USGS RETIREES

NEWSLETTER No. 188
August 2020

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

PRESIDENT'S MESSAGE

Hello Members,

I hope all of you and your families are staying healthy during the perilous and expanding COVID-19 pandemic. With the uncertainty of having a vaccine that is readily available to the general public before March 2021, the Retirees' Board of Management (Board) unanimously voted to postpone the reunion for one year. Mark Anderson is renegotiating with the University Marriott hotel in Tucson for a similar rate and for the same days in March 10 (Thurs) - 12(Sat), 2022. The postponement is disappointing, but, our concern, naturally, is the safety of all. Mark will reconvene the Local Arrangement Committee early next year to complete plans and have all the information and registration form in next year's August Newsletter. With an additional year for planning, we encourage members to consider holding side sessions during the reunion, such as for groups of former IT, Reports, or Administration personnel; Hydrologic Technicians; Hydrology Short Course graduates; and former Arizona personnel. You have plenty of time to contact your former peers and colleagues to hold a side session. Organizers for side sessions should contact Mark (markandersonwater@gmail.com) for arrangements.

In the last Newsletter under "News of Retirees", Jon Scott suggested an option to offer lifetime memberships. At our June meeting, the Board discussed the option and unanimously voted not to offer it at this time. We historically and continually have the option to pay dues for multiple years. With their submittal of dues, many members also include a donation. Considering an equitable amount for a lifetime membership would be difficult for several reasons, especially, unknown future expenses and other consequences to our finances. We thank Jon for his suggestion and, always, welcome suggestions from the membership to improve our viability, benefits, and operations.

On behalf of the Board I want to thank fellow Board member, Sandy Williamson, for hosting the June Board meeting with his Zoom account. The Zoom meeting went well and resulted in a more efficient and effective exchange, compared to previous meetings using "Free Conference Call". Because the Board's meetings generally last longer than 45 minutes, and the number of participants can exceed 12, the cost for the Board to pay for a Zoom account that accommodates our needs is not justified. Thus, we will continue to use Zoom under Sandy's account.

Under the administration of Vice President, Phil Turnipseed, and assistance by the Regional Representatives, we have awarded 6 Hydrologic Technician Scholarships this year for a total of $6,950. This year's awards bring our total of recipients to 34 and $72,650 in scholarship funds. Photographs of the presentations and write ups from the recipients will be in our November Newsletter. Most presentations this year had to be made during virtual "All Hands" meetings led by the respective Water Science Center (WSC) Directors. Phil soon will be organizing an ad hoc committee to review and revise the 2021 scholarship process. We were pleased to have 10 applicants this year and hope to have more next year. Also, I would like to acknowledge the support and gratitude that we have received for the Scholarship Program from the WSC Directors and Bill Guertal, Deputy Associate Director for the Water Mission Area.

In our efforts to maintain the viability of our Organization, we are enhancing our recruitment efforts to inform and attract USGS employees who have made plans to retire. One of our efforts is a Bulletin Board Message (see page 2) that we are in the process of having posted in every USGS office. Once we learn of an impending retirement, our State Representative or our Liaison Affiliate will send by email a personal membership invitation before the retirement. A noteworthy article (pages 3-4) is the announcement of a new edition of "Statistical Methods in Water Resources," authored by Bob Hirsch, Dennis Helsel, Karen Ryberg, Stacey Archfield, and Ed Gilroy. Printed copies of this Newsletter and the May edition will be mailed together early this month to members who have requested printed editions. They and all members who have requested printed Retirees Directories will receive the 2020 Directory at the same time.

Pete

USGS Retirees

Web: wrdretirees.org
email: wrdretirees2014@gmail.com

Retired? Or Getting ready to retire?
or
Just starting to think about retirement?

Join the USGS Retirees' Organization!

WHY BOTHER? With about 1,200 current members scattered across the country, the Retirees' Organization helps members stay connected with former colleagues and to keep current on happenings at USGS. Membership is $10.00 a year (free the first year) and open to:

- Retirees from all of the Offices and Mission Areas of the USGS and
- Current and former USGS Employees

BENEFITS of Membership in the USGS Retirees' Organization:

- **Quarterly Newsletter** with news of members, retirements at USGS, memorials for members and other retirees who have passed, notes on meetings & gatherings across the country, remembrances & stories, featured science articles, and activities of the Organization;
- **Annual Directory** with contact information for the members, details on regularly scheduled local gatherings, and contacts at the national, state, & local levels;
- **Biennial Reunion** is hosted around the country to catch up with friends, make new friends, get updated on what is going on at USGS. Next reunion is scheduled for March 2022 in Tucson;
- **Local Gatherings** at regularly scheduled intervals for breakfast, lunch, coffee, dinner, picnics, and holiday gatherings; and
- **Support & Encouragement** for young USGS employees to advance their careers through mentoring and scholarships.

A membership application form is posted with this message. Additional information and PDF and Word versions of the application can be found at wrdretirees.org.

Please feel free to contact one of us if you have questions:

Representative	Name	Contact Info
Affiliate Liaison		
State		
Regional		
President	Peter Anttila	petejoycea@frontiernet.net

A new edition of "Statistical Methods in Water Resources" – authored by 3 retirees, and 2 current USGS scientists.

Ryberg, Karen R.
Research Statistician, USGS Dakota Water Science Center

In 1992, Dennis Helsel and Robert Hirsch published the textbook Statistical Methods in Water Resources. The text began as a collection of class notes for a course on applied statistical methods for hydrologists, and others at the U.S. Geological Survey National Training Center. The first course was offered in 1986 and still continues at the USGS in a modified form more than 30 years later. In 2002, the work was made freely available online as a USGS report. Since then, the two versions have been cited over 5,000 times.

This classic text has now been updated with additional authors, Karen Ryberg, Stacey Archfield, and Ed Gilroy, and utilizes R, a programming language and open-source software environment for statistical computing and graphics. Computer-intensive methods (bootstrapping and permutation tests) now improve upon and replace the dependence on t-intervals, t-tests, and analysis of variance. A new chapter on sampling design addresses questions such as "How many observations do I need?" The chapter also presents distribution-free methods to help plan sampling efforts. The trends chapter has been updated to include the WRTDS (Weighted Regressions on Time, Discharge, and Season) method. Much of the original content remains, but with updated graphics and updated guidance on the use of statistical techniques. All of the data and all of the R code used to generate figures and examples are provided for download.

The new edition is now available as a USGS Techniques and Methods Report, https://doi.org/10.3133/tm4a3. A hardcopy version will also be available soon.

The authors had a Zoom party to celebrate finally being done. Here's the photo (minus Ed).

The photo, shows, clockwise from upper left: Bob Hirsch, retired from the USGS September 30, 2018, now Research Hydrologist Emeritus; Dennis Helsel, retired from the USGS in May 2008 to start Practical Stats; Stacey Archfield, Research Hydrologist, Integrated Modeling and Prediction Division, Water Mission Area; and Karen Ryberg, Research Statistician, Dakota Water Science Center. Not pictured, Ed Gilroy, retired from the USGS December 26, 1995, and since then has been a contractor to Practical Stats.

This next photo, which shows a dog-eared copy of the original text, probably looks familiar to a lot of you! The photo was sent to co-author Dennis Helsel by Emeritus Professor Tom McMahon of the University of Melbourne.

