## The Geological Society of America

# Annual Report Fiscal Year 2014







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### Letter from the

## **GSA** President



Suzanne Mahlburg Kay, GSA President

iscal year 2014 marked the 125th anniversary of the founding of The Geological Society of America on 27 December 1888. This occasion was the focal point in designing my presidential address for the 2013 annual meeting in Denver, which was entitled "The 125th anniversary of the Geological Society of America: Looking at the past and into the future of science at GSA." Importantly, the principal reason for the founding of the Society in 1888 was to serve as a venue for scientific communication and publications in the geological sciences. Since then, GSA has retained this focus, while evolving beyond the vision of its founders. From its beginning with 100 fellows of fairly

similar backgrounds, GSA has grown into a broad and diverse organization of more than 26,000 members from over 110 countries that now includes a large student population. Nevertheless, as in its beginning, the primary activities remain organizing scientific meetings and conferences, publishing scientific literature, promoting geoscience education, and fostering public awareness of geoscience issues. Our goals—science, service and stewardship of the planet—are summed up in GSA's modern vision statement, which states we aspire "to be the premier geological society supporting the global community in scientific discovery, communication, and application of geoscience knowledge."

In the space available, it is impossible to summarize all of the activities and achievements of the Society in FY14, so I will highlight a few.

The 2013 annual meeting in Denver highlighted GSA's 125th anniversary with over 8000 attendees participating in a record number of scientific technical and Pardee sessions. A few of the special events at the meeting were a black-tie/Victorian gala at the History Colorado Center, featuring the performance of Symphony No. 1: Formations by the Boulder Philharmonic Orchestra, a work commissioned especially for the 125th anniversary; the appearance

of the 125th anniversary Lava Cap wines and the Field Assistant Ale from Left Hand Brewing Company; and the 2013 Michel T. Halbouty lecture by Colorado Governor John Hickenlooper. The Society's milestone was appropriately celebrated with great science and fellowship.

The spring of 2014 included a fantastic series of GSA Section Meetings with top science and enthusiastic participants. A few highlights of these meetings included the great venue and sessions on the Mississippian period and karst systems at the South-Central meeting in Fayetteville, Arkansas; a lecture on "'Fracking'—A Historical Perspective" by William Brice and sessions on the Appalachians and honoring the career of Allan Thompson at the Northeastern meeting in Lancaster, Pennsylvania; the symposia honoring the careers of Richard Bambach and Robert Neuman and the session on "Lessons Learned from the 2011 Virginia earthquake" at the Southeastern meeting in Blacksburg, Virginia; the lecture on "Evolution, Time, Tectonics, Asteroids, Climate and the Trajectory of Earth Science" by Kirk Johnson from the National Museum of Natural History at the Smithsonian Institution and the session on the Mid-Continent Rift at the North-Central meeting in Lincoln, Nebraska; and the symposia honoring the careers of Arthur Snoke and Kenneth Pierce at the joint Rocky Mountain-Cordilleran meeting in Bozeman, Montana.



### **GSA'S MISSION:**

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

### **GSA'S VISION:**

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

Two Penrose Conferences took place in FY14 as discretionary block grants of \$10K became available for the organizational support of Penrose Conferences and the recently renamed Thompson Field Forums. The conferences were *Predicting and Detecting Natural and Induced Flow Paths for Geothermal Fluids in Deep Sedimentary Basins,* held in Utah on 19–23 October 2013, and *Linkages and Feedbacks in Orogenic Processes—A Conference Honoring the Career of Robert D. Hatcher Jr.,* held in North Carolina on 30 March to 4 April 2014.

A number of new policy statements and information documents drafted by the Geology and Public Policy Committee (GPPC) came online with one of the most notable being the GSA Critical Issue information document on "Hydraulic Fracturing," which was long in the making and is an important resource for members, policymakers, and the general public alike.

A new GSA award for excellence in geologic mapping was approved by the GSA Council and will be implemented in FY15 through appointment of an award committee.

The signing of an agreement with the European Geosciences Union (EGU) in Vienna, Austria, in early May opened the door for joint sessions and increased

cooperation of the two societies and for three-way GSA-EGU-AGU-sponsored activities.

An item addressed in FY14 was GSA's approach to organizing and coordinating international effort. A retreat was held in New York City in January to discuss the issues, and as a result, GSA Council approved a new International Committee headed by an international secretary to replace the International Section and to coordinate international activities starting in FY15. Among international activities in the last year, GSA participated with a booth for the first time at the Argentine Geologic Congress in South America.

A proposal for a student advisory committee and student representation on GSA Council was well received at the division chair and section board meetings in 2014, and was approved by council at the spring meeting. Under this plan, which will go into effect in FY15, students nominated by sessions and divisions will join those serving on GSA committees to form a GSA student advisory committee. This committee will then elect a student representative to serve a one-year term as a non-voting member on the GSA Council. The first student representative will be elected and attend the council meeting at the 2014 annual meeting in Vancouver.

One of the greatest challenges facing GSA and other scientific societies at present is the future of publications and particularly the issue of open access, which will potentially change the way scientific publications are done. The beauty of open access is that publications will be open to read online and download freely anywhere in the world without paid subscriptions. However, with this comes the problem of the loss of publications-based revenue, which has helped to fund all Society programs. This was the most significant issue discussed at the Executive Committee retreat in September 2013 and the Programmatic Overview Committee meeting in January 2014, and will be a featured topic into the next several years. Keep an eye out for developments as plans emerge for tackling this opportunity and challenge.

Let me close by saying what an honor it has been to be GSA president in the 125th year, particularly as the founding meeting of the Society in 1888 occurred in Ithaca, New York, only a few blocks from my office at Cornell University. As we move beyond the 125th anniversary year, we can be confident that the Society has a great future as it continues toward its 150th and 200th anniversaries.

