

USGS RETIREES

NEWSLETTER No. 194
February 2022

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

PRESIDENT'S MESSAGE

HELLO USGS RETIREES



The Retirees Officers election was held last month and all incumbents who ran were reelected. Bob Swanson (Central Region Director) and I (President) ran unopposed and were elected. All officers are shown at left. It is my pleasure to serve as the president for the next two years. I will do my best to live up to the high standards set by past president Pete Anttila. Please be sure to read his message that follows.

I sent an email in January to retirees announcing that the Tucson Reunion Planning Committee, with some consternation, recommended that we postpone the gathering, once again, because of surging Covid infection rates and responses received from retirees through an e-mail survey. The officers voted unanimously to agree with the Committee's recommendation. We are all disappointed, but it is the safest decision to make. We discussed and decided to have the Committee work on plans to reschedule the Reunion in Tucson in March 2023.

If you sent in your application and your check has been cashed, your money will be returned. The applicant's checks that have not been cashed will be sent an image of the voided check. If you have a reservation at the University Marriott Hotel, they have requested you call them and cancel it as soon as possible because rooms that week are in high demand. The hotel will honor the conference rate if you decide to visit Tucson to enjoy the city on your own. **(Hotel phone: 520-792-4100)**

We will continue to update you on the plans for the 2023 reunion and other priorities being addressed by the Officers.

Bill

USGS RETIREES' IT PROGRAM REDESIGN

The Retirees have decided it is time to upgrade our technology. We are seeking volunteers to form a committee to assist in identifying and reviewing solutions for managing our IT needs. In the past, the retirees had a USGS user account and computer, but USGS and Interior security requirements make this option impractical. An ideal solution would be a cost-effective, easy-to-use, all-in-one membership management system. If you would be interested in working on this or just want to offer thoughts, please contact us at wrdretirees2014@gmail.com. An 'IT Requirements Draft' can be found at: <http://wrdretirees.org/IT/>

UPDATED CONTACT INFORMATION NEEDED BY MARCH 31, 2022

The 2022 Members' Directory will be distributed in May. Please take a few minutes to review your entry in the 2021 directory. If information about you or others you may be aware of has changed, please let us know. Please let us know of the passing of any members. The directory is distributed in print or electronic format; if you want a format different from what you last received, let us know. Send updated information and requests to wrdretirees2014@gmail.com or USGS Retirees, P.O. Box 280, Herndon, VA 20172.

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**USGS RETIREES' REUNION - CANCELLED
TUCSON, AZ
MARCH 2022**

EMAIL Distributed Electronically on January 8, 2022

The Tucson planning committee met this week to discuss the wisdom of convening the 2022 Retirees reunion planned for March 10-12. With some consternation, the committee recommended that we postpone, once again, the gathering because of surging Covid infection rates and responses received from retirees through an e-mail survey.

Although we have similar consternation, the USGS Retirees Officers agree with the planning committee to postpone the March 2022 Retirees reunion. Those registrants whose checks were cashed will be sent a reimbursement check. Checks not cashed will be voided and picture proof sent to the applicant.

Canceling Marriott hotel reservations— The traveler can cancel their reservation at no cost. If you guaranteed the reservation with a cash deposit, you can get a full refund, again at no cost. If you want to keep your March 2022 reservation, the hotel will still honor the group rate.

We will be discussing future retirees' reunion planning with the Tucson committee and will provide an update as soon as possible.

Bill Carswell
President

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Outgoing President's Message

Hello Fellow Members and Happy New Year,

With a heavy heart I need to begin this message by informing you that my beloved wife, Joyce, my best friend and the nicest person I ever met, passed away on December 6 from complications caused by a series of strokes. An article of her passing and life is included with the memorials in this edition.

My purpose for this message is to provide a brief capsule of the significant issues addressed during the last 2 years and some future considerations for our great and unique retirees' organization. In my first message in the February 2020 issue, I stated a top priority of maintaining our viability by enhancing communication between us and USGS offices. One action was to intensify our effort to reach a goal of having an Affiliate Liaison Member in every state. We started 2020 with 12 liaisons and currently have 22. We realized that our efforts alone would not achieve that goal without the assistance from the Water Science Center (WSC) Directors with encouragement from the office of the Associate Director for Water Resources. After drafting a letter to the Deputy Associate Director for Water Resources, which contained the assistance request to the WSC Directors, we decided it was best to defer sending the letter until the USGS reopened their offices. To date, the continuation of the COVID-19 pandemic has prevented the reopening of offices. This year an ad hoc committee identified in its final report that a major problem in sustaining membership is a decline in networking among USGS employees nationally and with other WSCs. One action is to enhance our visibility at the local level by increasing attendances and frequencies of local retirees' gatherings by including nonmembers and inviting local USGS speakers. We have been successful in reducing the number of vacant State Representative positions, which will be helpful.

Our Hydrologic Technician Scholarship Program continues to be a success. Thanks to the efforts of Phil Turnipseed, Cathy Hill, and the Regional Directors, a total of 13 scholarships were awarded in 2020 and 2021.

Thanks to our Editor, Jeff Stoner, Layout Editor Merilee Bennett, and the Regional Editors for sustaining our good Newsletters. Although we had to cancel the 2020 reunion, Mark Anderson and Stan Leake with assistance from others have done a commendable effort planning the Tucson reunion. Unfortunately, last month we had to postpone again. On a positive note, the extra time will provide the planning committee an opportunity to enhance reunion events.

A top priority for this year is to select and install a comprehensive computer storage system that will facilitate our operational requirements, I am confident that our National Officers with volunteer assistance from some members with IT backgrounds successfully will meet this challenge.

Lastly, I want to express again my appreciation for serving as your President. It truly has been an honor. I congratulate Bill Carswell on being elected as President and Bob Swanson as Central Region Representative. Both will provide leadership and contribute significantly to our great retirees' organization.

Respectfully, Pete Anttila

RETIREMENTS

Bill Battaglin retired after more than 38 years of service with the USGS. Bill started as a hydrologic technician at the Trenton, New Jersey office in 1982, getting that first summer job in part because he could drive a manual transmission field vehicle. Bill continued to work summers and holidays at the Trenton office while getting his undergraduate degree. One winter, Randy Ulery gave Bill a stack of manuals labeled ARC/INFO (USGS's second license) and told him to figure out what it could do. Turns out it could do a lot. While in NJ, Bill had the pleasure of working with Mary Hill, Arlen Harbaugh, Curtis Price, Herb Buxton and others. He learned statistics from Tom Barringer and Dennis Helsel. In 1989 Bill moved to Golden to attend the Colorado School of Mines while working at USGS part time. He used his GIS and statistics skills to support the research of Don Goolsby on studies related to the sources of nutrients in the Mississippi River Basin and on the fate and transport of pesticides in US streams, reservoirs, groundwater, and precipitation working with the likes of Mike Burkart, Dana Kolpin, Mike Meyer, Carol Kendall, and Mike Thurman. In the next few decades Bill's research became more multidisciplinary. He continued his contaminants work, expanding to include an ever increasing number of emerging contaminants and working with folks like Paul Bradley, Ed Furlong, Mark Sandstrom, and others. Bill worked for the ARMI program for the past 22 years and his research associates on investigation related to amphibians and hydrology include Chauncey Anderson, Erin Muths, Don Campbell, Kelly Smalling, Dan Calhoun, Blake Hossack, Holly Puglis, and many others. Bill occasionally dabbled in studies involving watershed modeling and climate change, working with Lauren Hay, Greg McCabe, Roland Viger, Randy Parker, and others. During his USGS career Bill was an author or co-author of ~150 peer reviewed publications that cumulatively have been cited 6,411 times (according to Google Scholar) and three reports are still in the "mill." Outside of the USGS, Bill has been an active member of the American Water Resources Association (AWRA) since 1993, serving on several conference committees, the board of directors, State section President in 2009, and National President in 2012. Bill was also a founding member and serves on the Board of the Consortium for Research and Education on Emerging Contaminants (CREEC). Upon retirement Bill will just do more of the things he enjoys like hiking, skiing, camping, golfing, disc golfing, traveling and just about anything else that can be enjoyed outdoors. Bill will be volunteering at USGS for the next few months to finish up a few things.

-Matt Ely, Director, USGS Colorado Water Science Center

After 34 years of working for the Federal government, **Nancy Bauch** retired December 31, 2021 and moved on to new adventures. Nancy's career began in 1983 with the Defense Mapping Agency in Maryland. After 7 years of primarily making navigation charts for the Navy, Nancy was ready for new challenges. While taking a Master's level hydrology class at the University of Texas in Austin, that challenge became water. After completing a Master's degree in Environmental Science at Indiana University in 1993, Nancy moved to Colorado without a job and knowing one person. Nancy's 27-year career as a hydrologist with the USGS Colorado Water Science (COWSC) began on 1994 as a volunteer with the South Platte River Basin National Water Quality Assessment (NAWQA) project. After deciding that getting paid for work was a better idea, she quickly transitioned to the Upper Colorado River Basin NAWQA project as a full-time paid hydrologist. Thus began Nancy's career in multi-disciplinary studies of water quality. She has worked on projects for the NAWQA program her entire career, studying water quality in the South Platte and Upper Colorado River Basins, Denver Basin, and the High Plains; principal aquifer studies in Colorado and northern New Mexico; a regional study of dissolved solids in the Southwest; and a national study of mercury in streams, bed sediment, and fish. Other project work has included trace elements in fish, retrospective water-quality analyses, groundwater quality, and effects of fire on water quality, all in Colorado, and water resource threats and needs for National Wildlife Refuges in the Mountain-Prairie Region of the U.S. Fish and Wildlife Service. Nancy authored or co-authored 21 USGS reports. For the last 20 months, she also served as the Water-Quality Specialist for Studies in the COWSC. Nancy's career has come full circle. Her first project as a project chief was a 1999 study of limnology of reservoirs in the Curecanti National Recreation Area (CURE) and a current study of water quality and algae in Blue Mesa Reservoir, part of CURE. Nancy is very grateful for working with great colleagues throughout her career, developing friendships with many of these colleagues, being stretched professionally and personally, and receiving help when needed. Because Nancy is not a morning person, she is also grateful for a successful career with the COWSC so that she did not have to resort to Plan B and become a baker.

Some interesting tidbits of Nancy's career:

Most fun: Getting paid to travel in Colorado and other areas of the country

Least fun: Waking up at 3 in the morning thinking about work

Most driving: High Plains groundwater (CO, KS, OK, TX)

Best food: Chocolate milkshakes from Braum's in KS, OK, and TX (breakfast!)

Most interesting: Meeting and talking with people while sampling

Most embarrassing: Not telling

Will not miss: Writing reports and proposals, doing budgets, sitting at her desk most of the day, finding funding, Quicktime, etc.

Best part: Getting to know and working with colleagues at the USGS (you all are the best)

Most rewarding: Helping colleagues and the public

For her next adventures with retirement, Nancy is looking forward to sleeping through the night (see least fun), fixing up her weed-filled backyard, traveling, spending more time outside, exercising, doing artwork, volunteering, and spending time with family and friends.

-Matt Ely, Director, USGS Colorado Water Science Center



November 19th is a bittersweet moment for many of us as **Joe Beman**, a friend, mentor, and colleague moves into a new phase of his life. Joe is retiring after 29 years with the USGS, 30 years with the Federal Government. Joe started his career with the Federal Highway Administration in 1991, but quickly transitioned to the USGS in Maryland. At the Towson Maryland Office, Joe kicked off his USGS career with a 40-hour HAZWOPER training and quickly began working on groundwater projects on Aberdeen Proving Grounds Edgewood Area where chemical weapons from World War I were stored. His projects mainly involved continuous groundwater measurements and water-quality sampling. In 1995, Joe became the lead technician for projects at the Dover Airforce Base which included the Long-Term Monitoring Project and the Natural Attenuation Project. These projects required water-quality sampling, groundwater level measurements, and geophysical data collection.