Dr. McMahon had this to say:

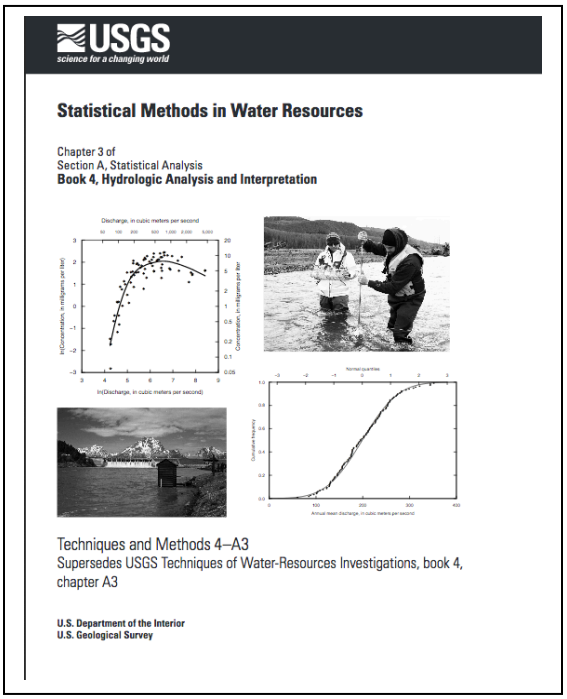
“A short note to offer my congratulations to you and Dr. Hirsch and team for the updated version of Helsel and Hirsch. My 1992 hard copy is falling apart after 25 years of continuous use. As an 82-year-old hydrologist, I seem to spend a lot of time these days sorting out the intricacies of hydrologic statistics. Last week for example I used Helsel & Hirsch to understand homoscedasticity and the Mann-Kendall test. Once again the USGS has the foresight and initiative to make these important documents freely available.”

Here are a couple of other quotes:

“Big shout out to the USGS gang who continue to help us teach statistical hydrology to the next generation. I use H&H as my text for my graduate class. Students will appreciate the newest edition.” Jennifer Jacobs, University of New Hampshire.

“Congratulations on getting the new edition out!! I admit I am one of the 3,000+ downloads so far (WOW!), and routinely recommend the text to other professionals in water resources. I hope you're doing something fun to celebrate - that's quite the accomplishment!” Lauren Zinsser, P.G., Hydrologist, Idaho Water Science Center [Note that as of June 24 it has now been downloaded over 4,800 times.]

Here’s what the cover of the new version looks like. It is 484 pages and has no floppy disk in the back (but all the data and code are online at the USGS). It is all black and white to keep the cost of printing as low as possible. The photo in the lower left was taken by Mike Nolan (USGS, Western Region Surface Water Specialist, Retired).



In case you would like more opportunity to remember during these COVID-19 times…

Commemorating Mount St. Helens catastrophic eruption 40th anniversary

By Carolyn L. Driedger (Hydrologist/Outreach Coordinator), USGS Cascades Volcano Observatory

Colleagues,
There has been planned multi-agency commemoration of Mount St. Helens' big eruption for now transformed into a series of online events. Potential still exists for later onsite commemorations, but for now be advised of these opportunities. The Mount St. Helens Institute website serves as the events and resources clearinghouse. Check back for new posts in coming months. Here are some items with USGS involvement.

Three Signature commemorative were offered simultaneously on May 18th. It is hoped that each will be archived. (Access information on the MSHI webpage and as listed)

-**OMSI (Oregon Museum of Science and Industry) Science Pub:** USGS geologist ***Heather Wright*** discusses the geology of Mount St. Helens, what's been learned, etc. https://omsi.edu/calendar/virtual-omsi-science-pub-mount-st-helens#

-**PNSN/UW/UO/USGS Mount St. Helens and the Cascade Range Volcanoes** https://pnsn.org/blog/2020/05/11/st-helens-40th-anniversary-program ***Seth Moran***, Steven Malone, Joe Dufek and Jackie Caplan-Auerbach discuss Mount St. Helens and Cascade volcanoes then and now.

-Washington State History Museum Story Hour (Pre-eruption and eye-witness accounts) ***Carolyn Driedger*** and others) https://www.facebook.com/events/1417832005071305/

Additional Resources:
USGS Top Story is online: Mount St. Helens' 1980 Eruption Changed the Future of Volcanology ***Ryan McClymont***

USGS Volcanoes on Facebook and Twitter: Forty Years Ago at Mount St. Helens daily posts by ***Liz Westby*** (many excerpts from ***Richard Waitt's*** book plus images), artfully told, each post gleans hundreds of 'Likes' daily and many public comments. https://www.facebook.com/USGSVolcanoes/

New fact sheet: Driedger, C.L., Major, J.J., Pallister, J.S., Clynne, M.A., Moran, S.C., Westby, E.G., and Ewert, J.W., 2020, ***Ten ways Mount St. Helens changed our world—The enduring legacy of the 1980 eruption:*** U.S. Geological Survey Fact Sheet 2020-3031, 6 p

USGS Library: 40 Years Later: The Eruption of Mt. St. Helens and the USGS Response: https://usgs.libguides.com/msh40 Additionally, a longer term effort is in progress to interview USGS staff who worked at Mount St. Helens in the 1980s.

USGS Youth and Education: New materials have been placed on these USGS education-focused websites. Learning from home; Youth and Education in Science; and Mount St. Helens special resource materials. ***Eleanour Snow, Holly Nickle, and Diane Garcia*** point to these resources.

Don Swanson will be featured on June 9th in **'Surviving the Mount St. Helens Disaster'** on National Geographic channel in the US at 10pm EDT/CDT.

USGS staff members have responded to approximately 50 news media requests since the year began, and so expect their messaging, voices, and faces in multiple news stories.

NEWS OF RETIREES

NOTE: We wish to thank the two Retirees for submitting the following “memories” of the Mt. St. Helen event reviewed in our previous Newsletter. Editor

MEMORIES OF MT. ST. HELENS ERUPTION – 40-years later

Gary Gallino writes: The 40th anniversary of the eruption of Mt. St. Helens brings back a lot of memories. I transferred to Vancouver in the fall of 1981 to relieve Dick Janda of what he referred to as “administrative B. S.” and to provide some assistance in designing a data collection network around the mountain. I spent the next 9 years hip deep in the administrative stuff and sometimes hip deep in runoff. I also had the honor of participating on the warning team that Tom Pierson described in his excellent article. It was estimated that 6 people would be killed in the evacuation process if we had to call a “red alert”—meaning the level of Spirit Lake was dropping rapidly. Fortunately, we never had to do that. Attached is a photo of the WRD gang working in Vancouver. The photo was taken shortly after the dedication of the Cascades Volcano Observatory and after we began co-habiting with the Geologic Division team—probably fall of 1981 because I was still wearing a tie in the office!

Front row (L to R): Ly Topinka, Gary Gallino, Bart Marquette, Bill Johnson, Rick Kittelson, Tom Hale, Tom Pierson
2nd row (L to R): Jeanette Dodge, Cory Pyle, Randy Dinehart, Debbie Hendricks, LeAnn Burnett, Linda Goad, Len Reed, Diane Gentry, Kevin Lewis, Dallas Childers
Back row (L to R): Dan Gooding, Dick Janda, Steve Gustafson, Wayne Steuben, Winston Stokes, Wally Larsen, Karl Lee, Dick Jesser, Al Onions
Kevin Scott and Dave Hubbell had not yet officially transferred to Vancouver
(**not pictured**—Holly Martinson, Dave Meyer, Jonathan Brown)

Kim Rogers writes: I was at the beginning of my Federal Career as a Clerk Typist working for the then National Mapping Division at their Book Distribution Center located on S. Pickett Street in Alexandria, VA. They were responsible for the distribution of publications such as Water Supply Papers, Professional Papers etc., in addition to free pamphlets on various topics. When Mount St. Helens started appearing in the news, we had two pamphlets available entitled Volcanoes and Volcanoes of the U.S. Several weeks before Mount St. Helens erupted, our postman, Rick, came in and asked, "what the heck?". He carried in a BAG of mail mostly requesting the two free pamphlets from teachers and their students. Once Mount St. Helens erupted, we received thousands of requests and quickly went out-of-stock on both pamphlets. We learned that Women's Day had advertised these free products without our knowledge. As I opened the thousands of requests and typed the labels for mailing, an envelope was delivered that was bulging and spewing fine gray powdered dust across my desk. Today, we would have phoned the HazMat Unit! I opened the envelope and found a letter from an Elementary School Boy that was requesting the free pamphlets and had sent me some Volcanic ash from his backyard. I spilt the ash into two bottles, I kept one and gave one to my then 10-year-old sister (see attached photo). Looking back 40 years, never did I think I would regret not keeping the letter from the young student as well! What a fun memory.

