humor and self-awareness is reflected in the inscription that will appear on his headstone, as his first grade teacher wrote in his report card, "Donnie can't tie his shoes, but he can tell really good stories." Donovan is survived by his wife, Rita Panameroff Kelly; his mother Esther Luther Kelly; his son Donovan Michael Kelly and his partner Laura Ann Ellison; a daughter, Kathleen Perri Kelly and her husband Stephen Anthony Scafidi, Jr.; and three grandchildren, Alice Louise Ellison Kelly Miller, Isabella Daria Scafidi and Elijah Luther Scafidi; two brothers, Roger L. Kelly, Tom L. Kelly; a sister Patricia J. Kelly; and numerous, nephews, nieces and cousins. He is preceded in death by his father Roger M. Kelly and his brother Jerry L. Kelly. Memorial contributions may be made to Hamilton Volunteer Fire and Rescue Service or to St. Andrews Presbyterian Church in Purcellville, VA.



Francis C. "Frank" Koopman, 91, of Dallas, GA, died on May 15, 2013. Frank retired from the USGS in 1980. He developed many types of ground-water instrumentation throughout his career. He worked on measuring deep-well water levels in the 1950s and 60s in test holes at the Nevada Test Site, as well as measuring water levels in other hydrologic test holes near other nuclear-explosion test locations. He developed the Koopman "Ferret Gage," an instrument to continuously record water-level changes in small-diameter observations wells. His last years at USGS were spent at the Hydrologic Instrumentation Facility (HIF) in Bay St. Louis, MS, as Chief of the Instrumentation Development Laboratory. Frank is survived by his wife of 59 years, Florence Koopman of Dallas, GA; one daughter, Nona Luth and her husband Rick; two sons Paul Koopman, Steven Koopman and his wife Susan; one brother Kenneth Koopman and his wife Joan; two sisters Caroline Rann and Inez Perli; four grandchildren, Katie, Emily, Christian and Olivia; several nieces and nephews. A Memorial Service was held at Mayes Ward-Dobbins Funeral Home Macland Chapel in Powder Springs, GA.



Harry E. LeGrand, Sr., 95, died March 21, 2013, at Crossville, TN. He was born in Concord, NC and spent his childhood in Mebane, NC. Following graduation from the University of North Carolina with a degree in geology, he served in World War II as a captain in the First Army. He was in the Normandy invasion and the Battle of the Bulge. At the close of the war, Harry married Undine Nye in Washington, DC. Harry was a groundwater scientist with the U.S. Geological Survey for 30 years, and since 1974 was a consulting hydrogeologist. Over a span of 55 years he had nearly 100 published reports and scientific papers in national and international journals related to groundwater. In his final years he reduced his consulting business to devote more time to public service related to groundwater issues. In his work he travelled throughout the US and to many foreign countries. Surviving Harry are his wife, Undine; two sons: Harry LeGrand, Jr. and Edmund LeGrand and wife Marianne and their children, Emily and Steven; and a brother J. Ross LeGrand. Memorials may be made to Hospice of Wake County, 250 Hospice Circle, Raleigh, NC 27607. **[Ed. Note: Also see a Congressional "Tribute," page 18, of this Newsletter.]**



Robert "Bob" Jack Madison, 80, passed away unexpectedly at home on April 9, 2013. He was born on October 28, 1932 in Columbus, OH. Because his father was in the Army, Bob and his family lived in many places across the country and in Germany. Bob returned to Columbus and graduated from Capital University with a B.S. in Chemistry. He served in the Army from 1956 through 1957 and was stationed in Germany. After the Army he returned to work with the USGS Water Resources Division in Columbus, where he had worked during his school years. In the early 60s Bob took the job of lab manager for the USGS in Portland, OR. As a hydrologist, Bob was stationed in Salt Lake City, Washington D.C. and ultimately, in 1972, Alaska. The Alaska job was to be for 2 years but he stayed, retiring in 1986. Bob loved classical music, so much so that he practically soundproofed the entire house so he could sit back, close his eyes, and listen to it unbothered and at high volume. He also loved sports cars and down-hill skiing. Later in life Bob found wine, cooking, backpacking, mountain biking, sea kayaking and foreign travel to be of great enjoyment. Bob is survived by Donna, his wife of 47 years; daughter Ann Hale, son-in-law Dave, and grandchildren Jack and Emma; daughter Lee Madison-Gravel, son-in-law Tim, and grandchildren Jay, Gabriel and Bethany, all of Anchorage. He is also survived by his brothers Richard Madison and David Madison, their wives, nieces and nephews and too many dear friends to list. A celebration of life was planned for late summer, and Bob's ashes will be scattered in numerous places around the world that Bob has or would have enjoyed.

IN MEMORIAM



Jack Darrell McKechnie, 78, passed away at his home in Palmer, Alaska of natural causes on May 7, 2013. Jack was born on April 23, 1935, in Cloquet, Minnesota to Ray and Diana McKechnie. Jack's grandparents and parents moved to Palmer before Jack's first birthday as part of the colonization of the Matanuska Valley. Jack graduated from Palmer High in 1953. Jack was a quarter back on the very first high school football team in Alaska, and the team played games against military teams from Anchorage. He attended University Alaska Fairbanks. Jack worked numerous jobs until he settled on a career as a hydrologist with the USGS until his retirement in 1987. His career put him in nearly every corner of Alaska, surveying waterways as a premier boatman and river runner. Jack's many activities included building trams, running boats, and flying with some legendary bush pilots as they monitored and serviced numerous gaging stations. In 1974 Jack was awarded a Citation of Valor by the Secretary of the Interior in Washington D.C. for "Courageous Action" in trying to save a co-worker's life. His career also folded into his passions for hunting, fishing, and rock hounding, and just being outdoors in general. Jack was truly a rugged Alaskan with a keen sense of humor and an infectious laugh. Jack and his wife Sue lived in Anchorage while raising their children. They eventually retired to Palmer, close to the original family farm, enjoying each other's company along with family and friends. Jack was a member of the Palmer Moose Lodge, Palmer Elks Lodge, and the Pioneers of Alaska. Jack is survived by brother Russ (Cheryl) McKechnie; sister-in-law Sharon McKechnie; sons Darrell (Maresa) McAllister, Marty (Brandi) Seiler; daughters, Linda Seiler, Cindy (Gordy) Richmond, Liz Whaley, Dale Ann (Eric) Gates; 15 grand children and 10 great grand children, all of Alaska; aunt Helen Jarvinen; numerous nieces, nephews, and cousins. Jack is preceded in death by his parents Ray and Dianna; wife Sue; brothers, Jerry and Dennis and many others he cared for. Jack requested his ashes to be spread on the Butte along with his father's. A celebration of life was held at the Palmer Moose Lodge on June 15.



