

USGS RETIREES

NEWSLETTER No. 199

May 2023

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

I believe the 50th Anniversary USGS Retirees Reunion was a resounding success. The Local Area Committee—Mark Anderson, Stan Leake (passed away in late 2022), Pat Tucci, Sandy Williamson, Lee Case, and Bob MacNish did a marvelous job in planning and coordinating events. They received assistance from Jeff Stoner sharing his insights from the MN reunion in almost all calls. Pete Anttila, officer liaison, and Merilee Bennett provided help during the final six months.

The first event was a golf tournament on Thursday morning, March 9, at the El Rio Golf Course in Tucson. Three foursomes participated and had a great time. The course looked easy, but we soon found out that was not the case. Registration was later that day followed by an evening ice breaker outside on a large patio with comfortable couches and chairs. Everyone actively engaged with catching up with friends and colleagues. Throughout the evening, a slide show of previous reunions was shown. Bob Swanson put the slide show together and helped the hotel staff get their equipment set up. Owen Bayham was introduced as the sole Hydrologic Technician present and who also serves on the committee to recruit more Technicians. Hydro Techs were acknowledged as the backbone of the USGS Water Mission Area.

The Information Meeting was the next morning. Attendees were briefed on reunion activities and hotel information; retirees organization status, issues, and plans; Treasurer's report; Scholarship Program; and membership update. We had two guest speakers via Zoom—David Applegate, USGS Director, who discussed USGS programs and his vision for the future. Then Joshua Joseph, relatively new Deputy Associate Director for the Water Mission Area, who primarily discussed his broad experience in academia, other Federal agencies, and the private sector. One of his major activities is actively working with his counterparts in the other Mission Areas to foster integrated programs and projects.

The Information Meeting was followed by an interesting bus tour of Tucson. Part of that tour included a riverside demonstration by several outstanding hydrologic technicians of how streamflow is measured in a desert environment including the use of drones. That evening we were treated to a jam session put on by some very energetic and excellent retiree musicians. Fun was had by all.

On Saturday morning, we visited the Sonoran Desert Museum. The purpose of the museum is to keep plants and animals together to show their mutual relationships. The collection consists of more than 2,500 animals (representing more than 300 vertebrates and invertebrates), more than 1,200 registered plant biologic classifications, more than 14,000 cataloged rock and mineral specimens, and more than 200 fossils. More than 175 of the plants and animals in the collection are endangered species from the Sonoran Desert. A great excursion.

The banquet that evening included a 50th Anniversary talk and presentation of the 2023 George Ferguson Award to recipients Herb Freiberger and Kate Flynn. Recipients Dick Engberg and Gary Garrett were presented their awards at their locations. A slide was shown of Merilee Bennett receiving her 10/40 award for 10 years and 40 newsletters as layout editor. The guest speaker Dr. Robert Webb, retired USGS research hydrologist and University of Arizona Emeritus, gave a talk titled "John Wesley Powell, Grand Canyon and More." His talk was extraordinarily entertaining.

The 2025 reunion is planned for Alabama and hopefully will include a tour of the new Hydrologic Instrumentation Facility if the new building has been completed.

Bill

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Editor's note: the next two articles are part of celebrating our organization's 50th Anniversary.

Selected Significant Events during 50 Years in Our Retirees' Organization

By Herb Freiburger

Year 2023 marks the 50th anniversary of the USGS Retirees and this article presents some of the important events that occurred during that time span. The events in this article mostly are about our Retirees' Organization, but for historical context some USGS events are also included. The events and highlights are from my observations of short quotes, paragraphs, and what people had to say about a given topic. They are not necessarily in chronological order. Most of the information is derived from articles published in issues of Retirees' newsletters over the last 50 years. During most of these 50 years, our name was WRD Retirees' Organization in line with the members predominantly retired from the Water Resources Division (WRD). In 2015, the name was changed to USGS Retirees' Organization to welcome retirees from any part of the integrated science areas of the USGS regardless of past bureau Divisions. Hereinafter, for this article, the "Retirees' Organization" refers to either the WRD or USGS Retirees' Organization—a difference in name only.

- George Ferguson universally is given credit for founding the Retirees' Organization in November 1973. The major attraction dictated by the bylaws of the organization was and still is the printing of a quarterly newsletter. In the newsletter, retirees share updates of their activities, stay abreast of current USGS activities, learn of recent retirements and passings, and share retiree-authored articles of interest. This mechanism of keeping retirees informed has worked well for us the last 50 years and hopefully for years to come.
- The first issue of the newsletter printed in November 1973 was 2 pages long. Today's newsletters range from 24-32 pages in length.
- There has never been a quarterly newsletter missed in the history of the organization, not even during the recent pandemic. We are now on issue number 199.
- In newsletter no. 4 published in 1974, an anonymous spouse who was also a widow remarked "somehow it makes me feel less alone to read of the doings of friends and members of the Survey." This was an almost immediate impact of the Retirees' Organization newsletter; one the founders did not expect.
- A new headquarters of the USGS was opened in November 1973, in Reston, VA -- about the same time the Retirees' Organization was formed. The building was formally dedicated in a ceremony on July 12, 1974, and was officially named the "John Wesley Powell Building." The new building housed headquarters personnel from the formerly named Geologic, National Mapping, Water Resources, and Administrative Divisions. Prior to this consolidation, these four Divisions occupied space in about 30 different locations in Washington, DC, Northern Virginia, and Maryland.
- Word has it that on opening day of the new Reston building about 800 employees all headed home about 4:30 PM and found themselves in an extremely bottled-up traffic jam just trying to get out of the parking lots. (Writer's comment: Northern Virginians would probably call that normal traffic today in 2023!)
- On May 12, 1978, flexi-time began for all USGS employees and continues today. Work in the morning starts any time between 6:30 AM and 9:00 AM with quitting time 8 1/2 hours later. (Writer's comment: This rule might have resolved the parking lot situation noted above.)

- It is likely that most retirees do not know that in the 1950's there was an organization called the "WRD Survey Wives" which was devoted to strengthening the social ties among WRD families in the Washington, DC, metropolitan area. In 1973, when the Retirees' Organization was founded, the WRD Survey Wives unofficially partnered with the retirees. One of the things they were known for was sponsoring dinner dances. In 1983, the WRD Survey Wives organization formally closed. The reasons for the closing were a decline in interest and a new era where the wives were taking up their own careers and thus having less time for organizing these functions. (Writer's comment: My wife and I attended some of those dinner dances which were well run, and the drinks ranged from \$.85 to \$1.05. When have you experienced those prices?)
- Some USGS Retirees, me included, once were young surface-water hydrologists who, upon beginning a career with the USGS, were assigned a field trip for routine data collection and training. One of the pieces of instrumentation that had to be serviced was a crest-stage gage. That gage was a rather primitive instrument that was nothing more than a length of galvanized 2-inch steel pipe mounted on a bridge-wing wall or a tree along a stream. Inside was a 1 ½ inch wide stick, the length of the pipe, with a very small basket of ground-up cork attached to the bottom of the stick. As the flooding stream rose, so did the ground-up cork that was in the basket. As the flood receded, the cork pieces adhered to the stick at the highest water level--thus indicating the peak stage. The more I thought about it, the more I thought it was a pretty good way to record a peak and very inexpensive. However, I never thought to ask who dreamed up this good idea. I found the answer just recently when I was looking at archives to write this article. The dreamer was none other than George Ferguson, who designed that crest-stage gage when he was on detail at headquarters in 1938. It still leaves me with two questions: (1) Is there anything in the USGS that George Ferguson didn't do? and (2) What was(is) the real market out there for ground-up cork?
- One of the many positives over the years of the WRD was leadership's commitment to training employees. Most of the training came in the form of technical or managerial courses, taught by our own people at the National Training Center in Denver, CO. Outside training was also an available option as needed. The training obviously helped the employees to better carry out their jobs, but an extra benefit is that an employee would meet and converse with other employees with similar expertise or similar project problems from across the country. This resulted in course attendees having a network of USGS people they could call on for technical or managerial advice at any time. Lifetime friendships were created for those attending these courses as well as bolstering the sense of family that was and still is in the USGS Retirees. These positive relationships can be a reason for and enhanced by joining our Retirees' Organization.
- The Retirees have continued this support for training when in May 2006, the idea of a Scholarship Fund for Hydrologic Technicians was formally introduced and then established by the Retiree membership. An article on this worthwhile program follows this article.
- In 1973, when the Retirees' Organization began, Chief Hydrologist Roy Hendricks, named Joe Cragwall as liaison between the USGS and the Retirees' Organization. Up to the start of a major USGS reorganization in 1999, the liaisons have always been the Assistant Chief Hydrologist's for Operations. They were, in order, Joe Cragwall, Walt Hoffman, Tom Buchanan, Bill Mann, and Cathy Hill. After the reorganization was completed in 2017-18, the liaison was Bill Guertal, Deputy Associate Director for Water. Guertal retired in 2021 and has been replaced by Joshua Joseph, current Deputy Associate Director for the Water Mission Area (WMA).

- Milt Hackett, 4th president of the Retirees' Organization (1982-1983), included these words in his 1983 message:

I leave one initiative for further consideration by the new incoming management team—a proposal to hold a reunion of WRD retirees, and I leave one alert—the need for contingency planning against the sad day when “Old Man River,” George Ferguson, may wish to hang up his waders as editor of the newsletter.

Milt was a forward seer in his thought process—on the mark with the reunion and perhaps 3 years ahead of time on retirement of ‘Old Man River.’ George Ferguson retired as editor of the newsletter in November 1986, this time for good. He lived another 22 years and passed away in 2008. He was an amazing man.

- There have been 13 Chief Hydrologists/Associate Directors for Water in the history of the USGS—7 of whom were during the existence of the Retirees' Organization. These seven were Roy Hendricks, Joe Cragwall, Phil Cohen, Bob Hirsch, Matt Larsen, Bill Werkheiser, and presently Don Cline.
- In about May 1993, the Retirees' Organization Officers created the position of Archivist. Those who have served in that position were Porter Ward, Fritz Kilpatrick, Charles Nethaway, and Richard Engberg. I, Herb Freiburger, am the current archivist.
- In 1995, the Retirees' Organization Officers voted unanimously to provide complimentary first-year membership in our organization to all new retirees from that time forward.
- On several occasions over the years, the Retirees' Organization has donated money from its treasury to help with disaster relief efforts, especially when Survey employees or families were in need. One example was in 1992 when Hurricane Andrew devastated South Florida and Louisiana. The Retirees' Organization donated \$500, which was the single highest donation made to the USGS fund. A second terribly sad occasion was when a hydrologic technician, Thomas Gleich, USGS North Dakota Office, lost his life on April 14, 1999, to drowning when the ice he was standing on gave way. The Retirees' Organization donated \$2,500 to an education fund for the Gleich children. Following is a note of thanks from the Gleich family.

