

An aerial photograph of a mountainous landscape. A river flows through the center, and a road runs along its right bank. The terrain is rugged with various shades of purple, pink, and green. The text 'FY2020 Annual Report' is overlaid in the bottom left corner.

# FY2020 Annual Report



THE  
GEOLOGICAL  
SOCIETY  
OF AMERICA®



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We are pleased to submit this report of GSA's fiscal year 2020 operations, including program activities, accomplishments, challenges, and innovations. Our mission is to provide the best service possible for you and your profession.

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Cover: Painted Desert, Arizona, USA. Photo by USGS on Unsplash.

In the American Southwest, transitions from one ecosystem to another can be dramatic and abrupt. This certainly is true in northern Arizona, USA, where the parched Painted Desert, shown here in a palette of purples, adjoins Sitgreaves National Forest (shades of green), a realm of pine woodlands with abundant wildlife. Within the Painted Desert lie the Hopi Buttes, a field of ancient volcanic cones, seen here as a scattering of dark, circular shapes near the top of the image.

### **Our Mission**

To advance geoscience research and discovery, service to society, stewardship of Earth, and the geosciences profession.

### **Our Vision**

To be the premier geological society supporting the global community in scientific discovery, communication, and application of geoscience knowledge.

# GSA Meeting the Challenges of a Changing World

*"The best-laid schemes of mice and men  
Go often askew..."—Robert Burns*

Just as we began to implement our exciting Decadal Strategic Plan, GSA found itself in the midst of the largest social changes in recent memory coupled to a global pandemic. Fortunately, our well-crafted strategic plan contains the necessary elements to address all of these challenges. The social changes that are upon us demand greater attention to how geoscientists do science and interact with and accept colleagues. GSA needs to try to be as diverse and inclusive as possible and clearly address any identified bias within our organization if we wish to remain viable, relevant, and robust.

## GSA CODE OF ETHICS STATEMENT AND ETHICAL COMPLAINTS

GSA expects our members to adhere to interactions that speak to collegiality, inclusiveness, and respect. Certainly concerns raised by the "Me Too Movement" apply to geosciences as well. To this end, GSA implemented a comprehensive Code of Ethics and Professional Conduct (<https://www.geosociety.org/gsa/membership/code-of-ethics/gsa/membership/code-of-ethics.aspx>) this past year. We developed a methodology for handling ethics complaints we receive regarding GSA member conduct. Should such conduct, whether inside or outside of our venues, have serious merit, an ad-hoc ethics panel (our ethics officer, our executive director, and past presidents) assesses the findings of fact and then brings them to Council for a decision. I urge all members to review our new ethics policies, which are online at <https://www.geosociety.org/ethics>.

## BLACK LIVES MATTER

Most recently, our nation has been painfully made aware of how serious institutional racism has persisted across America. Our Black students and colleagues literally face what has been described to me as "an existential decision" should they decide to pursue fieldwork in rural or even some suburban locations in America. To be honest, it took me a while to digest this information.

In June, GSA issued a statement (<https://www.geosociety.org/statement>) affirming our solidarity with our fellow Black, Indigenous, and People of Color (BIPOC) colleagues and their families in facing injustice. GSA supports the intents of the changes and initiatives we are seeing within the geoscience community, such as the *Notimeforsilence* petition, and we're actively focusing on improvements within our own organization. GSA Council continues to prioritize diversity, equity, and inclusion (DEI) because it is the right thing to do and leads to better science.

As we do better, perhaps more young People of Color will entertain the geosciences as a career path. The geosciences historically have not been as attractive to People of Color as other STEM disciplines. I will be serving on a panel discussion about what geoscience societies may do to help this situation at our 2020 annual meeting. I refer you to the following link for details on what we are already doing and how you might be able to participate: <https://www.geosociety.org/documents/gsa/diversity/dei-action-202006.pdf>.

## COVID-19 AND THE FUNDAMENTAL CHANGE IN HOW GEOSCIENCE MAY BE DONE IN THE FUTURE

The fundamental core missions of our Society consist of promoting geoscience, hosting meetings to present science, and facilitating our members to network and forge scientific collaborations and publish outstanding scientific contributions. Only the last of these missions has been relatively unaffected by COVID-19. All our administrative meetings, from Council on down, have been done virtually since March. All the in-person GSA spring Section Meetings were cancelled except for our South-Central Section Meeting, held in Fort Worth, Texas, USA. We did pivot the Duluth, Minnesota, USA, North-Central Section Meeting (NCGSA) from in-person to a successful virtual meeting. Our 2020 annual meeting will also be online.

GSA is not alone. The annual European Geosciences Union (EGU) met virtually instead of in Vienna, Austria, but even so,



thousands of papers were presented. I attended both EGU and NCGSA and gave an address at the latter. I found the science as good if not better than when I attended in real time. Why? Because speakers received far more questions than before, and more dialog ensued. I missed the in-person meetings to be sure, social and collaborative. Yet, I think opportunities will evolve from this pandemic, and GSA is moving to take advantage of them. Staff have been conducting webinars on subjects as wide ranging as geoscience careers and virtual field methods, and we anticipate our annual meeting, GSA 2020 Connects Online (<https://community.geosociety.org/gsa2020/home>), will be terrific if members give the virtual medium a chance. Do come! Present. Learning the online platform will not be onerous—even I can learn it. I am convinced more of our conferences or at least parts of our conferences will be presented online after COVID-19 becomes part of history. Too many geoscientists will have come to accept virtual as the norm, much as universities and colleges will have to have more online courses normatively.

## MEMBERSHIP

As GSA president, I've wanted to bring more applications-based science into GSA to both enrich the intellectual life of the Society and to attract members. To this end, I challenged GSA's members and its Divisions at my Presidential Address (GSA 2019 Annual Meeting in Phoenix, Arizona, USA) to become leaders in new initiatives to address how humanity can adapt to large-scale environmental changes caused by future climate disruption. GSA's Geology and Society Division has accepted this challenge, and I look forward to seeing what they will be doing to this end at our future meetings. I did identify cultural differences between application and discovery science that may be more of an impediment than intellectual differences in attracting

# Letter from the Executive Director

members from industry. But GSA has technical expertise across applications science through at least the Hydrogeology, Environmental and Engineering, and Geology and Society Divisions, so there remains untapped opportunity. I hope to initiate more conversations about possibilities to expand our membership beyond curiosity-driven science when I serve as past president this coming year.

It is clear that the new generation of young geoscientists wants to be engaged in decision-making processes earlier than my generation had expected and has different societal needs and expectations of what membership means than mine (albeit perhaps not as expressed in consensus fashion yet). GSA needs to respond to changes in expectations and the social cultures of our membership, while respecting those of the past if we want to remain relevant. I have every expectation we will do so.



**Donald I. Siegel**  
GSA President

## GSA 2021 MEMBERSHIP

**Renew by 1 November —  
Save 15%\* off dues**

<https://www.geosociety.org/members>

\* applies to those in high-income countries/territories

To all GSA members and GSA staff,

Even though the Society has weathered pandemics and wars and social strife in its long past, we who are here presently are experiencing most of these challenges for the first time. I want to applaud GSA staff for their professionalism and grit in stepping up to keep our operations going expertly and smoothly. I also want to recognize GSA leadership for their crucial support and advice as we weather the challenges of COVID-19.

The fiscal year started out in July 2019 with our directions firmly in place. GSA Council had approved the broad Decadal Strategic Plan (<https://www.geosociety.org/documents/gsa/about/2019-strategic-plan.pdf>), and we at headquarters were deep into developing the detailed implementation activities. This work included prioritizing objectives and goals and identifying and redirecting resources. Throughout this annual report, you will see examples of initial implementation of strategic plan actions especially in the meetings and events; diversity, equity, and inclusion actions; membership benefits and retention; and geoscience policy. These were some of the areas where we have already made advances, but it doesn't stop there of course.

In line with strategic actions, GSA Council approved the recommendations of the Ad Hoc Campus Vision Committee that it was time to relocate the GSA operations headquarters. This includes selling the existing GSA headquarters campus located in Boulder, Colorado, USA. The almost 50-year-old building and surrounding grounds require major renovations to be useful for occupation and to comply with the city of Boulder's exacting energy and sustainable building standards. It simply would not be in the best interests of GSA to invest funds that would take decades to recoup if at all. The plan is to sell the property and lease a more efficient office space somewhere in the Denver-Boulder corridor, using the dividends from the endowed sale funds to cover expenses. As with most businesses in the world right now, GSA staff are working almost entirely remotely, and we are finding that space needs assumptions we made in January are already out of date. It will not be easy for many of us who have

worked or volunteered for GSA to leave such an iconic space, but we understand the fiduciary reasons for such a decision. We have begun the process of assessing the values of the many GSA belongings and reducing our warehoused materials.

As GSA President Don Siegel notes in his report, much of the second half of this fiscal year has been consumed by responding to the global crisis. Being in response mode brings on anxiety and frustration, whether you are trying to keep your career afloat or trying to maintain your family life. GSA has stepped up to offer as much assistance to our members and the geoscience community as we can during these stressful times. We have conducted a special student assistance grant program (GSA COVID-19 Assistance and Relief Effort for Students [GSA CARES]), extended the term for early career professional membership, made our many educational and career resources open to all, reached out to our Associated Societies to offer webinars and information sharing, and, in general, worked to be a resource for the geosciences. We will continue to do so of course.

Our focus now is to define the "new normal" for GSA and the geosciences and to fit our long-term plans to it. Along the way, we will continue to serve you, our members, and the geoscience community. You can help with that by volunteering to serve as GSA leaders, nominating deserving colleagues for awards and medals, encouraging your students and early career colleagues to join and participate, and certainly using GSA's publications and meetings to share your science.



**Vicki S. McConnell**  
GSA Executive  
Director

## SPONSORS

# Broadening Corporate and Organizational Relationships

GSA and the GSA Foundation collaborate in a range of sponsorships supporting the annual meeting and more: field camp excellence recognition, geoscience students' field camp attendance, diversity programs, and a number of in-kind services and member benefits, which are all made possible thanks to partners and sponsors. We are pleased to include companies in a more integrated way: technical sessions, short courses, and field camps are searchable by four different industry tracks, and applied geoscience sessions are integrated into the annual meeting. Additionally, representatives from our corporate partners have served on proposal teams, strategic planning task forces,

and our careers program committee, and even attended a Foundation field trip along with individual donors.

The combined efforts of business and science can make a greater difference than any organization alone. As GSA continues to convey its relevance to the private sector, we look forward to expanding corporate relationships in a variety of industries. Together, we can foster the growth of current and future leaders in the geoscience community, engaging business and industry as a positive force to advance science, stewardship, and service.