Joe and his colleagues published a Data Series report of these data in 1996. In 1997, Joe was “persuaded” to transfer to the Dover Delaware Office where he continued as lead technician for the Dover Airforce Base Projects until 2000. He also worked on a wetland mitigation study as well as a Total Maximum Daily Load study on the Appoquinimink Basin. Curious about the Wild West, Joe transferred to the New Mexico Water Science Center in 2006. Here, he managed three ongoing groundwater projects. Under the scope of those projects, he oversaw the data collection, processing, and approval of numerous (most of the time over 90) continuous and a variety of discrete groundwater records; fabricated “low cost” pressure transducers; programmed Campbell data-loggers and published 13 Data Series Reports of the groundwater level data for the Albuquerque Basin and surrounding areas. In honor of Joe’s efforts, the office has deemed this report the “Beman Report.” Joe also maintained continuous groundwater quality sondes for the Rincon Basin (ETN) NAWQA Project and on a continuous surface water sonde on the Rio Grande. During the transition from ADAPS to Aquarius, Joe was one of our office’s local experts. Over the last few years, Joe has been instrumental to accomplishing water-quality projects throughout the State. Throughout Joe’s career, he has mentored his co-workers not just in USGS protocols but also teaching lessons of dedication, patience, perspective, and attention to detail which are critical to the USGS mission. Joe is generous with his time and provides opportunities for new employees to take leadership roles, while being available for technical assistance and support. He is well known for his positive attitude, sense of humor, technical acumen, and his ability to work well with anyone. Joe is exceedingly humble, so if you know him, you can probably tell that he didn’t write this but only begrudgingly acknowledges his incredibly successful career! In his retirement, Joe plans to spend a lot of his time traveling, volunteering, and continuing to participate in Spartan Races. Joe will be greatly missed at the New Mexico Water Science Center, and we hope he will return as a Technician Emeritus. Please join us in congratulating Joe for his many accomplishments and impressive career! If you would like to reach out to Joe, his email address is josephbeman@gmail.com

-Jeannie R.B. Barlow, Ph.D., Director, USGS New Mexico Water Science Center



On December 31st, as the 2021 year closes, so too will the career of **Curtis W. Crouch** from the USGS. Curt retired after 40 years of government service. After serving four years in the U.S. Navy, Curt began a career at the USGS as a student while studying at Northern Arizona University in 1984. After graduating with a degree in geology, Curt was hired to work full time as a Hydrologic Technician in the Flagstaff Field Office. Most of Curt’s career was focused on collecting hydrologic data around northern Arizona including the Grand Canyon, Navajo Nation, and Sedona. Additionally, Curt spent several years assisting Field Office’s in Tucson and Tempe with their data collection. Curt has been the lead technician in the Flagstaff office where he has always set a great example in giving 100% to the task at hand. His positive attitude, work ethic, kindness, and the team spirit he fostered will be missed in the

Arizona Water Science Center. A motto for Curt could be: “Nothing, not blizzard, Monsoon storm, flooding, cactus, scorpion, 120 degree heat, leaky waders...could keep Curt from the completion of his field work.” After retirement, Curt and his wife Laura will be working on their new home and spending time with their kids and grandkids. In addition, I am sure Curt will find his way back to the world of hydrology in the form of fishing the nearby lakes. He will also be spending time hunting and traveling.

Thank you for your service, Curt!

-James Leenhouts, Center Director, USGS Arizona Water Science Center



After more than 31 years of outstanding service to the USGS, **John DeWild** retired on December 31, 2021. John was hired on at USGS as a Hydrologic Technician with the Wisconsin District in 1990 after completing his academic training at the University of Wisconsin-Stevens Point in environmental chemistry. He quickly put this knowledge to use on several groundwater-contamination projects in Wisconsin (DOD site at Fort McCoy) and Illinois (Superfund sites at Belvidere and Byron, Illinois), and from the start it was clear to his USGS colleagues that John brought multi-disciplinary talents to field projects that required a broad understanding of hydrology and chemistry. The work at Fort McCoy necessitated the development of in-field, rapid analytical assay methods for volatile

organic compounds, a challenge John met head on and successfully assembled a mobile lab complete with GC-MS capabilities. John continued along this line of work for the first four years of his career, but also sought new experiences, and over time also became proficient with the skills and knowledge needed to become involved in other projects at the Wisconsin District, including stream gaging and water-quality sampling. His growing reputation for excellent field work and chemical analysis caught the attention of the leaders of the USGS Mercury Research Lab, and over the next two years (~1994-96) John was integrated into a team of researchers working the burgeoning problem of mercury contamination of the environment. In 1996 John joined the Mercury Research Team full time, and over the course of 25 years he served in many capacities for the Team, including Lead Analyst, Lab Operations Manager, Mercury Data Base Manager, Lab QA/QC Officer, and as if he was not busy enough, he also took on the role of Safety Officer of the Upper Midwest Water Science Center. Dave Krabbenhoft was John's supervisor for most of his career, and one of his greatest comforts was knowing the Mercury Lab was in good hands when John was in charge, and the best possible data would always be produced thanks to John's steady temperament and vast analytical knowledge. The Mercury Lab's unique approach for helping to facilitate mercury research on a national and international basis was in a significant way the result of John's dedication to always answering phone calls, emails, and text messages from those needing his assistance with sampling ideas and techniques, field supplies, and keeping a watchful eye on daily delivery of samples to the Lab – and keeping his composure when those time-sensitive deliveries came on a Saturday! Most importantly, everyone knew that only the highest quality data would result from John's efforts, and data were always professionally sent from him to each colleague and cooperator. As a result, John is truly nationally known, recognized, and respected by a large number of researchers both within and outside the USGS. John said he did not have any initial big plans with the onset of his retirement, but those who know him well suspect that he will spend more time with the never-ending list of house projects, reading, enjoying the outdoors, and his favorite social activity – bowling! Please join me in congratulating John on his fantastic career with USGS and wishing him a happy and fulfilling retirement! Feel free to reach out to John at his personal email (jfdewild4197@gmail.com) **Picture Note:** John (far left) on-board the US EPA R/V Lake Guardian with USGS staff. John has played an integral role in sample collection and analysis for multiple Great Lakes projects over the years.

- **John F. Walker, Director, Upper Midwest Water Science Center**



Edward J. "Ed" Doheny retired from Federal Service on October 31, 2021 after 34 years (31 with USGS). He worked at the Maryland-Delaware-DC (MD-DE-DC) Water Science Center (WSC), now at the campus of the University of Maryland, Baltimore County in Baltimore, Maryland. Ed graduated from Drexel University in Philadelphia, PA with a BS and an MS degree in Civil Engineering. After working for 3 years with the Philadelphia Corps of Engineers, Ed joined the USGS in 1990 and immediately began working as a project member on a large long-term bridge scour project, done in cooperation with the MD State Highway Administration. The project involved assessment for bridge scour potential at all bridges in the State that spanned waterways that were 20 feet in width or over. At about the time of completion of the bridge scour work in 1996-97, the WSC and the Maryland Geological Survey

formed what has been called the Maryland Water Monitoring Council (MWMC), in which Ed played a large role. The purpose of the council was to get the many Federal, State, County and local agencies as well as Consulting firms together to discuss and decide what the water issues were in the present and the future and then look into whether or not the existing networks were adequate to address those issues. The MWMC, still in existence, has been a success over the past 25 years. Ed headed up and/or was a member of the numerous sub committees. Later, Ed became project chief of a stream restoration monitoring project in cooperation with the U.S. Environmental Agency. The specific project went on for more than 10 years and was on a stream named Minebank Run and included multi-disciplinary monitoring of the stream channel before, during, and after physical restoration. The study resulted in 3 USGS Scientific Investigation Reports. Between 2006-2008, Ed served as Acting Data Chief of the WSC until a permanent replacement was named. Ed's last assignment and perhaps his most important was serving as the WSC's surface-water-specialist from 2008 to present. His duties included writing project proposals, writing reports, and reviewing proposals and reports--basically involved in any surface-water activity in the WSC. His most fulfilling duty as surface-water-specialist was the mentoring of younger hydrologists and technicians in surface-water techniques and doing the job correctly—the USGS way. For the future in retirement, Ed has many options—consulting work, part-time work with the USGS, home projects (Ed's wife, Kim, will be the project reviewer), travel with Kim, maybe abroad, maybe in the USA. Ed does know of 2 things that will be taken care of, shortly. They are –visit the Baseball Hall of Fame in Cooperstown, NY and visit the Flight 93 National Memorial in

Shanksville, PA to pay his respects to those who lost their lives in that fateful plane crash in 9-11-2001. Whatever Ed decides to do, one thing is for sure—the folks at the MD-DE-DC WSC will miss him but wish him the best in his retirement.



After more than 31 years at USGS, **Lynne Fahlquist** is retiring! Lynne may not have known this as a child, but she was likely destined to be an earth scientist influenced by careers of several of her family members. As a child, her family traveled throughout North America by car in which her father described the geology of the passing terrain. She decided to pursue degrees in Geology. In graduate school, Lynne read a lot of papers by USGS scientists which piqued her interest in potential opportunities to work for USGS. As a result, she made an appointment with a former USGS employee who was an administrator at Texas A&M University to inquire about how to investigate opportunities at USGS. Her meeting with Dr. Gordon Eaton (who knew he would later become USGS Director?) led to contacts who hired her as a Geologist to work on the Geothermal

Energy Project in Menlo Park, CA. She explored opportunities with the Water Resources Division that led to transferring to the Texas District (now Oklahoma-Texas Water Science Center). She worked as a Hydrologist on the South-Central Texas National Water Quality Assessment (NAWQA) Project focused on the Edwards aquifer. Lynne also worked on NAWQA studies of the Ogallala (TX, NM) and Gulf Coast (TX) aquifers. After completion of a NAWQA topical study about the Transport of Anthropogenic and Natural Contaminants (TANC) in the Edwards aquifer, Lynne had the opportunity to change her career path from scientist to Public Information Officer, where she facilitated communication of USGS water science with cooperators, partners, stakeholders, and the public in a variety of ways. Lynne's career was filled with interesting and fun stories as a scientist and public-information officer. She would be happy to share those stories in retirement. Lynne looks forward to home-improvement projects, native plant and vegetable gardening, ancestral genealogy, photography, healthcare advocacy, catching up on her husband John McCulloch's rekindled interest in vertebrate paleontology, visiting family and friends, hanging out at their cabin near Ruidoso (NM), and travel! Lynne is grateful for innumerable interactions with so many wonderful colleagues, mentors, and friends; and for the opportunities that she has had to represent and promote USGS science. She is excited about the future for USGS and looks forward to learning about much needed "Science for a [rapidly] Changing World". She is thankful for the opportunities she has had to support and contribute in a small way to "Earth Science in the Public Service". Lynne plans to be a 'Volunteer for Science' for a short time to help with transition of her duties. For contact information, she can be found on LinkedIn, the Metaverse (for now), WRD retiree directory (soon), and email at hydrolynn@gmail.com.



It is a bittersweet moment to announce that **Earl Greene** is retiring. He will be sailing the FL Keys and Bahamas after 36 years with the USGS and 40 years with the Federal Government! Earl and Jean will spend their winter months sailing the warm waters of the Caribbean Islands and spend the summers in the Chesapeake Bay and along east coast of the Atlantic. Earl started his Federal career with the U.S. Forest Service in 1981 working in the wetlands of Louisiana and mapping landslides in Puerto Rico. He then transferred to the Department of Interior, Bureau of Land Management to work on water resources issues on federal lands throughout the Badlands of North Dakota. In 1987, Earl joined the USGS, SD Water Science Center and moved to Rapid City, SD as project chief to characterize the hydraulic and transport properties of the Madison Aquifer, a fractured and solution-enhanced carbonate aquifer. While in Rapid City, Earl published several

USGS reports and journal articles on karst hydrology, including several new methods to collect karst hydrology data. He also conducted tracer tests and developed groundwater flow models. In 1993, Earl moved to Reston, VA for a three-year assignment with the National Research Program to work on characterizing flow and transport in fractured rocks with Dr. Allen Shapiro. He spent his summers in Mirror Lake, NH swatting black flies and conducting borehole packer tests. In 1997, Earl moved to the MD-DE-DC Water Science Center as Groundwater Specialist and Hydrogeology Section Chief. His work in MD-DE-DC consisted mostly of characterizing the movement, quantity, and quality of the groundwater resources throughout - the area including leakage through the subway tunnels of the Red Line in DC. In 2003, Earl was back in Reston, VA, again with the National Research Program (NRP) as part of the Senior Management Team and Coordinator of the Hydrologic Networks and Analysis Program. As Deputy Manager of the NRP, he assisted the Chief Scientists to oversee a \$42 million dollar program that conducted basic and applied research in hydrology, hydraulics, hydrogeology, ecology, and chemistry in support of the mission of the USGS. The NRP at that time consisted of 3 National Research Offices with a research staff of about 380 permanent and non-permanent scientists and support individuals. In 2013, Earl became the Program Coordinator of the Water Resources Research Act Program and has spent the last 8 years leading the efforts to increase the science capability of the program and build closer ties to the scientific staff of the USGS. He has set the overall programmatic research direction of the Institutes, reported on their activities, coordinated, and facilitated regional research, information and technology transfer, and operated the USGS Student Internship Program. Earl and Jean may not know how long their sailing journey will last, or even where they will go next. But they will have plenty of adventures and if you ever wish to contact them please do not hesitate to send a note to captainearl@me.com. Earl's fun personality and great leadership will be missed dearly, though we all wish him the best as he approaches his new adventures and celebrates his hard work throughout the years.