To each and every one of you, I would like to extend my sincere heartfelt thanks; to all of you who have been so supportive during and after the tragic loss of our Daddy and Husband, Tom Gleich, due to accidental drowning. To each and every one of you, thank you for your thoughts and prayers, memorials, and contributions to the education fund for the Gleich children; your cards, kind words, and sincere sympathy was greatly felt by each of us in our family during this very difficult time. Your kindness will always be remembered. May God Bless You,

LuAnne, Jessica, KariJo, Katie, and Nicole Gleich

- In 1995, there was a group in the U.S. Congress who championed a Bill called the “Contract for America.” The Bill included a call for the abolishment of the USGS. The Retirees' Organization asked its members to write letters to their congressmen about the serious ramifications of such action. The Bill failed to pass and Tom Buchanan, then President of the Retirees, thanked those who took the time to send letters. He said the letters probably helped Congress learn more about what we did and what our mission was. The USGS itself began a self-initiated campaign to inform the public more about who we are and our value to the public. Efforts included a vision statement, visual aids with the USGS name, and other means to raise awareness of our work and products.

- In November 1996, the "Water Supply Paper Series," the highest publication media of the WRD, was discontinued. The main reason for its discontinuance was a misnomer—few of the papers released through this outlet ever addressed water-supply issues. Subsequent papers were published in the Bureau flagship publication, the "USGS Professional Paper Series."
- In about the mid-to-late 1980's, the USGS initiated a recruiting campaign to attempt to resolve a problem that had lingered for too many years; that is, too few women had been recruited to fill vacancies that existed in the hydrologist and hydrologic technician series and thus the USGS continued to remain a predominately male organization. The results of the newly initiated recruiting campaign were successful in that many young women just completing college were hired at entry-level positions while some women, who were already on board, were more readily being mentored to step into higher-level District and(or) Headquarters management positions.

In the then WRD in 1990, the first female District Chief, the equivalent of today's Water Science Center (WSC) Director was selected in Oklahoma. She was Kathy D. Peter, who successfully filled that job and later moved on to become District Chief of Idaho, a larger program with more responsibility. She is now retired and a member of our Retirees' Organization. Another first was Cathy Hill, who in 1994, was the first woman in WRD to be selected for a Headquarters position at the SES (Senior Executive Service) level. The position was Assistant Chief Hydrologist for Operations. Cathy also held the SES position as Regional Hydrologist, Northeastern Region, before retiring and joining our Retirees' Organization as an Officer. About the same time, Wanda Meeks was selected as Regional Hydrologist, Southeast Region, another SES position.

And, for the bureau, at about the same time, Barbara Ryan, WRD, and Bonnie McGregor, GD, were selected to serve in concurrent SES positions as the first female USGS Associate Director for Operations and first female Associate Director for Programs, respectively. Barbara is retired and a member of our Retirees' Organization.

Today, there are numerous women serving in WMA management positions at the GS-15 level, including about 7 WSC Directors (out of 28 WSCs). There are also a host of female hydrologists, hydrologic technicians, administrative, and IT specialists throughout the USGS.

- Several women serve in leadership roles of the Retirees' Organization as Treasurer, Secretary, and Layout and Regional Editors for the newsletter.
- Current members of the Retirees' Organization owe a great debt of gratitude to two long-term retirees who we often depended on when we just needed a boost or when we needed sage advice when we had our backs to the wall on some sticky and difficult problems. They are Hal Langford and Jim Blakey. Hal passed on during the past year, but we need to thank him posthumously for his advice. Of course, we all knew ahead of time that we would have to listen to a litany of Nebraska stories before he gave us the advice, but that was worth it and was extremely enjoyable. Jim Blakey and his wife, Paula, still live in the Denver area. Jim, on numerous occasions has given us advice and his opinions that we all respected and used as we moved forward. Jim always called the Retirees' Organization a "family" affair which is what George Ferguson had in mind. Just like Hal, Jim has stories about his home State of Texas. I would be surprised if you haven't heard that Jim's high school Chemistry teacher in Sherman, TX, was none other than Herman Feltz.

In closing this article, I feel the need to reference Newsletter no. 74 (February 1992) in which Porter Ward wrote in his President's message:

I am not sure that our organization is unique, but I am sure that it is the envy of nearly every retiree I have met from various organizations, both in government and in the private sector. Frequently, these outsiders ask me: 'What makes our outfit tick and what can they do to form a similar group?' Volunteerism aside, I answer the first question by explaining that before retirement, we all worked together as a team (though some of us have never met), and that we continue as a team after retirement. I respond to the second question by saying that if such togetherness was lacking during your working years, the chances of forming a successful retirement organization such as ours are slim indeed.

I think Porter hit the nail on the head.

Another Milestone to Celebrate 50 years—USGS Retirees' Scholarship Program

By Phil Turnipseed

In 2006, the USGS Retirees' Organization (referred to hereinafter as Retirees' Organization) proposed the establishment of a scholarship fund to support hydrologic technicians pursuing a two-year associate degree in water resources. Hydrologic technicians form the foundation of the USGS Water Mission Area, and their impact on the agency is significant. The original proposal was to award a competitive scholarship to a second-year student who had demonstrated the ability to earn good grades, exhibited good citizenship and study ethics, displayed an interest in the USGS and, preferably, had completed a summer of work with the agency. The scholarship would come from the Retirees' Organization Treasury, with the original amount set at \$1,500.

The scholarship fund was formally introduced to the Retirees' Organization membership in May 2006 through Newsletter 131. At that time, the scholarship was intended for a second-year student in one of the USGS partner colleges and universities, including Gateway Community College in Phoenix, AZ, Vermillion Community College in Ely, MN, Spokane Community College in Spokane, WA, and Western Dakota Technical Institute in Rapid City, SD. Each of these institutions offered a two-year Associate Degree in water resources.

The original target recipient for the scholarship was a student who had completed one summer of work with the USGS, was recommended by their supervisor to continue with the agency after graduation, and was interested in pursuing a career in hydrology. The scholarship would provide financial assistance for the final year of study for the selected recipient. This process endured with only a few changes for over a decade.

Fast forward to September 13, 2018, when the National Officers of the Retirees' Organization held a meeting in Minneapolis/St. Paul, MN, coinciding with the Retirees' Organization biennial reunion. The meeting addressed current business matters, including the scholarship program. The officers decided to expand the scholarship program to include college courses that current technicians might need to meet minimal U.S. Office of Personnel requirements to qualify as a hydrologist.

Many of the approximately 1,300 retiree members felt that supporting the scholarship program was a highly worthwhile venture. However, two problems existed: (1) the Treasurer had always given a tuition check made out personally to each awardee, with no actual knowledge of how they used the check, and (2) the Retirees' Organization lacked a method to consistently follow-up with the awardee on the success or failure of their schooling.

To address these problems, we decided to enact a system of checks and balances. First, instead of giving a tuition check to the awardee, the Retirees' Organization began paying the tuition bills directly to the college starting with the 2019 awardees. Second, a mentor was assigned to each awardee to have a greater accountability of their progress and/or problems and help resolve them. The most logical mentor was the State Representative of the Retirees' Organization or his/her designee. The Regional Representative would contact the appropriate State Representative to set up the mentor system when there was a new awardee in their Science Center. The Retirees' Organization recommended that the local Water Science Center Director and their Section Chief, who supervises the new awardee, be kept in the loop.

In summary, the scholarship application requirements and process have changed and improved since its establishment in 2006. The current eligibility criteria include being employed by the USGS and enrolled in higher education or accepted for fall semester classes. Our scholarship winners have come from a wide array of backgrounds as evidenced by Gary Burke from the USGS Lubbock, TX, office (see box below). The application process can involve Science Center Directors selecting nominees who then complete an applicant's section and their supervisor completing a rating section. Electronic versions of the responses must be forwarded to the appropriate USGS Retirees' Regional Representative for the state in which the Duty Station is located.

Since the program began in 2006, the Retirees' Organization has awarded 47 scholarships totaling more than \$90,000. This program continues to enjoy great success and is a continuously popular topic for the retirees at local and regional chapter meetings.

Gary Burke (OK-TX Water Science Center in Lubbock, TX; \$1150) attending Wayland Baptist University.

I want to express my sincere appreciation for being awarded a USGS Retirees Scholarship this year. This scholarship has allowed me to take Calculus 1 this semester online through the UC Berkeley Extension program. This coursework is helping me close the gap towards becoming eligible for the hydrologist series. I have been with the USGS Water Science Center in serving in a field office chief technician) in the Lubbock, TX, show my four homeschooled their dad knows how to study, wife Jennifer is being incredibly support throughout my whole evenings pale in comparison to on 50 and 100-year floods. made this scholarship possible.



Texas for 17 years. I am currently role (supervisory hydrologic area. It has been a real joy to boys ages 15, 12, 10, and 7 that after work, in the evenings. My supportive. She has been a huge career. Calculus classwork in the chasing high flow measurements Thanks to all the Retirees who

Consortium of Universities for the Advancement of Hydrologic Science, Inc.

By Jerad Bales



I recently stepped down from my position as Executive Director of the Consortium of Universities for the Advancement of Hydrologic Science ([CUAHSI](#)), and Bob Hirsch and Jeff Stoner suggested I write this piece for the newsletter.

CUAHSI was created in 2001 partially as a result of recommendations in the Hornberger, et al. (1991) "Blue Book," [Opportunities in the Hydrologic Sciences](#). Jake Rubin, a Senior Research Scientist with the USGS National Research Program (NRP), was one of the co-authors of the book. To date, all the CUAHSI Executive Directors have come from the USGS Water Mission Area (WMA).

Marshall Moss, who was the interim CUAHSI Executive Director as the organization became established, was Assistant Chief Hydrologist for Research and External Coordination before returning to the NRP. Rick Hooper was the first permanent Executive Director of CUAHSI and served for about 15 years until 2016. Rick was an RGE scientist and subsequently directed the USGS WMA NASQAN Program. I served as Executive Director from 2017 through early 2023, with USGS experience as a Water Science Center Director and subsequently as Chief Scientist for Water from 2009 – 2016. The new CUAHSI Executive Director, effective January 2023, is Jordan Read, who created and led the Data Science Branch in the recently reorganized WMA.

CUAHSI has grown to be an indispensable element in the water science infrastructure. CUAHSI primarily supports the academic water community, but also partners with water scientists in the public, private, and nonprofits sectors. Any organization can become a member of the consortium, although there are different levels of membership, depending on the member's organizational type.