We thank the companies and organizations that join us in the meaningful impacts of partnership. Asterisks indicate in-kind donations.

## Thank You FY2020 Sponsors

### DOUBLE DIAMOND



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### PLATINUM



Chesapeake

### GOLD



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ASU Interplanetary Initiative



ASU School of Earth and Space Exploration



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Newmont Goldcorp



Sheridan

### BRONZE

GSA Cordilleran Section

GSA North-Central Section

GSA Rocky Mountain Section

Hess Corporation

Paleontological Society

### CONTRIBUTOR

Estwing\*  
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Brunton

Real World Globes\*  
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# Focusing on Ethics, Diversity, and Inclusion

Ethics, diversity, and inclusion are fundamental to GSA's vision. As a premier geological society, GSA plays a vital role—and has a responsibility—to build a more diverse, respectful, and inclusive space for all geoscientists to thrive. That is why we continue to focus on new ways to promote high ethical standards and implement strategies to increase diversity and engagement in the geosciences that we believe will lead to stronger and more innovative science.

## SELECTED ACCOMPLISHMENTS

Over the past year, we have taken several steps to advance ethics, diversity, and inclusion:

- **Code of Ethics & Professional Conduct.** GSA launched this new enforceable ethics policy to set a positive example for the geosciences profession and hold GSA members accountable for adhering to high ethical standards in all of their professional activities. An ethics committee ensures that all complaints are processed in a fair, consistent manner. As the final arbiter of all ethics cases, GSA Council has the authority to discipline or terminate GSA members who violate the Code of Ethics.
- **Respectful, Inclusive Scientific Events (RISE).** GSA established RISE in 2016 as a way to reinforce the Society's Events Code of Conduct. During the last fiscal year, we made several improvements, including policy changes to guard against excessive drinking, eliminating alcohol service during poster presentations, rolling out a new training program for RISE liaisons, and strengthening the procedures used to ensure that conduct concerns are handled appropriately.

- **Culture Task Force.** GSA invited members to participate in a culture task force charged with identifying practical steps to promote a safe, respectful, and inclusive culture at our meetings. We plan to implement several recommendations in connection with GSA 2020 Connects Online, including proactively inviting presenters with disabilities to request reasonable accommodations, sending a letter to all exhibitors to remind them to comply with GSA's Events Code of Conduct, offering training to session chairs on their roles in promoting safe and respectful sessions, and stepping up our communications of diversity commitments and actions. In August 2020, the culture task force submitted a full report with recommendations to GSA's president. The task force is led by the past chair of the Diversity in the Geosciences Committee and includes 13 members, with 61% from BIPOC (Black, Indigenous, and People of Color) groups.
- **Grants to Support Ethics, Diversity, and Inclusion.** GSA was awarded a three-year grant from the National Science Foundation (NSF) to increase the diversity of students who apply for and receive research grants. To achieve this goal, GSA is altering its recruiting, application, and evaluation procedures. GSA also partnered with universities and our Associated Societies to pursue NSF funding to advance and accelerate cultural change in the geosciences in order to broaden participation.
- **Investing in Diversity-Focused Scientific Conferences.** GSA is invested at diversity-focused conferences and partners with other earth-science organizations to promote opportunities and careers in the geosciences. This year, we advertised,

exhibited, and/or presented sessions at the National Association of Black Geoscientists (NABG), Society for the Advancement of Chicanos/Hispanics and Native Americans in Science (SACNAS), and American Indian and Science and Engineering Society (AISES) national conferences.

## CHALLENGES AND FUTURE OUTLOOK

We recognize that more work needs to be done to address the systemic barriers that prevent the full participation of everyone in our field. We are taking progressive actions and reviewing our activities (<https://www.geosociety.org/documents/gsa/diversity/dei-action-202006.pdf>) in order to make improvements within our own organization and develop an actionable path forward. On 1 June, GSA issued a statement affirming our solidarity with our fellow BIPOC colleagues and their families in facing injustice. A follow-up statement was issued by GSA's president and president-elect on 25 June that communicated the support for the recommendations, petitions, and letters offering changes and initiatives for the geoscience community. GSA leadership began this work by holding an Executive Committee retreat in August 2020 to develop action plans. Both statements are online at <https://www.geosociety.org/GSA/About/Diversity/GSA/About/Diversity.aspx>.

We will keep you informed about the outcome of this retreat and our ongoing efforts to ensure that GSA is positively supporting the ideals of ethics, diversity, and inclusion that will ultimately drive our science forward. We encourage all members to continue to challenge us to make a real difference.



## Diversity Makes Our Science Better and RISE Marks

GSA developed the Diversity Makes Our Science Better mark at the request of the Diversity Committee and the ad hoc Culture Task Force as a way for individual members to show support for the ideals embodied in the GSA position statements on diversity. The RISE mark was updated to adhere to GSA's brand standards. Please read the usage guidelines for GSA RISE & Diversity marks at <https://www.geosociety.org/documents/gsa/about/ethics/rise-usage-guidelines.pdf>.

## Student Advisory Council Annual Report (Sept. 2019–July 2020)

GSA is dedicated to remaining relevant and responsive to its large student membership and to providing leadership opportunities that will ensure future career success. GSA's Student Advisory Council (SAC) is composed of student representatives serving on behalf of Divisions, Sections, and most GSA Committees. SAC gives voice to student issues and concerns in a consequential way and is empowered with a direct line of communication with GSA Council.

FY20 chair, Alexandra Nagurney (Virginia Tech), reports that SAC has been busy working on a number of different initiatives over the past year. "After our annual business meeting in at the 2019 Annual Meeting in Phoenix, SAC members discussed how we can better communicate with the GSA student population. As a result, we created a Twitter account (@GSA\_SAC) that has allowed us to communicate with the broader GSA student community. While our plans to have more of a presence at Section Meetings were unfortunately derailed due to

### Member Benefits Include:

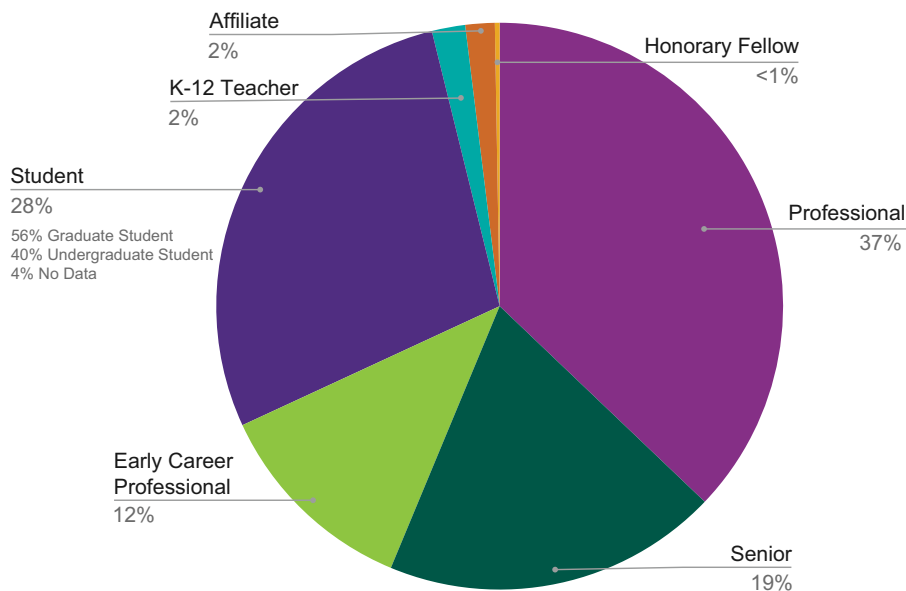
- Student and early career professional members qualify for reduced membership fees and reduced Division dues.

COVID-19, SAC is hard at work making informational material to help GSA students prepare virtual presentations for GSA 2020 Connects Online. This summer and fall, SAC and the On To the Future students have cosponsored virtual community hours each month to discuss how geosciences and GSA can become more inclusive and diverse. This fall, SAC is helping present a GeoCareers webinar on 'Demystifying the Graduate School Application Process' and continuing to work to support GSA students."

Students interested in serving on the SAC should contact their Division or Section and express an interest in being selected as a student representative. A simple email to the chair, secretary, or other officer will suffice. To apply as a student representative on a GSA Committee, complete the nomination form at <https://www.geosociety.org/gsa/about/leadership/gsa/about/sac.aspx>.

## Membership Demographics

Membership as of 31 December 2019 = 20,590



### Did You Know?

- Individuals in non-high income countries/territories qualify for reduced membership dues.
- The GSA/GSA Foundation Membership Assistance Program and Fund enables those who cannot afford the cost of membership—or who experience difficulty in transferring funds from their country to the USA—to become members.

## Thanks to These Outgoing Officers and Councilors

All GSA Officers and Councilors are highlighted in the July GSA Today.



Marjorie A. Chan



Mark Little



F. Edwin (Ed) Harvey



Robbie Gries



Allie Nagurney

# 2019 GSA Medal & Award Recipients



**Tanya M. Atwater**



**Ira Flatow**



**John W. Valley**



**Jessica Creveling**



**Craig Schiffries**



**Asmeret Asefaw  
Berhe**



**Kimberly V. Lau**



**E. Wesley Hildreth  
Judy Fierstein**



**Nancy Riggs**



**Christian Koeberl**



**Reynaldo Charrier  
Gonzalez**



**Doerthe Tetzlaff**

## **Penrose Medal**

**Tanya M. Atwater**, University of California, Santa Barbara

## **President's Medal of the Geological Society of America**

**Ira Flatow**, State University of New York at Buffalo; "Science Friday"

## **Arthur L. Day Medal**

**John W. Valley**, University of Wisconsin–Madison

## **Young Scientist Award (Donath Medal)**

**Jessica Creveling**, Oregon State University

## **GSA Public Service Award**

**Craig Schiffries**, Carnegie Institution for Science

## **Randolph W. "Bill" and Cecile T. Bromery Award for Minorities**

**Asmeret Asefaw Berhe**, University of California, Merced

## **Doris M. Curtis Outstanding Woman in Science Award**

**Kimberly V. Lau**, University of California, Riverside

## **GSA Florence Bascom Geologic Mapping Award**

**E. Wesley Hildreth**, U.S. Geological Survey

**Judy Fierstein**, U.S. Geological Survey

## **GSA Distinguished Service Award**

**Nancy Riggs**, Northern Arizona University

**Christian Koeberl**, University of Vienna

## **Honorary Fellows:**

**Reynaldo Charrier Gonzalez**, Universidad de Chile

**Doerthe Tetzlaff**, Leibniz Institute of Freshwater Ecology



# An Opportunity to Connect and Collaborate



*“GSA membership means that I am contributing to a collective body of knowledge that is constantly growing.”*

GSA offers a variety of meetings to geoscientists—from small research forums, to moderate specialty conferences, to a large annual meeting. These forums, conferences, and meetings are held around the globe throughout the year. GSA provides a platform for scientists to share their latest research, build upon current knowledge, and network with peers. GSA strives to keep meetings cost-effective yet provide the latest technology platforms for scientific exchange.