Dr. William 'Bill' Guertal, the Water Resources Mission Area Deputy Associate Director (DAD) retired on December 31, 2021. After nearly three decades with the USGS, however, folks have seen a lot of Bill. Bill Guertal, noted paperboy, turned geologist, turned soil scientist, turned hydrologist, Center Director, Deputy Regional Director, Acting Regional Director, Deputy Associate Director, and more, has had a marvelous career, and has been a wonderful colleague and friend to many. He will be missed by all. He graduated from the Ohio State University in 1984 with a Geology degree. He obtained his Ph.D. in soil science and hydrology from North Carolina State University in 1992. Bill joined the USGS in 1992 as a hydrologist on the Yucca Mountain Project, working on characterizing unsaturated zone soils and conducting artificial infiltration experiments. In 2002 Bill sought greater opportunity as the Dover Subdistrict Chief. From 2006 and 2008, Bill served as the Director of the

Indiana and Kentucky Water Science Centers respectively. Just a short year later, he orchestrated with management the merger of these two Centers into the Indiana- Kentucky (INKY) Commonwealth and seized the helm with continued successful water programs. In 2013 he became the Deputy Regional Director for Science for the Midwest Region. From there, he leaped to USGS Headquarters in Reston to serve as the Deputy Associate Director (DAD) for Water Resources in 2014. As the Water Mission Area's DAD, Bill's accomplishments were many. Effective people management, protection of the work environment, and effective resource/program management were always first on his list. Whatever his undergraduate and graduate training was, chances are it was applied at its best when Bill was busy conserving our land and water by applying science to land, water, and species management. This alone probably occupied two-fifths of his time. His success can most likely be attributed to his vigilance and attentiveness. He was rarely without a quick and often correct response to any question. Nothing ever surprised him. Leadership was paramount for Bill. He played a leading role in the development of a National Flood Inundation Program. Ever on the leading edge, he developed a workforce planning tool that others used. Leading and mentoring the next generation of leaders was Bill's forte; he dedicated much of his time to this pursuit through the National Conservation Training Center where he taught Introduction to Supervision, Leadership 101, and Leadership 201 courses. Part of this ability was based on help he received from many colleagues along the way. Bill says he is looking forward to retirement by spending more time on his various hobbies, such as woodworking, fishing, curling, snowboarding, soap-carving, and model rocketry. Mrs. Guertal has indicated that she may be willing to spend more time with Bill, so long as he agrees to stop wandering around the house.



Joseph Jones is retiring after 38 years with the USGS. Please join me in congratulating Joseph and wishing him all the best on his well-deserved retirement. During his 38 years of service, he contributed to countless projects and was a recognized leader in complex science questions facing our local, State, Tribal and Federal partners. After earning his B.S. in Chemical Engineering from the University of Texas at Austin, Joseph was hired in the Texas District office in 1982. For the next four years, he worked as a streamgager in Texas and Washington, eventually making the transition from the Field Office to the Hydrologic Studies Section of the Tacoma office. Early on, Joseph's responsibilities included being the Water-Quality Coordinator for the field office. His strong computer literacy helped him become a huge asset to the center's computing and GIS programs. In the late 80s and early 90s, he made the transition to groundwater projects, becoming the project chief of the Upper Skagit Hydrogeologic study. His 1999 Water-Supply Paper, that analyzed the effects of

groundwater withdrawals on discharge to streams within a hypothetical basin within the Puget Sound, enlightened many of our stakeholders at a time when the connection between groundwater and surface water was not widely understood. This paper became the basis for a new level of understanding and helped pave the way for future GW/SW interaction studies in our state. In 2000, Joseph wrote his first of many reports addressing flooding in western Washington. To this day, the fact sheets are still commonly referenced by members of the community and local decision makers. Throughout the early 2000's, he continued to publish several reports outlining how high-resolution land surface elevation models and data from the National Weather Service could be combined to produce predictive, flood-forecast maps. In 2009, he was interviewed by [King5 News](#) for his innovative Flood Path Project, highlighting a pilot study area along the Snoqualmie River. In recent years, he transitioned to being the Information Officer for the Washington Water Science Center, where he was able to apply his broad and in-depth knowledge of Washington hydrology to questions from the public, local stakeholders, and fellow USGS colleagues. He was also able to keep the Center informed about state and national news stories relating to our work and an eye for program development ideas with the Northwest News Briefing. Joseph has made innumerable contributions to the water science of Washington state in his almost four decades with the USGS, but one of his greatest will be the encouragement and support that he was always willing to provide to early-career employees. He enjoyed sharing his experience with others and will be missed for his kind words and eagerness to jump in and help get a project across the finish line. If you would like to reach out to Joseph, his email address is: josephljones@comcast.net

-Dr. Cynthia Barton; Science Center Director, USGS, Washington Water Science Center, Tacoma, WA



Robert Kent retired on December 31, 2021 after almost 25 years with the USGS, nearly all at the California Water Science Center in San Diego. The attached document is Robert's synopsis of his USGS career. Please help us congratulate him and wish him well into his retirement - which will include lots of sailing in Florida.

--**Eric Reichard, Director, California Water Science Center, USGS, San Diego, CA**

Robert writes (partly edited): I have been blessed with a series of fortunate events during my nearly 25 years working for the USGS. I started high-intensity data collection for the South Florida NAWQA study unit, trained by renowned super hydrotech, Bruce Bernard. In 1998, I transferred to work on the Santa Ana River Basin NAWQA study unit. I had more great mentors in Ron Fay, study lead (super) technician and project chief Ken Belitz. Ken facilitated both my permanent career appointment (1999) and my conversion from hydrotech to hydrologist (2001), and was coauthor on five of my 14 USGS reports. My first research interest, in line with my graduate

research was **nutrients**, a subject on which I was able to publish several reports throughout my career. Ken also indulged my interest in data tracking/verification. Ron Fay had taught me some routine checks on water quality data integrity, and Carmen Burton showed me how to pull data from NWIS into Excel. In late 2000 I presented an Excel-based data-checking system at a USGS Field Activities conference in New Orleans, and it caught the attention of some people who were planning to set up the new "QWDATA Toolbox for NWIS Users" training course. Over the next 8 years I presented this data-checking system in 10 offerings of the course, with several other instructors, including Dorrie Gellenbeck, Cherie Miller (course coordinator), Bob Broshears, Tom Bushley, and Dan Hippe. Between participating in that course and in four water science center reviews, the data checking system had me travelling all over the country during the middle of my career. Meanwhile, Ken Belitz and Neil Dubrovsky prepared a framework for monitoring groundwater quality throughout California and, in 2004, GAMA was born. To be honest, I considered myself an ecologist and had never expected (or desired) to do groundwater studies. However, it was fortunate that I had the opportunity to work with GAMA. NAWQA would soon have no place for me, and GAMA allowed me to pursue my next research interest; **trends**. Nearly half of my USGS publications have dealt with groundwater-quality trends. GAMA also gave me an opportunity to learn about and work on my last research interest; the hot topic of **PFAS**. Probably the most interesting work opportunity that I had during my USGS career occurred in 2011 when the World Bank sponsored a water resource modernization project in Peru to provide on-site technical assistance from the USGS on monitoring surface water and water quality. Mark Smith was their main USGS contact with his expertise in surface water. I was identified for water-quality assistance and fluent in Spanish (a requirement imposed by the National Water Authority in Peru for this project). This detail was no boondoggle! I participated in several remote planning meetings before my trip, and was told that I wouldn't need to present anything there; just observe their water-quality data collection practices and provide feedback on them. However, I arrived late on a Saturday night and my in-country contact informed me about expecting presentation on USGS water-quality data techniques the next day and 4 more times during my week traveling to several river basins in Peru. Most of the presentations were well received. A presentation on Quality Control (QC), however, went over like a lead balloon. Apparently, in Peru QC doesn't mean Blanks, Replicates, and Spikes. I also observed water-quality sampling there, and did provide feedback. There are some things that I will definitely not miss about my USGS career: storm sampling, the noise from the San Diego State Marine Sciences air compressor below my office, and much of the software that I've had to use (e.g. Quicktime and PCFF). I know, however, that I will miss a whole lot about this career: the work variety, the research opportunities (including occasional opportunities to use my Spanish and to be creative), collaboration (especially over beers in the evenings during conferences or trainings). Most of all, I will miss the help, cooperation, and friendship of my colleagues who would usually drop whatever they were doing to help me resolve some science or logistic issue, or to sort out one of my many battles with computers.

Goodbye and stay well. Robert



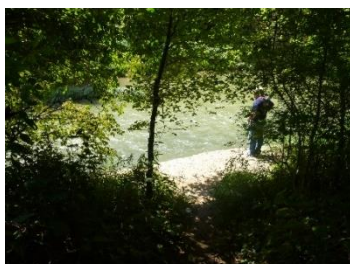
Mark Landers retired at the end of October after 39 years with the USGS. Please join me in congratulating Mark and wishing him all the best in his retirement. Throughout Mark's USGS career he's had the blessing of working with great people on challenging, relevant issues to advance earth science in the public service. Mark began his career as a civil engineer in Mississippi in 1983 after finishing his undergrad work at Georgia Tech. He chased floods, did bridge design hydraulics, wrote flood-frequency reports, and best of all was mentored by Senior Tech Jim Hudson and befriended by a host of great colleagues. While there he received the Dept. of the Interior Honor Award for saving a drowning victim from Tallahala Creek (which he was measuring). In 1990 Mark, his wife Aleta, and their two Mississippi-born kids (Dean and KatieRuth) packed their bags for Reston, VA and the Office

of Surface Water (OSW). Through 1994 Mark ran the National Bridge Scour program and worked with over two dozen USGS Districts to develop improved scour prediction equations resulting in safer and more efficient bridge designs nationwide. The OSW was home to many legends of hydrology and many lifetime friendships were developed there. In 1994 Mark and family (including 2-year-old Ellie) moved to Fort Collins for a 2-semester sabbatical at Colorado State University focused on his scour research. Then in 1995 they were off to Mark's hometown Atlanta, Georgia. There he began the Urban Hydrology and Water-Quality program which quickly grew in size and significance. From 1997 to 2002

Mark worked extensively on the Middle East water resources program with Israel, Jordan, and Palestine, teaching and producing reports that were translated into local languages and promoted the peace effort. He used methods developed in the international work to help design the first digital graphical water data report for Georgia. As surface-water specialist in Georgia he worked on a wide range of water availability, flood, and urban water quality issues through 2012. Mark squeezed in research on fluvial sediment surrogates (and coursework) to earn his PhD in Civil Engineering from Georgia Tech from 2006-2012. This positioned him to become Chief of the Federal Interagency Sedimentation Project (FISP), back in his beloved OSW. In the FISP, Mark worked with a team to innovate new methods and provide reliable instruments and methods to the Federal community, again with a terrific multi-agency team. With the dissolution of OSW in 2017, Mark took a rotation with US DOT as part of the Presidents Management Council Program. Coming back to the Hydrologic Networks Branch, he helped create the National Streamgauge Network Coordinator position which he's filled for the last 3 years. Along the way he's been on the best imaginable field trips (Alaska, Grand Canyon, Middle East, Brazil, and across the US). He taught in USGS, high-school, and college classes, together with inspiring friends and colleagues. Looking back, Mark says he is overwhelmed with gratitude.