Mereth Mueller Meade, 81, passed away at her home in Evergreen, CO on May 25, 2013. She was born on June 13, 1931, in Chur, Switzerland, and grew up in Switzerland and Oklahoma. She lived in Palo Alto, CA, and Falmouth, MA, before moving to Evergreen in 1974. Mereth received a Bachelor of Arts degree from Smith College in 1953 and a master of nursing from Yale University in 1956. She married Bob Meade in 1956. Bob retired from USGS in 1996. Bob began his career with WRD in 1957 in Menlo Park, earning his Master's and Ph.D. in geology from Stanford University. His initial work for USGS was on the compaction of water-bearing sediments in central California. His distinguished career included the study of costal sedimentation at Woods Hole and, from his Denver assignment in 1974, his research focused on the geomorphology, hydrology, and sediment transport of rivers. He took on big rivers, including the Amazon River and Mississippi River. Thanks to Bob's research and leadership, his USGS Circular 1133, "Contaminants in the Mississippi River, 1987-1992," was the first systematic, interdisciplinary study of that river. Bob and Mereth lived in Evergreen since 1974. During her career, Mereth worked as an office nurse, visiting nurse, nursing instructor, interior plant designer and administrative secretary at Colorado Academy. She was an avid gardener who volunteered at the Denver Botanical Gardens. Mereth was known for her activism in recycling through her volunteer work with Mountain Recyclers, the Colorado Association for Recycling, Evergreen's Alliance for Sustainability and Evergreen Rotary. Mereth is survived by her husband, Bob; children Alex, Stephanie, and Eric; grandchildren Max and Madeline; and step-grandson Steve Alavarez. Contributions may be made to Mt. Evans Home Health & Hospice, 3081 Bergen Peak Drive, Evergreen, CO 80439.

Wilfred "Slack Key Willie" Edward Pereira, 76, of Kailua-Kona died April 19, 2013, at Kaiser Moanalua Medical Center in Honolulu. Born June 23, 1936, in Madras, India, Willie received his Ph.D. in pharmaceutical chemistry from the University of California Medical Center in San Francisco in 1968. He worked as a postdoctoral fellow and research associate in the Department of Genetics at Stanford University (1968-1976), and beginning in 1976 worked as a research chemist for the USGS for a full career. He is survived by wife, Irene Pereira of Kailua Kona; daughters, Lizabeth (Jimmy) Hurst, Rosemary Pereira; sons, Richard (Lynn) Lozano, Phillip (Shellie) Lozano; sisters, Sheila Sleep, Marjorie Tobit, Phoebe John, Pauline D'Souza, Anne (Champ) Philips, Claire Pereira, Christina (Errol) Bensley, Pamela (Baldwin) Bensley; brother, Peter Pereira; 15 grandchildren; four great-grandchildren; and numerous nieces, nephews and cousins. Willie was a member of the Grace Community Church of Kailua Kona, Hawaii.

Doris Rae Robinson, 84, died in 2012 in Denver. She was the wife of Billy P. Robinson who retired from USGS in 1985. Beginning in 1956 Billy was an analytical and research chemist for the Branch of Water Quality in Denver, CO and Washington, D.C. One of their twin sons, Steven Robinson, also passed away in 2012 of a sudden death.



Betty Marie Sanderson, 94, passed away on March 19, 2012, at her home in Sequim, WA, after a long full life. Betty was born Betty Marie Light in Springfield, Missouri, July 27, 1917, but soon moved with her family to Arizona. It was there that she met and married her husband of almost 74 years, Roy (Buzz) Sanderson. The couple spent most of their early married life in Arizona, except during WWII while Buzz

IN MEMORIAM

was in the military. in 1960 they relocated to McLean, VA, before settling in Beaverton, OR, where they lived for the next 45 years, enjoying all the fishing, crabbing and other activities the Pacific Northwest has to offer. They relocated to Sequim, WA, in 2006, where their daughters live. Betty's life was all about her husband Buzz and her children. She loved to travel. Buzz's job with the USGS provided her the opportunity to travel through almost every state, including Alaska and Hawaii. Betty and Buzz made many friends over the years and loved keeping in touch. They also traveled to Australia and New Zealand to visit their grandson and his family in Auckland. In their later years, Buzz and Betty loved to visit their property in Nehalem, OR. They enjoyed their friends, family and the outdoors. Betty was survived by her husband Buzz [he died in May 2013; see article, below], her sister Jacquelyn Snyder, daughters Linda Wester (Don) and Terri Ebert (David) , son Michael Sanderson (Diana), six grand children and 10 great-grandchildren. A private celebration of Betty's life was held at the Sequim Valley Chapel.



Roy Byron "Buzz" Sanderson, 98, passed away early on May 17, 2013, at his residence in his oldest daughter's home in Sequim, WA. A WWII veteran, Buzz had an eventful 98 years of life. He was born in Pagosa Springs, CO. on April 9, 1915. As a boy he lived throughout the western United States. He attended Phoenix Union High School in Arizona where he excelled in football and track. Buzz earned his Bachelor's of Science degree in Civil Engineering from the University of Arizona. Buzz became a 1st Lieutenant in the Army in WW II and finished the war stationed on Okinawa. His work for the Army Corps of Engineers assisted in the completion of airstrips critical in the U.S. efforts at the end of the war. While in college, Buzz met his wife of 74 years, Betty Marie Light. Buzz and Betty spent most of their early married life in Arizona, then in 1960 spent two years in Virginia before relocating to Beaverton, Oregon. They lived there for 45 years, enjoying the outdoor recreation of the Pacific Northwest. They relocated to Sequim, Washington in 2006, where their two daughters live. Betty passed away in 2012 (see article, above). Buzz spent his professional life as a Civil and Hydrologic Engineer with USGS WRD. From his early days in the field collecting data and constructing water volume recording systems to later years as chief of the Surface Water Section in Oregon, Buzz loved his job managing natural resources. He had a passion for the outdoors. He was a member of the American Society of Civil Engineers, Oregon Society of Professional Engineers and University of Arizona Alumni Association. Buzz retired from USGS in 1973. Buzz is survived by his daughters, Linda Wester (Don), Terri Ebert (David) of Sequim; son, Mike Sanderson (Diana) of Beaverton; six grandchildren; nine great-grandchildren; and his sister-in-law, Jacqueline Snyder.