## GSA ANNUAL MEETING

In fiscal year 2020 (FY20), GSA hosted our Annual Meeting in Phoenix, Arizona, USA, in September 2019 and had more than 5,500 attendees from 56 countries attending, while presenting more than 3,700 abstracts over several days. Twenty-three field trips ran and 20 short courses were held. More than 200 companies, organizations, and universities exhibited during the meeting.

In addition, GSA hired a consulting company called Minding Your Business to evaluate GSA meetings, particularly the annual meeting, to provide feedback on best practices to elevate the meetings. The consultants were very generous in mentioning what GSA already does well, and they reported back to us that the meeting attendees enjoy the networking opportunities GSA provides. The final consultant's

report has been shared with staff members, GSA's Executive Committee, as well as the Annual Program Committee. The report is being taken seriously, and staff is currently working to implement their recommendations. An overview of the recommendations includes:

1. Take steps to elevate and differentiate content;
2. Amplify networking opportunities;
3. Personalize the experience;
4. Turn the Exhibit Hall into a Resource & Innovation Center;
5. Continue to strengthen diversity and inclusion initiatives and increase awareness;
6. Enhance technology to further engage and connect with attendees;
7. Extend the value 365 days;
8. Beta test the annual meeting location rotation; and
9. Fine-tune the marketing.

Hundreds of volunteers participate yearly in the GSA Annual Meeting—from local organizing committee members and the Joint Technical Program Committee, to the hundreds of session conveners from every geoscience discipline and the hundreds of student volunteers from campuses across the Americas and farther abroad. There is something for everyone at the GSA Annual Meeting.

## Member Benefits Include:

- Members enjoy reduced meeting registration rates.
- Special opportunities for student members—mentor luncheons, volunteer opportunities to offset the cost of attending GSA meetings.

## GSA SECTION MEETINGS

GSA Section Meetings are unique venues for interdisciplinary science and are an important hub for discussing and presenting current research. They provide an excellent opportunity for both professionals and students to attend and participate in technical sessions, field trips, and short courses close to home.

In 2020, GSA was able to successfully run the South-Central Section Meeting in-person in Fort Worth, Texas, USA, on 9–10 March 2020, with over 300 attendees. Then the world changed with COVID-19 and the remaining four sectional meetings had to cancel their in-person meetings. GSA was able, with the help of the local planning committee for the North-Central Section Meeting, to host its first-ever virtual meeting, which consisted of two half-days, running six concurrent sessions each day, with a combination of oral and poster presentations. The presidential address and afternoon mentoring sessions and career workshops also took place. The North-Central Section virtual meeting had close to 900 attendees during those two days. A Resolution of Thanks was passed by the Executive Committee and Officers of the Geological Society of America to recognize and congratulate the North-Central Section of GSA for hosting the first virtual Section Meeting on 18–19 May 2020. They made GSA history!

## GSA PENROSE CONFERENCES AND THOMPSON FIELD FORUMS

GSA Penrose Conferences and Thompson Field Forums are GSA's premiere small-group meeting and field-trip venues for collaborative research around the world. In FY20, one Thompson Field Forum took place: Age and Carving of Grand Canyon: Toward a Resolution of 150 Years of Debate, on 14–21 September 2019, in Grand Canyon, Arizona, USA.

# Geographic Sections

GSA's six geographic Sections have their own governance boards and organize scientific meetings in their regions of North America. These smaller meetings attract many geoscience students and provide outstanding learning and networking opportunities closer to home. Sections offer travel grants not only to their own meetings but to the GSA Annual Meeting as well. Many Sections offer research grants.

## CORDILLERAN SECTION

The Cordilleran Section is the oldest of GSA's sections. It was formally approved on 26 August 1901, when the Society itself was only 13 years old. The first organizational meeting of the Section, held in Berkeley, California, USA, in 1899, included the presentation of 11 scientific papers.

*In the United States:* The states of Alaska, California, Hawaii, Nevada, Oregon, Washington, and that part of Arizona south of 35 degrees North Latitude.

*In Canada:* The Province of British Columbia, the Yukon Territory, the Northwest Territories, and the Nunavut Territory.

*In Mexico:* The Distrito Federal and the states of Aguascalientes, Baja California, Baja California Sur, Chiapas, Colima, Durango, Guanajuato, Guerrero, Hidalgo, Jalisco, México State, Michoacán, Morelos, Nayarit, Oaxaca, Puebla, Querétaro, San Luis Potosí, Sinaloa, Sonora, Tlaxcala, and Zacatecas.

## NORTH-CENTRAL SECTION

In 1966, the North-Central Section was established by GSA Council to expand section coverage for all of the United States and Canada.

*In the United States:* The states of Illinois, Indiana, Iowa, Michigan, Minnesota, Missouri, Nebraska, Ohio, and Wisconsin.

*In Canada:* The Province of Manitoba, and the western portion of the Province of Ontario (west of the 89th meridian).

## NORTHEASTERN SECTION

The Northeastern Section was founded by GSA Council in April 1965.

*In the United States:* The District of Columbia and the states of Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, and Vermont.

*In Canada:* The provinces of New Brunswick, Newfoundland and Labrador, Nova Scotia, Prince Edward Island, Quebec, and that part of Ontario east of the 89th meridian.

## ROCKY MOUNTAIN SECTION

The Rocky Mountain Section has been a thriving part of GSA since 1948.

*In the United States:* The states of Colorado, Idaho, Montana, New Mexico, North Dakota, South Dakota, Utah,

## Membership Benefits Include:

- One complimentary Section affiliation is included with membership. Choose others when you renew to expand your geographic interests.

Wyoming, and that part of Arizona north of 35 degrees North Latitude.

*In Canada:* The provinces of Alberta and Saskatchewan.

## SOUTH-CENTRAL SECTION

The South-Central Section was established by GSA Council in 1966.

*In the United States:* The states of Arkansas, Kansas, Louisiana, Oklahoma, and Texas.

*In Mexico:* The states of Coahuila, Nuevo León, Tabasco, Tamaulipas, and Veracruz.

## SOUTHEASTERN SECTION

The Southeastern Section was established in December 1947, but did not hold its first annual meeting until 1952.

*In the United States:* The states of Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, West Virginia, and the Commonwealth of Puerto Rico.

*In Mexico:* The states of Campeche, Quintana Roo, and Yucatán.



## GSA International

GSA is active within the international geoscience community in the belief that science knows no borders. The GSA worldwide member community spans 118 countries outside of North America; most reside in the United Kingdom, Australia, Japan, Germany, and China. The purpose of GSA International is to promote, create, and enhance opportunities for international cooperation, provide a forum for science and policy discussions that are international in scope and relevance, build collaborative relationships with GSA scientific Divisions and Associated Societies on international issues, and strengthen cooperation with international geoscientific societies. GSA International encourages and hosts international

geoscience and environmental-related discussion topics through the online GSA Member Community platform and promotes meetings, exchanges of visiting scholars/lecturers, organizes annual meeting topical sessions, and helps organize and promote field workshops. GSA International evaluates and recommends international awardees for the GSA Honorary Fellow, the International Distinguished Career Award, the James B. Thompson Jr. Distinguished International Lectureship (which is on hold during the COVID-19 pandemic), and the Farouk El-Baz Student Research Grant. It also recommends travel grant awards for international students and early career professionals to attend the GSA Annual Meeting.



# Scientific Divisions

GSA has 22 scientific Divisions to help you stay connected with your colleagues worldwide and receive specific information related to your area of interest. Divisions provide opportunities for leadership and service, offer awards and support for students, and help develop the GSA Annual Meeting technical program. Join one or more when you renew for 2021.

**Continental Scientific Drilling** (established in 2017) focuses on continental scientific drilling and coring research tools used in many GSA scientific Divisions and fields.

**Energy Geology** (established in 1954) encourages energy research and interchange of scientific information about energy resources and related issues within the wide range of their geologic significance, and to act as an organized group in promoting these objectives within the GSA framework.

**Environmental and Engineering Geology** (established in 1947) seeks to advance the ability of geologists to identify, characterize, and mitigate adverse geological and environmental conditions and hazards affecting human safety and the built environment.

**Geoarchaeology** (established in 1977) provides a forum for the presentation and discussion of papers on archaeological geology in order to stimulate and promote research and teaching within this field.

**Geobiology and Geomicrobiology** (established in 2001) promotes interdisciplinary research focusing on the interplay between the biosphere, lithosphere, hydrosphere, and atmosphere.

**Geochronology** (established in 2018) aims to represent geochronologists of all types, as well as the many geoscientists who use geochronological data.

**Geoinformatics & Data Science** (established in 2006) advances “Data to Knowledge,” providing GSA members with an opportunity to participate in the emerging field of cyberinfrastructure.

**Geology and Health** (established in 2005) focuses on the intersection of natural or anthropogenic geological conditions with health, disease, pathology, and death in modern and fossil humans, animals, and plants.

**Geology and Society** (established in 2003) advances the concept of “geology working for society” by providing GSA members with opportunities to bring together multiple fields of geoscience to address important societal issues.

**Geophysics and Geodynamics** (established in 1971) facilitates the presentation and discussion of the ideas of scientists interested in geophysics and geodynamics, fosters communication among geophysicists and other earth scientists, and promotes research and publication.

**Geoscience Education** (established in 1991) fosters the active participation of GSA members in all aspects of earth-science education.

**History and Philosophy of Geology** (established in 1976) works to encourage the study and communication of the philosophy and history of geology.

**Hydrogeology** (established in 1959) focuses on the geologic aspects of hydrogeology, the role of geology in the hydrologic cycle, and the importance of hydrogeology to society and science.

**Karst** (established in 2014) studies karst terranes, which necessarily involves a wide variety of subjects and specialties, spanning almost every Division in GSA and scientific disciplines outside of GSA’s purview.

**Limnogeology** (established in 2002) encourages research on both ancient and modern lakes around the world, the collaboration of scientists from all disciplines on lake research, and the fostering of student research and careers in lake studies.

**Marine and Coastal Geoscience** (est. 2019) promotes the profile of marine and coastal research and will focus energy, generate

## Membership Benefits Include:

- Join one or more scientific Divisions when you renew your membership.
- Students members get one Division free.

excitement, and work actively to promote this vibrant and highly relevant field.

