

UGS BOARD MEETING
Department of Natural Resources
Utah Geological Survey, Utah Core Research Center
240 N. Redwood Road, Salt Lake City
Thursday, April 11, 2024

The meeting of the UGS Board was called to order at 8:31 a.m.

ATTENDANCE

Board members: Elissa Richards – Chair, Riley Brinkerhoff, Rick Chesnut, David Garbrecht, Samuel Quigley, and Becky Hammond. Ken Fleck – Vice Chair attended remotely.

UGS Staff: Bill Keach, Mike Hylland, Russell Fillmore, Cheryl Wing, and Patrick Engberson were in attendance. Hugh Hurlow, Mark Milligan, and Ben Dlin attended to make their presentations.

ACTION ITEMS

Approval of Minutes from Previous Meeting

Riley Brinkerhoff motioned to approve the minutes of the January 17, 2024, UGS Board meeting. David Garbrecht seconded the motion. The Board voted unanimous, and the motion carried.

Formal Approval of Project Proposals

Enclosed in the materials is the Contract Proposal spreadsheet from 2019 forward. This is a good indicator of how the survey is doing with outside funding awards, both federal funds and dedicated credits, and what's on the horizon. Although contract proposals for external funding are provisionally approved by the Board by email, they require formal approval at the next Board meeting. The proposals are:

National Groundwater Monitoring Network Chemistry and Water Level Support; funding from USGS; new funding to the UGS \$49,796.24; total project funding \$64,167.46; estimated start date 7/15/2024; estimated end date 6/30/2026.

The Uinta-Piceance Basin Carbon Management and Community Engagement Partnership; funding from the University of Utah (DOE pass thru); new funding to the UGS \$150,000; total project funding \$187,500; estimated start date 9/1/2024; estimated end date 9/1/2027.

Monitoring Hydrologic and Ecological Benefits of Wetland Impoundments; funding from The Nature Conservancy; new funding to the UGS \$46,851.91; total project funding \$93,703.83; estimated start date March 2024; estimated end date December 2026.

Great Salt Lake Lithium Resource and Groundwater Inflow Investigation; funding from FFSL; new funding to the UGS \$73,060; total project funding \$91,325; estimated start date 7/1/2024; estimated end date 6/30/2025.

CarbonSAFE Phase II: Storage Complex Feasibility Rocky Mountain Utah (Drunkards Wash); funding from the University of Utah (DOE Pass Thru); new funding to the UGS \$120,000; total project funding \$150,000; estimated start date January 2025; estimated end date December 2026.

CarbonSAFE Phase II: Storage Complex Feasibility Basin and Range Southwest Utah; funding from the University of Utah (DOE Pass Thru); new funding to the UGS \$400,000; total project funding \$500,000; estimated start date January 2025; estimated end date December 2026.

EarthMRI Mine Waste Project; funding from the USGS; new funding to the UGS \$353,846.46; total project funding \$353,846.46; estimated start date 7/1/2024; estimated end date 6/30/2026.

Paleontology Resources Database; funding from the BLM; new funding to the UGS \$28,733.55; total project funding \$57,467.10; estimated start date 10/1/2024; estimated end date 12/31/2026.

Northeastern San Rafael Swell Mid-Mesozoic Paleontological Survey; funding from the BLM; new funding to the UGS \$19,162.65; total project funding \$38,325.30; estimated start date 10/1/2024; estimated end date 12/31/2025.

Sam Quigley motioned to formally approve the project proposals. Riley Brinkerhoff seconded the motion. The Board voted, and the motion carried.

DIRECTOR'S REPORT

Personnel Changes

Promotion:

Diane Menuz – Program Manager/Senior Scientist, Wetlands

New hires:

Mike Hohmeier – Geo Tech, Hazards

Jamie Haslam – Geo Tech, Hazards

Upcoming Retirements:

Mike Hylland – Deputy Director

Recent Activities – Looking Forward

Association of American State Geologists –

The UGS will be hosting the annual meeting in Park City, June 1-6. This will be a great opportunity to showcase Utah to geologists from around the country, both from state surveys and multiple federal agencies. Highlights include multiple field trips to various parts of the state.

Pre-Meeting Field Trip - Diverse Geology of Northeast Utah—Energy, Dinosaurs, Microbialites, and More! Includes dinner on Saturday night in the atrium of Dinosaur National Monument. Jim Kirkland will be speaking.