-Janice M. Fulford, Director, Observing Systems Division, Water Mission Area, USGS, Stennis Space Center, MS

After 30 years of dedicated Government Service with the USGS, **Don League** decided to retire on December 31, 2021 and enjoy horse farming and other hobbies. He stood beside the creek and thought hey, I would rather be fishing. Don has worked on many projects, measured many streams, and cleaned and calibrated many water-quality probes. Don was an integral part of records computations the last few years. Don is known to be knowledgeable, hard-working, and an overall pleasurable work colleague. Down the trail of retirement Don goes, I hope the trail takes you on many adventures yet to come! Please join me in celebrating Don's career and sending him off with good cheer. Thank you, Don and enjoy retirement. (Email: dhm704@tds.net)



-Lori R. Weir, Asst. Deputy Director for IT, USGS, LowerMississippi-Gulf WSC (AL, AR, LA, MS, TN)

After 40 years, (1988-98) with USGS, **Lorri Peltz-Lewis** retired at the end of 2019. Lorri was hired in 1988 on a term appointment. to use her experience in gas chromatography, geology, and drilling as a mud logger for Doyle Stephens' Selenium contamination project. She learned the Arc/Info GIS system on her own and taught classes at the Utah District office. After a few years she was hired on as a hydrologic technician. In 1991 Lorri was hired to be a physical scientist on the Tahoe Environmental GIS project with Tim Liebermann and Kenn Cartier. Lorri worked on other projects in the Nevada District including the Water Rights GIS with the Nevada State Engineer, DOI Irrigation Drainage Project, Virgin River Dye Study, NAWQA, and supported numerous modeling/analytic projects. Lorri taught GIS classes in over 20 District offices and at the National Training Center and was on the USGS GIS Help Desk team. In 1998 Lorri left the USGS for an opportunity to work with The Nature Conservancy at the Michigan Natural Features Inventory office. There she was a key tester and developer for the integration of the biological survey databases into Biotics, that eventually became NatureServe (<https://www.natureserve.org/>). Lorri completed her master's degree with the University of London, Birkbeck College in Geographic Information Science (GISc). In 2000, Lorri returned to Federal service with the Bureau of Reclamation (USBR) where she was the Database Administrator and led the effort to create an enterprise geospatial library for the region, eventually becoming an enterprise for the entire USBR. In 2002, Lorri was named as USBR representative to the DOI Enterprise Geospatial Information Management team and continued in these meetings until 2010. In 2003 Lorri joined the administration's efforts to rewrite OMB Circular A-16 to rate, rank, and deliver on all Federal agencies data more effectively. She worked with over 26 agencies and the Federal Geographic Data Committee to design a methodology allowing fair and balanced assessment of all databases. Lorri led the first ever national assessment of all named geospatial databases allowing data managers to work closely with OMB, agencies, and the public to identify needs, and ensure investments are maintained as appropriate for the nationally recognized databases. This effort culminated in numerous changes to Federal law, the development of numerous additional documents for the OMB A-16 Circular, leading to the Federal Geospatial Platform and eventually the Geospatial Data Act of 2018 (<https://www.fgdc.gov/gda>). Lorri also worked in fire science in the early 2000's and in 2007 was called out as a Hydrologist on many fires in southern California as part of the DOI Burned Area Emergency Restoration team, which she continues into retirement. In 2010, Lorri left USBR to join the US Forest Service (USFS), Fire & Aviation Management in the SW Region (California & Pacific Islands). She led the Fire GIS Lab and worked with all Federal agencies, as well as state and local responders across the west. She developed methodologies in spatial data and conducted associated

training from 2010-2016. In 2016 Lorri joined the USFS CIO as the Program Manager for the USFS Enterprise Data Warehouse. Lorri was professionally associated with URISA (NV & CA) and AWRA holding positions in FIREScope, NVGIS, and FGC3/CMC2. She was an active member with AGU, ASPRS, CaGIS, TFRSAC, IAWF, and AAAS. She received numerous awards over her career, including the EPA Bronze Medal for Commendable Service. Throughout her career Lorri maintained close ties with friends and colleagues, intending to do so into retirement. She plans to enjoy winter skiing (downhill or cross country), hiking, biking, and sea kayaking. She and her husband built out a Sprinter van for camping and travel. Occasionally Lorri freely consults and assists the state in watershed boundary updates, as well as wildland fire or emergency response assistance. She can be reached at lapeltz@msn.com,

The Water Mission Area is both delighted and disheartened to announce that **Lenny Orzol** retired on December 31 after 36 years of devoted service. As a hydrologist and NWIS programmer, Lenny has been the "wizard behind the curtain" of NWIS and the continuous improvement of USGS hydrologic data management. The USGS appreciates his many years of commitment, leadership, contribution, and hard work and we wish him all the best. He will be dearly missed. Below is a farewell message from Lenny. Please feel free to forward this email on to others.



I would like to thank all those who contributed to my career.

I have had a great time during my career starting in 1986 working for the Volcanic Hazards Program at the Cascades Volcano Observatory. Hey, paid to climb volcanoes in Oregon and Washington. What an opportunity for a starting job. I learned quite a bit during those early years including modeling debris flows from St. Helens, Mt. Hood, and the Three Sisters. In addition, I learned to collect data from stream gages on several streamflow related projects in Oregon. I have hiked many trails and rafted many stretches of rivers for these projects in Oregon and Washington.

I also began learning groundwater modeling and GIS. I applied those skills in several groundwater projects across Oregon, Washington, Massachusetts, and Florida. I have done several details to other states including California too. I have produced some USGS software called Modflowarc and Modtools to help translate groundwater modeling results into GIS products.

Later I was hired by NwisWeb part-time to help develop and maintain this national system. I worked some 15 years for NwisWeb developing many products such as the interactive graphs of NwisWeb: one graph for a single site with up to three parameters and one graph for a single parameter with up to three sites. I enjoyed those years working for NwisWeb. Meanwhile I also crafted many websites for the Oregon Water Science Center and other WSCs as well as some web sites at the national level. Most of these websites are related to groundwater projects, but some display water quality information at sites in Oregon and California.

About 3 years ago I left NwisWeb and Oregon WSC to begin work for the Office of Programming and Planning. With the help from Brian Reece we developed several projects: daily counts of active sites, an online version of the Water Mission Area directory, customer information funding USGS sites, project boundaries from Science Base, and others.

I have had a great career and wish the best for my friends at the USGS. I'll have more time to explore the Oregon coast.

Len



Mark Sandstrom is retiring after more than 33 years of service in the USGS. Mark was fortunate to begin and develop his career as a Research Chemist in the Methods Research and Development Program (MRDP) at the National Water Quality Laboratory (NWQL) in Denver (now part of the Strategic Laboratory Sciences Branch). This Program was established in the late 1980s to keep the NWQL methods up to date and to provide environmental chemistry expertise to WRD scientists. Mark worked on developing analytical methods for pesticides for the National Water Quality Assessment (NAWQA) Program, beginning with the pilot projects, first using GC/MS and then more recently LC-MS/MS methods. Implementing these methods into the NWQL for the thousands of samples per year submitted by NAWQA and other

projects provided an opportunity to work with a talented team of analysts, technicians, and managers within various NWQL sections. One of the most rewarding and enjoyable aspects of this work was collaborating with other members of the MRDP and NWQL to work on new methods, quality control (QC), and method improvements for National Programs like NAWQA and Toxics Substances, and Water Science Center (WSC) projects have evolved and grown. Part of his responsibilities in MRDP involved liaison with field teams on sample collection and quality control samples for pesticides and other organic compounds. This led to his participation as instructor in training courses and contributing to chapters in the National Field Manual and a Techniques and Methods report. The two-week water quality field methods course included instructions on how to collect and process QC samples, and the QC sample design course was about how to use the QC sample results. This provided a wonderful opportunity to get to know students and instructors from many different WSCs, and in turn later provide advice or collaborate with them on other projects after the class. One of the best things about this collaboration was the ability to get feedback from the sample collectors and data users and implement that in improvements to new methods. For example, the NWQL was able to implement a simple disposable filtration technique for the LC-MS/MS method to eliminate the need for the bulky plate filters that needed extensive field cleaning -- a widely unpopular field processing task. Another aspect of method development involved more direct involvement in sample collection and preparation of interpretative reports. Mark worked with colleagues in Toxics Program funded projects, such as testing the use of time integrating samplers for pesticides, as well as other projects on emerging contaminants. In addition, Mark was able to work with members of the NAWQA RSQA team to develop various new techniques for pesticide studies, including POCIS, Pankow sampler, and stream mesocosms. He published the results in a number of journal articles. Mark is grateful for the opportunity to have worked with so many bright, interesting, thoughtful, and dedicated colleagues in the USGS. He says it has felt like working with a very large group of friends and that it's been a pleasure to look forward to working with them on new challenges every day. Upon retirement, Mark plans to enjoy hiking and bike trails around town, swimming mid-day, skiing mid-week, and taking road trips to camp and explore the West. Mark will be volunteering as Scientist Emeritus to complete a few projects. Please join me in thanking Mark for his distinguished career at the USGS and congratulating him on his retirement!

-Mari Lee, Ph.D., Chief, Strategic Laboratory Science Branch, USGS/WMA/LASD



Dan Schwitalla retired on December 31, 2021. Dan was born and raised in Minnesota spending most of his childhood on the Iron Range near Hibbing. He attended the United States Military Academy at West Point and graduated with a BS Electrical Engineering. Dan was a missile Ordnance Officer in the Army and was assigned to missile units in Huntsville, Alabama, and Nuremberg in then West Germany. On his return to Huntsville, he resigned his commission and worked for a short time as radar simulation engineer in an Army laboratory. Dan then joined NASA's Marshall Space Flight Center in Huntsville where he was a computer and instrumentation engineer. He moved back to Minnesota and worked for a variety of commercial companies and consulting firms in the Twin Cities. His primary accomplishments were in client-server application and database development. The vagaries of corporate life led to another move, this time to Annapolis, Maryland.

He returned to the Civil Service working with the U.S. Coast Guard and the Office of Thrift Supervision, which is part of the U.S. Treasury. His technical expertise in the areas of system integration, database development, and software engineering has been a great benefit to the USGS Water Mission Area (WMA). Since joining the WMA to work for NWIS in November of 2006, Dan has been focused on the Telemetry and Data Relay aspects of real-time hydrologic data. Dan helped design, develop, and maintain the Emergency Data Delivery Network, which involved building a backup location and procedures for the Wallops Island downlink, keeping real-time data flowing at all times. Dan served as the liaison to the Satellite Telemetry Interagency Working Group advisory group, working with many different agencies that use GOES telemetry for data acquisition. Dan has helped guide and implement the transition to other methods of telemetry, including the use of LRIT/HRIT and Iridium systems. Dan had a critical role in the development of the National Aggregated NWIS Discrete Data Database. Dan is a high-power rocketeer and is active with the local Tripoli Tampa prefect and at national launch events. His highest launch to date is 22,885 feet (but who's counting) on the Bonneville Salt Flats in Utah. He will be finishing his master's degree in aerospace engineering at Auburn University concentrating in air-breathing and rocket propulsion systems. Dan will be staying on his farm near Dade City, Florida where he and his wife, Suzanne, oversee a cow/calf operation, four hens, two dogs, and a 60-pound African Sulcata tortoise named Timmy. He will also be commiserating regularly with his buddies at the VFW and the Dade City Brew House. We wish Dan well in retirement. Thanks.

-Roman Brittenham, Chief, Infrastructure and Services Branch, Enterprise Technology Office



After nearly 30 years as a Hydrologic Technician with the USGS, **Charles Somerindyke** retired from the Georgia office of the South Atlantic Water Science Center. He is hanging up his Flowtracker for more quiet times back home in South Georgia to cheer on University of Georgia, the Falcons, and the Braves (2021 World Champs!). Always quiet-spoken and humble, he was one of the folks that could be counted on every day to be out doing his job. Charles writes about his career with the USGS:

"I started my career with USGS in February 1992 as an employee with the Dekalb County Georgia Urban unit which was run by Joe Inman. My good buddy from Moultrie, John McCranie, got me hired and we began work setting up storm sampling sites around Dekalb County. We got gages built at about six sites and then started collecting samples during storm events. We also ran a crest-gage trip at multiple sites in Gwinnett County. In January of 1993 I was transferred to the surface water data collection unit and began helping with discharge measurements on all the field trips we had at the time. I had great training from co-workers George Bailey and Don Everett. I have remained in the SW unit in Georgia for my whole career. Brian McCallum came to Georgia in 1999 and began a project to get the District up to date with new DCP's and new sites across the state. This project led to Georgia becoming one of the top states in SW data collection. I feel fortunate that I was able to work with a great team of co-workers throughout the years which was led by Brian and all the great folks in Georgia. I will miss all my team members but am excited to get back to South Georgia to spend time with my family and friends and the slow pace of small-town living. Thanks for everything!"

Jeff Starn retired on December 31, 2021, after 33 years of dedicated service! Jeff started out with the USGS in Louisville and transferred to the Hartford, CT office in 1995. During the course of his career, he has made many significant and innovative contributions to groundwater studies in New England and later to National studies with the NAWQA program. We very much appreciate his many years of service to USGS and wish him all the best in retirement. **Below is a farewell message from Jeff:**

"I've really enjoyed my time at the USGS and can't imagine a better place to have spent most of my working life. I am continually inspired by so many smart and talented people. I started working in groundwater hydrology while in the Peace Corps 1982-1984, constructing and testing the yield of rural wells in Sierra Leone. Our motto was "Water is Life". It's true everywhere but had a special immediacy there, and it left me with the idea that I wanted to pursue a career in water resources. I did that for over 37 years as a federal employee with degrees in Geology (BS), Environmental Studies (MS), and Environmental Engineering (PhD) and jobs in Atlanta (USEPA), Louisville (USGS), and Hartford (USGS). While in Kentucky, I published a parameter estimation groundwater model of the Jackson Purchase region, a finite-element model of the Louisville alluvial aquifer, and an Installation Restoration Project for the Air National Guard. I moved to Connecticut in 1995 to be chief of the Hydrologic Modeling Section where I supervised projects on groundwater and surface-water modeling and water-quality trends in surface water. In addition to being a supervisor, I was project chief of several projects including devising methods for probabilistic contributing area to wells and simulating groundwater flow in fractured bedrock. I went full-time to NAWQA in 2007 to do probabilistic analysis of groundwater models, and in 2014 converted to the RGE program. I worked first in the NAWQA Transport of Natural and Anthropogenic Contaminants (TANC) project, then the Groundwater Trends project, and finally the Modeling and Mapping project, for which I was the Senior Groundwater Modeler. My efforts there were toward automating groundwater models and extracting information from them using machine learning. I also taught Python programming for several National Training Center Classes. My most recent publications are on the three-dimensional distribution of groundwater ages in the glaciated U.S. I'd like to stay involved in water resource issues, but I haven't decided just how to do that yet. In retirement I plan to spend time with my wife traveling (winter) and staying at our cabin in Ontario (summer) while also finding time to continue teaching yoga and playing music. To any USGS colleagues who want to keep in touch, my email is jjstarn@gmail.com. Hope to run into many of you again!"