**Mineralogy, Geochemistry, Petrology, and Volcanology** (established in 2009) promotes awareness, teaching, and research in these fields, and stimulates discussion about the knowledge, ideas, research results, and problems regarding these fundamental areas of the earth sciences.

**Planetary Geology** (established in 1981) fosters interactions among planetary scientists, facilitates the presentation and discussion of their research and ideas, stimulates communication with other earth scientists, and promotes planetary geology to a broad audience.

**Quaternary Geology and Geomorphology** (established in 1955) facilitates communication among scientists in these fields and the presentation of their research and ideas to the wider scientific community.

**Sedimentary Geology** (established in 1985) works to ensure the presentation of sedimentary-related topics and sessions at GSA meetings and actively nurtures the work of students.

**Soils and Soil Processes** (established in 2017) works on issues with particular solutions that include land stewardship, water quality and quantity, carbon cycling and paleoclimate reconstruction.

**Structural Geology and Tectonics** (established in 1980) focuses on the geometry and mechanisms of natural and experimental deformation at all scales and works to promote the research of scientists in these fields and to facilitate communication and discussion at all levels of the earth sciences.

Renew Your GSA 2021 Membership at <https://www.geosociety.org/members>

# 2019 GSA Scientific Division Primary Awards



**C. Blaine Cecil**



**D.M. Staley**



**J.A. Negri**



**J.W. Kean**



**J.L. Laber**



**A.C. Tillery**



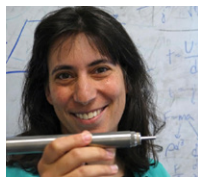
**A.M. Youberg**



**Kathleen Nicoll**



**J. Douglas Walker**



**Emily Brodsky**



**Sarah L. Sheffield**



**Naomi Oreskes**



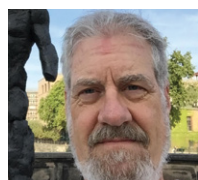
**Bridget Scanlon**



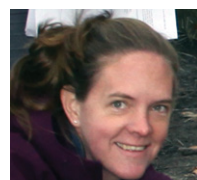
**Thomas Johnson**



**Suzanne  
Mahlburg Kay**



**Alfred McEwen**



**Kristen L. Cook**



**Marjorie Chan**



**Gautam Mitra**



**Paul J. Fox**

## **Gilbert H. Cady Award**

*Energy Geology Division*

**C. Blaine Cecil**, U.S. Geological Survey

## **E.B. Burwell, Jr., Award**

*Engineering and Environmental Geology Division*

**Staley, D.M., Negri, J.A., Kean, J.W., Laber, J.L., Tillery, A.C., and Youberg, A.M., 2017**, Prediction of spatially explicit rainfall intensity-duration thresholds for post-fire debris-flow generation in the western United States: *Geomorphology*, v. 278, p. 149–162, <https://doi.org/10.1016/j.geomorph.2016.10.019>.

## **Rip Rapp Archaeological Geology Award**

*Geoarchaeology Division*

**Kathleen Nicoll**, University of Utah

## **Outstanding Contributions Award**

*Geoinformatics Division*

**J. Douglas Walker**, University of Kansas

## **George P. Woollard Award**

*Geophysics and Geodynamics Division*

**Emily Brodsky**, University of California, Santa Cruz

## **Biggs Award for Excellence in Earth Science Teaching**

*Geoscience Education Division*

**Sarah L. Sheffield**, University of South Florida

## **Mary C. Rabbitt History of Geology Award**

*History and Philosophy of Geology Division*

**Naomi Oreskes**, Harvard University

Photo credit: Kayana Szymczak

## **O.E. Meinzer Award**

*Hydrogeology Division*

**Bridget Scanlon**, The University of Texas at Austin

## **Israel C. Russell Award**

*Limnogeology Division*

**Thomas Johnson**, University of Massachusetts Amherst

## **Distinguished Geologic Career Award**

*Mineralogy, Geochemistry, Petrology, and Volcanology Division*

**Suzanne Mahlburg Kay**, Cornell University

## **G.K. Gilbert Award**

*Planetary Geology Division*

**Alfred McEwen**, University of Arizona

## **Kirk Bryan Award for Research Excellence**

*Quaternary Geology and Geomorphology Division*

**Kristen L. Cook, Jens M. Turowski, and Niels Hovius, 2014**, River gorge eradication by downstream sweep erosion: *Nature Geoscience*, v. 7, p. 682–686, <https://www.doi.org/10.1038/NCEO2224>.

## **Laurence L. Sloss Award**

*Sedimentary Geology Division*

**Marjorie Chan**, University of Utah

## **Career Contribution Award**

*Structural Geology and Tectonics Division*

**Gautam Mitra**, University of Rochester

## **GSA Distinguished Career Award**

*International*

**Paul J. Fox**, Texas A&M University



# Communicating the Value of Geoscience

## PRESS RELEASES

Supporting its strategic aspiration to link geoscience to society, GSA engages in media relations activities to enlarge the footprint of member research and publications. GSA issued 44 press releases in FY20, highlighting peer-reviewed research published in the Society's top-rated, peer-reviewed geoscience journals and books, as well as new findings presented at GSA meetings and Society news. These are distributed to an extensive list of science journalists and posted on the American Association for the Advancement of Science (AAAS) online science news service, EurekAlert! and the European media resource site, AlphaGalileo. In addition, GSA encourages and assists public information officers at universities and government agencies to write their own releases about their GSA-published research or presenting authors and then augments distribution of those releases for wider reach. GSA invites journalists to attend annual and Section Meetings with complimentary registration, and hosts a newsroom at the annual meeting.

As a result of these efforts, our science gets considerable press coverage, ranging from top-tier outlets like *Science*, *Nature*, *National Geographic*, *Forbes*, *The Economist*, *LiveScience*, *CNN*, *Newsweek*, and others, to more niche audiences in trade publications, blogs, and syndicated websites. Go to [www.geosociety.org](http://www.geosociety.org), click on the "News" tab, and select "GSA in the News" to read some of the latest coverage.

## SCIENCE COMMUNICATION FELLOWSHIP

GSA's Science Communication Fellowship is an opportunity for a science writer, journalist, or scientist with a passion for communicating to spend 10 months gaining experience and professional contacts, working in concert with GSA communications and member leaders. The goal of the Fellowship is to help improve communication of geoscience knowledge between the members of GSA and the non-scientific community by translating technical research from GSA journals and annual meeting presentations into relatable stories for non-technical audiences. The Fellow also helps staff the onsite

newsroom, assisting members of the media covering the meeting and mentoring student communication interns.



Terri Cook served as GSA's 2019–2020 Science Communication Fellow. Accomplishments from her term included crafting a press release (<https://www.geosociety.org/GSA/News/pr/2019/19-38.aspx>) about an annual meeting presentation on research in Machu Picchu, which garnered coverage by more than 100 scientific and mass media outlets in over 30 countries, and was translated into 15 languages; and scripting pilot text-over-videos to accompany traditional press releases on social media (see <https://youtu.be/9Zl1RrehmdA> and <https://youtu.be/oKztjX9HNJQ>).

## SCIENCE COMMUNICATION INTERNSHIP

Each year, GSA accepts a few geoscience students who are interested in science communication as a possible alternative career path to collaborate with the Science Communication Fellow during the annual meeting. Selected students work under the tutelage of the GSA communications staff and the Fellow with the goal of building their confidence and skills for conveying scientific subject matter in compelling ways.




The 2019 interns with FY20 GSA President Don Siegel and GSA staff.

## GSA ON SOCIAL MEDIA

GSA is a leader among our Society peers in reaching wide audiences with information about our events, publications, membership, programs, and activities through social media.

  Follow GSA @geosociety on **Twitter** (41,000+ followers) and **Instagram**. Use hashtag #GSA2020 to keep up with the latest from GSA 2020 Connects Online.

 **Facebook**—Join 280,000+ GSA fans worldwide at [www.facebook.com/GSA.1888](http://www.facebook.com/GSA.1888).

 **YouTube**—Learn more about GSA and careers in the geosciences at [www.youtube.com/user/geosociety](http://www.youtube.com/user/geosociety).

 **LinkedIn**—Network and stay connected to your professional peers at <http://linkd.in/1HsYwni>.

*"GSA means being part of a greater team and community which values the important science of geoscientists across the world."*



## GSA MEMBER COMMUNITY, POWERED BY YOU!

GSA's vibrant member community platform is a simple, dynamic way to communicate within your professional network. It allows GSA members to easily connect, learn, and share with fellow members online, and it empowers groups to work together more effectively.

### Features:

- Centralized discussion groups with enhanced email capabilities—members receive email notifications from discussion forums that are more structured and easier to read than listservs and allow participants to reply directly from email.
- Member directory—Within the member community platform, GSA member search is comprehensive and interactive.
- Resource libraries help archive shared documents and collaborative work products.

**Did you know?** GSA Division websites also include these community features so Division members can interact with and one another. Members are automatically placed in their group's online community when they join a Division.

- Division-scale member directories with powerful search capabilities.
- Division-wide discussion forums.
- Division libraries (document sharing and archives).

**Getting started is easy.** Your member community awaits you. GSA members can simply navigate to <https://community.geosociety.org> and click on the "Login" button in the upper right-hand corner of the page to get started.

*"GSA membership provides community and access to shared knowledge and research that is meaningful, impactful, and appropriate for our current challenges in the world."*

**Interact with your peers today** and get involved!

- Update your profile and add a picture.
- Find and connect with other GSA members.
- Post questions and comments to the open forum discussion.
- Join a discussion of interest.
- Post your presentations, pictures, documents, videos, or other content you feel will help other participants in the geoscience community.

## WEBSITE

Even more than usual in this past year, our website and other online platforms were critical in providing members with the resources and connections needed to do their best science and succeed in their careers. We continue to focus on projects that bring value to our online users.

Among such projects, we began implementing a design update, section-by-section, across our main site. We started with an overhaul of our membership pages and EarthCache program, and we continue to improve content areas at every opportunity.

In addition, an internal collaboration produced GSA's new webinar library (<https://www.geosociety.org/webinars>), a dynamic, visually appealing, searchable directory of the webinars GSA teams and partners work hard to create. This growing library also features a new strategy to offer web content tailored to users based on their membership type and status, which allows us to provide an enhanced, custom experience.

As always, GSA is maintaining a robust and evolving online presence. Visit us at <https://www.geosociety.org>.