CUAHSI serves the community in two primary areas: education and data. Partnering with Federal agencies and research institutions, CUAHSI offers subjects typically unavailable elsewhere. For example, NASA supports the CUAHSI snow measurement field school, which is one of CUAHSI's most popular courses. Students learn techniques for making and analyzing snow measurements including depth, density, water equivalence, grain size and shape, stratigraphy, temperature, and hardness. All these measures support NASA's remote sensing mission. The CUAHSI Summer Institute, a seven-week course held in partnership with NOAA at the National Water Center, has been held since 2015, and more than 200 graduate students from more than 75 distinct graduate schools have participated. Several of these students have gone on to have a career with the NOAA Office of Water Prediction.

CUAHSI's data services are supported through two primary platforms. [HydroShare](#) is used as a data repository, a model repository, a collaboration platform, and a gateway to cloud computing, and Jupyter notebooks. The platform is used globally. There are more international users than U.S. users because international users commonly do not have their own data management platforms. In some cases, data are stored in HydroShare and published with a digital object identifier, and other cases data are described in HydroShare, but the actual data are stored elsewhere, with a url pointing to the data. Some examples of the resources stored in HydroShare include a [USGS groundwater model](#) and related files, a complete collection of Hurricane Harvey (2017) data, including streamflow, high water marks, FEMA flood reports and more. CUAHSI's original data platform, the [Hydrologic Information System](#) (HIS), was released more than 10 years ago and currently is being modernized for release later in 2023. The HIS contains metadata for about 3.5 million time series. HIS users discover data from more than 100 organizations, and then request those data from the original source. Data are returned in a single file and csv format, thereby facilitating data discovery and reducing the user's time in reformatting data from different sources.

I believe that my experience at USGS benefited the CUAHSI programs. A key role of a Water Science Center Director is program development, ensuring that the Center is meeting the needs of local partners. This experience helped CUAHSI more than double funding during the last six years, going from one primary funding source to more than 15 projects. CUAHSI is a key member of the Cooperative Institute for Research to Operations in Hydrology ([CIROH](#)) and is the national office for the [Critical Zone Collaborative Network](#). As a Chief Scientist for Water, I was introduced to both academic research through the NRP and to scientists across the Federal water sector. This positioned me to be able to develop new funding partnerships with NASA, NOAA, the Corps of Engineers, the U.S. Forest Service, and informal partnerships with other Federal agencies. With the establishment of the Hydrologic Instrumentation Facility adjacent to the National Water Center, I am hopeful that Jordan will be successful in developing future USGS – CUAHSI collaborations.

RETIREMENTS



Shane Barks has retired after 33 years of contributions to the USGS in MO, IL, IA, AR, nationally and internationally! Shane began his career in 1990 as a GS-5 Civil Engineer in the Data Section of the USGS WRD Arkansas District and authored his first report shortly thereafter, “Annual yield and selected hydrologic data for the Arkansas River Basin Compact, Arkansas-Oklahoma” during 1992. Over the next several years in AR, he authored or coauthored six more publications on topics ranging from simulation of flood flows to development of travel-time prediction equations. Shane soon advanced to Hydrologic Engineer and Hydrologist with several promotions, and by 1996, was a GS-12 and then GS-13 Supervisory Hydrologist, receiving multiple Special Act Service Awards along the way. His roles in Arkansas were many including Project Chief, Unit Chief, Surface-Water Specialist, Section Chief,

Data Chief, Assistant District Chief, and acting District Chief. While Data Chief in AR, the AR Annual Data Report was published first or second in the Nation for many years. Early on, Shane understood the importance of accurate, timely, and publicly available streamflow data to our cooperators and embraced the working and approving of discharge records frequently rather than once or twice a year. In the late 1990s, he was one of a small group who began the fundamental shift in the way the USGS provided water data, pioneering the Continuous Records Process (CRP) in place of traditional annual data reports. In 2004, Shane moved back to his hometown of Rolla, MO, to serve as the Missouri District Data Chief. After transferring to MO and instituting CRP, the MO District regularly led the USGS in CRP under Shane’s leadership. Shane served as chair of a Central Region CRP committee and participated as a member on the national CRP committee. He gave several regional and national presentations on CRP, served as first chair of the newly established Central Region Data Chief Association and chaired regional and national data chief meetings. Shortly after a 2006 Central Region mandated the discharge records be worked continuously through the year, under Shane’s leadership. In MO, Shane continued his dedication to the USGS mission and leadership, and served in many roles beyond Data Chief to include: acting Center Director for the MO, IL, and Central Midwest Water Science Centers; leadership and supervision over Data Sections, Administrative Units, IT Sections and, finally, Deputy Director for Data Networks over the MO, IL, IA, and Central Midwest Water Science Centers. Throughout his career, Shane fostered relationships with many cooperators and stakeholders and as an avid outdoorsman he found common ground with many by sharing stories of hunting and fishing. Through those relationships, the water data and investigative programs in MO and across midwestern states grew. Shane’s leadership, ability to work with others, and vision was sought out by many and he served on many committees such as River Basin Forecasters meetings with the USACE & NWS, USGS Tri-Agency Fusion team, the Missouri Drought Assessment Committee, and several USGS regional and national teams. Shane was also selected to represent the USGS during an international visit to China discussing data collection activities across China with the Chinese Bureau of

Hydrology. More recently, since 2017, Shane has helped lead the establishment of the Central Midwest Water Science Center. His guidance has led the 3-state center in implementing change, achieving standardized processes, unifying the Networks program, and strengthened resiliency of streamgaging programs in the core of the midwestern United States where the Nation's two largest rivers confluence. Shane recently shared stories of his long and adventurous career. Some of his greatest highlights include working many flood events, especially the Great Flood of 1993 and being one of a few people to help measure **> 2 million CFS on the Mississippi River** in 2011! In retirement Shane plans to do more gardening, farming, working in his shop, fishing, hunting, and spending time with his family. He is especially looking forward to welcoming his 3rd grandchild in the coming weeks! Congratulations Shane! We will miss you!

-Amy M. Beussink, Center Director, Central Midwest Water Science Center



Tim Cowdery retired from the USGS on January 31, 2023. Tim joined the USGS WRD Minnesota District in 1992, and he has spent his 31 years with the USGS in the Twin Cities, where he was raised. Tim went to Carlton College for his undergraduate degree, and obtained his M.S in geology from the University of Minnesota. He first served as the groundwater specialist for the Red River of the North National Water-Quality Assessment, conducting groundwater-quality research at many spatial scales in that basin from 1992 to 1997. Tim designed and executed several groundwater modeling studies at local and regional scales throughout Minnesota. He developed systems for automated groundwater data collection, telemetry, and processing and has used these data to estimate the spatial and temporal variability of groundwater recharge. Much of Tim's work involved groundwater/surface water interactions in glacial sediments. In 2002, Tim designed and began work on the USGS' Glacial Ridge Hydrologic Assessment, a series of groundwater/surface water interaction studies that documented changes in the hydrology of a large area in northwestern Minnesota that underwent extensive wetland and prairie restorations. These studies would occupy the next 15 years of his career. During 2016–2020, Tim led a team constructing groundwater-flow models of the St. Louis River Basin as a whole and the area of historic iron-mining in detail. These models provide boundary flows for future inset groundwater-flow models in an area of intense mining interest and quantified the effects of historic iron mining on baseflows in the St. Louis River. Starting in 2021, Tim was the leader for the hydrogeology team of the National Hydrologic Geospatial Fabric, which is producing national-scale groundwater data sets for modelling and analysis, including a harmonization of state water-well stratigraphic and hydrologic data bases. Tim hopes to return to the USGS in retirement, working part-time on activities related to Center QA and data processes and mentoring. In his new spare time, he will continue to practice kyudo (Japanese archery) and finish the restoration of his 1891 Queen Anne Victorian home in south Minneapolis. You'll also find Tim camping and canoeing around Minnesota. Congratulations, Tim!

-Minnesota Water Science Center

Jessica Hopple retired on September 20, 2022. The New Jersey Water Science Center extends our congratulations on retirement to Jessica Hopple after nearly 44 years with USGS. Jessica's career focused on water chemistry and included over 20 significant publications and data releases. Jessica's coaching and support of others to understand Fundamental Science Practices, ScienceBase, and the importance of good metadata have made an enduring impact on many individuals and the USGS. Jessica began her USGS career in 1978 in the Stable Isotope Laboratory in Reston, VA, developing new techniques to analyze gas, rock, and water samples for stable isotopes. She also collected and analyzed water samples for the Toxic Substances Hydrology Program, Organic Degradation Project, researching the fate and transport of organic contaminants in subsurface environments. In 1995, she transferred to the NJ Water Science Center to work on the Long Island/New Jersey Coastal Drainages Study for NAWQA and to train personnel on use of equipment, sampling protocols, and quality-control techniques. Additional highlights of her career at the NJ WSC include: Directing many water quality projects and producing significant publications on water chemistry and water quality of community water systems. Leading the NJ Source Water Assessment Program and developing an automated methodology to describe the susceptibility of water supplies to contamination. Working for NAWQA on the Integrated

Watershed Studies team, compiling large water quality datasets and characterizing sample quality led to authorship of additional publications and mastery of database management. Applying her data management and reporting skills in support of a wide variety of projects and staff in our Center and across the country to prepare and review data releases for publication on ScienceBase. Congratulations Jessica!!

-Mark Bennett, Director, New Jersey Water Science Center

Joel Petersen has retired after 36 years with the USGS. The Dakota Water Science Center extends congratulations to Joel Petersen for reaching retirement! Like many USGSers, Joel has a great story about taking a chance on a temporary job that turned into a long career. We asked Joel to share his career progression and here is what he said:

My USGS career was started with a lucky chance. When I was getting close to graduation from a Surveying and Drafting program in Nebraska, I was sending out resumes to various Civil Engineering and Surveying firms in locations I thought we would like to live. I happened to see a government agency with Survey in the name so I thought that might be a good place for me to work. I sent a resume to HR in Reston with no opening in mind, as luck would have it Derrill Cowing the Maine Sub-district Chief happened to call HR the same day my resume passed HR's desk. Derrill was looking for a temporary cartographic aid to fill in for his full-time person who was going on maternity leave. HR gave Derrill my name, he called me, my wife and I talked it over and decided to take a chance on the job. Within 2 months of my start date Maine experienced a major flood, I was helping with flagging high-water marks all over central Maine and was given the task of tying them all in to NGVD29. I loved the work and was converted to a hydrologic technician after 6 months. While in Maine I operated flow-thru water quality monitors, sampled NASQAN sites, had a stream gage trip and surveyed for FEMA flood studies in ME, NH, and VT. My surveying experience also allowed me to help with projects in MA, RI, and CT. I was fortunate to have excellent supervisors and co-workers in Maine. After 7 years in Maine and the birth of two sons, my wife Janet and I made the difficult decision to leave Maine to get closer to our families in Nebraska. I told Derrill we wanted to move, he called Ken Lindskov the South Dakota District Chief and Ken found a spot for me in the Pierre, SD, office. We spent the next 9 years working in Pierre. I was lucky to have a great partner in Pierre to work with, Craig Solberg. Craig showed me South Dakota ways—I learned a lot from him. As you can image South Dakota is quite different than Maine. Our daughter was born in Pierre, it was a great place to raise a young family. While in Pierre I operated stream gages in the White River and upper James River basins and collected the NASQAN samples on the Missouri River near Yankton. In 2003 the South Dakota Data Chief Ralph Teller encouraged me to transfer to Rapid City and serve as Lead Technician. We decided to make one more move to Rapid City. We've been here since 2003 and I have been Lead Technician and then Supervisory Hydrologic Technician/Rapid City Field Office Chief the last 6 years. I've been fortunate my whole career to work with honest, hardworking, conscientious USGS people. I'll miss the day-to-day interactions with my co-workers and the important work that we do. I am grateful for the 36 years I've had with the Survey.