After 42 years, 8 months with the USGS, **Lynn Torak** retired on January 2, 2022. His career spanned six decades, beginning as a hydrologist at the Louisiana District Office in Baton Rouge in 1979. There he developed the hydrogeologic framework of the aquifers supplying water to the Baton Rouge area and constructed the region's first three-dimensional finite-difference groundwater flow model. In 1981 Lynn transferred to the newly formed groundwater-model group within the Ground Water Branch in Reston. His work with the model group consisted of transforming a prototype two-dimensional finite-element model from the research state to operations,

which led to documenting the Survey's first modular finite-element model of groundwater flow, MODFE, with the model's principal researcher and developer Dick Cooley, Central Region Research, Denver. Lynn coordinated, developed, and instructed at the National Training Center (NTC) in courses pertaining to modeling of groundwater flow into the 1990s. Lynn transferred to Georgia in December 1986 where he continued enhancement of MODFE simulation capabilities and

applied MODFE to simulate the effects of pumping and impoundments on the stream-lake-aquifer hydrosystem in the Apalachicola-Chattahoochee-Flint (ACF) River Basin of Alabama, Florida, and Georgia. In the “Tri-State Water Wars” of the 1990’s through the first decade of the new century Lynn performed hydrologic investigations to assess the effects of irrigation and climate on water resources of the ACF River Basin. This included assessment of water exchange in the stream-lake-aquifer system focused on Lake Seminole in extreme Southwest Georgia. Technical results and modeling from these investigations were used by the three states in the “Water Wars” lawsuit that eventually was heard, and a decision rendered, by the U.S. Supreme court in April 2021. Meanwhile, Lynn developed geospatial tools that integrated geostatistical analytics with remotely sensed imagery, Earth observations, and modeling products from NASA space missions, imagery from unmanned aircraft systems (UAS), *in-situ* metered irrigation water-use, and geologic and hydrologic parameterization. The tools can be used to evaluate resource availability and vulnerability to hydrologic and anthropogenic forcings, enhance water-monitoring network design, assess data quality, and quantify error associated with estimations and deterministic-model results developed without spatial-correlation considerations of underlying data. During the last five years, Lynn worked with the National Water Availability and Use Program project in the Mississippi Alluvial Plain to develop the hydrogeologic framework of the Mississippi River Valley alluvial aquifer and to process ECOSTRESS-derived land-surface temperature, emissivity, and radiance imagery as part of NASA’s Early Applications User and Community of Practice program to identify irrigated and non-irrigated land and assess crop health and irrigation-water sufficiency. Lynn served as an adjunct instructor of numerical methods to simulate groundwater flow in the Geology Department at Georgia State University. Lynn is looking forward to a long post-USGS life devoted to his family that includes a loving wife, two adult children, and a grandson. Retirement plans include tennis, hiking, biking, fishing, and hitting the beach while traveling the country, taking cruises, working on construction/renovation projects at home, and kicking back on the deck with a cold one or two.

NEWS NOTES ON SUSTAINABLE WATER RESOURCES – Tim Smith

Puget Sound - https://en.wikipedia.org/wiki/Puget_Sound

Puget Sound ([/ˈpuːdʒɪt/](#)) is a [sound](#) of the [Pacific Northwest](#), an inlet of the [Pacific Ocean](#), and part of the [Salish Sea](#). It is located along the northwestern coast of the [U.S. state](#) of [Washington](#). It is a complex [estuarine](#) system of interconnected marine waterways and basins, with one major and two minor connections to the open Pacific Ocean via the [Strait of Juan de Fuca](#)—[Admiralty Inlet](#) being the major connection and [Deception Pass](#) and [Swinomish Channel](#) being the minor.

Water flow through Deception Pass is approximately equal to 2% of the total tidal exchange between Puget Sound and the Strait of Juan de Fuca. Puget Sound extends approximately 100 miles (160 km) from Deception Pass in the north to [Olympia](#) in the south. Its average depth is 450 feet (140 m) and its maximum depth, off Jefferson Point between [Indianola](#) and [Kingston](#), is 930 feet (280 m). The depth of the main basin, between the southern tip of [Whidbey Island](#) and [Tacoma](#), is approximately 600 feet (180 m).

In 2009, the term [Salish Sea](#) was established by the [United States Board on Geographic Names](#) as the collective waters of Puget Sound, the Strait of Juan de Fuca, and the [Strait of Georgia](#). Sometimes the terms "Puget Sound" and "Puget Sound and adjacent waters" are used for not only Puget Sound proper but also for waters to the north, such as [Bellingham Bay](#) and the [San Juan Islands](#) region.

Continental [ice sheets](#) have repeatedly advanced and retreated from the Puget Sound region. The most recent [glacial period](#), called the [Fraser Glaciation](#), had three phases, or [stades](#). During the third, or [Vashon Glaciation](#), a lobe of the [Cordilleran Ice Sheet](#), called the Puget Lobe, spread south about 15,000 years ago, covering the Puget Sound region with an ice sheet about 3,000 feet (910 m) thick near Seattle, and nearly 6,000 feet (1,800 m) at the present Canada-U.S. border. Since each new advance and retreat of ice erodes away much of the evidence of previous ice ages, the most recent Vashon phase has left the clearest imprint on the land. At its maximum extent the Vashon ice sheet extended south of [Olympia](#) to near [Tenino](#), and covered the lowlands between the Olympic and Cascade mountain ranges. About 14,000 years ago the ice began to retreat. By 11,000 years ago it survived only north of the Canada–US border.

Over the past 30 years, as the human population of the region has increased, there has been a correlating decrease in various plant and animal species which inhabit Puget Sound. The decline has been seen in numerous populations including [forage fish](#), salmonids, bottom fish, [marine birds](#), [harbor porpoise](#), and [orcas](#). The decline is attributed to the various environmental issues in Puget Sound. Because of this population decline, there have been changes to the [fishery](#) practices, and an increase in petitioning to add species to the [Endangered Species Act](#). There has also been an increase in [recovery](#) and management plans for many different area species.

NEWS OF RETIREES

Steve Blanchard writes: Thanks to you all that keep the association going.

Tony Buono writes: Thanks for the newsletter. It's always great to find out what and how fellow retirees are doing. Arlene and I are still actively motor homing, although mostly around Florida. We get out at least one week a month. Arlene is still running several times a week and participating mostly in 10k races every couple of weeks. She says the 10k races are a lot more fun than half marathons. (Her idea of fun.) I still play around driving and maintaining my '67 Porsche 911S, and I help out several days a month volunteering at the American Muscle Car Museum in Melbourne. The museum is a non-profit corporation open to charities for fund-raisers. With over 300 collector cars ranging from the early 1950s, it's quite a unique and interesting place for me to spend some time with other car enthusiasts. I'm still helping former clients and friends with real estate transactions if requested, but I'm mostly inactive. Although Florida's market is booming, there are only about 1,400 residential listings in our county and career agents don't need part-timers interfering in their ability to earn a living. All our best to everyone for the upcoming holiday season and new year.

Marvin Fretwell writes: I always look forward to reading each Newsletter. This last one was particularly special. The huge advancements in the methods for acquiring hydrologic data were particularly interesting. Also, learning that Oregon and Washington each have about \$8 M in their data programs was exciting to hear. Hydrology and water quality will only become more important as climates change accelerates. Thanks to you and to all the other officers for the USGS Retirees for keeping us old timers informed. I have been retired for over 21 years already, and it seems like only yesterday. Best wishes to you. *(Note written to Cathy Hill)*

John Gray writes: Eight years retired and this is my first newsletter post...shame on me. Real quick...Wife Heather celebrated 44 years of wedded bliss to her first/favorite husband in November. We remain domiciled 2 miles south of the National Center October-May (moved there in 1991 on a 2-year assignment...) but spend the warm season in Wisconsin at our Minocqua Lake home. Septuagenarian John received a single cochlear implant in 2019, and two new knees in November. I'm "Gumpy" to 2: 2-year-old grandchildren in Northern VA and San Diego. Expect two more by April. Life is Good. Kudos to the USGS Retirees' Brass and volunteers for keeping us connected as the years race by. Best regards, Pals!

Dan Hahl writes: I am very well, however, I keep getting into situations that my 60-year-old mind cannot make my 89-year-old body perform. I remember only very few people mentioned in the Newsletter, and even though a few names under pictures of gatherings are familiar the faces are of old people I no longer recognize. Therefore, I feel safe in writing this note from us oldsters lest the youngsters forget. I joined the USGS Upper Colorado River Project in 1959 as a technician while working toward a BS in Chemical Engineering at the University of Utah. The UCRP completed, I transferred to the Water Quality Branch in Salt Lake City under Hal Langford and led the study of Great Salt Lake. I graduated in 1963 with a BS degree and became an Hydrologist with the Survey. In 1967 I transferred to Texas where both I and Hurrican Buelah (cat 5) were introduced to the Bays and Estuaries of the Texas coast. I mention the GSL and B & E projects because they were undertaken just as modernization of technologies mentioned in the articles by Blakey et. al. and Freiburger [et.al.](#) were being developed. The few remaining oldsters of us were on the bridge between memories and strategies of the past and the realities of space age technologies arriving in Survey operations. Lest we forget, Fathers Fransisco Atanesio Domingues and Silvestre Velez de Escalante traveled the Spanish Territory in Western North America about 1776 in search of a land route to Monterey. As they traveled, they described many obstacles and wonders of the western continent. The Louisiana Purchase 1803, and the war with Mexico 1836, moved the border of the United States from the Mississippi River to the Pacific Ocean. The mere existence of this vast new territory and tales of the Fathers and others, created an unsatiated need to explore the west. John C. Fremont was dispatched, 1838-48, to explore the new territory. John Wesley Powell, the second director of the USGS, continued the exploration focusing on the Colorado River Basin. Luna Leopold, a scientist who focused on the geomorphology of rivers joined the USGS in 1949. In 1963 he became the first Chief Hydrologist of the USGS and initiated a complete revolution in the understanding of streams and their landscape. He initiated a new era in the quantitative study of rivers. Flow of the Colorado River was first measured by someone riding the train between river crossings, making a measurement, catching the next

train, and so on down river. Then came gaging stations and cable cars which expanded the number of sites that could be measured to a multitude of rivers. These stations additionally enabled water quality and suspended sediment sampling. In the GSL and B&E studies, sampling sites were established along cross sections identified by shoreline landmarks and specified by boat speed. At that time GPS was good to +/- 50 feet in urban areas at a cost of \$6,000 and unavailable for the 100 to 300 square miles of open water in various estuaries. Several checks and local happenings, amazingly, revealed the sites were reoccupied successfully. Great Salt Lake is highly corrosive to iron metal and samples taken at depth required significant weight to sink a closed empty bottle. Sampling was done with a double stoppered bottle that had a small shoulder vent. The bottles were fixed into a 10 inch long, 6-inch diameter steel pipe and lowered to depths that were under several atmospheres pressure. The B&E study used a pump and hose which drew water from any depth through an onboard manifold fitted with small probes testing Texas Instrument field instruments. They measured things such as dissolved oxygen, specific conductance, and temperature. Using the manifold allowed documentation of specific water strata and avoided the errors inherent in random sampling. Samples of the very fluid estuarine sediments overlaying sandy-clay bed material were taken with a Lucite tube. The cores were longitudinally split and center of core samples taken for wet chemical analyses of arsenic, DDT, and DDE residues. Measurement of flow on estuarine passes was made with up to 5 boats, depending on the width of the opening, and a floating tagline which allowed rapid recovery of a cross section after barges, ships, or boats passed. The times and velocities recorded at each station in a cross section were graphically coordinated to establish a station at which representative water flow in that opening could be monitored during inflow-outflow studies. Enter the vision of you young men who took the explosion of technology and moved the afore mentioned bootstrap field techniques into future instrumentation. And now they give us Eco-mappers, EDL's, AVM's ADCP's and a myriad of advanced technologies. Thank you, Jim and Herb, for your delightfully informative articles. Otherwise, the names of technologies you described would have been as unfamiliar as the oldsters pictured in the newsletter. I am in awe and delighted by USGS activities that have incorporated modern technologies. Let's not forget how we arrived at today. Our old scientist acted on dreams and made do with things at hand. The new generation of scientists, acting on visions supported by modern technology, are accomplishing marvelous things.