Mid-Meeting Field Trip - Geologic Overview of the Central Wasatch Range and Salt Lake Valley. Last stop is a tour of the State Capitol building and dinner in the Rotunda.

Post- Meeting Field Trip - Water Issues and Geologic Hazards on the Wasatch Back

Energy and Minerals –

Our DOE funded Utah Statewide Carbon Storage Assessment project (PI: Gabi St. Pierre) went under contract in mid-February and we held our official kick-off meeting with the project team on April 3. This will be a two-year project (\$1.1 million) and includes colleagues from the University of Utah (Geology Dept., Anthropology Dept., Sociology Dept., and EGI).

USGS has recommended for award an Alunite resource project proposed by Andrew Rupke (\$330,000 for 3 years).

We are working through the State of Utah procurement process to get a company under contract to collect additional bathymetric lidar data across Great Salt Lake and Bear Lake. This funding (~\$1.8 million) was awarded to UGS during last year's legislative session. We are working with several interested parties (USGS, Ducks Unlimited, GSLAC, etc.) to make sure priorities are being met and that we maximize the value of this new dataset.

The UGS E&M group was awarded \$400,000 from this year's legislative session to fund research related to understanding Utah's critical mineral resources. Stephanie Mills and Andrew Rupke have created a strategic plan for this new funding and we will be hiring a new Project Geologist and Geological Technician to help meet our goals.

On a related front, the State Legislature passed a bill requiring the Division of Oil, Gas and Mining to complete a statewide assessment of aggregates. This will require mapping of the resources, which will most likely be done by the UGS.

Geologic Hazards –

During Quarter 3 of FY2024, the UGS Geologic Hazards Program supported the passage of House Bill 384 (Utah Geological Survey Data Submission Amendments) that requires local governments to submit final geologic and geotechnical reports to the UGS for archiving. These reports are used as part of the process to develop detailed geologic hazard maps by the UGS and by many geotechnical consultants and others on infrastructure projects. Unfortunately, the Utah Legislature allowed the Utah Seismic Safety Commission to sunset (will no longer exist) as of January 1, 2025, due to opposition in the Utah Senate. We hosted the Utah Quaternary Fault Parameters Working Group and Basin and Range Province Earthquake Working Group meetings in February, which were both well attended. In addition, over 15,000 images were added to the *Utah Aerial Imagery Database*.

Groundwater & Wetlands–

The wetlands section was awarded all three of its EPA Program Development Grants:

	TOTAL	PARTNER	UGS
<i>Resources to support wetland protections in Utah</i>	\$333,249	\$249,937	\$83,312
<i>Wetland mapping to assess trends and restoration opportunities in the Duchesne Basin</i>	\$333,317	\$249,988	\$83,329
<i>Updating Utah’s wetland assessment methods to meet management, restoration, and community needs.</i>	\$332,543	\$249,407	\$83,136

Diane Menuz has been promoted to UGS Program Manager/Senior Scientist following a minor modification of the existing Geologic Program Manager/Senior Scientist position description to include wetlands specialty and waive the geology degree and professional geologist license requirements on a case-by-case basis. Peter Goodwin has been (or will soon be) promoted from Program Specialist II to Program Specialist III.

The groundwater section published findings of a 5-year project, "Characterization of Groundwater in Johns and Emery Valleys, Garfield and Kane County, Utah, with Emphasis on the Groundwater Budget and Groundwater–Surface-water Interaction". Final reports for the following studies are in progress: 1) Pahvant Valley Hydrogeology & Water Budget; 2) Matheson Wetlands Preserve Water Budget, Brine Layer Monitoring, Vegetation Health, and Imagery Analysis; and 3) GSL Shorelands Preserve Water Budget and Vegetation.

Geologic Mapping & Paleontology –

Mapping

The Mapping Group is working through our review season. This is a new timing and workflow for reviews that includes a one-week turnaround for each of the 5 formal review steps as well as a new GIS and cartography review step. The goal of this is to end the No Cost Extension merry-go-round that the group has been on for decades. So far, we have a number of high quality 7.5’ quadrangle maps in the works including Midvale, Vernal NE, Kamas, Parowan, Ft. Douglas, Plain City, and Ogden Bay. The Mapping Group has also been doing field reviews for each of these quads and others. Several EDMAP projects have recently been funded including detailed structural study of the low-angle normal faults in the Beaver Dam Mountains and a statewide map of periglacial and glacial deposits.