Herb Stevens of Littleton, Colorado, died on Tuesday, July 23, 2013 in Littleton after fighting listeria from eating a bad cantaloupe in 2011. A full article will appear in the November 2013 WRD Newsletter. See also a small article in this August Newsletter.



Faulkner Buford Walling, 81, passed away in March 12, 2006, at the Palestine Healthcare Center in Palestine, Texas. He was born on March 4, 1925 in Monroe, Louisiana, the son of Ira Francis and Mary Swinney Walling. Mr. Walling graduated from the University of Texas at Austin. Faulkner was a chemist and was a member of the senior staff in Austin, Texas (1950-1952). Faulkner was a member of the Quality of Water Branch senior staff in Oklahoma (1952-1954). He transferred to Palmer, Alaska in 1954 and succeeded G.W. Whetstone in 1957 as District Chemist. He continued in this position until 1961 when he transferred to the Reports Section in Washington, D.C. Faulkner was co-author of the Alaska part of the WRD History, Volume VI, 1957-1966. Faulkner was co-author or "Iron and Steel Industries," Water Supply Paper 1330-H, 1967, one of several industry-specific papers that were written at the request of the National Security Resources Board established in 1951. He was preceded in death by his parents; and his wife, Margaret Mahey Walling in 1986. He is survived by his sister, Lena Phillips, brothers, Cecil Ray Walling, Jimmy Walling. and A.L. Kohler; and several nieces and nephews. Faulkner was buried in the City Cemetery in Palestine, Texas.

TRIBUTE TO HARRY E. LeGRAND

**Placed into the Congressional Record, Vol. 158, No. 163, on December 18, 2012
By Senator Richard M. Burr**

Mr. President, I would like to recognize Harry E. LeGrand, a native North Carolinian, for his contributions to his State, his Nation, and the scientific community, particularly in the area of groundwater research and how the disposal of contaminated waste can affect our water supplies.

Born in 1917 in Mebane, NC, Harry graduated from the University of North Carolina at Chapel Hill with a B.S. in geology. He was working as a geologic aide when he answered his nation's call to duty and served as an officer of the First Army in the European Theatre of World War II which included service stretching from the Normandy invasion to the Battle of the Bulge.

Harry returned home after his valiant service to our country and married Undine Nye. Throughout his life both personally and professionally, Undine provided Harry with love and support and traveled with him on many geology trips, providing a sense of home even in faraway places.

When Harry went to work for the Ground Water Branch of the United States Geological Survey, USGS, he quickly noticed something that would follow him throughout his career--the lack of comprehensive records and data related to his field of study. Despite the fact that incomplete and imprecise data was a constant in his professional career, Harry saw this as an opportunity rather than an impediment and stated in an autobiographical article that "working with imprecise data can be a blessing because it prompts clear reasoning that can lead to useful deductions." Where many people would see nothing more than a roadblock Harry saw opportunity, and the work he accomplished to fill in the many holes in available information and build on the data that did exist led to practices still heralded and in use today.

Harry's work in those years focused primarily on groundwater in the fractured igneous and metamorphic rock in the Piedmont of North Carolina, and he discovered a useful system for locating high-yielding wells based on topography and soil thickness. During the 1950's, Harry worked with the USGS's Office of Radiohydrology to identify potential deep-well disposal sites for low-level radioactive material and was named head of the Radiohydrology Section in 1960. It was in this capacity that he became more interested in groundwater contamination and laid the foundation for future research of the role and impact of natural attenuation. Ever curious and eager to further knowledge on subjects that were under-researched, Harry soon turned his attention to karst hydrology. After much travel, research, and field work, Harry and his fellow Americans serving on the Karst Commission of the International Association of Hydrogeology laid the basis for useful generalizations that would have worldwide application. Harry's retirement did not slow him down and in 2004, 3 decades after leaving the USGS, Harry wrote a report that serves as a master groundwater conceptual model for sites in the igneous and metamorphic terrain of North Carolina.

Harry spent his life pursuing fields of study that were largely under-researched at the time and, in many cases, offered little in the way of solid data upon which to build. Despite, or perhaps in spite of that, Harry pushed forward with research that furthered development in these fields and provided a solid foundation for research to come. While the worlds of geology and groundwater research might feel foreign to many of us, Harry identified many shared qualities between aquifers and human beings, and he expressed these commonalities in poetry. As if his work on the subject wasn't enough, his real legacy might be introducing others to the underground waterscape that exists beneath our feet and inspiring future generations to continue to explore the natural world in which we live.

WRD NEWS

Remembering John Vecchioli

**By Michael Merritt
Keaau, Hawaii**

I was disappointed to read of the passing of John Vecchioli in the recent issue of WRD Retirees. He impacted my WRD career in important ways. When I was taken aboard as a part-time Florida State University graduate student in the Tallahassee office in 1974, it was to help the office learn to use the newly established computerized hydrologic data base. I worked under the direction of Clyde Conover, Rufus Musgrove, and District Water Quality Specialist Don Goolsby, the latter being replaced by Tony Irwin when Don transferred to the Central Regional Office. At nearly the same time as that change (1977), John Vecchioli was brought in from New York to replace Glen Faulkner as District Groundwater Specialist. John quickly identified me as a potential point person to help the district implement the brand new science of groundwater modeling. He was instrumental in my subsequent transfers to the Tampa office and then to the Miami office, where I remained for 15 years.

As District Groundwater Specialist, John quickly proved that he was not just there for the grade, but felt that he had a personal mission to foster science and to mentor young hydrologists in the district in pursuing their career development. I always looked to him as a personal mentor and friend, and looked forward to his visits to the Miami office, where he would always get together with me and other young hydrologists in the office in some fashion (he loved Italian food). Even the youngest, newest members of the staff could count on bending his ear on a variety of matters, and John thrived on having this personal interaction with them. I had less contact with him after he became District Chief, but was always sure that he would help if the need arose.