Bob Hirsch writes: Thanks for keeping the programs going. All the best,

Bruce E. Krejmas writes: Suggestion – please include the cost of the annual dues in the Treasure's Report.

Stan Leake writes: Lately I have been doing some consulting work with Don Pool, a fellow USGS retiree from AZ WSC. After being on dialysis for 6.5 years, I received a kidney transplant on September 23rd. I am currently having some problems with the new kidney. Hopefully that will be resolved soon. In other news, I am helping out with some of the leg work in organizing local activities for the 2022 USGS Retirees' Reunion to be held here in Tucson. I hope to see many of you here!

Walton Low writes: Like everyone else, planned trips to Cabo San Lucas (twice), Viking cruise, and New Zealand (twice) were cancelled and/or forfeited since January 2020. Tendonitis beginning August 2020 and a medical issue beginning November 2020 limited my activities to marshal/starter (golf), health club, and Taco Tuesdays. Surgery in July 2021 pretty much halted all activities until after August 2021. I continue my FEMA work, but that's limited to mostly remote computer work. I've gotten quite used to Netflix, Youtube, and On Demand. Such is life nowadays.

Debbie Majors writes: Wow, so great getting this update! So much news on old friends and the advancement in the methods used now. So much reading on the new systems! Thank you!!

Dot Niles writes: I am not sure when I paid last but hopefully this will bring me up to date, if not let me know. I will be 96 years old January 9th and have decided it's time for me to request that my name be removed from the retirees' list. Thank you for all you and others do to keep USGS Retirees running.

Barney Popkin writes: Thanks, hope all's well. I worked for USGS WRD/Texas District from 1965-1972 and learned much. My most recent works are a few technical papers: Role of climate, rock, and soil on the wines of

Napa Valley, California, and Water Resources of Liberia for the Professional Geologist, and a U.S. perspective on soil pollution for the European Geologist, and an invited September 2021 to the UArizona Environmental Science Colloquium on environmental science/ engineering experiences. (**Referencing NL193 November Newsletter**)

Janice Ramsvick writes: I am the widow of Orlando J. Ramsvick who retired in 1980 in Council Bluffs, and passed in 2004. To celebrate my 95th birthday in April 2022, I would like to receive cards and letters from friends and relatives. Thank you.

John W. Roberts writes: I also want to inform you that we have moved from Ohio to North Carolina. We moved to Huntersville, NC. We enjoyed the 42 years we lived in Ohio, but the time was right for a change. All of our children and grandchildren have settled in North Carolina. We have dreamed of living in the mountains, so we purchased land in the foothills with a full view of the Blue Ridge Mountains, including Mt. Mitchell. Our new home is being built, and hopefully will be finished by December 2022. In the meantime, we are getting to know the Charlotte metropolitan area. There is just too much traffic and too many people for a small-town boy like me. When we move to the mountains, I will inform you of the new address. Until then, best regards to one and all.
Sincerely.

Ken Skach-Mills writes: I retired from the USGS on July 31st, and I want to join the USGS Retirees. A former (now retired) colleague forwarded me your last newsletter, and I was touched to see that you included the announcement of my own retirement, along with several others who recently retired. Thank you for including me! I appreciate the work you do to keep us USGS folks connected, and the work on giving scholarships. Well done! And, thank you! (**Kate Flynn, Secretary for the Retirees' Organization forwarded Ken an application form to become a member.**)

Chester Thomas Jr. writes: I am sending best wishes for the holiday season and a bright new year. Enclosed are my dues and the remaining monies should go to the Scholarship fund. From a snowy Connecticut – Chester.

Judy Fretwell Thompson writes: Thanks for providing the newsletter. It has been a rather uneventful year for Ernie and me, although we did get to visit my daughter and son-in-law in their new home in Mt. Juliet, TN (near Nashville) where they moved to last year from Cape Coral, FL. We drove there and did some touristy things along the way. We visited Callaway Gardens in GA and 'The Lost Sea' caverns in Sweetwater, TN. We're looking forward to the reunion next year in beautiful AZ. Two of my grandsons moved to Phoenix last year, so we will get the added pleasure of visiting them after the reunion.

Kathy Wilson writes: I do enjoy reading what everyone has been doing, so please continue the excellent work you do. We love hearing from our USGS former co-workers. Like many of you we have been staying home for the last year or so, partly because we've both had health issues. I have been battling my third round of non-Hodgkin's lymphoma using immune-therapy infusions (thank God for a cancer that is treatable!) and had a total knee replacement and MCL repair done in May, so I have been going to physical therapy and working on getting the bend back in my knee. My husband is now on oxygen 24/7 and has several other health challenges, so it's gotten more difficult to travel. We still enjoy seeing friends who are on their way to see beautiful Wyoming, if they let us know they're coming through Wheatland on I-25. We usually meet them at exit 78 on I25 at the Western Sky's Family Diner. We'd love to see any of you passing this way. Best wishes for a Happy Holiday season to everyone!

Dues received since November's newsletter:

Marvin Fretwell
Bob Hirsch
Stan Leake
Walton Low
Dot Niles
John W. Roberts

Ken Skach-Mills
John K. Stamer
Chester Thomas Jr.
Judy Fretwell Thompson
Kathy Wilson

MEETINGS & GATHERINGS

Reston Retirees Activities: Reston Retirees have continued meeting outdoors through the Fall. In October we continued the experiment with no-electronics presentations. Our planned speaker, Ward Sanford, was not able to make it, so Pierre Glynn filled in with *"The Role of Narratives in Assessing the Policy and Management of Extreme Events"*. For November, John Keith presented *"Microbiographies of Five Directors: Nolan through Peck,"* giving us at least one funny story about each. One thing may have led to another ... and we had additional stories and embellishments from the attendees. For December, we traditionally do not have a presentation, but we all enjoyed visiting.

October 4 Lunch



Seated (L-R): Sandy Clark, Bill Roddy; **Standing (L-R):** Mary Jo Baedecker, Cathy Hill, Dick Engberg, Debbie McLean, Pierre Glynn, and John Repetski; Behind the camera: Kate Flynn

November 1 Lunch



Seated: (L-R): John Keith, Jim Devine, Kathleen Gohn; **Standing Front (L-R):** John Repetski, Bill Roddy, Kate Flynn, Peter Lyttle, Debbie McLean, Carolyn Olson; **Standing Back (L-R)** Tony Meunier, Lee De Cola, Ken Lanfear

December 6 Lunch



Kneeling (L-R): Lee De Cola, Sue Marcus; **Seated (L-R):** John Repetski, John Keith; **Standing (L-R):** Debbie McLean, Candice Bostwick, Kate Flynn, Ken Lanfear, Mary Jo Baedecker, Pat Leahy, Jim Devine, Bill Burton, Peter Lyttle, Tony Meunier, Kathleen Gohn

Reston, VA - October 8, 2021

"A rendezvous of retired USGS pals -- a sexigenarian, septuagenarian, and octogenarian -- transpired on October 8 at the Jetty Restaurant, Kent Narrows, Maryland. Their ageless wives endeavored, albeit unsuccessfully, to steer the boys' conversation in the general direction of The Truth, and to Keep Things Civil.



The two Elder/Elderly Men disrespectfully requested the following to be included with the accompanying photograph: 'The sexagenarian had to buy drinks because he lost numerous sports bets to his senior colleagues.' Without further ado...the couples are (l-r): Heather & John Gray; Maria & Jack Fischer; and Jeannie & Tom Yorke."

Finally the Reston, VA Headquarters building reopened. Dick Engberg (on the right) and Herb Freiberger (on the left) were able to enter the Archivist room assigned to the USGS Retirees' organization. The day was spent reading mail, cleaning old files out, and reorganizing an office that had been shut down for close to two years. Great Job – Herb and Dick!



TRIP TO ANTARCTICA

John Clarke, retired Assistant Director of the Georgia District office and his wife Karen recently returned from a 10-day National Geographic Cruise to Antarctica.

The cruise during December 2021 was the second voyage of the 126-passenger ship, Resolution, named to honor the first ship to cross the Antarctic Circle in 1773 — navigated by the legendary Capt. James Cook. The amenities and service were excellent and the food was delicious, featuring many seafood dishes including Antarctic Tooth Fish. Their spacious cabin included a balcony, which offered many spectacular views of passing icebergs. The entire trip was spent on the ship as there are no hotels or developments in Antarctica. The cruise was offered by [Lindblad Expeditions](#) in partnership with National Geographic.



"It was like going to geologist Mecca," said John. "We got to see glaciers in both the advancing and retreating mode, icebergs, sea ice, and remnants of an ancient volcano that developed under the icepack." The ship, which has ice breaking capability, breached sea ice and allowed passengers to disembark to visit the penguins. A sea kayak excursion allowed close viewing of Emperor Penguins.

For Karen, retired IT manager at Delta Airlines and an avid travel buff, it was a trek to see all of the wildlife she loves. “We got to see four species of penguin, including the Emperor, Gentoo, Adele, and Chinstrap. On a zodiac trip, we encountered Humpback whales who got within 10-ft of our boat and circled us 4 times, blowing and breaching, while looking up at us. While cruising on the ship, a pack of Killer Whales followed us. At the penguin colonies we got to see nesting penguins and their eggs with many recently hatched chicks. Offshore, we saw leopard seals waiting for their penguin meal to enter the water.” During the trip, they also saw numerous sea birds including the giant Albatross and several types of Petrels. December is during the Antarctic summer, so it was never dark. Sunsets were spectacular and a reddish hue hung around the horizon hours after the sun fell below the horizon. Temperatures never fell below 30 degrees, and were comfortable, with the exception of some windy days, which made it a bit cooler. Crossing the Drake passage between South America and the Antarctic was surprisingly calm, even though it has a reputation for having the roughest seas on the planet. “We were lucky to have a skilled captain who used all of the ships instrumentation and forecasts to avoid bad weather,” said John.



A highlight of the trip was the “polar plunge” in which passengers were allowed to take a dip in the 28-degree water. After taking a shot for courage, both Karen and John took the plunge. John stated, “It took your breath away. I can now see why you don’t survive a sinking ship in such waters. We went into the sauna afterwards and I never broke a sweat after spending 5-minutes there.”



For the cruise, there were several skilled naturalists with knowledge of the animals and habitats, geology, glaciology, and oceanography. They gave insights into the effects of global warming on the continent. A National Geographic photographer gave instruction on how to take effective photos, while providing passengers with some great images. “Scratch another one off of the ‘bucket list’,” said Karen as she and John have now travelled to all 7 continents.

MEMORIALS



Joyce Ann Anttila, 85, of Fairfield Glade, TN peacefully passed away on Dec. 6, 2021, under care of Avalon Hospice at Uplands Village Wellness Center in Pleasant Hill. Joyce was born on Sept. 24, 1936, in Tucson, AZ, to Lloyd and Ruth Gangle. Early in her life the family moved to Ohio before moving to Merced, CA, where she spent her formative years and graduated from Merced High School in 1955. She remained in Merced for four years, during which she worked for an attorney and got married. In 1959, she and her husband moved to Sacramento, CA, where she worked for an engineering firm. In 1970 she began working at the newly opened Consumnes River

College (CRC), serving as an Administrative Assistant for Humanities and Social Sciences. In the mid-1970s she became divorced and started taking night courses at CRC and extension courses at UC Berkeley to obtain a lifetime California Community Colleges' Instruction Credential. Subsequently, she taught nightly courses in keyboarding and formatting at CRC while maintaining her full time Administrative Assistant position. In 1990 she moved to the San Francisco Bay area to join her future husband, Peter Anttila, and started working for Mission College in Santa Clara as Confidential Executive Assistant to the Vice President of Instruction. She married Peter Anttila in 1992 and retired from Mission College in 2000. Shortly after her husband's retirement in 2002, the couple moved from Half Moon Bay to Fairfield Glade. During the last 19 years the couple enjoyed playing golf, going to activities, and meeting with friends in Fairfield Glade, traveling, timesharing, and going on international cruises. She is survived by her husband, Peter Anttila; her son, Michael Markov in Auburn, CA; her sister and a brother, in Albany, OR; a stepdaughter, along with two step-grandchildren and two great-grandchildren in California. She is preceded in death by her parents and a sister and brother. To date, a "Celebration of Life" function has not been scheduled. Burial of her cremains will be made after her husband Peter passes at his family's Lakeview Cemetery lot in Union, ME.

George S. Corchary, passed away on November 21, 2021. He worked out of the Denver, CO and Mercury, NV offices for the USGS from sometime in the very early 1950s to his retirement around 1990 from the Geologic Division.