### Top website page views in FY2020

1. Geologic Time Scale (144k)
2. Home page (126k)
3. Job Board (97k)
4. Geoscientists-in-the-Parks home page (59k)
5. 2020 Joint Southeastern and Northeastern Section Meeting (26k)

## SPEAKING OF GEOSCIENCE™

"Speaking of Geoscience" is GSA's guest blog. It is a platform for giving voice to GSA members and friends in support of the Society's global mission. In FY20, GSA posted 21 blogs on this venue for sharing ideas and information, asking questions, and dissecting issues across a broad range of earth-science topics. If you would like to contribute as a guest blogger, please contact [communications@geosociety.org](mailto:communications@geosociety.org). Please note that information and opinions presented by "Speaking of Geoscience" guest bloggers do not necessarily represent official positions of GSA. Self-promotional content that includes links to other products and services will not be posted.

## GSA 2021 MEMBERSHIP

**Renew by 1 November—Save 15%\* off dues**

<https://www.geosociety.org/members>

\* applies to those in high-income countries/territories



# Bridging the Geosciences and Public Policy

## GSA MEMBERS MEET WITH MEMBERS OF CONGRESS

GSA provides opportunities for its members to meet with policymakers by holding Congressional Visits Days and associated training sessions. Participants begin with an orientation workshop that covers relevant legislation, the structure of Congress, and strategies to build relationships between scientists and policymakers before conducting congressional visits.

During Geosciences Congressional Visits Day on 10–11 September 2019, 50 geoscientists from multiple scientific societies conducted visits to nearly 100 congressional offices. All GSA Divisions sponsored students to attend, joining GSA leadership and scientists selected through GSA's online application process. Harriet S. Cornachione, a student sponsored by GSA's Rocky Mountain Section, reflected, "What a great opportunity to quickly grasp the magnitude of the job of a congressional member and how Congress works! I so very much appreciate this opportunity. I will definitely be following up from this visit with further communication with the staffers we met, as well as staying apprised of the work in the offices of these members from our region."



Kasey White presenting the USGS Coalition award to Rep. Tipton.

## GSA LETTERS AND TESTIMONY

GSA Director for Geoscience Policy Kasey White testified before the House Appropriations Subcommittee on Interior, Environment and Related Agencies in support of the U.S. Geological Survey (USGS). GSA also submitted testimony requesting increased funding for the National Science Foundation and the National Aeronautics and Space Administration for Fiscal Year 2021.

GSA is an active member of coalitions that submitted testimony and letters in support of these and other geoscience agencies, including the Coalition for National Science Funding, the Coalition for Aerospace and Science, the USGS Coalition, the Energy Sciences Coalition, and the Task Force on American Innovation, during both the regular appropriations process and response to COVID-19.

GSA submitted letters to policymakers on topics ranging from open access of scientific publications, to climate change research needs, to visa and immigration policy.

## USGS COALITION LEADERSHIP AWARDS

The 2019 USGS Coalition Leadership Awards were presented on 10 September 2019 to Rep. Derek Kilmer (D-WA-06) for his support of the National Landslide Preparedness Act and Rep. Scott Tipton (R-CO-03) for his support of the Chronic Wasting Disease Transmission Act, in addition to their overall support of the survey and its missions. Senior USGS leaders, as well as representatives of national organizations that use and support USGS science and information, attended the reception and discussed the benefits that USGS activities provide to the nation.

## UPDATED POSITION STATEMENT

GSA Council adopted minor revisions to the "Climate Change" position statement.

*"GSA membership keeps me apprised of recent and updated events in all geosciences, and serves as a voice for our profession to political and community audiences."*



Ryan Haupt, Science Policy Fellow, with Sen. Jim Risch (R-ID) and Dr. Zachery Lifton.

## GSA SCIENCE POLICY FELLOW

GSA Science Policy Fellow Ryan Haupt began a one-year term as the "in-house" fellow in September 2019, working in GSA's Washington, D.C., office to bring science and scientists into the policy process. Haupt worked with GSA's Geology and Public Policy Committee, represented GSA at coalition meetings, attended hearings on relevant geoscience legislation and programs, and developed resources for GSA members to engage in policy.

## GSA-USGS CONGRESSIONAL SCIENCE FELLOW



Each year, GSA and the USGS jointly sponsor a geoscientist to spend a year working in the office of a member of Congress or congressional committee.

Mike O'Connor served as the 2019–2020 GSA-USGS Congressional Science Fellow, working in the office of Rep. Paul Tonko (D-NY). O'Connor is a hydrologist with an extensive background in water resources and cold regions.

## STATE AND LOCAL POLICY ENGAGEMENT

Kasey White attended the National Conference of State Legislators Legislative Summit in Nashville, Tennessee, USA, in August 2019. GSA partnered with the Association of American State Geologists, the Association of Environmental and Engineering Geologists, and the American Institute of Professional Geologists to share geoscience information with local policymakers.

# Supporting Our Science Community

In January 2020, GSA fulfilled a commitment (approved by GSA Council in 2019) to transfer its journal *Lithosphere* to a new home with a new purpose—serving as an open-access journal for a community of society publishers. Now published by GeoScienceWorld on behalf of seven societies, the journal gives authors and the participating publishers alike another open-access option.

The abrupt changes we all faced this year due to the pandemic gave GSA publications another opportunity to be of service, this time to the hundreds of academic libraries worldwide who were suddenly shut out of their in-person campus resources. Along with several other society publishers, GSA agreed to open its online book content until the end of June—that's well over 900 books made freely available to researchers everywhere.

*"GSA membership provides opportunities to have my 'finger on the pulse' of the cutting-edge advances in our field—by networking with colleagues, learning through direct contact, and publication about new research."*

About halfway through the fiscal year, publications staff began transferring about 20,000 files and their accompanying metadata from the GSA Data Repository site to an outside host, Figshare. The new database is completely searchable and offers authors new ways to post supplemental materials.

To help new authors get their work published successfully, the GSA Publications Department holds an annual early-career publishing workshop led by GSA science editors. The free workshop explains the process of preparing research for submission to scholarly journals and includes a section on the importance of contributing as a reviewer.

## ABOUT GSA JOURNALS AND BOOKS

GSA's peer-reviewed journals *GSA Bulletin*, *Geology*, and *Geosphere* are hosted at [www.gsapubs.org](http://www.gsapubs.org), through the aggregate GeoScienceWorld. *GSA Bulletin* and *Geology* are also available in print. *Geosphere* is 100% open access, and *Geology* is free online for all GSA members. Early career professional members, student members, and K–12 teacher members also get free online access to *GSA Bulletin*. *GSA Today*, GSA's member magazine, is open access at <https://www.geosociety.org/GSAToday>, and members can get a free print subscription.

Published jointly by the Association of Environmental and Engineering Geologists and GSA, *Environmental & Engineering Geoscience* (online at GeoScienceWorld) contains peer-reviewed papers on new theory, applications, and case histories illustrating the dynamics of environmental and applied disciplines.

The society publishes three peer-reviewed book series in print and online ([www.gsapubs.org](http://www.gsapubs.org)): Special Papers (four volumes in fiscal year 2020) are for state-of-the-art treatments of evolving subjects; Memoirs (one volume in FY20) are intended to remain authoritative

## Member Benefits Include:

- All members get free online *Geology*. Student and early career professional members also get free online *GSA Bulletin*.
- Supercharge your research with Geofacets—a web-based tool to access thousands of georeferenced maps—included with membership.
- Subscribe to premier publications at member-only rates when you renew your 2021 membership.

references for a number of years; and Field Guides (four volumes in FY20) feature guides from GSA or GSA-related field trips. *Memorials* to deceased GSA members are open access at <https://www.geosociety.org/memorials>.

## 2020 JOURNAL IMPACT FACTORS (WEB OF SCIENCE GROUP, 2019)

*GSA Bulletin*: 3.558; five-year: 4.368.  
*Geology*: 4.768; five-year: 5.412.  
*Geosphere*: 2.577; five-year: 3.032.  
*Lithosphere*: 3.248; five-year: 3.530.  
*Environmental & Engineering Geoscience*: 0.755; five-year: 0.785.

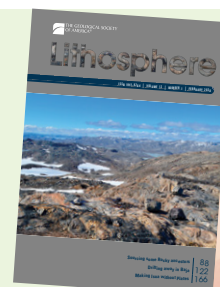
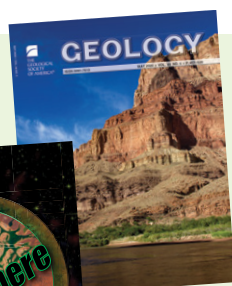
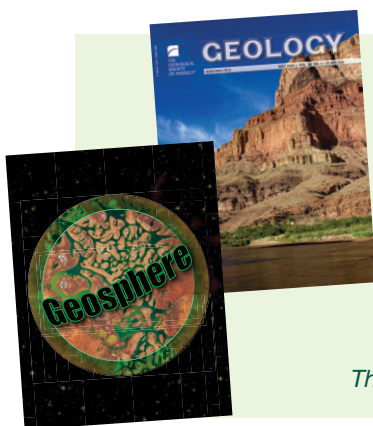
## GSA STORE

Along with providing a storefront for GSA books, educational materials, specialty tools, and the map and chart collection, the GSA Store offers e-versions of hundreds of previously unavailable or out-of-print publications—including the complete suite of Decade of North American Geology volumes and maps—to researchers and citizen scientists alike.

## Publications by the Numbers

18 science editors	3,128 authors	76 disciplines
190 associate editors and editorial board members	53 countries	9,253 pages published

*Thank you to our thousands of reviewers, the backbone of scientific peer review.*





# Helping to Navigate Your Professional Path



*"I loved each of the mentor's perspectives, and especially their practical advice to students and graduates."*

## Explore Careers

### THE GEOCAREERS PROGRAM

GeoCareers disseminates career information, develops resources, and connects the geoscience community through webinars, mentoring, networking, and workshops at annual and Section Meetings and throughout the year. With a goal of increasing knowledge of geoscience career pathways, GSA works with the geoscience community at all levels of their careers.

### GEOCAREERS WEBINARS

Eight career-focused webinars were offered in collaboration with corporate partners, scientific Divisions, and Associated Societies. The webinars were introductions to career pathways in today's most popular fields, including careers with the U.S. Forest Service, National Parks, in geothermal energy, minerals, petroleum, and professional geologist licensure. A special webinar was organized to offer advice and projected

outlook in the energy industry. GeoCareers webinars were attended by more than 2,400 individuals. Webinar recordings can be accessed at [www.geosociety.org/webinars](http://www.geosociety.org/webinars).

### NETWORKING

Developing relationships at meetings, workshops, and networking events is essential to building social capital and provides critical connections to the profession. Networking programs offer students and early career professionals the opportunity to work on networking skills with practicing geoscientists from a variety of employment sectors.