I frustrated John in some ways, often insisting on my own view about how I should do things, which could differ substantially from the way he would have chosen. In particular, the length and elaborateness of my reports was a problem for John, and the time it took to complete them a problem for all management. Nevertheless, we remained friends after we both retired in the late 1990's. When I moved to Hawaii, I emailed him about meeting Lou Ducret (former Miami Sub-District Chief and retired to the Big Island) in a doctor's office in 2006. In John's reply, he indicated that he was having serious health problems at that point. He did not respond to a later email, and I didn't hear from him after that. But I will always value the memory of a good leader who worked vigorously to help young scientists and to promote good science in WRD.

MEMORIAL

Denise Wiltshire 1952 – 2013



Denise Wiltshire, 61, of Reston, VA, died on June 9, 2013 at Johns Hopkins Hospital of Baltimore, MD. She fought a courageous battle with a long-term illness. Denise was born in Princeton, NJ on May 28, 1952. Denise resided in Albany, NY, for many years before relocating to Reston, VA. A graduate of Princeton High School, she received a BA in English, magna cum laude, from the State University of New York at Albany and a master of library sciences from SUNY in 1976. In that same year, Denise began her 28-year career with the US Geological Survey as a Librarian in the Water Resources Division District Office in Albany, NY. She soon developed an extensive water resources library and information center for the Albany Office. Larry Martens, former District Chief of New York fondly recalls Denise. In the District Office, "Denise was more than a librarian. She was a valuable key in our publications unit. Denise was a fireball." Larry knew that the work in the District would not be able to challenge Denise very long, and he was happy to see her become a part of the Reston program.

After transferring to the USGS National Headquarters in Reston, VA, in 1984, Denise excelled as a research librarian at the time that scientific information had the potential of becoming much more available to scientists and the general public in electronic formats. During the 1990s, she put all of her creative energy into this aspect of information transfer and pioneered the use of interactive CD-ROMs as learning tools. From the hands of President Clinton in 1994, she received the Presidential Design Award for Excellence offered by the U.S. National Endowment for the Arts in recognition of her work for the Arctic Data Interactive Directory. She also received the Department of the Interior Unit Award for the Benchmark Outreach Team in 1994. Her stellar teamwork was also recognized by The Hammer Award - for Reinvention of Government by the Clinton Administration in 1996. Denise loved her adventures -- boating, nights at the ballet, and was an avid gardener. She was extremely devoted to her cats (Cassie, Nini, and Lydia), and a staunch advocate of animal welfare. Daughter of the late Aristide and Mary Yolanda (Balestrieri) Armonia, she is survived by her husband of 37 years, Thomas M. Wiltshire; her brother, John Armonia; four sisters, Carmela Drummond, Lucia Cahill, Mary Bartolino, Anne Fortson; nieces and nephews, Stacy Drummond, Jeffrey Bartolino, Kenneth Bartolino, Lauren Cahill, Al Harris, Allyn Armonia-Bonilla, Kimberly Murphy, Alexis Silverman and Jennifer Andrews. The funeral service was held at Trinity Church in Princeton and burial was in the Princeton Cemetery. Memorial contributions may be made to The Humane Society of the United States, 2100 L St., NW, Washington, D.C. 20037.

Remembering Denise Wiltshire

By Doug Posson

Denise Wiltshire was definitely something special, a unique personality helping move WRD, the USGS and the challenges of scientific data and information forward. She had so many admirable and entertaining facets to her personality and professional life. The one that really stands out for me was her leadership in developing the Arctic Data Interactive (ADI) -- the world's first digital data journal.

What Denise did was truly a breakthrough. Though only a prototype, ADI heralded a new way of organizing and presenting scientific information that made it accessible to interested citizens, scientists, journalists and decision makers using the new technology then known as hypermedia. Today, "googling" something and clicking one's way through information is routine. In 1990 when she and her team invented the ADI interface, it was visionary. The Presidential Design Achievement Award was recognition of that.

Awarded only once every four years by the National Endowment for the Arts, it was a competition among every federally funded project for the previous four years. Competitors were large and diverse such as the design of the Reagan Presidential Library and the completion of Interstate 10. There were eight categories for design achievement -- the NEA jury introduced a ninth -- digital media -- to accommodate the new concepts in ADI. The ADI took the top prize for all nine categories in 1994 resulting in a reception at the White House for Denise and her team.

Assistant Director Jim Biesecker, and the new USGS Director, Gordie Eaton, all participated and received the award in person from President Bill Clinton.

Her special talent as a research librarian was to understand the potential of an interactive graphical user interface to unlock and present complex scientific information. Her special talent as a team leader was to organize the creative talent to transform such a novel phenomenon into a useful working product.

WRD managers know so well the challenges of working with creative people to achieve complex technological goals -- and the transformational effect that such endeavors can have both on the organization and the people involved. Well, in my view, Denise was the master at doing this in the realm of scientific data and information -- her passion as a research librarian.

Shifting Sands: Sandy's Lessons in Coastal Geology

CATEGORIES: [FEATURED](#), [NATURAL HAZARDS](#)

POSTED ON NOVEMBER 15, 2012 AT 11:27 AM

LAST UPDATE 1:02 PM BY: ROB THIELER (RTHIELER@USGS.GOV), NATHANIEL PLANT (NPLANT@USGS.GOV), AND HILARY STOCKDON (HSTOCKDON@USGS.GOV)

A number of ocean front homes were destroyed or severely damaged during Hurricane Sandy on Fire Island, NY. The photo shows what remains of houses in the community of Davis Park. Photo by Cheryl Hapke, USGS.



The USGS conducts research on the natural processes that cause coastal change, but to [understand and adapt to such changes](#), accurate information

regarding the past and present shorelines is essential. Consequently, USGS research focuses on understanding the magnitude and variability of the impacts of hurricanes on the sandy beaches of the United States, and how short-term events like storms can influence the long-term vulnerability of our coasts.