Anne Thomas Eddins, 84, (wife of USGS Retiree W. Harold Eddins) slipped away peacefully on December 23rd, 2021, with her loving husband at her side after a 16-year journey with Parkinson's disease in Charlotte, NC. It was one week shy of their 60th wedding anniversary. Born in Morven, NC on December 18, 1937, Anne was the daughter of Bennett A. Thomas and Frances B. Thomas. Anne graduated valedictorian of Morven High School and then completed her education at the University of North Carolina at Chapel Hill in 1959 with a BS in Business Administration and a concentration in accounting. Thus, began a life-long passion for numbers. As she pursued her education Anne met the love of her life, Harold Eddins. They married December 31, 1961. Anne's career in tax accounting

began at Haskins & Sells, now known as Deloitte. She started her own firm in the late 1970's, and one of her great pleasures was working with her daughter, Amy Eddins Riescher, at their firm, Eddins & Riescher. She is survived by her husband, Harold, a son, and a daughter, and three grandchildren. She was a wonderful wife, mother, and grandmother. She is preceded in death by her parents and a daughter-in-law. Early in their marriage, Anne and Harold discovered Providence Baptist Church. Providence provided a bedrock for their faith, where they've been active for 50 plus years. Anne taught Sunday School for 40 years for middle and high school students. A celebration of her life will be scheduled later. There will be a private family service for her interment.



Bonnie J. (Dorton) Greeson, 78, (wife of the late USGS retiree Phillip Edward Greeson), died August 10, 2020, at Baptist Health Lexington, KY. Bonnie was born on March 17, 1942, in Chicago, IL. She was the daughter of the late Howard Ellsworth and Audrey Joyce Dorton. She was a Henry Clay High School graduate. Mrs. Greeson received a B.A. in Botany, minor in French, and teaching certification, grades 7-12 in science in 1963 from the University of Kentucky. She went on to acquire her M.S. in Geology from Union College in Schenectady, NY and completed postgraduate work from the University of Virginia. She was an educator in many capacities and at several institutions in several states. Mrs. Greeson was awarded the Who's Who Among American Teachers 1999-2001. She was an

active participant in community and volunteer work, which included serving as a Sunday School Teacher at Trinity Episcopal Church in Manassas, VA and serving on the Altar Guild at Trinity Episcopal, St. Michael's Episcopal, and Good Shepherd Episcopal Churches. Her servitude included endeavors at the Albany Medical Center Emergency Room in Albany, NY and Prince William Hospital, Obstetrics and Nursery in Manassas, VA. She also served and chaired on various committees, and was a member of the Catherton Ladies Club in Manassas, VA. Bonnie was predeceased by her infant daughter. Survivors include her two sons, two granddaughters, and five sisters. A private family Burial Mass was held on August 14, 2020, at Good Shepherd Episcopal Church, Lexington, KY with interment to follow at Lexington Cemetery.



Eugene 'Gene' R. Hampton, 87, husband of Patricia Hampton, and a resident of Machipongo VA, passed away on October 6, 2021, at Riverside Shore Memorial Hospital after a brief illness. A native of Washington state, he was the son of the late Thomas Hampton and the late Margaret Fiedlev and was born on January 3, 1934. He was a retired geologist with the USGS and served many years with Citizens for A Better Eastern Shore, Virginia Eastern Shorekeeper, and as a Northampton County appointee to the Eastern Shore of Virginia Groundwater Committee. He was a Fellow of the Geological Society of America. After his retirement, he kept himself busy with his garden, fruit trees, and civic involvements. In addition to his loving wife, he is survived by his son, a nephew and many friends around the United States and the Eastern Shore of Virginia.

Eastern Shore of Virginia.

Vincent Dean Herreid, 93, passed away on September 27, 2021. He was born on August 19, 1928. Vincent worked on the Mississippi Embayment Project collecting and analyzing data He prepared reports in Illinois in the late 1950's and early 1960's. He worked in the Surface Water Branch in the Illinois District in 1961 and 1962; he was the Subdistrict Chief in the New Philadelphia Subdistrict office, Ohio until 1974. He was a Hydrologist in the Michigan District beginning in 1979 and Retired from the USGS in 1986.



Peggy Marlene (Harris) Livesay, 85 (wife of USGS Retiree Robert Livesay), passed away on May 6, 2021, at her home in Oak Ridge, TN. She was born February 21, 1936, in Newton, IL, the oldest child of Kenneth Harris and Ruth Kathaleen Warford Harris. Marlene graduated from Unity High School in Tolono, IL, and went on to attend secretarial school before working for Dowell Agricultural Specialists for thirteen years. She held various other jobs as she traveled around the country with Robert. Her interests were primarily family, church, sewing, reading, and camping. She was preceded in death by her parents and a sister. Marlene is survived by her husband of 68 years, Robert Douglas Livesay, her daughter, three grandchildren, and three great-grandchildren. A Memorial Service was held at Oak Ridge Baptist Church

on Friday, May 14, 2021. A graveside ceremony and burial will be held at Happy Valley Memorial Gardens, Glasgow, KY on Saturday, May 15, 2021.

Robert Livesay, age 85, passed away at Methodist Medical Center in Oak Ridge, TN on December 23, 2021, at Methodist Memorial Hospital. Robert was born on November 7, 1936. He worked for the USGS and transferred to Peoria, IL approx. 1974 until that office closed in 1975. He later worked on the Water quality of the Big South Fork in TN, pertaining to the flood events in TN. In 1975, Robert worked on the Lower Colorado River Project. He was the Yuma Subdistrict Chief, AZ in 1979, primarily in the Hydrologic Data Collection Unit. Then back to the Knoxville Subdistrict, TN from 1980-89 Robert leaves behind his daughter, three grandchildren and three great-grandchildren. His wife Marlene preceded him in death last May. The memorial service will be held at Oak Ridge Baptist Church in Oak Ridge TN on January 15, 2022.



Joan J. Olsen, 88, passed away on December 19, 2021, 2021 in Littleton, CO. She was born in Denver, CO where she lived in the city and suburbs her entire life. She proudly called Denver, Lakewood, and Littleton her home. Joan was employed in the Colorado District in the Administrative Services Section. Joan spent most of her professional career at the Denver Federal Center and retired from USGS in 1992. Joan lived a thoughtful and selfless life, always putting her family and friends first. She was caring and kind always calling to check on you and yours. We were grateful and blessed to receive her love and love her back. Joan's hobbies included painting, traveling, flower arranging, playing cards and games, and

enjoying the company of lifelong friends. Joan thrived at making new friends. Joan was preceded in death by her husband of 61 years, Raymond Olsen. She is survived by her two sons and a grandson. A Celebration of Life service was held on January 8, 2022, at the Concordia, Lake Event Center, Littleton, CO 80123.



Jesse Manley McNellis, 93, passed away November 10, 2021, at his home in Overland Park, KS. Jesse was born March 5, 1928, in Garden City, KS the son of John Maurice and Lula Evelyn McNellis. Jesse was born in the flatlands of Kansas and served in the U.S. Army, attended Garden City Junior College and ultimately graduating from the University of Kansas. There, he met the love of his life, his "Pearl of the Pacific", Frances (Fran) Fusae Hara, from the Big Island of Hawaii. He went against cultural norms at the time and interracial married. They were married for 62 years. He spent his working years in the USGS as a geohydrologist. Jesse retired from USGS in 1989. He was so much more. If you were part of his circle, well,

you could do no wrong, and if you did, forgiveness would be given without recourse and completely forgotten. If you were not...well bless your heart. He loved hard and worked hard. He embodied humility and was a working example of "not thinking less of yourself but thinking of yourself less." He had a tremendous singing voice and often broke into song. He had a loud voice too. Once at a Jayhawk basketball game, he shouted for the people in front of him to sit down. They did and the other side of the court did as well! Jesse was a long-time member of the Lawrence Breakfast Optimist Club and served several years as President. A major fund-raising activity was selling Christmas Trees. Many times, he showed compassion by helping those who could not

afford the full price of a tree to acquire one, although it may not have been their first choice. He was passionate about his family, western Kansas, all things University of Kansas, scouting, traveling and reading. Jesse's early work with the USGS was county geologic mapping, ground water resources, and geomorphology. From there he transitioned to geologic and water quality computer applications. He hosted visiting scientists from China and the Middle East and traveled to Nepal to train local scientists. Ultimately, he was a major contributor to bringing minicomputer capabilities to WRD District Offices.

Jim Daniel shared these thoughts: Truly a gentle man. And the circle gets smaller.

The first time I met Jesse was when I was in the Indiana District office working on meandering streams. I was branching out into groundwater and was attending a Ground Water workshop in Denver. Jesse and Bill Hiss were on the program preaching the virtues of the new GW tool, computers. I asked him what I could do as project chief of an underfunded local project. He was very patient and tolerant as he explained how I could dip my toes in the new world on a shoestring. I always remembered that, even much later when he and I occasionally disagreed about something. Again, a truly gentle man. We are all better off to have known him.

Doug Posson shared these thoughts: Here are my first thoughts sent to mutual friends after they had shared brief anecdotes of their times with Jesse. There are so many ways he influenced the careers and lives of all of us and many others. In the USGS, he had credibility as an actual hydrologist/geologist and thus a serious guy, whereas I was a mere computer jock and recovering economist neither of which was considered a core competency in the science world. Jesse helped to change all that. Jesse stood by each of us so that people throughout the organization invited us in and would listen to us because they knew and trusted Jesse. Over time they knew and trusted each of us. I loved spending time with Jesse. I had the good fortune to do that many times as we went through the minicomputer procurements, benchmarking, installations, and training that all of us participated in. He mentored us in so many ways - with his charming smile, with the twinkle in his eyes reflecting friendships with each of us. Oh yes, and his stern counsel when needed. **Stan Longwill**, our WRD Research partner through it all, captured it when he said to Jesse: "You are the most well-adjusted person I've ever known." We are all so much better to have known Jesse. I know I am. RIP good buddy. You're in our hearts.

Steve Brady shared these thoughts: Jesse was coauthor along with Doug Posson and Stan Longwill on a feasibility study in 1980 for the use of minicomputers in the USGS. Published around 1980. The publication led to the first minicomputer purchases in the USGS. Kansas, Arizona, and New Jersey received Harris minicomputers and served as implementation test sites. Jesse was kind, thoughtful, and I was lucky to be able to call him a friend. Following are the projects that Jesse worked on the last 10 years of his career that I recall.

- Published feasibility study on use of minicomputer (USGS Open-File report)
- Major contributor to the World's Fair event in New Orleans
- Distributed Information System I - writing contracts that lead to the purchase of Prime minicomputers for all WRD offices
- Electronic Documents (EDOC) – wrote functional and system requirements that provided WRD with its first email system
- Distributed Information System II (DIS-II) - writing contracts that lead to the purchase of Data General UNIX workstations for WRD

Jesse had three children: John, Michael, and Mary and 13 grandchildren. He was preceded in death by his wife, parents, and sister Marian Johnson. He is survived by his three children, their spouses and 13 grandchildren who live in Texas, Kansas, Oklahoma, and Arizona. His impact goes far beyond these geographical boundaries.

-William J. Carswell, Jr., PhD, National Geospatial Program Director, Reston, VA



Carmen Reed-Parker, 73 passed away on November 23, 2021, in Conifer, CO, after a prolonged illness fighting an auto-immune issue. Carmen was born on January 22, 1948, and grew up in Alexandria, PA. She attended elementary, middle, and high school in Alexandria and attended college at Penn State University. She graduated with a degree in chemistry and worked as a chemist all her life. After college she moved to Colorado and met her future husband Millard Parker in Steamboat Springs, CO. They moved to west Denver metro area in 1990 and married on June 20, 1992. She worked as a chemist for the USGS National Water Quality Laboratory in Denver, CO. She retired in March 2018. Carmen and Millard enjoyed traveling going to Mexico every year. They made many trips to Europe. Her hobbies include skiing, snorkeling, photography, photo albums, growing plants and kitty cats. She is survived by her husband Millard, a nephew and a niece and her Starlight. A graveside service was held in Deerfield, KS on November 14, 2021. Services will be held at a later date.