Judy Cornwell writes to ***Jim and Paula Blakey***: Our 10th great-grandchild was born this morning (May 15, 2020) in Mayaguez, Puerto Rico, we learned a couple hours after I talked with you. His name is Joseph Tion, and he weighed 8 lbs. 9 oz. Hopes your great-grandchild arrives this week, too. I talked to Mary Kidd, and she agreed that Pat Griffith ***(reference Memorial articles)*** came to head the District's manuscript unit in 1985. I think she worked for another agency before she came to the USGS. I don't know which one, but I think she worked for Carol Hurr, Ted Hurr's wife. I remember having a class with Carol teaching it. It had to do with writing publications. Pat very much-admired Carol. May and I also remember Pat's involvement with Total Quality Management (TQM) program. Pat retired in the spring of 1994, a few months after I retired. Mary also had a suggestion about getting together for breakfast if we can't go to the Village Inn. She said there is a place in Morrison called 'The Cow' that has a large patio beside Bear Creek, and that they serve good breakfasts. It's on the south side of the highway through Morrison. I can't place it, but she says it's been there forever. I told her I would pass her suggestion along to you. I'm enclosing the obituary for Pat. Mary was going to try to look it up online. She doesn't get a paper either. Hope to see you sometime soon. Take Care

Art Horowitz writes: Just wanted to update our address as we moved in March. The new address can be found in the Directory article on page We thought we had made our last move and were reasonably settled after downsizing for what we thought was the last time. Fate intervened! The day after Christmas 2019 we had a visitor (see attached) at our vacation home near Murphy, North Carolina. She was skin and bones and rather skittish but also friendly. We spent about 3 weeks seeing if she would adapt to a leash because we never could have brought her back to Atlanta if we couldn't. Obviously we have no idea about her history, but she appeared to have never (rarely) been in a house because she was afraid of doorways and didn't know what to do with stairs. She came along with a host of parasites that took about 6 months to eliminate. The vet, based on her teeth, guessed that she was between 1 and 2 years old and thinks she is mostly an American Mastiff. We decided to call her Samantha (Sam for short). She certainly has changed my routine because sleeping in is now a thing of the past. Luckily she is not a high energy dog because the last thing I need is to be chasing after her. However, walking her twice a day has done wonders for my back as well as my weight. They used to say that true freedom occurred when the kids leave home and the dog and the cat die. We had 15 years of freedom and are now back in harness again. She also was one of the reasons we opted to move, She weighs about 120 lbs and it's like having another person in the house; we needed more space, especially when our son came to visit.

Dave Madril writes: I forget if I'm paid up to this year or not so my check should include dues for 2020 and 2021. If I'm wrong, then please put the additional funds in your general fund. I enjoy receiving the newsletter an often go back to them from time to time. I'd like to thank the staff for keeping it in hard copy. I've been retired 17 years now and thanks to modern medicine I'll keep waking up for a few more.

Frank & Lucy Manheim writes: We have just moved to a smaller house. We are still in chaos with unopened boxes. A major regret is leaving our former galley with an amazing “granite” top and sideboard. Can you guess what kind of rock this is? OK, I’ll tell you the results of our sleuthing: this is no ordinary conglomerate. The rocks you see formed on a submarine volcano off the Atlantic coast of Brazil! Our trail began by learning that the slab came from a quarry on the east coast of Brazil. A bathymetric map revealed a series of seamounts offshore. The evidence suggests that it formed on a submarine volcano - a former extension of the series off the East coast of Brazil - that was later uplifted to become land so an Italian firm could quarry it. Those rounded rocks were volcanic ash that got partly lithified and then broken to pieces and rounded as they fragments rolled down the slope of the submarine (partly emergent?) volcano. In the last picture you see a boulder settling into olivine greensand. Eventually hot silica-loaded solutions silicified everything and captured the action as though we were there! As a marine geochemist who served as co-chief scientist on cruises to the South Pacific studying cobalt-rich ferromanganese crusts, I saw similar rocks and sediments on dredge hauls from seamounts. Fantastic, isn’t it? The irony is that nobody but us geologists (Lucy McCartan and I) wanted such a weird slice of rock. It had been available at a Lorton VA granite dealer for a year before we grabbed it!

Doug Posson writes: Hello Pete, Cathy and Company -- Oops. Looks from the latest accounting that I'm in arrears. Enclosed is a check for my dues for 2019-2020-2021 with a bit more to be used as you see fit. You're doing a great job with the Newsletter. I enjoy reading every issue - the recounting by Tom Pierson of the role of WAD talent in the Mount St. Helens events was excellent. What's new here? Linda and I recently built a new house in the South. That is, the very south of Maine, close to where our daughter Geneve Hoffman and her family live. And close to where Linda and I met - Portsmouth while we were both in graduate school at nearby University of New Hampshire. Our cats, Lucie and Raymond are pleased. Daughter Kristen Chaddock and family live in Reston, not far from-U SGS headquarters. Please update the USGS/WRD Directory with our current address (reference address change on Directory). Linda and I have been busy since I retired from the USGS in 2003 and she sold her business in 2004. We've traveled to France every year since 1986 visiting friends and exploring nearly every region. She has written a novel about the leader of the French Resistance during WW II, has been active with some chamber music organizations, and has been painting scenes from Maine. Me, I've teamed up with retired USGS geologist David Howell to teach an online course the Geology and Wines of California and France - thru Stanford University 's Continuing Studies Program. Two years ago, we began taking small groups to different wine regions in France and California to check out the terroirs where the wines are grown. It's been fun and educational. I've had to unlearn much of what I thought I knew about the geology of France but am now very familiar with the geologic maps of France. Our tours are on hold for the foreseeable future with Covid-19 but the online courses have built-in digital social distancing so all's well there. Linda and I stay active - no longer climbing mountains in Colorado, but we walk, hike and I ride by bike regularly here in Maine. I've noticed that it's been a while since I set any new personal speed or endurance records. On alternate days, Linda and I find places to explore our new hometown. Thanks again for the great job of keeping us all in touch. Be well.

Wayne Webb writes: After retiring in 2000, Sue and I had a house built in Berryville VA designed for one level living.36-inch wide doors, no steps, all necessities on one level bath bedroom kitchen laundry family room. It has proven to be a good choice since Sue has had a broken hip and more recently an injured foot. We are active in the church and bowling. Sue is in a bunko group and a red hat group. I am a Soil and Water Conservation Service Director (one of 2) for Clarke County and beginning my third and last 4-year term. My contribution to that group is to try to help figure out which of the conservation practices the for which the Conservation District provides 75 to 100% cost share are going to help the most in reducing nutrients and sediment getting to the Shenandoah River and ultimately to Chesapeake Bay. To encourage people when to come enjoy The Shenandoah River I am running a website https://swimshenandoah.com/ that lets viewers know if today’s conditions are or are not similar to when the Rivers met the bacteria standard for swimming.