Barrier islands line about half of the U.S. coast, including most of the region impacted by Hurricane Sandy. In their natural state, these islands are mobile and change constantly through historical and geologic time in response to the natural forces of wind, waves, tides, and sea level. In fact, mid-Atlantic barrier islands owe their very existence to storms and the long-term rise in sea level of the past several thousand years. However, much of today's coastline is a complex hybrid of a natural, dynamic landform overprinted with decades of human development. Recognizing the dynamic nature of barrier islands can help reduce the vulnerability of the infrastructure to the inevitable "next time."

Hurricane Sandy's landfall brought devastation to many residents of the mid-Atlantic's barrier islands. The large area that superstorm Sandy affected does not have a recent equal, but the impacts are similar to many other U.S. storms, such as Ivan, Katrina, and Ike. To those who study coastal processes, examining the impacts helps us understand how barrier islands function and where the highest hazard areas are located.

What does an island have to do, geologically speaking, to survive?

Looking seaward from an island's interior – where people and infrastructure are usually located – beaches and dunes are the first line of defense from ocean waves and storm surge. [When dunes erode and fail](#), much of the sand is carried into the island interior as overwash. While a failed dune makes a coastal community more exposed to the next storm, it makes an undeveloped barrier island stronger by adding elevation to its core. This is how the barrier islands were built in the first place.

During superstorm Sandy, broad swaths of the coastline from North Carolina to Massachusetts experienced dune failure and massive overwash. The sand that washed onto and across the barrier islands – filling roads, yards, and living rooms – instantly added several feet of elevation. On a natural barrier island, this new elevation capital reduces the chance of inundation from the next storm. And as was learned in New Jersey and New York, a couple of feet can make all the difference between inconvenience and catastrophe.

As the army of bulldozers and other earth-moving equipment deployed along the coast suggests, current efforts appear headed to restore the islands to their pre-storm state. Pushing the sand off the streets and back onto the beach removes the elevation that would have added protection against future floods. For this storm and on other developed shores, such excavation of the roads is absolutely necessary to regain the dunes that are the first line of defense. But this resetting of an island's "morphological clock" back to pre-storm conditions decreases resilience and increases long-term vulnerability and risk.

Then, there is sea-level rise

Sea level has risen six to nine inches along the New Jersey coast since the last big storm in 1962. [Some residents](#) say the 1962 storm barely reached their doorstep, while this time Sandy flooded them by a foot. Although Sandy and the 1962 storm differ in their details, 50-years of sea-level rise certainly allowed water to reach areas that would not have been reached otherwise.

What we know about storms, sea-level rise, and barrier island response can be applied to redevelopment of the New Jersey coast, potentially exploiting the natural dynamics to our economic and environmental benefit. The pressure on humans will be to either try and thwart the natural response – requiring increasing investment in construction and maintenance of storm protection structures – or adapt to that response by moving both horizontally and vertically as the barrier islands move. There is historical precedent for the latter. In New Jersey, some pre-WWII beachfront communities had moveable houses. In 1888, the [Brighton Beach Hotel on Coney Island was moved](#) several hundred feet back from the ocean by six steam locomotives.

Shifting Sands: Sandy's Lessons in Coastal Geology

CATEGORIES: [FEATURED](#), [NATURAL HAZARDS](#)

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Using science to help with difficult choices

The USGS provides scientific support for hurricane planning and response. By using [observations of beach changes](#) and models of waves and storm surge, predictions can be made on how the coast will respond to hurricanes and vulnerable coastal areas can be identified.

There are difficult choices to be made in response to Sandy. Doing nothing other than rebuilding is an easy choice and least expensive in the near-term, unless the next "superstorm" comes next year – or even this winter. Hundreds of miles of the East Coast where dunes were eroded or no longer exist are now more vulnerable than ever. Protecting the entire coast with coastal structures is likely not feasible or even desirable.

A practical response will be a blend of all the options. This requires identifying which areas can adapt best, and prioritizing which will receive the most protection and which will receive the least, or even none. This will be a challenging process. But, when undertaken jointly by citizens, policymakers, and scientists it could be a refreshing response to the problem, and yield a coastal environment that is more resilient and economically and environmentally sound.



Oblique aerial photographs of Seaside Heights, NJ. View looking west along the New Jersey shore. Storm waves and surge destroyed the dunes and boardwalk, and deposited the sand on the island, covering roads. The red arrow points to a building that was washed off of its foundation and moved about a block away from its original location. The yellow arrow in each image points to the same feature.

Note: This article, taken in its entirety, comes from the USGS website at:

http://www.usgs.gov/blogs/features/usgs_top_story/shifting-sands-sandys-lessons-in-coastal-geology/

WRD NEWS

TREASURER'S REPORT, SECOND QUARTER 2013

Treasurer Celso Puente reports that the organization had \$ 23,585.41 in its treasury at the end of the second quarter for calendar year 2013. Receipts for the quarter were \$712.62 from dues and contributions from 24 members. Distributions for the quarter were \$2,034.21, including the costs for the printing of the WRD Retirees Newsletter and the Annual Directory. During the quarter, a total of \$182.00 in contributions above dues was received from 8 members.

Special thanks for contributions above dues go to:

Steve Van Denburgh, Ruth Yeager-Thornberg, William H. Kirby, Mrs. Wayne Blendon Hammond, Bert Thomson, Vincent Lai, Anna Lenox, and Robert L. Tobin.

August 2013 Newsletter Supplement, NL 160-S

This month's Newsletter Supplement consists of several interesting articles. **Jim Daniel** of Las Vegas, NV, tells us in "Newcastle Memories," referring to Newcastle, England, about an international exchange program begun in 1976 that he and his family have enjoyed for many years. **Ken Vanlier** of Gainesville, FL, gave us "Investigating H2O in WRD," a humorous look at water collection in the 1950s.

We had good feedback from **Ted Arnow** of Salt Lake City on the May 2013 Newsletter Supplement's article, "Kilroy was Here!" (See Ted's item in News of Retirees, page 4.) In this issue we have another item related to World War II, "The Last Reunion of the Doolittle Raiders," sent to us by Retiree **Joe McIntyre** of Bakersfield, CA. Because we have many retirees who are veterans, we are glad to remember those WW II days through contributions to our Supplement.

Finally, **Tim Smith** of Reston sent us an annotated list of fresh documents that address Sustainable Water Resources.

As you can see, we continue to have a lot of interest in these add-on articles that we put into our online Supplement. Please keep the articles and photographs coming. We are happy to share your contributions with other members of our WRD Retirees Organization.