Programs available:

- Early Career Professionals Coffee
- Networking Reception
- Women in Geology Career Pathways Reception
- Geoscience Career Workshops at Section and Annual Meetings

### MENTORING

Participating in a mentorship program can be a valuable experience for both mentors and mentees. Mentees report that they receive good advice related to their career or academic pathway and are introduced to other professionals in their area of interest. Mentors report altruistic gains when helping others as well as enjoyment in meeting promising young scientists. GSA has operated mentor programs since 1996 and recruits new mentors and mentees every year for the following:

- Roy J. Shlemon Mentor Program in Applied Geoscience
- John Mann Mentors in Applied Hydrogeology
- GeoCareers Center
- Drop-in Mentoring in the GeoCareers Center
- Résumé Mentoring in the GeoCareers Center
- GeoCareers Panel Luncheon
- On To the Future



### GSA 2021 MEMBERSHIP

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<https://www.geosociety.org/members>

\* applies to those in high-income countries/territories

## Grants and Scholarships

### ON TO THE FUTURE (OTF) PROGRAM

Expanding diversity and inclusivity is critical to innovation, scientific advancement, and solving tomorrow's geoscience challenges. GSA's On To the Future (OTF) program supports students from a diversity of backgrounds to attend their first annual meeting. In 2019, the Society funded 72 students to attend the annual meeting, where students were paired with mentors, met with GSA leadership, and learned about participation in internships, scholarships, and research opportunities.

Through a partnership with the University of Arkansas, Fayetteville, and supported by the National Science Foundation, an additional 18 returning OTF students were awarded travel support to the annual meeting along with participation in a mentored professional development workshop. An additional 15 OTF students were slated to receive awards to attend the 2020 joint Section Meeting; however, this meeting was cancelled due to COVID-19, and the professional development workshop was offered via webinar.

### EXPANDING REPRESENTATION IN THE GEOSCIENCES SCHOLARSHIPS (ERG)

ERG scholarships (formerly the Minority Student Scholarships) were awarded to six undergraduate students from communities



*"Meeting other people that are also underrepresented in the geosciences helped me bond and relate to them. We were able to talk about the mishaps and challenges that each of us underwent personally and professionally." —2019 OTF Student*

underrepresented in the geosciences. Awardees received a US\$1,500 scholarship and complimentary registration to the annual meeting, where students are recognized at the Diversity in the Geosciences Reception.

### NORTHEAST URBAN TRAVEL AWARDS

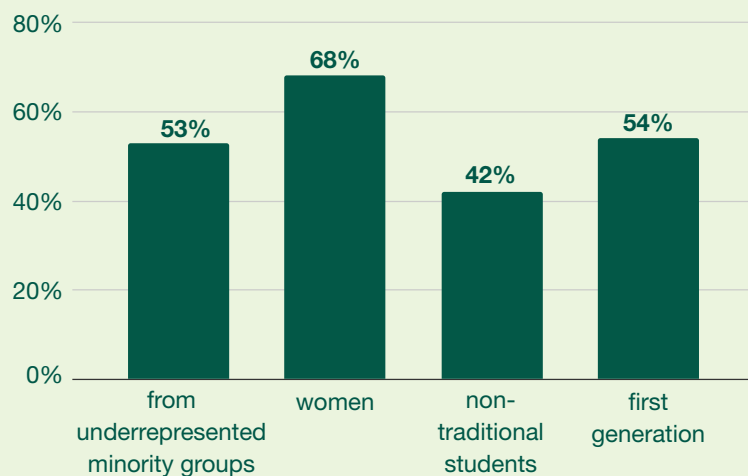
The Northeast Urban Travel Awards Program provides financial assistance to non-traditional students attending urban universities in GSA's Northeastern geographic Section. Non-traditional students are those who have delayed enrollment in post-secondary education associated with caring for dependents and/or working full-time, and

who, due to competing non-academic priorities, are unable to participate in multi-day field or meeting experiences critical to geoscience education and training. This year, six students were awarded grants; however, the Northeastern Section Meeting was cancelled due to COVID-19.

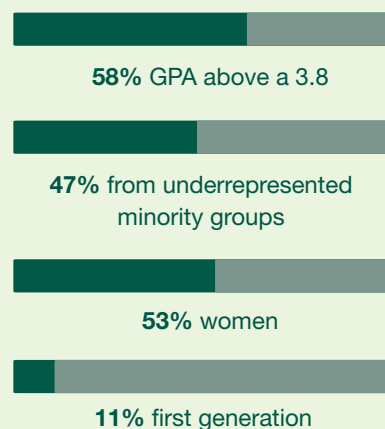
### GSA FOUNDATION FIELD CAMP SCHOLARSHIPS

The GSA J. David Lowell Field Camp Scholarship is a US\$2,000 award to undergraduate students to attend a field camp of their choice. In 2020, 19 students were awarded based on their economic and financial need, merit, and diversity.

On To the Future Students in FY2020



GSA J. David Lowell Field Camp Scholarship Awardees







## Field and Research Experiences

### GEOCORPS™ AMERICA AND THE NATIONAL PARK SERVICE (NPS) GEOSCIENTISTS-IN-THE-PARKS (GIP) PROGRAM

Over the past 24 years, the NPS Geoscientists-in-the-Parks program has engaged 1,912 participants in scientific work with 207 national parks and offices. This year, GSA helped connect 141 GIP participants with projects taking place at 70 different NPS sites. GeoCorps America celebrated its 20th year by renewing partnerships with the U.S. Forest Service, Bureau of Land Management (BLM), and BLM Direct Hiring Authority for Resource Assistant Internship Program. Fifty-five GeoCorps participants contributed 27,082 hours to geoscience-related projects on national forests and BLM lands. Twenty-five GeoCorps and GIP alumni presented their project-related work at the GSA 2019 Annual Meeting in Phoenix, Arizona, USA. GSA offers its special thanks to federal partners, mentors, and partnering organizations like Stewards Individual Placement Program and Aerotek, Inc., for providing career-building opportunities that support the science and stewardship of public lands.

### GSA/EXXONMOBIL FIELD CAMP PROGRAMS

The GSA/ExxonMobil Field Camp Excellence Award is given annually to a

geology field camp that demonstrates safety awareness, diversity, and technical excellence. In May 2020, the US\$10,000 award went to the University of Louisiana.

*"The award was used to update our field and audiovisual equipment. We plan to record student videos on their field experiences so contribution will affect a large student population on our campus through our intro classes."*

### THE EARTHCACHE™ PROGRAM

The EarthCache program, a longstanding partnership between GSA and Geocaching HQ (Geocaching.com), is now in its 16th year. This educational program gets members of the public outdoors to *experience* geology in the field, thus increasing their knowledge and support of the geosciences. Geocaching HQ has coordinated with a team of international volunteers to translate the EarthCache guidelines into other languages; 11 languages were added to the website in FY20. The GSA EarthCache web pages were updated in spring 2020 in alignment with concepts that are being employed across our marketing and outreach efforts to achieve clearer and simpler messaging.

## Field Experiences by the Numbers



**141**

GIP participants

**70**

different NPS sites

**25**

GeoCorps and GIP alumni presented their project-related work at the GSA 2019 Annual Meeting



**20**

years of programming

**55**

GeoCorps participants

**27,082**

hours worked on projects for national forests and BLM lands



**205**

countries host an EarthCache site

**11**

new languages were added to the EarthCache guidelines web pages

Renew Your GSA 2021 Membership at <https://www.geosociety.org/members>

## Professional Development

### K-12 (KINDERGARTEN THROUGH 12TH GRADE) EDUCATION AND 2YC (2-YEAR COLLEGES)

GSA worked with member volunteers and the National Earth Science Teachers Association to run the GeoTeach Workshop ([https://serc.carleton.edu/nesta/prof-dev/GSA\\_NESTA\\_GeoTeach\\_2019.html](https://serc.carleton.edu/nesta/prof-dev/GSA_NESTA_GeoTeach_2019.html)) for ~30 educators at the GSA 2019 Annual Meeting. Members of the GSA Education Committee created an educational activity to submit to the 2020 American Geosciences Institute Earth Science Week calendar. GSA's collection of E-Teach Resources was made available free-of-charge in the GSA Store. These resources have been promoted for parents and educators during the coronavirus pandemic, resulting in over 1,600 downloads in March alone. In response to the pandemic, GSA also developed an Online Education Resource Guide ([https://www.geosociety.org/GSA/Education\\_Careers/GSA/edu-career/online-resources.aspx](https://www.geosociety.org/GSA/Education_Careers/GSA/edu-career/online-resources.aspx)) to help educators with online teaching, learning, and remote research at all levels.

### SHORT COURSES

GSA offers Short Courses at each of our geographic Section Meetings and at annual meetings. The courses are taught by professional geoscientists and enable attendees to learn new topics, build skills, and network. If you plan to run a field trip or a field camp, consider taking our Field Safety Leadership Course. An attendee last year said it was an “excellent short course that should be mandatory for all field camp

directors, faculty teaching field camp, and any field geologist!”

### DIGITAL FIELD TOOLS WEBINARS

In response to the pandemic, numerous universities offered virtual courses and field camps. To assist faculty with this transition, a digital field-tools webinar series was offered by GSA and the National Association of Geoscience Teachers. The goals of this series were to (1) increase digital literacy in the geosciences, and (2) provide professional development to instructors and teachers on digital tools and alternative field experiences. Webinars were offered on Google Earth, GigaPan, and Virtual Landscapes. Recordings can be accessed in the webinar library at [www.geosociety.org/webinars](http://www.geosociety.org/webinars).

*“These were some of the most helpful webinars I've attended in the switch to remote teaching and planning for the fall during the pandemic.”*

### GRADUATE STUDENT RESEARCH GRANTS

GSA's Graduate Student Research Grants Program continues to be one of the largest and most prestigious funding programs for graduate students in the geosciences. The goals of the program are to

- support graduate student research in the geosciences and ultimately enhancement of the geoscience workforce;
- provide career-development opportunities for students by gaining experience with

grant writing, project development, and research; and

- increase the diversity of the geosciences through opportunities for students of underrepresented communities to achieve success in research.

GSA was awarded a new three-year (2020–2022) award from the National Science Foundation to support the program and to make efforts at increasing the level of diversity among the students who apply for and receive grants.