Joel described the people he has worked with as honest, hardworking, and conscientious. Joel embodies those qualities himself and has been a model for others. To borrow a phrase from the code of the west, he rode for the brand. Joel's hard work and dedication to our mission are greatly appreciated and he will be missed (we keep saying he could come back and work some records, but he keeps talking about traveling).

-Eric T. Volkman, Director, Dakota Water Science Center



Scott W. Phillips retired March 2023, after 38 years with the USGS. He joined the WRD in 1984 after earning a BS degree in Geology from James Madison University in Harrisonburg, VA, and a MS in Geological Sciences from George Washington University in Washington, DC. He spent his entire career in the MD-DE-DC District. His first project was a water availability study of the Potomac Group ground-water-aquifer system in Northern Delaware. He followed that with a ground-water contamination study for the U.S. Army at the Carroll Island-Graces Quarters Section of Aberdeen Proving Ground, Aberdeen, MD. Through a 1991 USGS reorganization, the MD-DE-DC District was merged with the VA and WV Districts to form the Mid-Atlantic Program Area. Scott became the water-quality specialist for

the Area and the part-time USGS representative for the Chesapeake Bay. The Chesapeake Bay is located primarily in the states of MD and VA, and receives drainage from DE, NY, PA, and WV forming a drainage area of about 64,000 square miles. It is considered a national treasure and has vast social and economic value to the above-mentioned states, especially MD and VA. In the 1970's, the Bay began to show signs of degradation with high concentrations of nitrogen and phosphorus and pockets of very low or no dissolved oxygen. These conditions affected the health of the biota. USEPA chaired a partnership with many Federal and State Environmental Agencies from MD, the District of Columbia, VA, and PA. This group was the beginning of the Chesapeake Bay Program (CBP) partnership. The goal of the CBP was and is to restore and conserve the Chesapeake and its watershed. In support of the CBP, the USGS developed its own strategic plan melding together the expertise of all four of its then Divisions (Water, Geology, Mapping, and Biology) and creating a full-time Chesapeake Bay Coordinator. Scott Phillips was selected for this position. Over the last 25 years, the position as Chesapeake Bay Coordinator has grown to have two distinct roles: an internal function for managing the USGS technical program and an external program of being a technical advisor at the external CBP decision-making process. Under Scott's leadership, the internal USGS program has grown from a collection of small projects to a \$25 million program with full USGS participation. This includes updating the original strategic plan every 5 years to meet new needs of the CBP. In the external program, Scott has provided leadership for applying science to help CBP partners make well-informed technically sound decisions for the recovery of the Bay. Scott has earned the confidence and trust of CBP leaders due to his technical prowess and scientific communication talents, to the point where they have made him a valued member of their technical management team. He has been a co-chair of the CBP Scientific, Technical Assessment and Report Team, and serves as a technical advisor on the CBP Management Board and Chesapeake Conservation Partnership Steering Committee. Scott has always been a strong advocate of applying solid science to support sound technical decisions which the CBP has to make on a routine basis. Scott received several awards during his tenure as USGS Coordinator for the Chesapeake Bay. Among them are the following: DOI Meritorious Service Award (2002), EPA Bronze Award (2014), USGS Shoemaker Lifetime Achievement Award for Communication (2018), and the EPA Gold Award (2019). Scott has authored or co-authored more than 40 reports during his USGS career. His technical skills and his ability to communicate has continually raised the stature of the USGS as well as his personal stature among USGS and CBP decision makers and colleagues. We, in the USGS and the CBP, will miss Scott. We wish him, his wife, Linda (who was also a USGS hydrologist) and their daughter, Amy, a happy and healthful retirement. **-Herb Freiburger, retired.**



Dr. Allen Shapiro retired on March 31, 2023, after nearly 39 years of service to the USGS. The USGS was lucky to have Allen join the National Research Program in 1984 after his Research Scientist stints at the Royal Institute of Technology in Stockholm, Sweden, and Technion-Israel Institute of Technology in Haifa, Israel. His USGS research has advanced the integration of multiple disciplines to characterize and model groundwater flow and chemical transport in fractured-rock aquifers and the understanding of fundamental processes unique to these environments. He served on many committees including the Federal Remediation Technologies Roundtable, a consortium of Federal agencies with interests in addressing multi-billion-dollar restoration efforts. He

recently served on National Research Council panels that have produced extensive reports on key engineering and scientific issues facing the Nation. Allen has published numerous articles in peer-reviewed journals that most recently include a Water Mission Area response to a Congressional mandate to map shallow vulnerabilities of fractured-rock aquifers. Through this work, he has authored and coauthored papers that advance aspects of groundwater management by adapting algorithms, data analysis workflows and data assimilation techniques to estimate aquifer recharge with real-time analysis. Allen has served as an Associate Editor of Journal of Hydrology, and he is an Associate Editor of Ground Water. He is a Fellow of the Geological Society of America, and in 2004, the National Ground Water Association selected him as the 2004 Distinguished Darcy Lecturer, for which he lectured on his research, both nationally and internationally, at over 50 universities and research

institutes. During his career, Allen had the benefit of collaborating with USGS hydrologic luminaries, such as Paul Hsieh, Tom Winter, Fred Paillet, Claire Tiedeman, and Dan Goode, to name just a few. He also shared the halls of Reston with retired legends in the field of hydrogeology, Chris Neuzil, Lenny Konikow, Cliff Voss, Tom Reilly and many others. His stories of finding Lenny Konikow in his doorway prefacing a technical discussion with "I know that you are a smart guy, but ..." show that, despite his status as a Senior Scientist, learning was never complete. Nor was the '10-minutes' of daily math he promised as his limit to his children's nightly learning. We are thankful that Allen shared his passion for continual learning as a colleague and mentor, knowingly and unknowingly, to many inside and outside of our halls. Please join me in congratulating Allen on his impressive career and retirement. Allen, you will be missed! **-Sandra M. Eberts, Director, Earth Systems Processes Division, WMA**

Doug Yeskis retired from the USGS on January 20, 2023. For the past 5 years, Doug has served as the Coordinator of the Water Mission Area's (WMA) WMA's Tribal, Cooperative Matching Fund (CMF) Program, and National Proposal Repository. In this role, he helped with programmatic coordination with the Department of the Interior's Indian Water Rights Office, Bureau of Reclamation (BOR), and Bureau of Indian Affairs. This sometimes involved working closely with the Water Science Centers (WSC) and negotiation teams. He also developed an Interagency Agreement with BOR for USGS WSC projects/team support activities with Indian Water Rights. More behind the scenes, Doug coordinated and tracked field proposals and the CMF Program. Prior to this role, Doug served as the Program Coordinator for the Groundwater and Streamflow Information Program (GWSIP) after arriving in Reston in 2015. Doug began his Federal career in the U.S. Environmental Protection Agency (USEPA) in October 1983 working on abandoned hazardous waste sites as a Remedial Project Manager/On-Scene Coordinator in the Superfund Program, which included conducting waste-site investigations and cleanups. Doug transferred as a Geologist within the USEPA Superfund Program in 1986, providing hydrogeological technical support to the Superfund Program which included document reviews, negotiation support, field studies and report writing. He served as project chief for two, in-house-field studies which included multi-disciplinary field teams composed of hydrologists, geologists, ecologists, toxicologists, chemists and other related disciplines. These studies included field activities involving the collection of water-quality samples, geophysical data, and aquifer characterization, and comprehensive technical reports. Six Interagency Agreements with the USGS for technical support activities were also developed. Doug was a founding member of the USEPA Superfund/RCRA Groundwater Forum, which coordinated technical issues and policies between the Regions, Research Laboratories, and Headquarters, as well as, with other Federal agencies. He also led several missions beginning shortly after Lithuania declared independence from the Soviet Union (1990). Multiple trips were completed to Lithuania to provide training of Lithuanian and Latvian officials and specialists on safety, environmental characterization techniques, as well as, dealing with groundwater contamination studies in two cities. In December 2002, Doug transferred to the USGS MD-DE-DC Water Science Center in Baltimore, MD, as a Section Chief of the Ground-Water Hydrology Studies Section. There he supervised 8-13 hydrologists and hydrologic technicians in the completion of hydrogeologic studies. He developed several new projects with the USEPA-Region 3 Superfund Program, Blackwater National Wildlife Refuge, U.S. Army Corps of Engineers, and some local government agencies. In June 2008, Doug started as the Director of the Illinois WSC in Champaign, IL. During his time in Illinois, he served on the ACES Admin Team, and one of the USGS representatives on the Asian Carp Response Team composed of Federal, State, and Industry members. Several projects were developed within the center to assist in controlling the migration of Asian Carp from the Mississippi River basin into the Great Lakes. The center was also on the forefront on the collection and presentation of real-time nutrient data due to Illinois's significant contribution to nutrient discharge to the Mississippi and Ohio Basins. It was certainly a pleasure to work with Doug, and we will miss him. **-Don Cline, Associate Director for Water**

MEETINGS AND GATHERINGS

Editor's note: Some pictures from the Reunion in Tucson. Stay tuned for a complete summary of this reunion scheduled for the August issue of the Newsletter.



Banquet attendees at the 20th Reunion in Tucson, AZ—happy to celebrate 50 years as a USGS Retirees' Organization. There could be a prize for correctly naming all with a visible face!



Officers at the reunion. Left to right: Jeff Stoner, Joanne Taylor, Pat Tucci, Phil Turnipseed, Kate Flynn, Bob Swanson, Herb Freiberger, Bill Carswell, Cathy Hill, and Pete Anttila.

MEETINGS & GATHERINGS, cont.