The Rivers are very predictable and flow and recent rain define with over 95% certainty if the Rivers do or do not meet bacteria standards. A recent look at the NF, SF and Shenandoah River data showed that during that swimming season all but 2 of 29 measured sites met the old bacteria standard* for primary contact recreation (PCR) (swimming) at normal flow and no rain more than 0.5 inches for 2 days. If my not so good weekly poker betting could be as well predicted as the River *E. coli* the other players would be broke. If we can hang on for about 8 more-years we will see the "kids" reach retirement age. That's old! Take care and be safe Wayne Webb

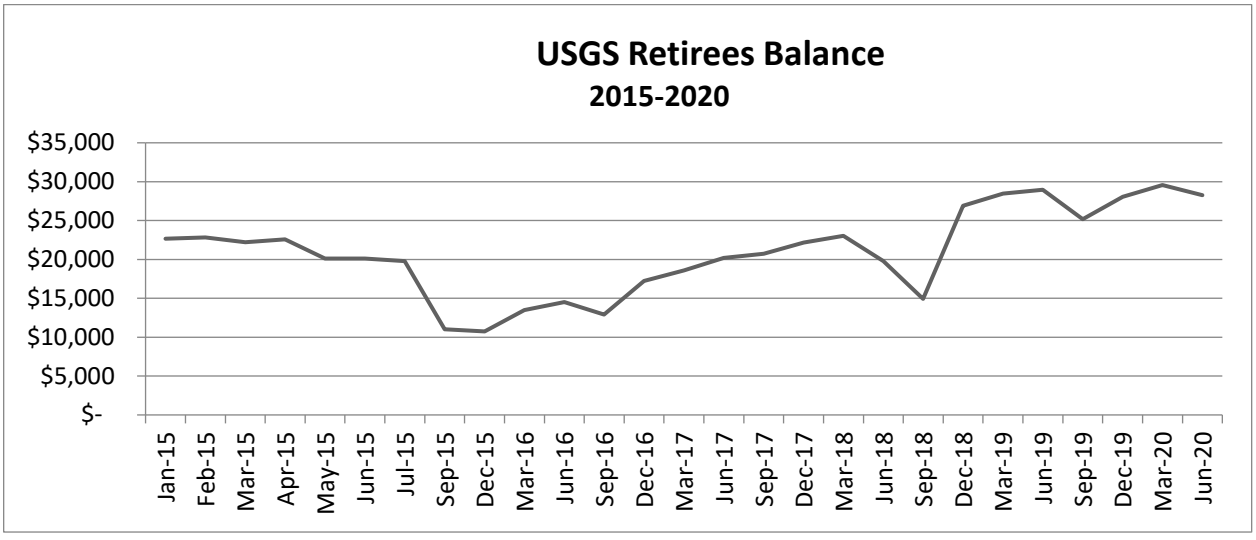
Dues Received since last May's Newsletter:

Jeffrey Agajanian
Bill Alley
Angel Alvarez
Patrick Clancy
Martha Jacqucki
Mary Kidd
Briant Kimball
Dave Madril
Robert Mason
Larry Pettinger
Robert Shedlock
Karen Steele
Beth Stettner
Leanna Sweet
Jay Weigel

TREASURER'S REPORT, SECOND QUARTER 2020

Treasurer Cathy Hill reports the organization had $28,243 at the end of the second quarter, June 2020. The main expense this quarter was a $2,000 down payment for the 2021 Reunion in Tucson, Arizona.

Special thanks for contributions above dues to John Terry. Many thanks for your generosity.



RETIREMENTS

Kathy Bryant retired on July 4, 2020 from the USGS National Water Quality Laboratory (NWQL). The NWQL will miss Kathy's experience, institutional knowledge, and wisdom. Please join us in wishing Kathy well on her retirement!

Teresa Williams, Chief, QAS

A note from Kathy: *After almost 39 years of government service, on July 4th, Independence Day, I will start my next adventure: retirement! I am so proud to have spent over 38 years working for the USGS. Prior to working at the National Water Quality Laboratory, I worked at the Smithsonian Natural History Museum and the USGS/Geologic Mission Area in Washington, D.C. I did a brief stint as a geologist with a geological consulting firm in Lakewood, CO. Over the years I have witnessed the intelligence, dedication, humor, and care exhibited by my USGS colleagues. Coordinating the NWQL Brown Bag Seminar series for USGS/WRD projects utilizing NWQL-generated data was such a personal education. The research done by the USGS is so impressive. It fueled my desire to be involved as a 'citizen scientist' with local water quality issues in my retirement. I have been privileged to work with so many wonderful individuals with the USGS within the NWQL and across the country, as well as the National Park Service and Fish & Wildlife Service, that I consider to be part of my extended family. The high caliber of the work accomplished by USGS personnel that documents the quality of the Nation's surface water and groundwater makes me proud to be associated with all of you. In retirement I plan to continue my volunteer literacy efforts at local elementary schools, support local water-quality efforts, participate in social justice efforts, catch up on my reading, hike, snowshoe, weave, quilt, struggle with high altitude gardening, convince my teacher husband to retire, learn Mandarin and Gaelic, travel to see my children (and the ocean!), and in general, enjoy life. I wish you all well, continued success, and the utmost in happiness and satisfaction as you continue your careers with the greatest science agency on the planet.*

Jim Caldwell is retiring after 30 years with the USGS. Please join me in wishing Jim a long and healthy retirement! Jim began his environmental career by earning a BS in Environmental Science from New England College in 1979. Jim then worked as an Environmental Analyst from 1988 to 1990 with a private consulting firm working on aquatic research in the Catskills area of New York. During this time Jim worked with Peter Murdoch and became interested in the work that was being done by USGS. Peter helped Jim find a position on the west coast in the Portland, Oregon, USGS office, where Jim worked from 1990 to 1995. During Jim's time in Oregon he worked with Mike Doyle, Stewart Rounds, and Chauncey Anderson on water-quality studies and a continuous water quality monitoring. Jim even worked with several USGS continuous water quality monitors that pre-date much of the equipment used today, including the USGS's Mini Monitor. In 1996, Jim transferred back to New England to the Maine Water Science Center in Augusta (now part of the New England Water Science Center) and worked there on a variety of data collection and hydrologic studies. Jim did everything from streamgaging and snow survey work to water-quality sampling of streams and groundwater, NAWQA water quality studies, and working with the National Park Service at Acadia National Park. During Jim's time with USGS he authored and co-authored many USGS scientific and data reports on surface-water quality, groundwater, groundwater quality, and meteorological data. During Jim's career he really became the "water-quality guy" in the Maine Office and has been a great resource for many, including junior staff. Jim has worked with many people in many offices and they have all had the same thing to say about him and that is; Jim is a nice guy. So, let us all congratulate Jim, wish him a great retirement, and thank him for all the work he has done for the USGS. In Retirement, Jim is planning to do some work around the house, get in some time biking, and enjoying his family. Congratulations Jim!

-Johnathan Bumgarner, Director, New England Water Science Center

Carole DeHerrera retired on June 30, 2020. "I started my federal career with the US Army as a civil servant for 5 years. I then took some time off to raise my sons and in 1983 moved to Rolla, MO, and applied to the USGS which was in a hiring freeze at that time. I told them to remember the face and found a job with a local Allstate insurance agent. A month later the hiring freeze was canceled, and I got a call from Dan Bauer, Chief of the Missouri Water District. He asked me if I knew why he wanted to interview me and proceeded to tell me it was because I had put in my application that "I could read my previous boss's writing". Come to find out that Dan wrote in nearly a straight line. It was a match made in Heaven and we still communicate with Christmas cards to this day. In 1988 I moved to Colorado working many happy years with Jim Blakey and the Regional Hydrologist staff. In 2000 my position was realigned into the Human Resources office and where I have been

happily serving as the Bureau Honor Awards Coordinator for the last 8 years. After 42 years I now join my favorite people, the WRD Retirees. I hope to be able to meet with you all and frequent Retiree functions for many years to come.

Jeff Fischer, the Associate Director for Projects at the USGS, New Jersey Water Science Center retired on June 3, 2020. Jeff has worked for the USGS for over 40 years and has many years of experience studying water use and water quality issues in river basins and aquifers, and stream ecosystem health. His early work characterized the geology of the Bering Sea, and studies in Nevada he quantified rates of infiltration in arid environments. After moving to New Jersey, he conducted research on biodegradation rates of organic compounds in the subsurface, and the transport and fate of contaminants in streams, aquifers, and water-treatment systems. Most recently Jeff was the scientific lead for the USGS National Water Census focus area study in the Delaware River Basin. This four-State multi-disciplinary study improved our understanding of water use in the basin and the conflicts between human and ecological needs; and helped identify future water use issues. Areas of study included improved water use and supply information, and development of a stream-flow model to assess how population growth, changing land-use, and the effects of climate variability will change water needs in the future. The study also developed a scientific approach for defining relations between streamflow processes and the responses of aquatic organisms in tributary streams. Jeff also supervised and directed two National Water Quality Studies (NAWQA); the Delaware River Basin (DELR) and Long Island – New Jersey (LINJ). These multi-state multi-disciplinary studies describe the occurrence of contaminants in streams, aquifers, sediment, and fish; related water-quality conditions to urban and agricultural landscape development; and describe impacts of urbanization and forest fragmentation on ecological communities. On a regional level Jeff has been working with other scientists to describe how water quality in the many aquifers of the North Atlantic Coastal Plain changes in responses to extensive water supply withdrawals, and intensive urban and agricultural development at the land surface. Nationally he conducted studies on the interactions between geology, geochemistry, and the surface application of chemicals and their impact on the transport of natural and anthropogenic contaminants to public supply wells. Jeff and his wife Liza are looking forward to retiring in their favorite vacation spot-Cape Cod, where they can enjoy kayaking, hiking and whatever else strikes their fancy.