### AGeS2 (AWARDS FOR GEOCHRONOLOGY STUDENT RESEARCH2) PROGRAM

2019–2020 represented year two of GSA's partnership with Becky Flowers (University of Colorado Boulder) and Ramon Arrowsmith (Arizona State University) in a three-year, cross-programmatic award from the National Science Foundation to support the AGeS2 (Awards for Geochronology Student Research2) program. AGeS2 awardees visit an AGeS2 lab for a week or more, participate in sample preparation and analysis, and learn fundamental aspects of the methods, techniques, and theory used in modern analytical facilities. Awards, which range from US\$6,000 to US\$10,000, can be used to fund analytical costs, sample preparation, travel to the host geochronology lab, lodging, and other expenses. The AGeS2 program is open to GSA student members. Learn more at <https://www.geosociety.org/ages>.



#### Graduate Student Research Grants

##### FY20 stats:

**659**

student proposals received

**358**

(~55%) proposals funded

**US\$651,645**

granted

**US\$1,820.24**

average grant amount

**200+**

annual meeting presentations supported

#### AGeS2 FY20 stats:

**10**

reviewers

**69**

student proposals received

**18**

proposals funded

**US\$150,551**

granted

**US\$8,364**

average grant amount



# Serving Geoscience and the Profession

The mission of the Geological Society of America Foundation is to develop and provide funds to support the goals and programs of the Geological Society of America. These funds are distributed according to the needs of the Society and in a manner consistent with the desire of the donors. The responsibilities of the Foundation are twofold: (1) to support GSA programs, and (2) to preserve the Foundation's assets for the future.

## 2019–2020 HIGHLIGHTS

In fiscal year 2020, the GSA Foundation received annual campaign contributions and pledges of more than US\$807,300 from individual GSA members and corporations. Our success was assured by 7,316 separate gifts at all levels, a testament to the enthusiasm and dedication of GSA members and supporters.

On 5 May 2020, people around the world came together for *Giving Tuesday Now* to tap into the power of something that GSA already lives by: a sense of community to support one another. During this critical time, people everywhere experienced unexpected challenges. GSA and the GSA Foundation each committed US\$50,000 to create a new program, GSA COVID-19 Assistance and Relief Effort for Students (GSA CARES). We thank you, our members and GSA Sections, who went above and beyond the challenge to match this so that we were able to offer US\$188,000 in assistance to our students—those who will be stepping into ever-vital future roles in the geosciences.

The Campaign for GSA's Future wrapped up during the GSA 2019 Annual Meeting in Phoenix, Arizona, USA, having raised US\$6,270,000 from 176 donors to support GSA programs into the future. The Foundation celebrated its campaign success with a special combined Penrose Circle, student awards, and campaign donor dinner.

We also thank dozens of other individuals, Associated Societies, GSA Sections, and corporate sponsors for continuing to help advance On To the Future, GSA's flagship diversity initiative. A very generous individual donor once again offered a

matching challenge, and despite the unprecedented circumstances during the spring of 2020, our donors surpassed the match amount. The Foundation will continue to provide membership and help students from underrepresented groups attend their first GSA annual gathering: GSA 2020 Connects Online.

Our donors remain committed to helping students obtain vital field experience, and we were able to offer 19 scholarships from the J. David Lowell Field Camp Scholarship Program. Four of these were supported by the Petroleum Geoscientists Fund for Undergraduate Field Experience. Due to COVID-19 circumstances, while some 2020 field camps are still convening in person or virtually, those recipients whose field camps have been cancelled will use their funds next summer.

Corporate partners helped us re-think and adapt our seventh year of the GeoCareers Program, with a virtual version to be included during GSA 2020 Connects Online and additional career webinars throughout the year.

In 2019, our student donors continued to show their generosity, as 1,161 gave back to GSA in support of their fellow students. The Foundation was pleased to recognize this dynamic group through their own unique giving circle, Tektonikos. The accompanying tagline, "Building the Future," conveys their important role in the geosciences.

We are deeply appreciative of those who include the Foundation in their estate plans, and Legacy Circle gifts are vital to unrestricted funding. We are inspired that we continue hearing from donors making new legacy gift commitments, and we look



forward to introducing them personally to GSAF's new president, who joined GSAF in July, Dr. Christopher Grant Maples, so that he can learn firsthand why this is such an important personal commitment from some of you. Dr. Maples replaces Dr. John W. (Jack) Hess, who was the president of the Foundation since

## How Members Can Get Involved:

- Support students, research, and education through a voluntary contribution to the GSA Foundation when you renew your 2021 membership.
- Help others be part of our GSA member community. The Membership Assistance Program and Fund enables those who cannot afford the cost of membership, or who experience difficulty in transferring funds from their country to the USA, to become members. Support and spread the word.



January 2015. The staff greatly appreciates him and his years of caring leadership.

The Foundation is continuing a strategy of communications themed around

*Community of Support*, in keeping with one of the enduring qualities that GSA members value most: the sense of community found within the Society.

Most recently, we have featured interviews with donors who gave to GSA CARES at [https://gsa-foundation.org/gsa-cares\\_camala-garzone/](https://gsa-foundation.org/gsa-cares_camala-garzone/).



The Foundation is pleased to help donors support GSA programs and priorities important to them. Looking forward, the Foundation and GSA are collaborating to carry out even more effective resource building strategies. With your help, we will shape a strong future for GSA.

We encourage every member to avail themselves of the opportunity to serve GSA and to support the Foundation in our combined efforts to ensure the dynamism and strength of the geosciences. Please visit the Foundation's website at [www.gsa-foundation.org](http://www.gsa-foundation.org) for information and ideas regarding ways you can make a philanthropic impact for GSA and the geosciences.

# GSA Financial Reports

## GSA OPERATIONS REPORT

Fiscal Year 2020 ("FY20") ended with a change in net assets before investment loss \$192 thousand below Fiscal Year 2019 ("FY19"). This results from operating gross revenues and total expenses \$614 thousand and \$327 below FY19, respectively. Section transfers to the GSA Foundation were \$95 thousand lower than FY19. The principal operational changes result from net Meetings, Publications, Section & Division, and Membership results \$305, \$222, \$107, and \$102 thousand lower than FY19. These were partially offset by total G&A expenses \$342 lower than FY19.

For FY20, the Society had a net investment loss of \$23 thousand compared to a net investment gain in FY19 of \$2.01M.

This change principally reflects the spring market impact from the global pandemic.

With many significant program and market challenges during FY20, including the effect on operations of the global pandemic, the results reflect the continuing dedicated commitment of all staff, volunteers, and leadership to the ongoing financial health of the organization.

Brock and Company CPAs, P.C., completed their combined audit report of GSA for FY20 and issued an unqualified opinion.

## GSA / GSAF COMBINED INVESTMENT PORTFOLIO REPORT

During FY20, the total combined investment portfolio in total decreased \$338 thousand (.6%). There was \$1.3 million in draws from investments during FY20. The graph

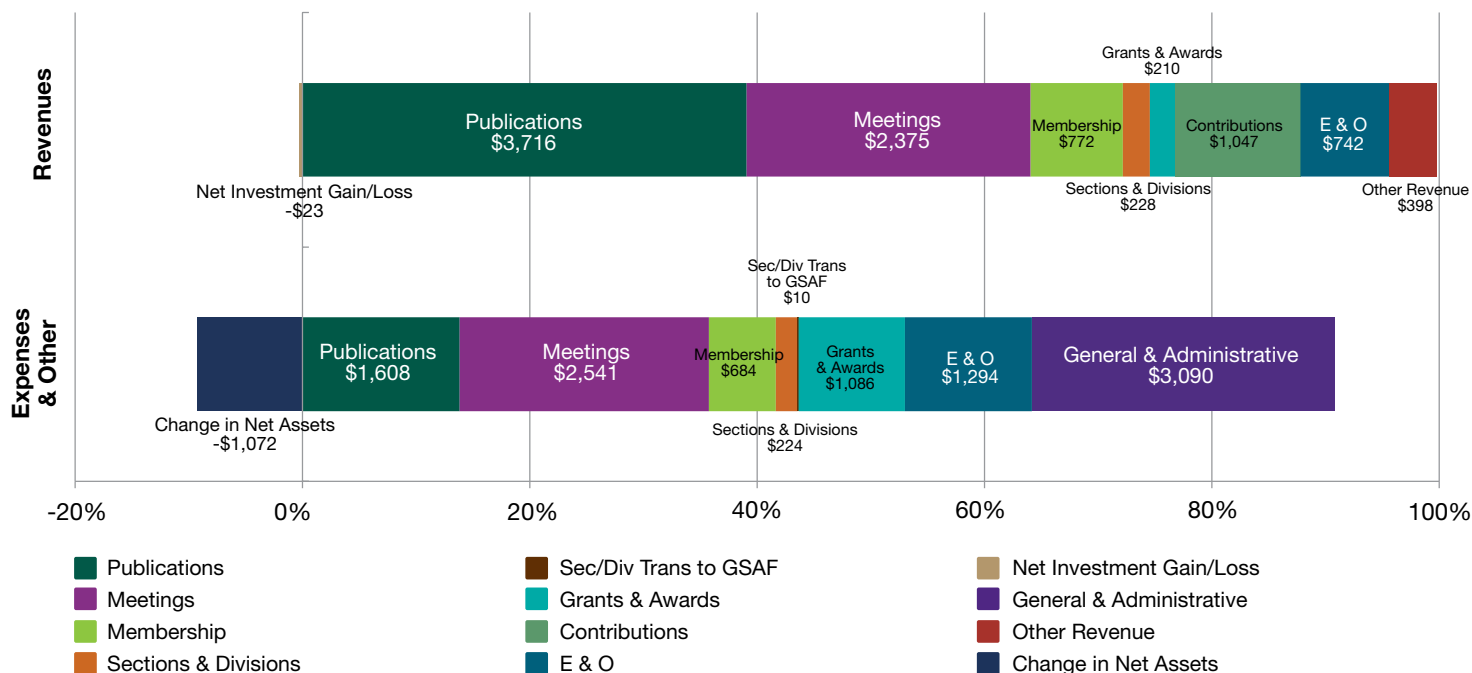
presented is for the combined GSA / GSA Foundation (GSAF) investment portfolio.

GSA and GSAF have a well-diversified combined investment portfolio and a dedicated team of volunteer members to manage these assets. Through FY20, the joint Investment Committee was composed of nine dedicated and knowledgeable voting members. The Committee relies on expertise and guidance provided by an outside consulting firm, Ellwood Associates. The Investment Committee continues to follow an investment strategy of diversification among investment asset classes within strategic allocation targets.

The Committee continues to search for members with the interest and aptitude to serve on the Investment Committee in the future. This service is a key component to

## GSA Audit Report Summary

year ended 30 June 2020 (in thousands)



A full copy of the combined audit report can be accessed at  
<https://www.geosociety.org/documents/GSA/about/fiscal/fy20/audit-report-fy20.pdf>.