Reston Retirees



January 9, Reston Retirees met at USGS for lunch and a presentation by retiree Pierre Glynn. The topic was New Zealand's amazing landscapes, biota, and people – how studying their interconnections can improve management and decisions across communities. Half the attendees missed the photo op.

Pierre Glynn, retired from the USGS in 2021, is devoting his time to conducting interdisciplinary research to advance the science, policy, and management of complex systems and issues. He is currently Emeritus Scientist with the USGS Science and Decisions Center (USGS/SDC) in the Northeastern Region. Pierre also serves as an Affiliated Scholar with Arizona State University's Consortium for Science, Policy and Outcomes (ASU/CSPO) in Washington, D.C.



February 6, Reston Retirees met at USGS for lunch and a presentation by USGS Chief Scientist Dr. Geoff Plumlee. Dr. Geoff Plumlee has been Chief Scientist since January 2019. In this role, he provides strategic scientific vision and counsel to the Director and other executive leaders on transdisciplinary USGS science research priorities, activities, capabilities, and partnerships. He has 33 years of research and science leadership experience with the USGS, starting in 1983 as a grad student. As a geologist and environmental geochemist, he helped carry out and lead many research projects on the linkages between mineral resources, the environment, disasters, and human health. (We missed taking a group picture.)

March 6, Reston Retirees met at USGS for lunch and a presentation by retiree and former Chief Hydrologist Bob Hirsch. The topic was "Hydrology for a Changing World: a tour of selected rivers across the U.S., exploring the varied patterns of changing streamflow over the past 100 years." Turnout was exceptional.



NEWS OF RETIREES

Charlie Crawford (16): Greetings USGS retirees. I've been fully retired for a little over a year now. Unfortunately, much of that time has been spent battling cancer. It hasn't won yet but I'm scheduled for my 7th surgery in less than two years this month. They've not found a treatment that will keep it from coming back. It's like a high stakes game of whack-a-mole. It pops up, my doc cuts it out, and then we wait for it to come back and repeat the process hopefully before it has a chance to spread. Aside from health issues I've been spending much time volunteering at my granddaughters' schools. Once I retired, her grade school let me know they had a desperate need for substitute teachers. So, I've been doing that for the last year. I've subbed 1st through 8th grades. Those of you who know me well can imagine how funny that thought is. (I'm known among the older kids at the school as Dr. Evil.) It has been rewarding and is certainly entertaining. It's amusing to watch the sophistication of the schemes the kids come up with to mess with the subs increase as the kids get older. My [older] granddaughter is a high school freshman this year so I've been volunteering at her new school. They just hired me as a substitute teacher. I'm in the middle of the background check so I've not actually subbed there yet. I'm looking forward to the battle of wits with slightly more capable adversaries. Thanks for all the work you do to keep the retirees organization going. Take care all.

Ernest Denison (84): Thumbing through the February 2023 issue of the Newsletter I find only one name I recognize, that of Stan Sauer, in the Memorials section. Could it be that when I retired in 1984 most of the new retirees had not yet joined the USGS Family. Thanks to all of you who are responsible for organizing and preparing the Newsletter. The last few months have been full of events: On 22 November I fell and broke my right arm just below the shoulder. The break was in a place where they couldn't put it in a cast nor could they pin it together, it just has to heal by itself. I did keep it in a sling for a while. On December 16 a few of my family and friends helped me celebrate my 96th birthday (I tell them I am celebrating the 46th anniversary of the 50th year of my birth). And 24 January I left with my daughter and son-in-law, Rozanne and Rick Clayson, for a drive to California to begin a 6-day (5 night) cruise from Long Beach to Cabo, San Lucas, Mexico. The cruise was enjoyable, and the weather was perfect. After the cruise we drove north to visit relatives in Visalia and Tracy. As I was entering my granddaughter's (Analyn February 2023) home in Tracy I caught my toe on a step and banged my head on the sidewalk. I ended up with stitches over my right eye, lacerations on my right elbow and wrist, but didn't change the alignment of my shoulder. Now I am home taking life easy and receiving therapy on my shoulder.

Paul Hayes (03): What's happening in my retirement, now 20 years.?!?! Doesn't seem possible. My wife, Alice and I continue to travel whenever we can. On March 4, 2022, we were driving through Las Cruces, NM on our way to Tucson, when a semi-truck ran a stop sign totaling our truck and 5th wheel. Thankfully we were able to walk away unhurt. We loaded our belongings into a u-haul and headed back to Indianapolis. This accident happened on our 32nd wedding anniversary, one we will never forget. So, without our truck and 5th wheel we just took several day trips around Indiana. Surprising what all there is see in your "own" backyard. We have purchased a newer truck and travel trailer and will soon be on the road again. I continue working part-time at a local high school, but my days there are getting shorter and fewer. I wish all good health and happiness. Cheers.

Bob Holmes (21): I continue to teach at the University as well as advising a couple graduate students. Also doing my own consulting business. Moved to St. Louis back in October to be nearer to grandkids. Really enjoy the newsletter!

Jane Jenness (F): I'll get to a monthly lunch one of these days. Cheers!

Harvey Jobson (01): I'm sorry to hear Robert Mason has retired.

Jim LaBaugh (17): Thanks for all the work you do on behalf of the USGS Retirees.

Jerry Lindholm (94): I lost my dear wife, Muffy, in July 2021, after 62-plus years of marriage. Luckily, my daughter Amy lives nearby and she helps me in many ways.

Debbie S. Lumia (06): Thank you for doing this. I still miss USGS and working there. God bless you.

Linda Meadows (97): Thank you to all those of you who are responsible for putting together our Retirees newsletter.

Carolyn Norton (10): Thank you for all you do!

Lamar Sanders (03): Thank you and “thanks to all of y’all” (the plural plural y’all of the south) for the Retirees’ newsletter. I hope you’re doing good!

Walking through COVID

By Kirsten Edwards, Jennifer Engberg, and David Engberg

Reprinted with permission from Middleburg Eccentric, April 28, 2022

(Middleburg, Virginia’s, Community Newspaper)



Since March 2020, a senior citizen and former Eccentric columnist has walked approximately 3000 miles through his neighborhood in Sterling [Virginia]. Eighty-six-year-old Richard Engberg, who wrote the Water World column for the Eccentric from 2011 through 2018, quit the gym he had been going to for several years when he and his wife, Lynne, began isolating on March 13, 2020; as a result, the Covid pandemic. “I needed to do something to keep an exercise program going where I wasn’t interacting with other people,” Engberg said, “So I began a daily walking program around my neighborhood of Countryside.” He

started slowly, walking only a mile or two each day for the first month but as the summer of 2020 approached, he increased his walking to three and four miles a day. For Father’s Day, his son gave him a pedometer in June. He calibrated the pedometer to the length of his step, which was 30 inches. The pedometer registered his step count daily, the number of miles he walked that day, and the number of calories expended. Engberg stated, “I had an app on my phone which counted steps, but it counted every step I took. The pedometer only counts the steps when I’m walking steadily.” By the summer of 2021, he was walking 8 miles a day and sometimes more. His average pace is about 3.2 miles an hour.

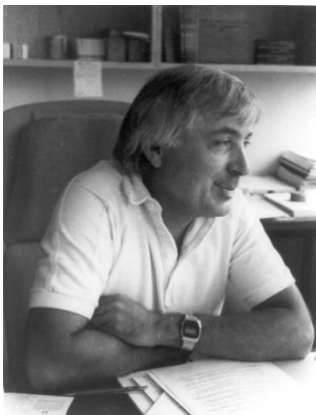
Countryside is a wonderful neighborhood for walking. Most of the streets have sidewalks, and the neighborhood has an abundance of paved and unpaved trails through wooded areas. Engberg’s home is two miles from the Potomac River, nearly all on trails. “Walking to the river is one of my favorite walks. The area by the river where the main trail ends is very peaceful. I often only encounter one or two other people when I arrive at the river, frequently dog walkers,” Engberg said. He has walked every day since March 14, 2020. During that period, he had two minor surgeries. “I walked a mile or two in the morning before each surgery because I didn’t want to miss a day,” Engberg said, “And I was out walking the next day after each surgery.” He usually walks twice a day, morning and afternoon. In the summer, he walks early and walks about five miles. In the evening, Lynne usually joins him. When asked about rain or snow days, Engberg said that if he can’t get out for all his steps, he has a course in the lower level of his house where he walks. “I really dislike walking in the house. The turns are tight and the loop is only about 100 steps long. Five miles is a little over 10,000 steps for me. That’s over 100 loops if I had to walk inside for the whole five miles. Boring! Usually, I’m able to get outside for some of the walk.”

Good walking shoes and foot care are essential. Engberg said that he has gone through four pairs of walking shoes and usually has three pairs going at a time. “If I walk in the morning and then again in the afternoon, I always switch shoes. I’ve been fortunate not to have had any foot problems.” When asked how many miles he has walked, he said, “I’ve walked over 8 million steps which translates to an average of just over 4 miles a day or about 3,000 miles in total. I guess that is the equivalent of walking from Sterling to San Francisco and from San Francisco to Salem, Oregon, where my daughters live.” “I would never have guessed it, but the walking program is probably the best thing I could have done for a person my age. I’ve lost over 25 pounds and am in far better shape than I ever was while going to the gym. I recommend it highly. If I can do it, many others should be able to do it as well.”

Although he lives in Sterling, Engberg has a history with Middleburg. A career hydrologist, he worked for the U.S. Geological Survey for 26 years in Nebraska and Iowa and for the Department of the Interior (DOI) in Washington, DC, for another nine years heading a national program on water quality of more than 600 DOI irrigation projects. After retiring in 1999, he went to work as Technical Director for a non-profit, the American Water Resources Association, which had just moved its national headquarters to Middleburg. “I commuted to DC for nine years. My commute to Middleburg was the same distance but so much better.” He continued, “Middleburg was a wonderful place to work – nice people, great restaurants and shops. What’s more, in 2004, I met Dan Morrow, the late editor of the Eccentric. We became very close friends getting together weekly to play a game from the 1930’s called Camelot or visiting Civil War sites. It was Dan who talked me into writing the water column for the Eccentric. I was devastated by his death in 2019 and miss him greatly.”

While working in Middleburg, Engberg served three years (2000 - 2003) on the Loudoun County Water Resources Technical Advisory Committee. He also served four years (2012-2015) on the Middleburg Wellhead Protection Committee. One last note, Richard loves music. During Covid, in addition to the walking, he has posted a favorite song every day on Facebook. “On April 2 [2022], I will have posted my 750th song,” he said proudly. “I research them and post a short paragraph about each song and the artist. I dislike being idle and the walking and posting have allowed me to stay busy and yet be safe from Covid.”