For the August 2013 Supplemental, go online to <http://www.wrdretirees.org/newsletter.htm> and click on the appropriate link.

If you receive your Newsletter electronically, we are now adding the Supplement directly to the electronic file. Thus you will get both documents in one email.

WRD RETIREES

NEWSLETTER 160S
SUPPLEMENT
August 2013

An organization of retirees of the Water Resources Discipline, U.S. Geological Survey, whose purpose is to keep its members in touch with each other and their former agency.

Note from the Editor

We have five interesting articles for our August 2013 Supplement. **Jim Daniel** of Las Vegas, NV, tells us in "Newcastle Memories," referring to Newcastle, England, about an international exchange program begun in 1976 that he and his family have enjoyed for many years. **Ken Vanlier** of Gainesville, FL, gave us "Investigating H2O in WRD," a humorous look at water collection in the 1950s.

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Finally, **Tim Smith** of Reston sent us an annotated list of fresh documents that address Sustainable Water Resources here and abroad.

As you can see, we continue to have a lot of interest in these extra articles that we put into the Supplement. Please keep the articles and photographs coming. We are happy to share your contributions with other members of the WRD Retirees Organization.

--Charles

How to Submit Items to the WRD Retirees Newsletter Supplement

Our Newsletter Supplement is published online in color. We accept color and black-and-white photographs along with personal stories and published articles.

Please send your material to the WRD Retirees either electronically at wrdretirees@usgs.gov or to the Editor's personal email address whozit1130@aol.com. If you have hardcopy material such as handwritten stories or newspaper clippings, please send these to our post office box: WRD Retirees, P.O. Box 280, Herndon, VA 20172-0280 or to the Editor's address at 2370 Albot Road, Reston, Virginia 20191-2705.

The desired formats are **Word** and **.jpg** digital photographs; however, we will accept other formats as well as handwritten and typed material. Feel free to call the editor at 703-609-8271 to discuss possible contributions. We can scan your paper photographs, and we will return your originals if you request.

Enjoy the Supplement, and we hope to hear from you soon.

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Newcastle Memories

By Jim Daniel

Back in 1976, Jimmy and Rosalyn Carter founded an organization called The Friendship Force. The idea behind the organization was to conduct a series of International exchanges between people of like occupations, family composition, and interests. It was an attempt to promote a broader contact between all sorts of people that student exchanges didn't quite achieve. We were fortunate to participate in the very first exchange between Atlanta (I was Regional GW Specialist there) and Newcastle, England (the Brown Ale place).

Our son, Jimmy, 11 years old at that time, went to Newcastle with The Young Singers of Callenwolde while we hosted 2 teenage boys (18 and 16) in Atlanta. The exchange occurred over July 4, 1977. When about 300 Newcastle folks arrived, the powers that be in Atlanta arranged for several of them to walk in the July 4th parade (over 100 degrees that day) while some guy on horseback rode at the front of the parade shouting, "The British are coming!" Talk about dumb!

The following year, a re-exchange was initiated in which about 300 Atlantans went to Newcastle while another 300 Geordies (their UK nickname) came to Atlanta. Our whole family (Ruth, Denise, Jimmy, and me) went to Newcastle on that exchange. We were placed with a family in Newcastle composed of a man, his wife, and 3 children of like ages to our kids. We corresponded prior to the trip and found that the man was a Minister of the Church of England whose current assignment was as 'Industrial Chaplain', a kind of unemployment officer and social worker with a religious tint. The unemployment in Newcastle was huge then as the coal mines had recently closed (Yeah – coals to Newcastle). In my second letter to him, I remarked that given the goal to put folks of like occupations together, I was curious as to why the organizers had decided to place a hydrologist with a minister. I opined that upon reflection, it must have been because both occupations relied upon few facts and much faith. He really loved that analogy!

We continued with the Friendship Force after we moved to Albuquerque in 1980 (a District Chief assignment for me). The first exchange there was with, of all places in the world, Newcastle, England. So, we hosted 2 college musicians, a tuba & trombone player and a violinist. Their highlight was playing in the Santa Fe Opera outdoor amphitheater although there was no audience. Oh, yes, the tuba player met a Newcastle girl on the exchange who he was to later marry.

Ruth and I were not the only WRD folks to be involved with the Friendship Force. Don and JoAnn Leifeste participated, as did Darwin and Linda Knochenmus. We compared notes when we were at WRD functions and it was always apparent that we all enjoyed and benefitted from the program.

Now, in late August, we will be going to Newcastle to visit the folks we've been friends with for the past 35 years. We and they have visited back and forth over the years – the minister's family, the 18 year-old's family, and the tuba/trombone player's family. It will be a bittersweet time as it will probably be our last face-to-face contact with them given our and some of their ages. What great experiences and memories. And, they would never have occurred if WRD hadn't put us in the right place at the right time.

Investigating H₂O with the WRD

By Ken Vanlier

*Ken wrote to us at the Newsletter, “**John Ritter** and I were talking about some of the amusing or interesting happenings that occurred during our working years and concluded that including accounts of these incidents might enhance the newsletter. Obviously, other retirees could also contribute their interesting or humorous incidents so the enclosed is for your consideration as to something that should – or should not -- be included in the newsletter.”*

In the late 1950s I was investigating the ground-water resources in the various counties in the eastern part of the Northern Peninsula of Michigan. As a part of the study of Schoolcraft County I needed to collect a water sample from a well at the Seney Wildlife Refuge. The well was a deep artesian well tapping an aquifer of Ordovician age. The well was the only well tapping this aquifer in the area. When I contacted the Manager of the Refuge and informed him of my need to collect a water sample, he informed me that the water yielded by the well contained gas – and a lot of it. The Refuge's water system was supplied by this single artesian well, which had an “artesian” head of some 20 to 30 feet above land surface. The water flowed into a tank which was equipped with a device allowing the gas to be released before it was piped to the point of use. The device apparently did not always function as intended as the manager's wife told me that on occasions when she turned on the faucet to the kitchen sink, the gas would literally blow dishes out of the sink.

The gas was odorless, not flammable, and seemingly inert. The manager had no idea as to what gas or gasses were present. So I needed not only to collect a water sample but also a sample of the gas. But how? I had no idea as to how I could collect a sample of the gas. So I called the Ground Water Branch in D.C. and they came through!