The Treasurer's report can be accessed at  
<https://www.geosociety.org/documents/gsa/about/fiscal/fy20/treasurer-report-fy20.pdf>.



the long-term health of the portfolio, and consequently, the mission and longevity of GSA.

The Society's investment portfolio balance is primarily comprised of funds from R.A.F. Penrose (donated in the 1930s) and from Joseph T. Pardee (donated in the 1990s) and accumulated earnings on those funds.

Unrestricted funds are vital to the future of the Society because they can be used where Council designates there is greatest need. In recent years, these funds have supported strategic projects such as Penrose Conferences, government affairs, strategic planning, diversity programs and staffing, international programs, and Capital Campaign initiatives.

As indicated in the chart below, GSA investments have primarily increased or decreased due to overall varying market conditions. The investment balances also fluctuate from investment earnings, less amounts paid from the Pardee fund for Research Grants and amounts designated from unrestricted funds for strategic spending initiatives approved by GSA Council.

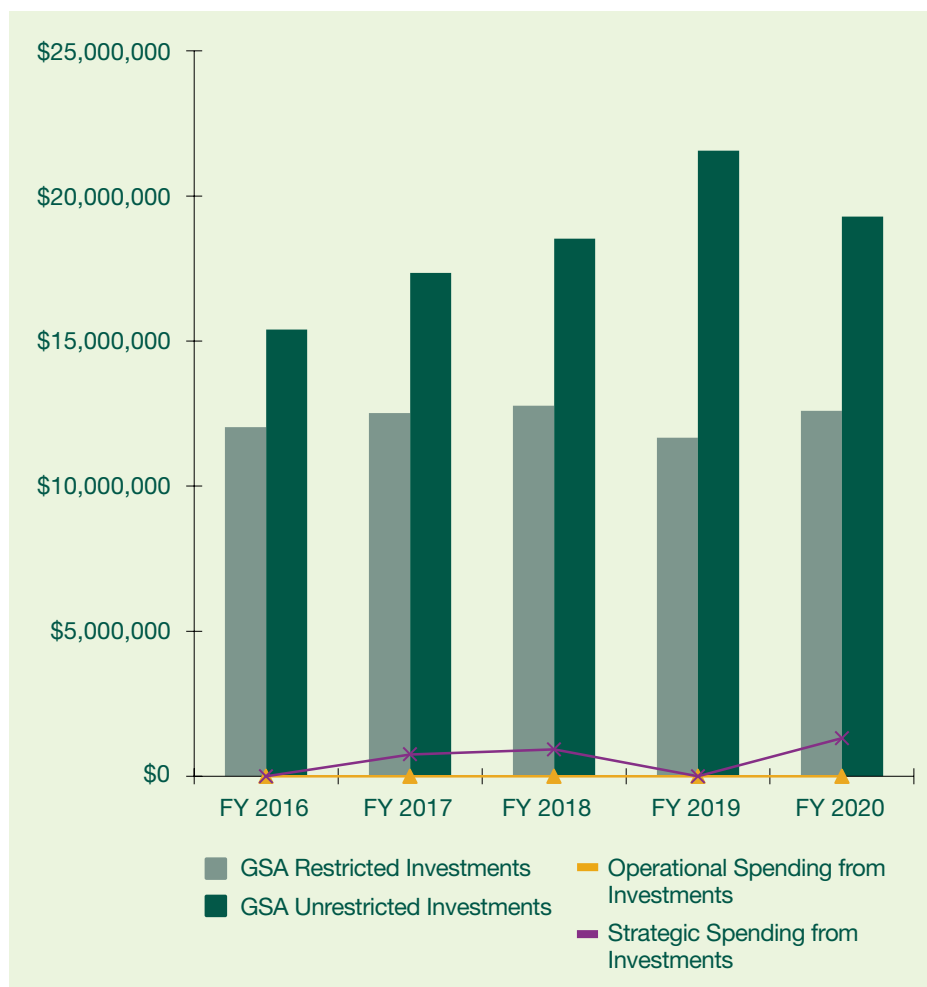
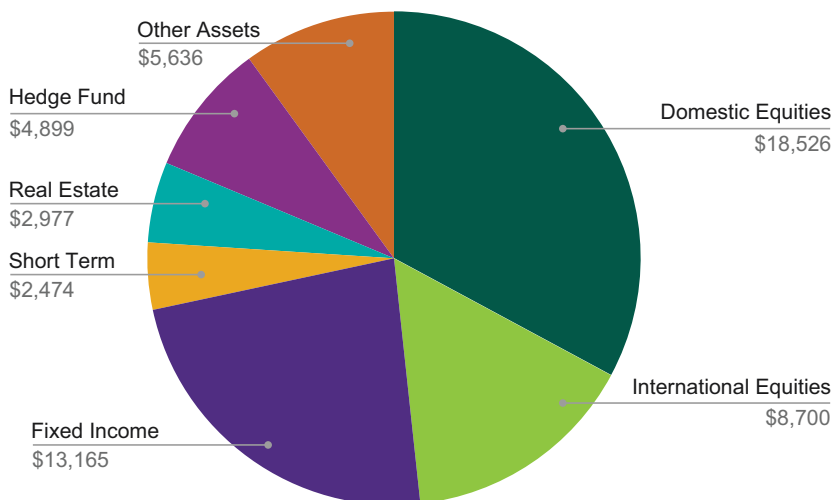
Council approved using Pardee funds for the student Research Grant program beginning in Fiscal Year 2004 and then approved spending unrestricted funds for strategic programs beginning in Fiscal Year 2006. This spending is governed by policy to ensure viability of the portfolio over the long term to ensure the continuing mission of GSA.

*GSA gratefully acknowledges the invaluable contributions of Richard Berg, Treasurer, and Carl P. Fricke, GSA Investment Committee Chair, for service to the Society and preparation of the financial and investment data included in this report.*

*The Investment Committee Chair's report and summary of the portfolio can be accessed at <https://www.geosociety.org/documents/gsa/about/fiscal/fy20/investments-report-fy20.pdf>.*

## GSA and GSA Foundation Jointly Managed Combined Investment Portfolio (in thousands)

30 June 2020



The yellow line indicates amounts paid to cover the gap between revenues and operating expenses which has been flat over the time presented. The purple line shows the fluctuation in strategic spending.

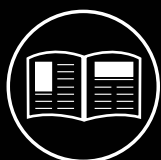
# Allied in Service to Members and the Larger Geoscience Community

GSA collaborates with these national and international Associated Societies, with consistent aims and missions of advancing the geosciences and/or science in general. As the Society looks to the future, it aims to build strong, meaningful partnerships with societies and organizations across the country and around the world in service to members and the larger geoscience community.

AASP - The Palynological Society	Geologica Belgica (GB)	Minnesota Ground Water Association (MGWA)
American Association of Petroleum Geologists (AAPG)	Geological Association of Canada (GAC)	National Association of Black Geoscientists (NABG)
American Geophysical Union (AGU)	Geological Society of Africa (GSAF)	National Association of Geoscience Teachers (NAGT)
American Institute of Professional Geologists (AIPG)	Geological Society of Australia (GSAus)	National Association of State Boards of Geology (ASBOG®)
American Quaternary Association (AMQUA)	Geological Society of China (GSC)	National Cave and Karst Research Institute (NCKRI)
American Rock Mechanics Association (ARMA)	Geological Society of London (GSL)	National Earth Science Teachers Association (NESTA)
Association for the Sciences of Limnology and Oceanography (ASLO)	Geological Society of South Africa (GSSA)	National Ground Water Association (NGWA)
American Water Resources Association (AWRA)	Geoscience Information Society (GISIS)	National Speleological Society (NSS)
Asociación Geológica Argentina (AGA)	Geoscience Society of New Zealand (GSNZ)	Nepal Geological Society (NGS)
Association for Women Geoscientists (AWG)	German Geological Society (GV)	Nigerian Society of Physical Sciences (NSPS)
Association of American State Geologists (AASG)	Groundwater Resources Association of California (GRA)	Paleontological Research Institution (PRI)
Association of Earth Science Editors (AESE)	History of Earth Sciences Society (HESS)	Paleontological Society (PS)
Association of Environmental & Engineering Geologists (AEG)	International Association for Geoscience Diversity (IAGD)	Seismological Society of America (SSA)
Association of Geoscientists for International Development (AGID)	International Association for Promoting Geoethics (IAPG)	Sigma Gamma Epsilon (SGE)
Blueprint Earth (BE)	International Association of Emergency Managers (IAEM)	Sociedad Geológica Mexicana, A.C. (SGM)
The Clay Minerals Society (CMS)	International Association of GeoChemistry (IAGC)	Società Geologica Italiana (SGI)
Colorado Scientific Society (CSS)	International Association of Geomorphologists (IAGC)	Society for American Archaeology (SAA)
Council on Undergraduate Research Geosciences Division (CUR)	International Association of Hydrogeologists (IAH)	Society for Environmental Geochemistry and Health (SEGH)
Cushman Foundation (CF)	International Association of Limnogeology (IAL)	Society for Mining, Metallurgy & Exploration (SME)
Environmental & Engineering Geophysical Society (EEGS)	International Medical Geology Association (IMGA)	SEPM (Society for Sedimentary Geology)
European Association of Geoscientists & Engineers (EAGE)	International Society for Aeolian Research (ISAR)	Society for the Preservation of Natural History Collections (SPNHC)
European Geosciences Union (EGU)	Israel Geological Society (IGS)	Society of Economic Geologists (SEG)
Geobiological Society (GBS)	Karst Waters Institute (KWI)	Society of Exploration Geophysicists (SEG)
Geochemical Society (GS)	Microanalysis Society (MAS)	Society of Vertebrate Paleontology (SVP)
	Mineralogical Association of Canada (MAC)	Soil Science Society of America (SSSA)
	The Mineralogical Society (MS)	Western Interior Paleontological Society (WIPS)
	Mineralogical Society of America (MSA)	



# Discover more with your GSA Membership



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Peer reviewed publications, free online *Geology*, *Geofacets*, and *GSA Today*



## **Advance your Skills —**

Career guidance & lifelong learning opportunities—tech sessions, short courses, career workshops



## **New Discoveries —**

Publish & present research, travel & research grants, field experiences



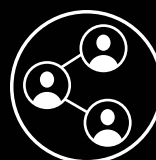
## **Be Recognized —**

Honors & awards for outstanding contributions to the science and community



## **Contribute to the Future —**

Mentoring, advocacy, volunteer & leadership opportunities



## **Connect with the Geoscience Community —**

21,000 worldwide member community, scientific Divisions, geographic Sections



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\*Applies to those in high income countries/territories