Gene Willis Parker, 69, passed away on October 10th, 2021, while diving in Lake Winnepesaukee. He is survived by the love of his life and wife of 46 years, Joanne, and his children, Jennifer and her husband, Dennis Keyes of Newport News, VA and Eric and his wife Melanie, of Tewksbury, MA. A loving, honorable man and pillar of the community, Gene was known for his upbeat disposition and calm demeanor and will be missed by friends, family, and coworkers alike. Gene was born in Bangor, ME on January 18th, 1952, to Nettie and Clarence "Willis" Parker and grew up in the small town of

Kenduskeag, ME with his brother Michael and sister Judy. He received his Bachelor of Science in secondary education in Math/Physics from the University of Maine at Farmington in 1974, and his Master of Science in Civil and Environmental Engineering from Northeastern University in 1995. Gene had an extensive career in government service spanning over 40 years with the USGS as a Hydrologist/Mathematician. Gene made many contributions to a wide range of hydrologic investigations during his career with the USGS, including several studies to estimate stream reaeration coefficients, dye-tracer tests to determine stream time-of-travel and dispersion characteristics, and evaluations of streamflow requirements for habitat protection. For several years he led the Massachusetts bridge-scour program, a very complex project with a large staff. In addition to his USGS colleagues, Gene developed strong collaborations and friendships with many of our state partners during his career. In 2014 Gene retired to spend more time with his wife Joanne and their three Golden Retrievers at their lake house in East Wakefield, NH where he would spend the rest of his life. Gene had many personal achievements for which he will be remembered: Boy Scout leader, soccer coach, avid reader, artist, and prominent member of the Belleau Lake Board of Directors and community. In 2018 Gene started scuba diving which quickly grew into his passion. Certified as a Master SCUBA Diver, Gene would dive frequently in Lake Winnepesaukee and as the Milfoil Director for Belleau Lake. Gene had a very full life and will be remembered by all who knew him. Gene was honored at Association Park on Belleau Lake in East Wakefield, NH on October 17th, 2021.



Dr. Nancy Simon, passed away on December 4, 2021. She began work for the USGS in the late 1970's when she joined the Potomac River Estuary Study, the forerunner of the present Chesapeake Bay study. Her early research focused on nitrogen speciation and cycling between sediments and the water column in large areas of shallow water. Following the Potomac River study, Dr. Simon joined the Toxics Program's study of cycling of chromium III and VI in sediment interstitial waters in Calcasieu, Louisiana. Her study of the role of algae in the cycling of metals was extended in the 1990's to the USGS South Florida Everglades study of mercury in the environment. Phosphorus cycling in the Chesapeake Bay watershed became the focus of Dr. Simon's next major study. Her data from the sediment analyses of tributaries to the Chesapeake Bay also raised the question of whether contaminants in the sediment would affect its microbial activity. This resulted in a study of bottom sediments in which significant concentrations of oxytetracycline were identified. More recently, Dr. Simon shifted her research to Upper Klamath Lake, Oregon. Her research and her comprehensive state-of-the-art sediment analyses contributed to the understanding of phosphorus cycling, and the controls affecting algal blooms and eutrophication in the lake. Dr. Simon was a careful and talented analytical chemist. She developed excellent analytical methods (e.g., her applications of supercritical CO₂ extraction for sediment analyses) and received approval for a patent application for a simple technique to extract arsenic out of water. Working with scientists at USGS and at the National Institute for Science and Technology, she led the development of hyperspectral microscopy and imaging as a novel lab-tested technique to help the rapid identification of algae and algal toxins. She also contributed her expertise to the American Chemical Society (ACS) by serving for multiple years on an ACS committee charged with the maintenance and development of standards for laboratory reagents. Dr. Simon cared deeply about helping others, and especially young people. She was an active proponent of science in her community, and through her church. She recruited, trained, and mentored over forty students during her USGS career. The students who came to her lab were put on a path for further success. This could be seen through their admission to prestigious schools, programs, and/or government institutions, such as the FBI Forensics laboratory. Nancy also provided immense help to her USGS colleagues and to WMA management, for example through her service as a Research Advisor for the National Research Program in Hydrology.

Nancy's colleagues at the USGS admired her spirit and her humanity. This is exemplified by the following reaction to her passing: *Nancy was a quality human being whom I admired not only for her gentle soul and constant willingness to help others, but also for her grit and determination. I don't know too many scientists who started a scientific career after raising a family, who cared so much about science that you could find them on nights and weekends doing their own laboratory analyses, and who persevered to continue being engaged in and by science despite severe and progressively worsening physical ailments. I feel that my life was greatly enhanced by knowing Nancy.*



Larry J. Slack, 77, passed away on October 1, 2021, at his home in Brandon, MS, after long battle with cancer. He was born on August 12, 1944 and grew up in Missouri. He retired in 2005 after 37 years of service. He began his career with USGS in 1967 in North Carolina, and then worked in Florida, Iowa, Oklahoma, Alabama, and Colorado before he came to Mississippi in 1988. Query of USGS Publications Warehouse, resulted in twenty-eight reports that Larry authored, but know that he did more for conferences and elsewhere. He was instrumental in providing many colleague reviews, as well as many editorial reviews, that he did not get direct credit for, but did willingly knowing that it was needed to ensure and maintain the USGS reliability for technical and unbiased scientific publications. Some of his duties in Mississippi throughout the last 16-17 years of his career included serving as Water-Quality Specialist, Reports Specialist and Hydrologic Investigations Section Chief. He also filled in and helped with work and reports for Southeast Region. Larry is survived by his wife LaRue of almost 50 years, three sons, one daughter, ten grandchildren and one great grandchild.

Van Wilson, who worked with and under Larry in the Mississippi Water Science Center, writes: "Larry was a good Christian Man. His wit and humor were greatly missed after he retired in 2005. Always enjoyed talking with him about work and many other subjects. Also enjoyed talking with him after he retired and wish I'd done better at keeping in touch." Van and Larry's wife put together the above memorial.

Phil Turnipseed writes: He was instrumental in my career, greatly improved my technical writing skills, and was a genuine friend in times of need. He and I carpooled for years, times I will always cherish, not to mention, we had solved all of the world's problems



Jack Edward Veenhuis, 74, longtime resident of East Mountain, NM recently passed away due to complications of Parkinson's disease on December 6, 2021. Jack was born April 10, 1947, in Benton Harbor, MI. He received a degree in Physical Science from his alma mater Michigan State University. Later he pursued a Masters' degree in Watershed Science at Colorado State University. Jack began his career in Lakewood, CO evaluating the rainfall-runoff data for the Denver Federal Center. In 1983 he moved to Austin, Texas where he researched the effects of urbanization on flooding in the Austin metropolitan area as well as the water quality in streams in the area. In 1990 he relocated to Tijeras, NM. There he monitored the Dome fires' effects on streamflow in Frijoles and Capulin Canyons and the surrounding Dome Wilderness area in Bandelier National Forest.

Jack was a gifted scientist having published multiple research studies. He retired in the East Mountains as a well-respected and loved hydrologist for the U.S. Geological Survey. Jack enjoyed listening to and performing live music. He was crazy about the Michigan State Spartans. He combined both passions by playing saxophone in the Michigan State University marching band. His steadfast and boundless love for the outdoors was evidenced by his dedication to bicycling, rowing, and hiking. Jack inspired a love for soccer while coaching youth and school soccer leagues. During his 20 years of coaching, he coached both of his children's soccer teams as well as East Mountain High School soccer. Jack gave much of himself to animal welfare and rescued multiple dogs throughout the years. He loved his dogs to the very end, and we are certain there were many paws welcoming Jack at the rainbow bridge. A memorial service will be held at a later date.

-Thanks To Rodger Ferreira for obtaining this writeup from one of Jack's friends.

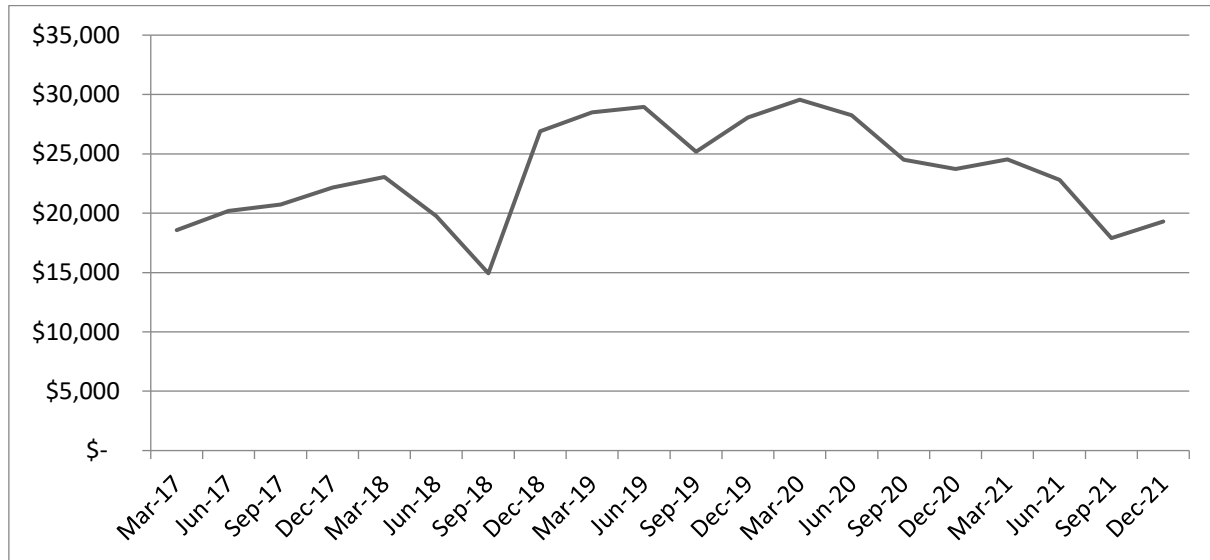
Robert W. Wylie passed away on November 18th, 2021, at Advent Health hospital in Wesley Chapel, FL His wife, Madalyn, wanted me to write you to let you know. His career spanned from the late 1950's starting as the USGS Subdistrict Chief in Mineola, NY (as indicated in the WRD History Volume VI 1957-1966). Robert was also mentioned in the Tampa Bay Subdistrict Office (as indicated in the WRD History Volume 1979-1994). He retired in 1995 from the USGS. He is survived by his loving family, his wife: Madalyn, son, three dearly beloved grandchildren, and a sister. Bob was a kind, loving, generous soul, who loved his lifelong association with the Boy Scouts of America and his career with the USGS. He was laid to rest at the Florida National Cemetery in Bushnell with military honors. **NOTE:** Also, they moved and since my mom has lost her vision, there is no need to keep sending the hard copy of the newsletter.

-Roy Wylie, son of Robert.

TREASURER'S REPORT, FOURTH QUARTER 2021

Treasurer Cathy Hill reports the organization had \$19,300 at the end of the fourth quarter, 2021. Special thanks for contributions above dues to Ronald Rathburn, Bill Harkness, Charles Appel, Marv Fretwell, Bob Hirsch, Wayne Webb, Kathy Wilson, Dot Niles, Al Rutledge, John Stamer, Bill Carswell, and Chet Thomas. Many thanks for your generosity. These contributions go directly to the Scholarship fund.

USGS Retirees' Budget 2017 – 2021



WRD RETIREES' EXPENSES 2019-2021

Expenses	2019	2020	2021
Qrtly Newsletter	1,260	1,369	2,371
Directory	1,295	1,100	1,000
PO Box	136	140	150
State Corp Comm. Renewal	25	35	25
Scholarships	4,001	6,816	7,403
Convert old VCR tapes to CDs	203	437	0
STEP lunch thank you	116	0	0
Annual Adobe license	155	155	155
Postage/Supplies	0	0	150
Total Expenses	7,191	10,052	11,254

Not included: \$2,000 to the 2020 Reunion Committee.

Historically we have gotten these funds back after the Reunion.

DIRECTORY

NEW MEMBERS

Arnold, Terri L. (21) (Galen) – Decatur, IL
Benely, Robert D. (14) (Anna Wilder) – Sandia Park, NM
Brigham, Mark E. (21) (Judy) – Andover, MN
Bird, Judy D. (A) (Coleman) – Chevy Chase, MD
Campbell, Annette M. (20) (Michael D.) – Waikoloa, HI
Debrewer, Linda M. (A) – Reston, VA
Dinicola, Richard 'Rick' (21) (Karen) – Tacoma, WA
Eckhardt, David. AV (21) (Marie) – Aurora, NY
Meyer, Jane E. (21) – Reno, NV
Orzol, Leonard. L. 'Len' (22) (Lisa B. Rosenthal) – Corvallis, OR
Reiser Jr., Robert G. 'Bob' (21) (Lisa) – Langhorne, PA
Skach-Mills, Kenneth 'Ken' (21) (Daniel) – Portland, OR

DIRECTORY CHANGES

Diehl, Tim (17) (Rita) – replace with new email address
Gann, E. Eugene 'Gene' (94) (Helen) – replace with new email address
Hindall, Sandra (Steve M.) (S) – requested to be removed as a member
Langford, R. Hal (85) – new address
Niles, Dorothy J. 'Dot' (87) – requested to be removed as a member
Ramsvick, Jancie (S) – new apartment number #209 (address remains the same)
Roberts, John W. (16) (Aileen) – new address
Wylie, Robert W. (95) (Madalyn) – per son's request, remove as a member