We recently received our funding announcement for our STATEMAP proposal. We were funded in the amount of \$645k from the USGS (\$1.29 M total State and Fed). This is ~\$20k more than

last year and therefore our largest STATEMAP grant ever!? This success is shared by everyone who contributed to this proposal.

Paleontology

The Paleontology Group is working on two separate BLM grant proposals. One will fund ongoing paleo database work, and another will focus on new dinosaur site prospecting in the Cedar Mountain Formation in the northern part of the San Rafael Swell. The state paleontologist gave a recent lecture on all things dinosaurs to an exclusive audience at the Alta Club.

Geologic Information & Outreach –

GIO is busy preparing the *Survey Notes* UGS 75th anniversary edition, planning two guest trips for the AASG meeting, and promoting the Utah ShakeOut on April 18th.

As part of the Mapping Program's STATEMAP grant GIO and DMP geologists have compiled a database with over 700 potential Utah Geoheritage sites. This is an all-inclusive list that will next be ranked and winnowed down to include only those that best meet present and future educational, scientific, aesthetic, cultural, and economic needs.

Working with the University of Utah's STEM Community Alliance Program (a youth-in-custody program), Jackson Smith presented a "Geologic Story of Utah." The youth were attentive, engaged, and even stayed past the end of their class time to hear all of his presentation. He also got glowing reviews from the STEMCAP administrator that accompanied him. Jackson is creating 4 presentations: Geologic Story of Utah, Geologic Timeline Across America, Rock Dating, and the Rock Cycle, which we plan to make available for all staff for any future outreach.

We printed 6000 copies of the *2024 Calendar of Utah Geology* at a cost of \$14,700, and sold 4,034 of them for a total revenue of \$28,928. The calendars promoted UGS, educated the public and legislators, and turned a \$14,228 profit.

The GIO editorial team has worked hard preparing many publications, videos, and social media posts. Highlights include:

The Changing Bonneville Salt Flats, by Jeremiah Bernau. An accompanying online story map will go live at the end of April. <https://doi.org/10.34191/PI-106>

Guide for the Preparation of Reports for the Utah Geological Survey, Fourth Edition, by Stephanie M. Carney, et. al., <https://doi.org/10.34191/C-137>

Echando Raíces en Tierra de Terremotos Su Manual Para Terremotos en Utah, https://ugspub.nr.utah.gov/publications/non_lib_pubs/putting-down-roots.pdf

On the Feasibility of Implementing an Earthquake Early Warning (EEW) System in Utah, by the Utah Seismic Safety Commission, <https://doi.org/10.34191/EEW-2023>

A spotlight video on Employee of the Year, Paul Inkenbrandt, released on social media, <https://www.linkedin.com/feed/update/urn:li:ugcPost:7174359004612112384/>

Our annual geology Valentines, which were once again a hit with social media followers and bookstore customers. <https://geology.utah.gov/docs/pdf/UGS-Valentines-2024.pdf>

From January to March of this year the bookstore sold and distributed over 825 state park passes, valued at \$33,675. Our commission is 10%, only \$3,375. Our booth at Outdoor Recreation Day on the Hill was well attended by multiple legislative staff (fed and state) and other organizations. Bookstore manager, Torri Duncan, will be moving upstairs to work with the Hazards program. We are considering how best to fill her position.

Data Management

Continue to be busy on many projects.

Rachel Willmore joined our team in January and is making excellent progress on creating the Dashboard of Utah's Groundwater with the assistance of Mackenzie. The expected first release is scheduled for July 2024. Lance Weaver and Abby Mangum have updated the Geologic Map Portal, expanding its map collection and introducing new features to allow users to search for geologic units by age and name. Additionally, the statewide active alluvial-fan inventory, mapped by J.E. Fuller Hydrology & Geomorphology, has been integrated into the Geologic Hazards Portal as a new layer. Updates to flooding, landslide, and problem soil and rock hazard data layers have also been incorporated into the Geologic Hazards Portal.

Mackenzie, Jackie, and Marshall have collaborated to develop an outstanding AASG Conference homepage and event-registration system for the upcoming June conference.