MEMORIALS



Dr. John D. Bredehoeft, 89, died quietly on January 1, 2023, at home with his wife Beth and his daughter Martha by his side. John was born on February 28, 1933 in St. Louis, MO. John knew his time was short this summer and he said his good-byes to friends and family. His daughter shared that John was not an individual that wanted a lot of fuss or public mourning.” John is survived by his wife, Beth Garbutt, his daughter, and his 3 sons. His numerous friends, colleagues, students, and collaborators from his long career (including 30+ years with the USGS) will also miss him dearly.

John was a giant of hydrology and hydrogeology. John was a pioneering quantitative hydrogeologist who consistently pushed the frontiers of groundwater science—both in terms of theoretical advances and practical applications. He was a veritable fountain of original ideas. He had a talent for identifying critical problems and simplifying complex problems down to tractable questions. He was especially skilled at assessing a complex issue using “back of the envelope” calculations. These analyses formed the foundations for further inquiries and often spawned sub-fields of research. He presented his more in-depth results with clarity and conciseness. His numerous accomplishments led to international recognition as an authoritative leader in the field, and he received numerous awards and honors during his long career. John’s many contributions brought stature to the USGS – elevating its scientific recognition and impact in hydrology and beyond.

John received his undergraduate education at Princeton University, where his major was geological engineering. He received an M.S. and Ph.D. in Geology from the University of Illinois, where his advisor was Burke Maxey. Maxey is the namesake of the Geological Society of America (GSA) Hydrogeology Division's Distinguished Service Award, which John received in 2003. John's background as a geology student and his Ph.D. research in Nevada fostered a strong belief in the value of field work and data to support theoretical advances in hydrogeology, as well as the need for theoretical advances to provide practical methods to support field investigations. He worked hard to make that perspective a cornerstone of USGS hydrologic science. In his response to receiving the Robert E. Horton Medal for outstanding contributions to the geophysical aspects of hydrology from AGU in 1997, John said, "Upon receiving my Ph.D. in the early 1960s, I was lucky to go to work at the U.S. Geological Survey. I arrived at a time when I could apprentice with some of the best professionals engaged in the study of groundwater."

During the latter part of his USGS career, he contributed greatly to the management and administration of the organization. He served about 5 years as the head of the USGS National Research Program (NRP) in the then-Water Resources Division (WRD), and subsequently about 5 years as the regional hydrologist in charge of all water activities in the 8-state Western Region. In the "History of the Water Resources Division, Vol. VII," Les Laird wrote about John's tenure as head of NRP, saying that John "pushed for research projects in geochemistry, climatology, stream biology, limnology, and numerous other areas far beyond what the Division had been addressing in water resources investigations in its first 50 years. Bredehoeft pushed the Division and developed an NRP that received national and international recognition for its scope and quality." As a manager, John was committed to expanding USGS engagement in high level, impactful hydrologic science and research throughout the organization, including in Water Science Centers (then known as "districts"). In 1991, USGS Director Dallas Peck wrote, "His leadership in these administrative positions was characterized by increased morale and increased productivity, and exemplified by his successful efforts to bring research activities and rewards into our District offices." The latter was best exemplified by his push to allow district scientists to apply for grade evaluation and promotion under the RGEG system.

During his years as a manager, John never ceased to participate in and contribute to hydrogeologic research. And John always emphasized the "geology" in hydrogeology. While most scientists in the WRD held an official job classification within the "hydrologist" series regardless of their specialty, John insisted on keeping his as "research geologist." Being in charge of water resource research in the USGS, John had a clear philosophy. At the 1975 National Conference of District Chiefs (described in a special 1975 issue of the unofficial "WRD Bulletin"), he said, "The mission of research in this Division is to understand hydrologic systems sufficiently well that WRD can quantitatively predict the response of hydrologic systems to stress—either natural or manmade." He further emphasized the operational implications when he stated, "The purpose of our research is to support the programs of the Water Resources Division."

During his tenure with the USGS, John also maintained an interest in academic life, and taught classes and advised students at Stanford (1980-89), UC-Santa Cruz (1989-90), and San Francisco State (1989-91), and served as a visiting professor at the University of Illinois for one year (1967-68). On an interpersonal level, John was an incredible mentor, supporter, and friend who was responsible for the successful careers of numerous leading groundwater scientists in the USGS and beyond. John saw potential in young graduate students and early (and not-so-early) career USGS scientists that they perhaps didn't realize they had—and strove to steer them in directions that let them each grow and excel by developing and applying their own talents. There are many examples of wise advice or suggestions from John that fundamentally impacted individual careers and the overall trajectory of USGS hydrologic science. John relished engaging in frank, substantive scientific discussions. He had a strong personality, and you could expect him to confront you with challenges to approaches or interpretations that he disagreed with. He encouraged you to challenge him in the same way. John also enjoyed skiing and fishing. When he headed the NRP, he became friends with Chief Hydrologist Phil Cohen, and they loved to discuss their mutual interest in fishing.

John's scientific contributions were multifaceted and spanned numerous disciplines. His interests and advances linked groundwater hydrology with geophysics, geochemistry, tectonics, petroleum engineering, economics, and numerical methods. John's first publication in 1963, was the first

quantitative examination of membrane filtration in the subsurface. His 1967 paper on the response of aquifers to Earth tides is extensively cited as the seminal paper on that topic. His analysis of thermal profiles for estimating groundwater flow rates is elegantly simple yet has proven to be of tremendous utility. His 1965 paper on drill stem tests helped make available a huge amount of subsurface permeability data in the petroleum industry that had not been previously tapped by hydrologists. He was also instrumental in the development of the rigorous theory of slug tests, now one of the basic tools of the field hydrogeologist that is used with increasing frequency in the study of subsurface contamination sites.

In the late 1960s, John spent a year at Resources for the Future investigating the economics of groundwater development with R.A. Young. Their analysis involved maximizing net economic benefits rather than the traditional engineering approach of minimizing costs to meet demand and was the first to couple economic analysis with rigorous groundwater modeling. With colleagues Stavros Papadopoulos and Hilton Cooper, he introduced the now widely accepted concept of “the water-budget myth” related to estimation of the so called “safe yield” of an aquifer. John was always interested in the role of subsurface fluids in geologic processes, analysis of regional groundwater flow systems, and the influence of fluid pressure on earthquake behavior (including his participation in the USGS earthquake control experiments at Rangely, CO, in the early 1970s, and the earthquake prediction studies at Parkfield, CA, in the 1980s).

His work and contributions often extended beyond science and engineering into the realms of management of natural resources, the management and administration of research organizations, and philosophy of science (for example, whether groundwater models can be validated—they can’t be). John was among the first to combine numerical simulation with linear programming methods to consider important problems of water resource allocation and conjunctive use—pioneering work that was followed by contributions of many others who continued in his footsteps. Most practicing hydrogeologists today routinely apply computer simulation models to help them understand and solve complex field problems. They all owe a debt of gratitude to John Bredehoeft, who helped pioneer the development and application of numerical simulation of groundwater systems when most hydrologists were still using analog models. His papers, particularly those coauthored with George Pinder, are widely recognized as standard references in groundwater model analysis. In 1969, John and George received the American Geophysical Union’s Horton Award for their Water Resources Research (WRR) paper on groundwater flow modeling, and in 1975, John received the Meinzer Award from the Hydrogeology Division jointly with George for their WRR paper on “Mass transport in flowing groundwater.” Many groundwater modelers do not know that John was the hidden motivator behind the initial efforts leading to the development of the now-famous MODFLOW model. In 1991, he received the M. King Hubbert Award from the National Ground Water Association, and in 1997, their Life Member Award. He also was honored in 1997 with the Geological Society of America’s prestigious Penrose Medal “in recognition of eminent research in pure geology, for outstanding original contributions or achievements that mark a major advance in the science of geology.” This award is rarely given to a hydrogeologist. John’s Penrose Medal citation by his friend and colleague Roger Wolff was published in “GSA Today” in March 1998 along with John’s response, both are worth reading. John received the California Groundwater Resources Association Lifetime Achievement Award in 2004 and the Legendary Geoscientist Award from the American Geosciences Institute in 2013 “for his lifetime of contributions to the scientific, engineering, and water management aspects of hydrogeology that are unique and groundbreaking.”

After John retired from the USGS in the mid- ‘90s, he was not finished. He shifted into the world of private enterprise and co-founded a consulting company, The Hydrodynamics Group, which offered expertise for solving numerous real-world groundwater problems. It was (and is) a highly successful venture. John felt a lifelong duty to provide service to the profession and to society, and well into the final year of his life he organized and hosted a monthly Zoom seminar to discuss hydrogeologic topics. He served on the management board of GSA’s Hydrogeology Division and was the chair during 1976-77. Just as he was an advocate for rigorous peer review within the USGS, John also recognized the value of editors and reviewers of scientific journals and felt an obligation to contribute to those important activities. To that end he served as editor-in-chief of “Groundwater” journal during 1992-1995. John also served on numerous National Academy and National Research Council advisory committees,

including those assessing the viability of the Waste Isolation Pilot Plant radwaste site in New Mexico and the proposed Yucca Mountain repository site in Nevada, where his efforts helped resolve questions of whether the salt formations at WIPP were completely impermeable (they are not) and whether seismic activity at or near Yucca Mountain could raise water levels enough to flood the repository (it could not). John has been a thoughtful and influential critic of the nation's research initiative for disposal of nuclear wastes. In addition to these committee activities, he coauthored a USGS Circular in 1978 that was critical of Department of Energy's handling of geologic disposal of nuclear wastes. In recognition of both his scientific service and his scientific contributions, John was elected to membership in the National Academy of Engineering in 1994. As noted, in his response to receiving AGU's Horton Medal, John stated that he "was lucky to go to work at the U.S. Geological Survey." It is equally true that the USGS was extremely lucky that John came to work here. John Bredehoeft leaves a large legacy and will be greatly missed.

– **Leonard Konikow & Eric Reichard (with assistance from numerous others).**

Michael (Mike) Peter Chornack, 73, passed away on Saturday, January 21, 2023, in Boulder, CO. He was born December 10, 1950, in Ashland, PA to Peter P. Chornack and Alice Rosina Chornack. Mike graduated from Meadville High School in 1968 and obtained his Bachelor of Science Degree in Geology from Edinboro State College in Edinboro, PA, on May 1977. Mike was in the United States Marine Corp 1970 to 1973. Mike worked on the Yucca Mountain Project at the Nevada Test Site with the U.S. Geological Survey from 1977 until he retired December 2014. He is survived by his partner Donna Hector of Highlands Ranch, CO, two nephews, one great-niece, and two great-nephews.