I was told I needed 3 things; a water sample bottle (2 or 3 liter volumes as I recall), a large pail or a small tub, and a garden hose connected to the water system. With this in hand I went back to the Refuge and proceeded as follows. First, I filled the sample bottle with water from the hose; second, I filled the small tub; and thirdly, I capped the bottle with my hand and inverted the filled bottle and submerged the mouth of the bottle into the water-filled tub. The bottle was thus filled with water and was upside down in the filled tub. I then inserted the hose into the mouth of the bottle. As the water flowed from the hose into the bottle, the gas rose to the top of the bottle and gradually the water was pushed out of the bottle and was replaced by the gas. It took some seven or eight minutes for the gas to fill the bottle. I then removed the hose, capped the bottle while the mouth was still submerged. And there I had it. The gas sample I needed.

On analysis the gas was 99%+- Nitrogen. Nitrogen?? I briefly researched the occurrence of nitrogen in ground water and came up with nothing. I did, however, note the occurrence of nitrogen in the water from the Seney well in the report I prepared for the county.

About a year or so after the report was published, I received a letter from a geologist-hydrologist person asking if I had any idea on the origin of the nitrogen. He stated that water he had sampled from wells tapping the Nubian sandstone in Egypt also contained almost pure nitrogen gas. So Schoolcraft County in Northern Peninsula of Michigan has something in common with Egypt.

I replied that I had no explanation as to the origin of the nitrogen and had not encountered anyone who had an explanation. Although I was now one of the WRD experts on the collection of gas contained in ground water, I never again had the opportunity to use this expertise.

Last Reunion for the WW II Doolittle Raiders

Condensed from a CNN article by Bob Greene

Contributed by Joe McIntyre

In mid-April 2013 the few remaining Doolittle Raiders had a final reunion. The 80 men known as the Doolittle Raiders, named after their leader, then Lt. Col. Jimmy Doolittle of the Army Air Corps, raided Tokyo, Japan in April 1942 as a morale-boosting retaliation after the tragic Pearl Harbor bombing in December 1941. A case of 80 goblets is brought to their annual reunions. When a Raider dies a cup is upended. This year, there are four Raiders left. In Fort Walton Beach, Florida, they toasted the Raiders with aged cognac, and end their public reunions.

After Japan's sneak attack on Pearl Harbor, something dramatic was needed to boost the war effort. Sixteen B-25 bombers were modified so that they could take off from the deck of an aircraft carrier. This had never before been tried -- sending such big, heavy bombers from a carrier. The 16 five-man crews, under the command of Lt. Col. James Doolittle, who himself flew the lead plane off the USS Hornet, knew that they would not be able to return to the carrier. They would have to hit Japan and then hope to make it to China for a safe landing. But on the day of the raid, the Japanese military caught wind of the plan. The Raiders were told that they would have to take off from much farther out in the Pacific Ocean than they had counted on. They were told that because of this they would not have enough fuel to make it to safety. And those men went anyway.

They bombed Tokyo, and then flew as far as they could. Four planes crash-landed; 11 more crews bailed out, and three of the Raiders died. Eight more were captured; three were executed. Another died of starvation in a Japanese prison camp. One crew made it to Russia.

The Doolittle Raid sent a message from the United States to its enemies, and to the rest of the world: We will fight. And, no matter what it takes, we will win.

Of the 80 Raiders, 62 survived the war. They were celebrated as national heroes, models of bravery. Metro-Goldwyn-Mayer produced a motion picture box-office hit, "Thirty Seconds Over Tokyo." In the movie-theater previews for the film, MGM proclaimed that it was presenting the story "with supreme pride."

Beginning in 1946, the surviving Raiders have held a reunion each April to commemorate the mission. The reunion is in a different city each year. In 1959, the city of Tucson, Arizona, as a gesture of respect and gratitude, presented the Doolittle Raiders with a set of 80 silver goblets. Each goblet was engraved with the name of a Raider.

Every year, a wooden display case bearing all 80 goblets is transported to the reunion city. Each time a Raider passes away, his goblet is turned upside down in the case at the next reunion, as his old friends bear solemn witness.

Also in the wooden case is a bottle of 1896 Hennessy Very Special cognac. The year is not happenstance: 1896 was when Jimmy Doolittle was born. There has always been a plan: When there are only two surviving Raiders, they would open the bottle, at last drink from it, and toast their comrades who preceded them in death.

As 2013 began, there were five living Raiders; then, in February, Tom Griffin passed away at age 96. After bailing out of his plane over a mountainous Chinese forest after the Tokyo raid, Griffin became ill with malaria, and almost died. When he recovered, he was sent to Europe to fly more combat missions. He was shot down, captured, and spent 22 months in a German prisoner of war camp.

So now, out of the original 80, only four Raiders remain: Dick Cole (Doolittle's co-pilot on the Tokyo raid), Robert Hite, Edward Saylor and David Thatcher. All are in their 90s. They have decided that there are too few of them for the public reunions to continue.

The men have decided that after the final public reunion in Fort Walton Beach, they will wait until a later date -- sometime this year -- to get together once more, informally and in absolute privacy. That is when they will open the bottle of brandy. The years are flowing by too swiftly now; they are not going to wait until there are only two of them. They will fill the four remaining upturned goblets and raise them in a toast to those who are gone.

Sustainable Water Resources

New References

WRD Retiree Tim Smith in a volunteer effort collects current references that pertain to Sustainable Water Resources. His annotated lists capture publications from national and international sources, and they may address local, national, international, and global water issues.

Tim's email address is etsmithsiri@aol.com. All of these references are also placed on his web site which has the following path name:

Sustainable Water Resources

<http://sites.google.com/site/sustainablewaterresources/>

Climate Change, Ecosystems, and Latin America

Government Accountability Office, GAO-13-253, *Climate Change, Various Adaptation Efforts are Underway at Key Natural Resource Management Agencies*, May 2013.

<http://www.gao.gov/assets/660/654991.pdf>

This report examines (1) steps key federal natural resource management agencies—Forest Service, NOAA, Fish and Wildlife Service, National Park Service, and Bureau of Land Management—have taken since 2007 to address adaptation and (2) how these agencies have collaborated at the national level on adaptation since 2007. GAO analyzed the agencies' climate change adaptation guidance and planning documents and interviewed agency officials. GAO also visited one field location for each agency, selected using a non-probability approach, so the results are not generalizable to all of the agencies' field locations.