Mackenzie is also involved in multiple projects at UGS, including a grant-funded initiative to identify "Problematic Place Names" throughout Utah and facilitating the review of a new website about the Bonneville Salt Flats. She is also building a new website for the Putting Down Roots application - it is expected to be launched before the end of the fiscal year.

Clinton Lunn is making significant strides in creating a new and improved user interface for future UGS web mapping applications. He is utilizing React, a modern JavaScript framework, to enhance the user experience with features such as a more user-friendly layer list and legend, among other UI improvements.

Behind the scenes, Jay Hill and Nate Payne play pivotal roles in developing the code for various web applications. Their recent projects include uploading geologic maps to an open-source database and developing an open-source application to serve this data to our web applications seamlessly.

Abby Mangum, who joined DMP in 2023, has quickly adapted to her role, contributing to fixing problem maps and adding newly published geologic maps to the Geologic Map Portal. She has also been instrumental in creating maps for the AASG Conference and identifying new RockHounder locations for field season.

Cedar City office – Please see the separate report from Tyler and Lance

Funding and Budget –

Financially, the UGS is in good shape. Federal and other outside funding is strong. The UGS' challenge to pursuing additional outside funding is limited by its ability to fund internal staff to satisfy 'match' requirements. It is anticipated that UGS contract billings will be less than in years past due to project and funding delays. As part of HB2, New Fiscal Year Supplemental Appropriations Act, the Legislature provided \$400,000 of one-time funding to conduct a Critical Minerals study across the state.

Financial documents in the Board packet include the FY24 UGS Budget-Actual-Forecast Summary (through March 2024) and the Contracts Proposals Tracking. The UGS March forecast indicates a FY24 surplus of \$1,449,284. Part of that surplus estimate is \$260,201 obligated for the Great Salt Lake Groundwater studies and \$290,898 obligated for the Bonneville Salt Flats Restoration project. The balance of \$898,094 is general operating. It will need to be adjusted with a combination of reduced revenue estimates and increased expenditure to get it closer to the \$962,010 allowed. Contributing to this surplus is a decrease in personnel expenditures due to turnover savings.

We have non-lapse authority up to \$1,513,200: \$350,000 for the Great Salt Lake Groundwater studies, \$350,000 for the Bonneville Salt Flats Restoration project, and \$813,200 for general operating items.

Included in the Board packet is a Summary of all Budget Bills from the 2024 Legislative General Session. Among other benefit adjustments, there will be a 3% COLA, Pay-for-Performance funding, and funding for Health and Dental Cost increases.

2024 Legislative Session Update –

This was another prolific, record breaking legislative session with 940 bills and resolutions proposed, of which 591, or 63% passed. In 2023 the legislature proposed 933 and passed 575, or 62%.

Selected UGS relevant passed legislation:

- [HB 384](#), **Utah Geological Survey Data Submission Amendments**, Albrecht– Cities, counties, and other municipalities required to submit final geologic reports received with building permits, to the UGS. No funding included.
- [HB 519](#), **Department of Natural Resources Modifications**, Snider– Relevant and important for UGS–Mineral Lease funds to be deposited into the UGS Restricted

Account. When Mineral Lease funds are anomalously high UGS will no longer lapse funds. UGS can also have funds available for anomalously lean years. This will help stabilize the UGS budget.

- [HB 302](#), **Paleontological Landmark Amendments**, Elison– A state paleontological landmark may be designated by the Legislature and the governor through concurrent resolution (the UGS Board can still designate them as well). Allows for UGS to prepare a report on the impacts of a proposed landmark and submit it to the legislature and Governor.
- [HB 59](#), **Federal Funds Contingency Planning**, Ivory– Requires contingency plans for all UGS federal funding. This may be onerous for our contracts and grants analyst, Ben Dlin.
- [SB 135](#), **Advanced Air Mobility and Aeronautics Amendments**, Harper– The version that passed stipulates that drones flown for most UGS work can't be connected to the internet during flight. After flight data must be removed before internet connection. See bill for specific details.
- [HB 261](#), **Equal Opportunity Initiatives**, Hall– UGS reinvented the EDIA committee as the Growth and Employee Opportunity/GEO committee in response to this bill.
- [HB 502](#), **Critical Infrastructure and Mining**, Snider– Requires a state-wide aggregate study by OGM, who will contract with UGS. \$500,000 one-time funding. Initial findings due by November 1, 2024. Final findings due by January 21, 2025, the start of the legislative session.
- [SB 108](#), **Veteran Access to State Parks**, Kwan– Creates a pilot program for free state park passes for all vets. The bookstore could be impacted with increased traffic.
- [HB 621](#), **Utah Waterways Amendments**, Owens– Requires the Division of Water Resources and the State Board of Education to create K-12 resources on Utah's water cycle and water systems. Included information "may not include information on human-caused climate change."
- **Critical minerals research RFA** (Request for Appropriation), Albrecht– \$400,000 one-time funding for UGS to do more work on the location and quantity of critical minerals in Utah. The project is expected to take about three years to complete.