– **Facebook (Pat Tucci)**



William W. 'Bill' Emmett, 85, passed away on January 4, 2023, in Littleton, CO. Bill was born in Miami on February 12, 1937, to Dewey Lee and Adele Hudgins Emmett, half of a twin set with sister Dorothy Adele. Educated in local schools including Miami Edison Senior High School, he received a BCE from Georgia Tech in 1959 and, with an academic fellowship, an MSCE from Georgia Tech in 1961. Bill joined the USGS in 1961 to support his research at Georgia Tech. He transferred to Washington, D.C., later that year to be Research Assistant to Chief Hydrologist Luna Leopold. In 1968, he received his Ph.D. Johns Hopkins University under Reds Wolman as a candidate in the USGS Water Resources Division (WRD) graduate school training program. In addition to Washington, D.C., he also served in Atlanta, Georgia; Anchorage, Alaska; Boise, Idaho; and finished his USGS career in the WRD's National Research Program in Lakewood, Colorado. Bill was a unwavering, strident and vocal advocate for the production and dissemination of high-quality fluvial-sediment data by the USGS. His emphasis – no, passion – centered on manually collected bedload data using technically supportable instruments and methods. His collaborative efforts with Luna to calibrate the Helley-Smith bedload sampler using an automated conveyor-belt sediment trap designed by Luna and the eminent British physicist Ralph Bagnold -- constructed across the East Fork River near the Pinedale, Wyoming, research center - were ground-breaking and successful. He and Richard F. Hadley advocated for, and in 1968 reported on the preservation of and access to Vigil Network data which quantified hydrologic conditions in relatively pristine watersheds. After his 1995 retirement, Bill remained a most-valued colleague and a mentor to many. His extensive bibliography reflects only a part of his considerable professional influence. He married Lynda Lee Plunkett on April 20, 1970, who preceded him in death on August 13, 2020. He was also preceded in death by his parents and an older brother. He and Lynda had two sons, William Lee (1972) and Benjamin Lee (1974), and two grandchildren.

Following are testimonials from Bill's colleagues:

William E. Dietrich, Professor, Dept. of Earth & Planetary Science, UC, Berkeley, CA: I have in my mind's eye an image of Bill on the bedload trap bridge, cowboy hat on, facing upriver. I did not witness the bedload trap construction, nor actually saw it in full operation (in 1975 I saw Ned Andrews deal with an overload of sediment on the conveyor belt!), but it was such a bold thing to do. A second image in my mind's eye is located in the field work at Rio Grande del Rancho, where Bill kindly guided us to study a gravel bedded meander. I can still feel the cold water and the current against my body as I waded the channel and held the surprise of finding the boundary shear and bedload fields to be uncorrelated. Though we completed just three sections in that sharp bend, we learned a lot and was a great contrast to Muddy Creek. Bill was generous just as I was starting my faculty position at Berkeley; it mattered. It has been those field days of purposeful field work where the sensual pleasure of the work and intellectual joy of discovery wove such strong memories. We shared that even though we worked in such different locations and on such different problems.

Gordon Grant, Research Hydrologist, Forest Service, PNW Station, Corvallis, OR: It has been my great good fortune not just to know Bill but to have spent a wonderful long research trip down the Colorado River with him, Reds, Jack, Bernie, Johnnie Moore, Sue Kieffer, and many others. That was a time! I fondly recall the first evening that we all came back from surveying a beach: Jack and crew with one of the first survey grade laser instruments and Bill and Reds with a hand level and a tape. And I remember matching up the measurements and they fit perfectly within the resolution of a human footprint in the sand. It was an object lesson in how simple technology in the right hands can be the equal of expensive technology wielded by people who don't know as much. I admired Bill's ability to take complex subjects and distill them down to simple ideas that even I understood. His work on sediment transport on Muddy Creek and other western streams; on the gravel of the Snake River; and on the Deschutes - the list goes on and on. But what I will remember most about Bill is his infectious smile and sense of humor, and the gracious way he helped this junior woodchuck geomorphologists get his sedimentological feet under him. I thank him for all of it! I just wish we could have stood on more gravel bars together. Thinking of him with great admiration, respect, and warmth.

G. Mathias 'Matt' Kondolf Professor of Environmental Planning & Geography, Dept. of Landscape Architecture & Environmental Planning, UC, Berkeley: I thank Bill for his mentorship going back to my grad school days with Luna and then with Reds. His calm support was really helpful to a young grad student. I cite his work (going back to the Salmon River study of 1975) in my lectures each year. I often think of the "glory days" of Pinedale, the East Fork, etc. Bill's very active and engaged retirement is a great model and one that I will aspire to – keeping active with the fun stuff of research, while stepping back from the admin.

Ian Reid, Emeritus Professor, Dept. of Geography & Environment, Loughborough University, UK: I'm more than pleased that Bill and I knew each other and had mutual interests – unravelling the mysteries of sediment transport through hard-won field experiment. I've always much admired Bill's contributions to our science and thought them exemplary and of the highest order. And, then, there was his quiet humour... Just as a river slips away, so eventually do we. I'll cherish memories of this wonderful friend.

John (Jack) C. Schmidt, Janet Quinney Lawson Chair in Colorado River Studies, Dept. of Watershed Sciences, Quinney College of Natural Resources, Utah State University: One of the most thoughtful things Bill ever did for me was to give me the Julius Stone book *Canyon Country*, in which Stone describes both his adventure trip down the Green and Colorado Rivers in the early 20th century and the more general setting of the landscape. The inside cover of the book includes a handwritten note of thanks from Stone to Herbert E. Gregory, the dean of USGS Colorado Plateau geology of the early century. Stone thanks Gregory for his help in the writing of his book. Gregory gave that book to Charlie Hunt who in turn gave it to Bill, and Bill to me. I am not

sure that Bill realized the lineage of that specific book, but it means the world to me, and I now ponder who to pass the book onto as I conclude my career. I also have a copy of the typewritten notes from Bill's 1965 Grand Canyon River trip with Luna, and I occasionally read that for enjoyment. I am thankful for Bill's mentorship and help, enabling me to get a professional start. I valued Bill's friendship and the science he shared with the river community. I will always remember guidance Bill provided regarding the basic classification of rocks: "there are just two kinds of rocks ...clunkers and skimmers." When I found myself using a bedload sampler to measure transport in a Grand Canyon eddy and getting surprisingly low transport rates, I yelled that observation to Bill. Bill yelled back, "dig the nose of the sampler down into the sand if you want bigger transport!" Bill knew how to get a laugh. We should all be that gracious.

Larry Schmidt, Director U.S. Forest Service Stream Systems Technology Center (retired): Bill was a valued friend and colleague. Over the course of his career, Bill was generous to me and my Forest Service colleagues with his advice and assistance on bedload issues. I especially enjoyed our opportunities for field consultations and the lunches and visits in Littleton.

Peter R. Wilcock, Professor, Dept. of Watershed Sciences, Quinney College of Natural Sciences, Utah State University: Bill was a role model for me - do the work, know your stuff, speak your mind. As much as anyone, Bill exemplified what Reds said: you need to know something about something, so make some measurements. And I treasured his generosity 25 years ago, when he hosted me up at Fremont Lake. Funny, I thought he was an old guy back then! Peace.

Robert L. Burrows, USGS Hydrologist (retired): My association with Bill started in 1971 collecting hydrologic data on Alaskan streams that were expected to be crossed by a planned oil pipeline. My first publication on Tanana River sediment data was co-authored by Bill, which began a career for me in fluvial sediment processes and a life-long collaboration, and friendship with Bill. One of our more notable efforts was deployment of "radio rocks" – clasts with implanted transmitters – to track the speed and travel distance of individual rocks in several Alaska streams. He was my mentor, colleague, and friend for over 50 years. He introduced me to many others that enhanced my life experience and my career in USGS. His advice, counsel, and friendship made my life more interesting and memorable. I will miss him.

Jonathan B. Laronne, Emeritus Professor, Ben Gurion University of the Negev, Israel. Hey Bill, I first 'met' you one year after you published your 1971 USGS Prof. Paper 662-A on the Hydraulics of Overland Flow on Hillslopes – the first in depth, quantitative study of overland flow demanding endless patience with accurate measurements and their analyses. These characteristics accompanied your professional career most obviously in your successful endeavor to develop bedload techniques and data, inclusive of the renown Idaho database. That is when we next met – in 1974 on bedload in Pinedale, last at the 2007 Int'l Bedload-Surrogate Monitoring Workshop conference in Minneapolis. You made a lasting impact on many Bill. Keep it up there.

John R. Gray, USGS Office of Surface Water National Sedimentologist (retired): Bill was my Mud Dauber mentor as a young USGS hydrologist beginning in 1978, the year I took his "measuring bedload transport" short course. I was 'hooked' on bedload thereafter, including subsequent graduate education in fluvial sedimentology. In the latter ~half of my career as the grandiosely titled, "National Sedimentologist" in the USGS Headquarters Office of Surface Water, he generously shared advice -- and more than a little (usually constructive) criticism -- on the fluvial-sediment science and policy that I was charged to develop, enhance and support. His offerings were always conveyed with a good heart and maybe an unseen wink-of-the-eye. I valued no others' advice on fluvial sediment issues above Bill's. Memories of his expertise, dedication, work ethic, and friendship will remain with me forever.

On February 11, 2014, Bill shared the following poem with John Gray. If there was any question whatsoever of Bill's unquavering empiricist roots, this verbatim rendition should set that misconception to rest:

A Sedphile's Prayer

Our Great Father, Who used to be in Reston.
Hallowed be a Mud Dauber. Thy Kingdom's gone. TWRIs are done.
Give us this day our Helley-Smiths. Surrogates are doomed.
Acoustics are but noise, While kilograms and seconds are facts.
Forgive the non-believers, Who put science first.
As we forgive those hethayans,* Who were but politically correct.
For bedload-transport rates, And geomorphology as a whole,
Will not diminish or perish, But will exist forever and ever. Endit

*hethaya was John's tongue-in-cheek backward acronym describing consensus – or lack thereof - in the geomorphic community: "abandon ye all hope that enter here."



Dr. Della Laura, 85, formally of Gloversville, NY passed away on January 3, 2023, with her loving family by her side. She was born in Gloversville, NY on September 28, 1937, and is the daughter of the late Hugo and Laura (Holland) Evangelista. During her lifetime, Dr. Laura was known for her compassion for others, love of teaching and as a ground breaker in the field of Hydrology and Civil Engineering. She obtained her undergraduate degree at Antioch College in Ohio and was the first female to graduate with a PhD in Civil Engineering at Colorado State University. During her years as the head of the international division of the USGS in Washington DC, she travelled extensively throughout the world coordinating water resource efforts in foreign countries. All who knew her had heard her wild

tales of adventures in the Middle East, South America, and Asia. She moved to California to raise her family. Amongst her incredible accomplishments she still claimed her greatest was her family. She is survived by her twin daughters, Drs. Della and Laura Bennett and her grandchildren. After retirement she continued her impact through her non-profit Water for Peace. She returned to Fort Collins and Colorado State to be around the vibrant academic community. The last years of her life were stolen from her by Alzheimers. She spent those years in Abilene, TX, with her daughters.