-Richard H Kropp, Director, USGS New Jersey Water Science Center

Douglas Freehafer retired on June 30, 2020 after over 28+ years of service with the USGS and will advance from one year of phased retirement to his full retirement. Doug received a geology degree from Lafayette College in 1975 and began his career as an environmental scientist with an engineering consulting firm in southern New Jersey. He then worked for Computer Sciences Corporation as a programmer for the U.S. EPA Region III Office in Philadelphia. In 1990, Doug received a MS in Computer and Information Science, with an emphasis in computer graphics, from Temple University. Doug began his USGS career in 1992 after joining the NY Water Science Center (NY WSC) as the Project GIS Specialist for the Hudson River National Water Quality Assessment Program. A special thanks goes to Yvonne Baevsky for informing Doug of the open NAWQA position when they met at the 1991 Esri Conference in Palm Springs, CA. He supported the NAWQA Team with the ancillary data and maps used to define the environmental setting of watersheds, an essential component of the NAWQA groundwater, surface water, and ecological investigations. In 2000, Doug became the Team Leader for NY WSC GIS Support Team. He enjoyed the challenge of applying GIS database and cartographic design to many projects, including the development of GIS datasets for over 30 aquifer mapping reports. He partnered with Cathy Crotty from NRCS to build the NY State portion of the National Watershed Boundary Dataset, a key component of the NY StreamStats application. Doug was the contact for the NY State Data Sharing Cooperative and maintained the USGS data inventory on the NY GIS Clearinghouse. Doug believed in the importance of outreach. He provided geospatial assistance to the public, ranging from such requests as providing the data needed for a flood insurance application to assisting anxious students as they searched for spatial data for their semester projects. In 2011, Doug's responsibilities expanded to include his function as the NY Associate National Map Liaison for the National Geospatial Program, assisting Craig Neidig the National Map liaison for NY. In this role, Doug kept state partners and the public informed about federal geospatial activities through his interaction with the NY State GIS Program Office, and as the federal

representative on the NY State Geospatial Advisory Council. Doug was a member of the NY State lidar workgroup in support of collecting lidar for the USGS 3D Elevation Program. He played a key role in providing lidar for projects in the NY WSC, as well as for use by the public. His most unique project was applying GIS at the microscopic level to determine the complexity of colonial diatom species by measuring their fractal dimension. Doug's career spanned a period where GIS changed from being a new tool that showed promise to an integral part of everyday work. The New York WSC was his home for nearly 3 decades and he helped make it a collegial place to work. Doug plans to do more streaming and engage in activities that provide the opportunity to be creative. And maybe it is time to learn how to play bridge? Congratulations Doug!

-Robert F. Breault, Director, New York Water Science Center

Ed Furlong retired on May 29, 2020 after more than 32 years with the U.S. Geological Survey, as a Research Chemist at the National Water Quality Laboratory (NWQL) and most recently the Strategic Laboratory Science Branch (SLSB) of the Laboratory and Analytical Services Division, Ed is stepping back from the mass spectrometer. We will miss Ed's leadership and insight and wish him the best in retirement. Ed began his career at the USGS in late 1987 when he joined the newly formed Methods Research and Development Program (MRDP) at the NWQL. Ed brought skills in environmental mass spectrometry and organic geochemistry to this new program, having MS and PhD degrees in Oceanography from the University of Washington and having completed a postdoc in analytical chemistry with the renowned environmental mass spectrometrist Ron Hites at Indiana University. Ed's initial research focused on developing mass spectrometric methods for organic contaminants in water and sediment for application in the newly launched National Water Quality Assessment, as well as contributing to ongoing research at the Toxic Substances Hydrology Program's Bemidji field site. Ed got the chance of a lifetime when he assisted the Lake Fryxell Research Project in the Dry Valleys of Antarctica, where, working with George Aiken, he drilled through ~4 meters of ice to collect sediment cores as part of the project research to understand how global carbon balances are reflected in the geochemistry of this unique lake in this extreme environment. Ed is probably best known for his contributions to developing state-of-the-art mass spectrometry techniques and interpreting these results to understand the presence, distribution, fate, and effects of pharmaceuticals in the environment. Working with Herb Buxton, Dana Kolpin, and array of outstanding USGS scientists, Ed helped launch the Toxics Program's Emerging Contaminants Project in 1998. This project has produced, and continues to produce, groundbreaking research and hundreds of peer-reviewed publications in top-tier journals, establishing the USGS as a world leader in this rapidly growing research area. An important outgrowth of this project was an interagency agreement with the U.S. Environmental Protection Agency, starting in 2002 and continuing to this day, that has yielded critical insights into human exposure to pharmaceuticals and other emerging contaminants from drinking-water resources, including the per- and polyfluoroalkyl substances (PFAS) so prevalent in the news. Throughout his career at the USGS, Ed has particularly enjoyed the opportunity to support the NWQL in its mission to provide USGS scientists and programs with insight and understanding for interpreting their results. He is especially gratified that those interactions with so many Water Science Center and National Program colleagues developed into lasting collaborations and friendships. Even more importantly, Ed is most proud to have been a team member at the NWQL and the MRDP, where providing high-quality data for understanding the quality of the Nation's water resources has always been the foremost goal. Ed is not quite done with the USGS yet, as he plans to be an emeritus scientist and contribute to science, publications, and mentoring at the NWQL and the SLSB. Of course, that will have to fit around quality time with his wife Andrea, and the travel, birding, hiking, cross-country skiing, camping, and woodworking he has been trying to fit around his USGS work all these years! Ed hopes to keep in touch with colleagues and friends as he embarks on these new ventures with the same enthusiasm he has felt for his research and for those colleagues and friends at the USGS. He hopes that they, and the Survey as a whole, fare well in the years ahead. Ed states: "Keep up the great science and see you down the road!"