Selected UGS relevant failed legislation:

- [HB 47](#), **Utah Seismic Safety Commission Amendments**, Peterson– The Utah Seismic Safety Commission will sunset on January 1, 2025. The members may reform as a working group or taskforce without the legislature's official backing. #
- [HB 243](#), **Riparian Corridor Amendments**, Bennion– Required municipalities to include riparian areas in their general plans. To help implement these requirements, it provided funding for one full-time temporary (TL) position to be split between UGS and the Division of Forestry, Fire and State Lands. UGS was required to create a web-based riparian areas map of Utah.#
- **Earthquake Early Warning RFA**, Owens– \$5 million in one-time funding and \$1 million in ongoing funding.#

- **Utahraptor Megablock Preparation RFA–Not run.** A Utah Museum of Natural History and UGS white paper called for \$2 million in funding over five years. #

Proposed New UGS Policy

Ben Dlin addressed the board regarding Executive Order 13166 which requires all federally funded recipients maintain a policy regarding resources for Limited English Proficiency individuals. Ben has drafted a policy to meet this requirement and submitted the policy for approval from the board. He presented the following for the Board's consideration.

Policy for Providing Resources for Limited English Proficient (LEP) Individuals in the Utah Geological Survey's Federally Funded Programs

Purpose: The Utah Geological Survey (UGS) recognizes the importance of ensuring meaningful access to its federally funded programs and activities for Limited English Proficient (LEP) individuals. This policy outlines the UGS's commitment to promoting inclusivity and accessibility while acknowledging budgetary constraints.

Scope: This policy applies to all federally funded programs, projects, and activities conducted or facilitated by the UGS.

Language Assistance Services: a. The UGS acknowledges the need for language assistance services to facilitate communication with LEP individuals participating in federally funded programs. b. Language assistance services may include interpretation services, translated documents, and other resources aimed at improving communication with LEP individuals.

Prioritization and Allocation of Resources: a. The UGS will prioritize the provision of language assistance services based on the availability of funding and the specific needs of LEP individuals participating in federally funded programs. b. The allocation of resources for language assistance services will be determined on a case-by-case basis, considering factors such as program importance, LEP population demographics, and budgetary considerations.

Implementation: a. The UGS will implement language assistance services "as funding permits," ensuring that resources are allocated responsibly and in accordance with federal guidelines. b. In situations where immediate language assistance is not feasible due to budgetary constraints, the UGS will explore alternative communication strategies to facilitate understanding and participation of LEP individuals in federally funded programs.

Monitoring and Evaluation: a. The UGS will periodically monitor and evaluate the effectiveness of language assistance services provided to LEP individuals in federally funded programs. b. Feedback from program participants, stakeholders, and relevant agencies will be considered in assessing the adequacy of language assistance services and identifying areas for improvement.

Compliance and Reporting: a. The UGS will comply with all federal regulations and guidelines regarding language access and LEP services in federally funded programs. b. Reports

detailing the implementation of language assistance services, including any challenges faced and improvements made, will be submitted to appropriate federal agencies as required.

Review and Revision: This policy will be reviewed regularly to ensure its effectiveness and relevance. Any necessary revisions or updates will be made to align with evolving best practices and regulatory requirements.

Non-Discrimination: The UGS reaffirms its commitment to non-discrimination and equal access to federally funded programs for all individuals, including those with limited English proficiency. Discrimination based on national origin or language barriers is strictly prohibited.

Riley Brinkerhoff motioned to approve the policy. Becky Hammond seconded the motion. The Board voted unanimous, and the motion carried.

UGS Board Field Trip

Field trip destinations were discussed further and tentatively planned to go to the Uinta Basin.

Board adjourned 11:36 am.