Eleanor Louise Madigan, 96, of Denver, CO, passed away September 3, 2022, with her family by her side. She was born to the late William James and Gladys E. Moore on April 18, 1926, in Las Animas, CO. Eleanor graduated from Las Animas High School. She married the late Leo Matthew Madigan on June 28, 1952, and they lived together in Lakewood, CO. Eleanor is survived by her 3 children, 3 grandchildren, 3 great-grandchildren, and their families. Eleanor was predeceased by her son Terry Madigan, her loving husband Leo and son in-law Robert Saenz. Eleanor enjoyed a successful career as a Senior Editorial Assistant for the USGS at the Denver Federal Center from 1942

through 1983 and then the City of Lakewood for 5 years. She was a caring, fun-loving person, a mother to all that she met, was immensely proud of her family and leaves nothing but beautiful memories. Memorial services were held September 16, 2022.



Kim Scott, 82 (wife of USGS Retiree John C. Scott) a resident of Coosada, AL, passed away on May 21, 2021. Mrs. Scott was preceded in death by her parents Travis & Dorothy Sims Kimbrell, her loving husband of over 60 years, John C. Scott. She was a retired Registered Nurse and a member of Saint Michael & All Angels' Episcopal Church. She is survived by her son, her devoted caregiver, and her 3 brothers, 1 sister, and numerous nieces and nephews. Memorial services for Mrs. Scott were held on May 28, 2021.



Charles E. "Charlie" Sloan, 93, a career geologist with the USGS passed away in March 2023 at hospice near his younger sister's home in Omaha, NE. Born on the Rainbow Hill family farm near Leavenworth, KS, Charles was the second youngest of nine children, attended the Hazel Dell one-room schoolhouse, and graduated from Leavenworth High School in 1947. He attended the University of Kansas and graduated in 1952 with a bachelor's degree in geological engineering. Charlie served in the U.S. Navy from 1952-55 during the Korean War. He enrolled at the University of Colorado in Boulder graduate school in 1955 where he developed a love of alpine skiing. In 1958,

he met Marilyn Gruenler at UC-B. They married in 1959 and had four children. Charlie's USGS career began at the Federal Center in Denver in 1959. He was assigned to a group assessing water resources of public lands in the West and initially sent to North Dakota to study prairie potholes then to the Mescalero Apache Indian reservation in New Mexico. In 1970, the family moved to Alaska and Charlie worked on water resources around the state including permafrost and glaciology. Major studies included North Slope water resources, Trans-Alaska Pipeline route icings and hydrology of Exit Glacier. He retired from the USGS in 1986 but continued consulting part-time with CH2M-Hill in Anchorage. In 1990, he retired from decades of service in the U.S. Navy Reserve at the rank of Captain. Charlie taught racket-ball at the University of Alaska, continued skiing and became an avid golfer (up to age 93). He was a voracious reader throughout his life and spent time at the public libraries in many locations. He and Marilyn were active members of the Methodist church. They enjoyed the Alaskan outdoors a great deal including skiing, hiking, camping, fishing, and canoeing. He is survived by 4 children, 4 grandchildren, 2 great-grandchildren and his younger sister. Charlie will be remembered for his easy-going manner, relentless optimism, and quirky good luck.



Chester (Chet) Edward Thomas, Jr, 91, of Manchester, CT passed away peacefully on Sunday, October 23, 2022 after a short illness. He was born in Newark, NJ on June 26, 1931 to Viola Matilda Thomas (nee Geisheimer) and Chester Edward Thomas, Sr. Chet graduated from Upsala College in East Orange, NJ, with a B.S. in geology, commuting from home via two buses. He then continued his studies at Washington University, St. Louis, MO, where he met his future wife, Marion Virginia Fulbright at a church-sponsored square dance. Chet received his M.S. in 1956, married Marion, and accepted a job with Sun Oil in TX. He moved to Albany, NY, to work as a hydrogeologist with the USGS. Chet transferred to the newly opened USGS office in Hartford, CT.,

where over the next few years he was instrumental in the first USGS assessment of all the watersheds in Connecticut. Chet was promoted to Connecticut District Chief in 1984. His work involved studying, monitoring, and protecting the geologic and hydrologic resources of CT. He co-authored several publications on water resources in Connecticut. He encouraged collaboration on USGS projects with the Connecticut Geological and Natural History Survey. Chet retired in 1995. He is survived by his three children and their spouses. He was predeceased by his wife of 62 years, Marion Fulbright Thomas.

Lawrence Allen Weiss, 87, passed away on Sunday, January 15, 2023. He was born July 3, 1936, in New Britain, CT, and was the son of the late Benjamin and Sabina Weiss. In 1959 he graduated from Brooklyn Polytechnic, now part of New York University, with a degree in Civil Engineering, and later received his Master's degree in Sanitary Engineering from the University of Connecticut. He was a professional hydraulic engineer who worked for 35 years for the U.S. Geological Survey and authored many professional papers having to do with surface and ground water. He served for 6 years in the U.S. Army Reserve and played clarinet in the military band. Larry was a devoted husband, father and grandfather. He is survived by his wife of 60 years, Edythe Kaufman Weiss, his four children. He will be remembered by all for his wonderful sense of humor, pride in his family, willingness to travel with his wife to all 7 continents, and being an enthusiastic Red Sox and UConn Basketball fan. He truly had a life well lived and will be in his family's hearts forever.

DIRECTORY

NEW MEMBERS

Barks, C. Shane (23) (Cheryl) – Rolla, MO
Baynham, Owen (22) – Gilbert, AZ
Dillenburg, Alan L. (22) (Donna Runkle) – Colorado Springs, CO
Guempel, Glenn (23) (Jill) – Charles Town, WV
Kelly, Brendan J. “Bren” (22) – Anchorage, AK
Kent, Robert H. (22) – Ocala, FL
Kvech, Jeffrey J. “Jeff” (Gwen) – Fallston, MD
Long, Jr., Kenneth Brady “Brady” (22) (Kelly) – Edisto Island, SC
Mason, Robert (22) (Heather) –Fredericksburg, VA
Nelms, David L. (18) –Richmond, VA
Runkle, Donna L. (22) (Alan ‘Al’ Dillenburg) – Colorado Springs, CO

AFFILIATE LIAISON

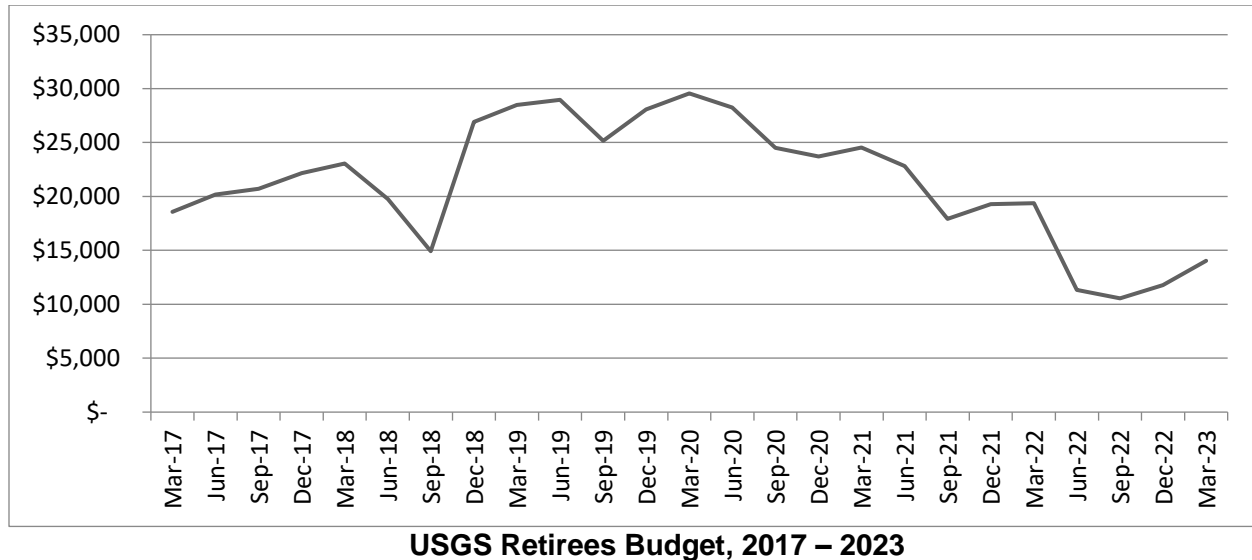
Kvech, Jeffrey J. (Jeff) – MD-DE-DC Water Science Center (replaces Ed Doheny and Jon Dillow)

DIRECTORY CHANGES

Bennett, James P. “Jim” (05) (Merilee) – new address
Bennett, Merilee A. (06) (Jim) – new address
Charbonneau, Eugene A. “Gene” (93) – new address
Cornwell, Judith “Judy” (94) (Richard) – new address
Favor, Barbara (01) – new address
Holmes, Robert R. “Bob” (21) (Joanne) – new address
Kantrowitz, Irwin H. (95) (Elaine Harris) – new phone number
Lindholm, Gerald (Jerry) (94) – new contact information
Lystrom, David J. (99) (Karen) – new phone number
Perkins, Terry J. (94) – new email address
Peter, Kathy D. (09) (Fred) – new email address
Posson, Douglas R. “Doug” (03) (Linda) – new address

TREASURER'S REPORT, FIRST QUARTER 2023

Treasurer Cathy Hill reports the organization had \$14,026 at the end of the first quarter, 2023. We have successfully filed our 2022 Federal taxes. Just FYI 😊 Special thanks for contributions above dues to Phil and Cindy Turnipseed, Ken and Judy Lindskov, John McLean, Bob McNish, Bill and Linda Carswell, Richard Luckey, George Leavesley, Carolyn Norton, Kevin Oberg, Irv Kantrowitz and Harvey Jobson. Many thanks for your generosity. These contributions are a great benefit to our Scholarship fund.



💰💰💰 ***Are your dues up to date?*** 💰💰💰

**Not sure? See the dues file in the email
or the mailing label for paper delivery.**

Please send your check to:

**USGS Retirees
P.O. Box 280
Herndon, VA 20172**

Thank you!

P.S. Dues are still only \$10 per year.



Happy trails all. Remember to look for the 50th Anniversary Reunion details in the next issue.