--Gregory D. Clark, Director, Laboratory and Analytical Services Division, NWQL

Don James retired from The Upper Midwest Water Science Center after an outstanding 41-year career at USGS. In celebration of Don's "formal retirement" which became effective January 3, 2018, and his reemployment (he started a NDAA appointment with Upper Midwest WSC on January 23), we held a simple celebration in Don's honor on Friday May 25, 2018. After working three years at a factory job Don decided he had had enough of life in Metro Detroit and headed for Michigan's north woods. Don enrolled at Kirtland Community College, in his adopted hometown of Roscommon, where after two years he received an Associate's degree in Forest Technology. One day Don wandered down the hall to the USGS portion of the shared building with Michigan DNR, and he was immediately hired by a boss that was more than happy to have an employee that did not deer hunt thus was willing to work in November. Don spent his first 25 years at USGS as a Hydrologic Technician in the north woods at a small field office. In the mid 1990's, Michigan Water Science Center (MI WSC), like many others, had started experimenting with stationary acoustic equipment at complex sites, including using one of the first commercial ADCPs. While many of us were thinking acoustic measurement technologies were decades away from replacing our trusty Price meters and CMD's, Don was busy learning as much about acoustic streamflow measurement theory and instrumentation as he could. By the mid-2000's Don understood things well enough that he had become the "go to" acoustics person at MI WSC. In 2008, we found the critical need for acoustic measurement expertise both within the Center, and beyond, as the International Joint Commission tasked MI WSC with installing and operating stream gages on three of the four Upper Great Lakes Connecting Channels. Working in the role of MI WSC acoustic measurement specialist, Don finally found his niche as he worked initially to understand the flow dynamics on the St. Mary's River at Sault Ste. Marie through the ice, and in the summer following, as innovator of all things related to the complex and vulnerable ADVM installations at the three sites. After the Connecting Channels gages were installed, and operating Don worked tirelessly with Kevin Oberg, Victor Levesque, Dave Mueller, Liz Hittle, and others, to optimize their operation and produce excellent streamflow records. Before his retirement, Victor was even bragging that Don's installations were among the "best" in the Survey. Very soon after Don's foray into "big rivers" he realized that our boats were inadequate on the waves that seem to appear from nowhere on the Connecting Channels. Don was first able to coerce Jim Nicholas and Steve Blumer into buying a capable boat for the measurement work and then he took his carte blanche and somehow convinced the folks at Hewescraft in Washington State that they needed to build a fantastic boat for MI WSC for about $30,000. Go Don! Since 2008, Don has made improvements to his ADVM track systems, including integrated ice shields and much improved serviceability. Imagine floating 4-foot thick ice slabs across 2,000 to 4,000 foot wide channels, ice breakers working nearby, and floating ice at the ADVM level 14 feet below the surface and ponder that we have not lost a meter (yet) and you will have an idea of how robust Don's installations are. One important aspect of all this work I have failed to mention until now is Don's measurement quality. Anyone who has been with Don knows he has no problem motoring back and forth at one site all day to understand complex hydraulics which seem so prevalent anywhere near the Great Lakes. Don's measurements on the Saginaw River at Saginaw made many aware that a reversal in streamflow can occur within an hour or so at a gage 24 river miles upstream from Saginaw Bay! It was also Don's measurements on the St. Clair and Detroit Rivers that made the Hydroacoustics Working Group question the validity of the then current generation of internal ADCP compasses. As a result of Don's measurements and days of work by Dave Mueller and Kevin Oberg perusing the results of his measurements, GPS heading compasses are now used across USGS with greatly improved accuracy. In 2015, in recognition of Don's outstanding career, Don was awarded Hydrologic Technician of the year at the Annual Data Conference. Don's diligence has fostered an outstanding working relationship between MI WSC, Hydrometrics Operations Ontario (Water Survey Canada), and U.S. Army Corps of Engineers Detroit Office. Along his journey Don has become a de facto member of the Hydraulics Subcommittee of the Coordinating Committee on Great Lakes Basic Hydraulic and Hydrologic Data, which is the International group that oversees many Great Lakes issues, including flow in Connecting Channels.

-John Walker, Director, Upper Midwest Water Science Center

Wanda H. Maloid retired on June 30, 2020 after 36 years of federal service. Wanda began working for the Hydrologic Instrumentation Facility (HIF) in 1989 while serving in the Army reserves. After serving in other roles, Wanda began working in the Water Quality (WQ) Servicing Laboratory as an Electronics Technician, interrupted only by serving in the Gulf War as an Army NCO. Her meticulous attention to detail and her tireless work ethic made her an integral member of the WQ lab where she was the primary point of contact for all repairs on water-quality instrumentation. Wanda was always willing to go the extra mile for HIF customers. Her vast knowledge base, and no-nonsense resolve to ensure customer repairs were completed properly and for the agreed upon price, made her an advocate for water science centers across the United States. Wanda plans to complete her Bachelor of Science degree in Horticulture, and to continue working on her creative designs. She also plans to travel with her faithful travelling companion, Mutley, and spend lots of free time enjoying family and friends. Wanda's intelligence, creativity, and wonderful sense of humor will be sorely missed. We wish her the best in all her future endeavors.

Terri "TJ" Moore retired after 46 years of federal service. Terri came to USGS in 2000 as a System Administrator for the California Water Science Center after working 20+ years for the Department of Defense. Terri soon became the Chief of the IT Section and set up the first Help Desk for the Center and within the Western Region. After a few years, Terri became the Regional Computer Specialist for the Western Region and worked for the Regional Hydrologist. Terri later moved on to Headquarters and worked in the Office of Water Information (OWI). Terri continued her duties as a regional computer specialist and support to the Water Science Centers as well as working on Headquarters projects. Terri was instrumental in the merger of the Center for Integrated Data Analytics (CIDA) with OWI. Terri then took on the duties of the Deputy Chief of OWI. When Headquarters went through a reorganization in 2018, Terri moved on to become the Chief Technology Officer for Headquarters Water Mission Area and the Chief of the Enterprise Technology Office supporting all WMA enterprise applications. Terri was key to many things during her career, but most importantly she was always a results-oriented person that kept the mission and field needs as a priority. If you know Terri, you know she is a huge supporter of animal rescue and she plans on devoting more time to Homeward Bound Golden Retriever Rescue where she has been volunteering for over 8 years. In addition to her volunteer work at the Rescue, Terri is also involved with a feeding the homeless program at her local church. Terri plans to do more international travel and spend more time with her friends and family upon retirement.

-Stephen R. Moulton II, PhD, Chief Operating Officer, Water Mission Area, Reston, VA

Karen Riva-Murray retired after nearly 30 years with the U.S. Geological Survey as a valued member of the New York Water Science Center. Karen was hired in the early 1990s to act as the Project Biologist for the Hudson National Water Quality Assessment (NAWQA) Program and was one of the first Biologists to be added to the program. Her leadership in the early years of NAWQA was instrumental in guiding how biology was integrated into NAWQA and the Water Discipline. Karen worked on several different projects during her career, ranging from NAWQA projects in New Jersey, New England, and South Carolina as well as in New York. This was part of a pattern whereby Karen's expertise was shared with a variety of other Science Centers in the USGS. Karen worked extensively with multiple Science Centers, including New England, South Carolina, and New Jersey. Beginning in 2006, Karen made an impressive mid-career transition to researching bioaccumulation of mercury in food webs. During this period, Karen successfully entered the RGE program and published a number of papers in the top echelon of journals that filled important gaps in our understanding of how mercury bioaccumulates at the base of the food chain through work in the Adirondacks and in South Carolina wetlands. She also completed her Ph.D. during this period at SUNY College of Environmental Science and Forestry. Karen worked on several cooperative projects in the New York Water Science Center in the Adirondack and Catskill Mountains, and she also worked on an assessment of mercury in fish from streams and rivers across New York State. This work is documented in more than dozen peer-reviewed publications that Karen has co-authored since 2010 on mercury in biota. Karen has also been a

valuable mentor to younger scientists and friend to everyone she knows in the USGS. Her vast scientific knowledge has been complemented by her compassion, tenacity, and positive outlook on life. Fortunately, Karen will be continuing her work at the USGS under the Emeritus program, so her expertise will be available to help further our science.

-Robert F. Breault, Director, New York Water Science Center

Michael Shapira retired on April 30, 2020 after 40 years of Federal service, the end of an era has come. In 1980 Mike was one of the early members of the IL District, along with John Gray, Rick Healey, Tom Maloney, Rob Striegel, Steve Blanchard, and Pete Ruhl. In addition to bringing onboard mainframes and Prime computers, Mike recounts dealing with paper punch cards, digitizing tables, and *helical* scan backup tapes. Mike has literally been involved in moving along the science of the IL office; he has helped move the Urbana office 3 times during his tenure. This has not been without consequences, as tells of a reoccurring dream that has him pushing a Prime server rack through the streets of Champaign/Urbana. Since then Mike has maintained the security and availability of Unix system and the data it serves. Over the years, Mike has become the "go to" for multiple Water Science Centers throughout the USGS for all things Unix. Colleagues recall being wrangled for multi-pet sittings, which Mike called "zoo duty", numerous River2River Relay runs, comprehensive blues and jazz conversations and after-hours activities like office volleyball and trivia nights. Being a PhD in philosophy, Mike plans to consider everything from reading, listening to music, binge and watching shows, so long as Millie (his new cat) agrees.