Waylen, Kerry and Julia Martin-Ortega, *Report on Knowledge Exchange Workshops on an Ecosystem Services Approach*, The James Hutton Institute, Aberdeen, Scotland, UK, 2013.

<http://www.hutton.ac.uk/sites/default/files/files/waters/WATERS-workshop-report-June13.pdf>

The WATERS project aims to support the planning processes of decentralized environmental management, in particular to take better account of the pressures caused by future environmental change. To achieve this, VSO volunteers working in 4 districts (Nsjane, Chikhwawa, Salima and Karonga, in Malawi) are working closely with district officials to support their environmental district planning processes and to stimulate the involvement of the local village level committees.

In this context, a series of knowledge exchange workshops were organized by The James Hutton Institute in collaboration with LEAD-SEA. The focus of the workshops was an Ecosystem Services Approach (ESAp), using this to promote system thinking in environmental planning and in the involvement of local communities. These workshops initiate a dialogue on how ESAp concepts can usefully inform planning processes for natural resource management and climate change adaptation, supported by the WATERS project. There were three types of knowledge exchange workshops, all held in May 2013:

- Cross-district workshop including high-level officials from the four districts, associated NGO staff and the VSO volunteers.
- District level workshops focused on teams of district officials and other local stakeholders (e.g. NGOs acting locally)
- Village-committee level workshops involving representatives of VNMRCs, other relevant local committees (e.g. health, family planning), extension workers and NGOs

Akhmouch, A. (2012), *Water Governance in Latin America and the Caribbean: A Multi-Level Approach*, OECD Regional Development Working Papers, 2012/04, OECD Publishing. <http://dx.doi.org/10.1787/5k9crzqk3ttj-en>

<http://www.oecd.org/dataoecd/43/15/50064981.pdf>

The water debate in relation to poverty alleviation has one dimension that is often sidelined: its relationship with public governance. This report attempts to shed some light on the governance of water policy in Latin American and Caribbean (LAC) countries. It argues that public governance of water in most LAC countries is fragmented, as it is in the OECD area as well, and that greater efforts to co-ordinate water with other policy areas are crucial to maximize the impact on poverty reduction. It emphasizes the need to design water policies in a more integrated manner and implement effective water governance tools and mechanisms that are context-specific, flexible and beneficial to the poor.

US Freshwater Management, Hydraulic Fracturing

Hughes, Sara and Robert Wilkinson, *The Role of Governance in Shaping Freshwater Management in America: Toward Integrated Resources Planning*, Prepared for the Performance of Environmental Governance Systems: Comparing America and China, Nanjing, China, 2013.

http://www.bren.ucsb.edu/people/Faculty/documents/wilkinson_USFreshwater.pdf

Freshwater is one of the world's most precious resources, and managing it sustainably is a critically important goal. Fresh water and healthy aquatic ecosystems provide valuable services that society has come to depend on. While many factors determine the outcomes of freshwater management in the U.S., the aim of this paper is to examine the extent to which we can attribute these outcomes to the operation and evolution of governance systems. In this paper, we refer to "governance" as the steering influence of the rules, decision making processes, and incentives provided by both governmental and non-governmental actors, including the private sector and civil society.

In short, while the principles and objectives for freshwater management have changed significantly over the last 100 years, governance has remained a key factor determining freshwater management outcomes in the U.S. Governance systems have helped to distribute authority and incentives in freshwater management; they shape our responses to social and environmental change, and they determine whose voices are heard, and in what decision making venues. In turn, governance systems have created freshwater management challenges and solutions, and they will continue to do so in the future. As society's goals for freshwater management change, our governance systems may also need to be changed. New challenges and expectations are confronting local, state and national level agencies in the U.S. that are designed to execute basic service functions in a static environment. Governance innovations – such as integrated resources planning and collaborative decision-making – have important potential to address these new challenges.

The Law and Policy of Hydraulic Fracturing: Addressing the Issues of the Natural Gas Boom, Case Western Reserve Law Review, Vol. 63, Issue 4, Summer 2013.

<http://law.case.edu/journals/LawReview/Documents/63CaseWResLRev4.pdf>

This issue of the journal contains a series of articles on hydraulic fracturing, some of which go beyond water resource concerns. The articles include such topics as state preemption, regulatory issues, horizontal drilling, water management, clean energy, climate change, the Gulf oil spill, and others.

Report of the EPA Science Advisory Board

Implementation of ORD Strategic Research Plans: A Joint Report of the Science Advisory Board and ORD Board of Scientific Counselors, EPA-SAB-12-012, 2012.

<http://nepis.epa.gov/Adobe/PDF/P100F67G.PDF>

This report was submitted to the Administrator of the Environmental Protection Agency, as a blueprint for future actions within the Office of Research and Development (ORD). It covers all aspects of ORD, not just water resources concerns. Some important highlights of the report are:

- The Air, Climate and Energy program should include a plan for energy research and indicate how this research will integrate with the plans for climate and air quality research.
- The Chemical Safety for Sustainability program should demonstrate how its research products impact upon end users (e.g., risk managers, policy makers) and how it brings value for informing decisions.
- The Safe and Sustainable Waters program should identify and seek opportunities for leveraging research of other federal agencies and engage with communities in setting the program's research priorities and research development. Program linkages with sustainability, nutrient management and green infrastructure are critical to the success of this program.
- ORD should develop and implement a strategic vision for the Human Health Risk Assessment program to enhance linkages among the program's four thematic areas and other research programs, particularly the Chemical Safety for Sustainability program.
- The Homeland Security Research Program, a valuable national resource, should evaluate its potential contributions to sustainability and consider adopting a broader mission that considers the multiple benefits of its products and application of its research to help respond to a wide variety of environmental disasters.
- The Sustainable and Health Communities program should focus its science questions and research more clearly; articulate how it will interact with local communities, state environmental agencies and regional offices; and clearly distinguish research from implementation of environmental programs.

These links will also be placed on the 2013 Reports and Publications page
of the Sustainable Water Resources Site at

<http://sites.google.com/site/sustainablewaterresources/>

Tim Smith

Sustainable Water Resources Coordinator

Government Web Site, <http://acwi.gov/>