-Brian L. Mackin, IT Supervisory Lead, Central Midwest Water Science Center, Iowa City, IA

NEWS NOTES ON SUSTAINABLE WATER RESOURCES (Received on July 11, 2020 – from Tim Smith)

Renewable Natural Resources Journal

https://rnrf.org/wp-content/uploads/2020/07/RRJV34N4.pdf

The new issue of the Renewable Resources Journal has several interesting articles. Here is a synopsis:

"How Development of America's Water Infrastructure Has Lurched Through History"

"America's water infrastructure is aging, and utilities have a chronic funding shortage for repairs. This shortfall is so severe that the American Society of Civil Engineers has rated the drinking water infrastructure of the United States a D-minus or D for over a decade. Reluctance to invest preemptively in infrastructure means that too often, water systems are allowed to deteriorate until they almost fail, and repair only happens once the public decides the status quo is unacceptable."

"David Sedlak is the Malozemoff professor in the Department of Civil and Environmental Engineering at the University of California, Berkeley; co-director of the Berkeley Water Center; and author of *Water 4.0: The Past, Present, and Future of the World's Most Vital Resource.* In this article, he describes the troubled history of America's water infrastructure, and the challenges that it will face in the future."

Other articles of note in this issue are:
"Youth Mobilization to Stop Climate Change: Narratives and Impact"

"Vertebrates on the Brink as Indicators of Biological Annihilation and the Sixth Mass Extinction"

"Lessons Learned from U.S. Cities' Climate Adaptation Implementation Methods"

For Sustainable Water Resources Information web site see: https://sites.google.com/site/sustainablewaterresources

MEMORIALS

Mary J. Amos, 84, of Oakton, VA passed on April 16, 2020. She was born March 9, 1936, the daughter of Andrew and Gertrude Iven Schwaller. Mary was a secretary in the Water Resources Division of the U.S. Geological Survey. She retired from the Survey 1997. She was a 1954 graduate of Eugene High School, and a member of St. Mark's Catholic Church in Vienna, VA. Mary was an avid supporter of Our Lady of the Snows Catholic Church and the maintenance of its cemetery. On July 12, 1958 she married Larry L. Amos, who survives at their home. In addition to her husband she is survived by three sons and three daughter, and six grandchildren. She was preceded in death by her parents; a brother and two sisters. A Funeral Mass and Graveside Service are being planned for a later date at Our Lady of the Snows Catholic Church in Mary's Home, Missouri.

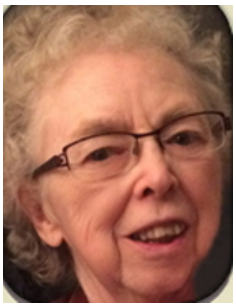
Carlos Arozarena passed away on June 21, 2020. Below is the notification from the National Water Quality Laboratory.

"It is with sadness and heavy hearts that we announce the passing of Carlos Arozarena. Carlos was a pillar of our community, having served almost 51 years in service to the Federal Government. Not just the NWQL, but many in the U.S. Geological Survey will miss the combination of tough love and love of life that Carlos brought to us all. Those of us that received his safety tours will always remember his great sense of humor and the way he stressed our high standards for safety. Carlos' accomplishments were many and significant. Carlos began his USGS career in 1979 at the National Water Quality Laboratory (NWQL) as a Physical Science Technician in the Wet Automated Section. He became a Chemist within five months, working in the Nutrients and Metals units for the Inorganic Chemistry Section, performing Kjeldahl, sulflate, bromide and iodide analyses. In 1982, Carlos became the Safety Officer in the Safety, Health, and Environmental Compliance Unit. In 1986, he supported Central Region Safety Management by being the Regional Safety Officer, conducting inspections, and acting as Liaison to the district laboratories for the NWQL. Carlos was instrumental in ensuring the safety of laboratory personnel during March of 1990 when a major snowstorm caused a partial collapse of the NWQL's roof. During this event, Carlos worked with laboratory personnel, General Services Administration (GSA), and management to bring laboratory operations back up during construction and maintained the safety of personnel for the NWQL to meet its mission requirements. Since 1992 Carlos has been the Chief Safety, Health, and Environmental Compliance Officer of the NWQL. He worked closely with all sections of the laboratory to identify and proactively address safety concerns and to develop a safety culture. Carlos vastly improved compliance with hazardous waste disposal, set up a medical surveillance program and dedicated code spill response and medical response teams. Carlos implemented safety orientation training and yearly personnel safety training to comply with Occupational Safety and Health (OSHA) and Resource Conversation and Recovery Act (RCRA) requirements, and a standing safety committee to address employee safety concerns. Carlos' hard work at the NWQL led to receipt of 10 consecutive Metro Waste Water Reclamation District Gold Awards. Carlos was a primary member of the Emergency Response Team. In October of 2019, Carlos was presented the USGS Safety and Occupational Health Award of Excellence. His leadership has been exceptional, essential, and highly appreciated. Carlos will be missed by all of us that knew him and his tireless efforts to bring about positive change for the USGS.

At this point in time, Carlos' family has not finalized plans for services.

-Jeff McCoy, Chief, National Water Quality Laboratory (and the NWQL Management Team)

Vivian (nee: Taylor) Baily, 88, ***(widow of USGS retiree James F. Bailey)*** passed on October 26, 2019. Vivian was born on January 19, 1931. A graveside funeral services was conducted on November 2, 2019 in Amherst Cemetery, Amherst, VA. A memorial service followed at Ascension Episcopal Church.



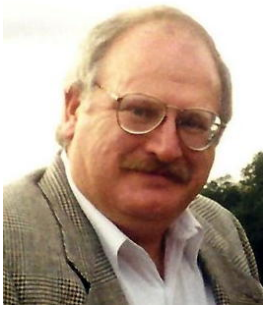
Lois A. Carlson, 83, ***(spouse of USGS retired hydrologist (PE), George Carlson)*** formerly of Columbia Heights and Roseville, MN passed away on February 2, 2020 at Whispering Creek Care Center in Janesville, MN. Lois is survived by her husband George Carlson of Whispering Creek Care Center in Janesville MN, two daughters, five grandchildren, three great-grand-children, two sisters-in-law; many relatives and friends. She was preceded in death by her parents, Clarence and Mary Lou Andersen, a brother, and a sister. Lois was passionate about many things, especially volunteering and working for Camp Fire Minnesota's camping programs. A celebration of Lois' life was held on July 18, 2020 at Camp Tanadoona, Excelsior, MN. The gathering was held from 11:00 AM to 3:00 PM with a service and a lunch following.

Kathy Fidler,80, ***(widow of retiree Dick Fidler)*** passed away on June 20, 2020 after a long battle with cancer. Dick started with WRD in Columbus, OH in 1964 as ground water hydrologist; to Pueblo, CO in 1975 as Subdistrict Chief; and to Huron, SD in 1978 as Distinct Chief. Dick retired in 1991, and they moved to Bella Vista, AR. Kathy is survived by 3 children, 8 grandchildren, and 5 great grandchildren. She was laid to rest next to Dick in Bella Vista, AR.

Patricia 'Pat' Griffith, 87, passed on May 1, 2020 in Lakewood, CO. Pat was born in LeRoy, KS to Harold and Velma McCarthy on January 29, 1933. She lived in Topeka, KS until moving to Denver in 1963. She received her BA and MA degrees from the University of Denver. She worked for the US Geological Survey as a technical editor. She is survived by her husband of 58 years, Bill Griffith, two daughters, and grandsons. Pat was preceded in death by a daughter. A memorial service has been scheduled for a later date.

Frank A. "The Mad Monk" Ouseley, Jr, 77, passed on March 6, 2020. There is a new entrant into Heaven's next marathon. Frank passed peacefully surrounded by the love of his daughters, sisters, and family. Frank was born on December 16, 1942 and raised in Illinois with two beautiful younger sisters. He attended undergraduate school at Southern Illinois University and graduate school at South Dakota State. Frank went on to serve the Federal government including time spent working for the Internal Revenue Service and U.S. Mint followed by many years with the ***Mapping Division*** at the USGS – not a surprising path for a young man who had once convinced his mother to let him set up a printing press in their basement in Villa Park, IL. Frank retired from USGS in order to pursue a doctorate degree in Psychology. He retired from this profession while living in Siesta Key, FL, where he stayed until the passing of his wife, Jill, to whom he was married for 35 years. During his 30s, he became an avid marathon runner. Frank went on breakfast runs with his USGS buddies in the Geostriders, lunchtime runs during which he not-so-unintentionally ran past his manager's window during work meetings, frequent outings with the Reston Runners, and long weekend runs from the Vienna Caboose which involved the telling of plenty of jokes, both good and bad as remembered fondly by his long-time friend John Repetski. He ran numerous Marine Corps Marathons and Boston Marathons. Some of his best friends were made through running. Frank's need for speed did not stop with running – in the 1960s he was the proud co-owner of a gold Dodge Charger which he raced in Oswego, Illinois, as well as a BMW that he "outran the cops in" once in order to evade an imminent speeding ticket in Virginia. When it came time to get a family car, he selected a Volvo wagon – not for its safety features, but because it had the horsepower to help him leave the tollbooths faster than everyone else. He continued this tradition in Florida when he bought a cherry red Volkswagen GTI and had it modified with practically every available sport option, nicknaming it the "Red Racer." He will be remembered as a loving and loyal father, grandfather, brother, uncle, and friend. Frank was preceded in death by his parents Frank and Esther Ouseley, and his wife Jill Kugler Ouseley. He is survived by his two treasured daughters, two grandchildren, and two sisters.

Robert A. Pettijohn, 91, of McKinney, TX passed on April 22, 2020. He was born on November 4, 1928 to Andrew J. and Martha M. Pettijohn in a sod house on the family farm in Kit Carson, CO. After graduating from high school, he worked on the farm until entering the United States Army on November 4, 1951. Robert served two years during the Korean War. Upon separation for the Army he attended Colorado State University where he acquired his Bachelor of Science degree in soil science. After graduation, he was employed by Texas Research Foundation outside of Dallas, Texas. Robert attended First Baptist Church in Dallas where he met Joy Mitcham whom he married on January 16, 1959. In August 1962 he began an assistantship at Iowa State University and received a Master of Science in Agronomy in 1964. Upon graduation he became employed by the U.S. Geological Survey, Water Resource Division in Little Rock, AR. Robert transferred to the Indiana district in July of 1966 where served 12.5 years. He was then transferred to Lincoln, NE to serve as project leader for the High Plains aquifer study. In 1964 he transferred to Austin, TX to serve on the Regional Staff of Gulf Coast Regional aquifer assessment; he retired after thirty-two years of service. Robert authored or coauthored 34 published reports during his working career. He was active in Southern Baptist churches in Indiana and Texas; he taught Sunday school and fulfilled the role of deacon. Robert is survived by his wife Joy, two daughters, a granddaughter, and two grandsons. He is preceded in death by his parents. A private graveside service was held at Dallas-Fort Worth National Cemetery.



Duane Murray Preble, 76, died on March 18, 2020 in Tampa, FL. Duane was born in Portsmouth, NH, on June 11, 1943, to Carlton Burt Preble and Ellen Francis Plummer Preble. He was the grandson of Harold Preble, a civilian naval inspector at the Portsmouth shipyard. Duane had wonderful memories of living at York Beach for many summers, where he learned to love seafood, and eating food straight from the garden of his grandparent's home in Laconia, NH. Duane went to Vanderbilt University in Tennessee where he met the love of his life Janet DePriest. They married in 1964 and were together for over 52 years. Duane graduated with a degree in Electrical Engineering in 1965. He is known for his generosity, optimism, and his incredible work ethic. He loved his family and life, which was often spent swimming, snorkeling, and sailing in the Caribbean. He is preceded in death by his wife of 52 years, Janet, in December 2015.He is survived by his three loving daughters, six grandchildren, one great-grandchild, and three brothers. We will all miss him.

NOTE from Jim Daniels*: Duane joined Hal Wires' Hydrologic Instrumentation Facility in Columbus, OH, straight out of Vanderbilt. In 1970 he was assigned to work with me on a cooperative project with NASA to develop instrumentation for satellite data relay. His recent electrical engineering training was fundamental to development of an interface between NASA's space age technology and WRD's primitive float-tape water level recording. The existence of the USGS current real-time data network is due in large part to his pioneering work developing the first Data Collection Platform (DCP). He left WRD to join the private company Sutron where he continued work to keep DCPs technologically up to date.*

Owen Williams, age 83 of Gainesville. VA, passed away on April 10, 2020 at his home. He was born on May 19, 1936 in Ashley, PA, a suburb of Wilkes-Barre, PA. He was the son of Floyd and Catherine Williams. Owen graduated from Ashley High School in 1954 and then enlisted in the U. S. Army in 1955. He was stationed near Frankfort, Germany and completed his service commitment in 1958. Taking advantage of the GI Bill, Owen enrolled in Wilkes College and graduated with a Bachelor's degree in Mathematics. In 1964, he was hired by the U.S. Geological Survey (USGS) as a hydrologist in their Trenton, NJ Office of the Water Resources Division (WRD). While in the Trenton Office, Owen worked mainly on water-quality related programs such as time of travel of river studies and a temperature study of dam releases of water in the Upper Delaware River Drainage Basin which resulted in several publications of results. In the early 1970,s, Owen transferred to Washington, DC and later in 1973 to Reston, VA as a result of an entire Headquarters change for the USGS. In the 1970,s, Owen worked as a programmer and water-quality data base manager for the National Water Data and Retrieval System (WATSTORE). In the 1980's through to his retirement in 1997, he worked as Deputy Program Manager and later, Program Manager of the National

Water Data Exchange (NAWDEX). In 1992, Owen and his data information Program team and the USGS were the recipients of the “Government Computer News Agency Award” for data dissemination. Owen’s outside interests included being a member of the Manassas Presbyterian Church where he served as an Elder and Deacon. He was also a member of the Park West Lions Club as well as the American Legion and an assistant Boy Scout Leader. He had hobbies that included drawing, reading, writing, stamp collecting, genealogy, crossword puzzles and spending time with his family. He loved singing at church and with his singing group, “Men in Song”. Some of his favorite hymns were Amazing Grace, How Great Thou Art, and Guide Me, Oh My Great Jehovah. Owen is survived by his wife of 52 years, Rose; two daughters; a sister of Vero Beach, FL; brother Joy of Sayre, PA; four granddaughters and many nieces and nephews. Owen will be deeply missed by his above-mentioned family as well as his USGS family.

Ray Schaffranek *writes, I had the good fortune of meeting Owen in the summer of 1964, my first full summer working between college years as a Hydrologic Field Assistant in the Trenton WRD office. We became immediate friends perhaps since we shared an interest and like of mathematics or more likely because it was easy to like Owen. He came to me one summer and asked if I had any plans for the weekend. When I said no, he said how about if we volunteer to help the PA District run their time-of-travel study on the Susquehanna. I agreed and, of course, we were assigned to collect and analyze samples during the graveyard shift. On one particular visit with Owen to his hometown of Ashley he met his wife-to-be Rose for the first time. My trips with Owen to his hometown, not surprisingly to me, declined from then on, but after that our relationship grew to include our wives and children. In 1981 when he and I were both working at the National Center I turned the tables on Owen. In need of field help, I went to his office to ask if he would be interested in assisting on a tidal cycle discharge measurement, I was conducting on the Potomac River as part of the Potomac Estuary Study. Owen jumped at the chance to get out of the office and back in the field even though I told him that he would be collecting data over the graveyard shift. Owen was a wonderful person and dear friend. He enjoyed life and socializing and always had a strong desire to try different things. He will be deeply missed by me and others that loved him. Rest in peace my “Buddy” Owen.*

Leonard E. Wollitz, 94, passed away on May 31, 2019 in Moorhead, MN. He was born on December 13, 1924. He was a Technician providing instrumental and field support for the Nuclear Hydrology Program – YUUCA Mountain Project Branch. He retired from WRD in 1987. Final resting place will be at Fort Snelling National Cemetery, Minneapolis, MN at a later date.

DIRECTORY

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