Suzanne Mahlburg Kay, GSA President



## GSA Fiscal Year 2014 Officers & Councilors

### **OFFICERS**

### Term: July 2013-June 2014



PRESIDENT Suzanne Mahlburg Kay Cornell University Ithaca, New York, USA



VICE PRESIDENT/
PRESIDENT ELECT
Harry (Hap) McSween
University of Tennessee–Knoxville
Knoxville, Tennessee, USA



TREASURER Jonathan G. Price Jonathan G. Price LLC Reno, Nevada, USA



PAST PRESIDENT George H. Davis University of Arizona Tucson, Arizona, USA

## COUNCILORS

### Term: July 2010-June 2014



Bruce R. Clark
The Leighton Group Inc.
Irvine, California, USA



Term: July 2011-June 2015

Janet S. Herman University of Virginia Charlottesville, Virginia, USA





Term: July 2012-June 2016

Isabel P. Montanez
The University of California at Davis
Davis, California, USA

Term: July 2013-June 2017



Elizabeth J. Catlos
The University of Texas at Austin
Austin, Texas, USA



Barbara L. Dutrow Louisiana State University Baton Rouge, Louisiana, USA



John M. Holbrook Texas Christian University Fort Worth, Texas, USA



Marilyn J. Suiter Arlington, Virginia, USA



John J. Clague Simon Fraser University Burnaby, British Columbia, Canada



**Daniel Larsen** University of Memphis Memphis, Tennessee, USA



Robert J. Tracy Virginia Polytechnic Inst. & State University Blacksburg, Virginia, USA



William W. Simpkins Iowa State University Ames, Iowa, USA



**Neil Fishman** Hess Corporation Houston, Texas, USA

### Annual letter from the

## **GSA** Executive Director

1 July 2013-30 June 2014

he Geological Society of America continues to keep an eye on its overarching Vision as it executes its critical Mission. The Washington Office, as part of GSA's National Leadership Initiative, continues to gain visibility for the Society in the public policy arena, and we have been speaking out for the solid earth community. GSA has been active globally this fiscal year, giving members a voice at meetings around the world, including the meetings of the European Geosciences Union (EGU), the Geological Association of Canada-Mineralogical Association of Canada (GAC-MAC), and the Goldschmidt Conference.

The Annual Meeting in Denver attracted over 8000 attendees from across the globe. Spring 2014 Section Meetings had a combined attendance of 3388. The Denver meeting saw the launch of the On To the Future initiative to bring 125 diverse firsttime student attendees to the meeting. Our participation in GeoScienceWorld continues to be of immense scientific value, as well as a good source of revenue, and our publications continue to grow. In Education and Outreach, EarthCaching is expanding rapidly around the world and the GeoCorps® America program is bringing more geoscience positions to federal lands than ever before. Mentoring programs are in demand at both annual and section.

meetings. Membership continues to grow, ending CY2013 at nearly 26,400 members.

Fiscal year 2014 was financially good for the Society. We closed the year with a surplus thanks to the hard work of all concerned. GSA has now ended in the black for twelve years in a row.

The Society's new Strategic Plan, which includes revised Mission, Vision, and Goals, was rolled out as part of the Society's 125th anniversary in 2013. A FY14 Action Plan was developed to implement the first year of the Strategic Plan. I would like to challenge all of our members to help the Society achieve the grand goals set forth in the new plan.

My major role is to create an environment in which both the Society leadership and staff can, with appropriate resources, advance science through high-quality meetings and publications; develop strong and meaningful relationships with other societies and organizations around the world; facilitate GSA's role in the education of students, the lay public and policy makers; and develop more sponsorship and donations for GSA programs.

The Society had much to be proud of as we celebrated our 125th anniversary in 2013.

We publish highly respected journals, present high-quality and exciting meetings,



John (Jack) W. Hess GSA Executive Director

constantly work to improve service to our members and customers, and continue to build significant partnerships with societies around the world. The Society has strengthened its public policy efforts and is developing its strategic vision for its international role in the future.

Thank you for your continuing support. I look forward to a long-term, open, and positive relationship with the members, Council, and staff.

John W. Hess, Executive Director



## Membership

Where Geology and People Come Together

GSA's 26,400 members comprise a diverse community: Professional geologists, students, recent graduates, K-12 teachers, and affiliates, in 115 countries—organized into 7 regional Sections, with 27+ scientific specialties, belonging to one or more of 17 special interest Divisions, from education, industry, and government

### **Supporting Students**

GSA supports students in their pursuit of careers in the geosciences, offers programs to aid in their success, and provides benefits designed specifically around their needs.

GSA student members, who represent 34% of GSA's membership, benefit from access to career enhancement programs, internships, travel and research grants, free online access to GSA journals (over US\$195 value), and one free special interest Division of choice, in addition to all other membership offerings at reduced student member rates.

In support of geoscience students and helping them engage in the Society, 550 professional members in 37 countries serve as Campus Representatives to encourage their students to pursue careers in the geosciences, and to take advantage of programs and services offered through GSA membership.

One of the most successful student programs is the GSA Graduate Student Research Grants Program—one of the largest and most prestigious funding programs for graduate students in the geosciences. The program helps fund field and laboratory costs of geoscience projects proposed and conducted by master's and doctoral student members at universities in the United States. Canada, Mexico, and Central America. Throughout its more than 80-year history, the GSA Research Grants Program has awarded nearly 11,000 geoscientists more than US\$14,000,000 to conduct research. For FY14, 774 students applied for funding and 401 were awarded a grant (52%). The total amount of money granted was US\$683,535. The average grant amount awarded before the close of FY14 was US\$1680



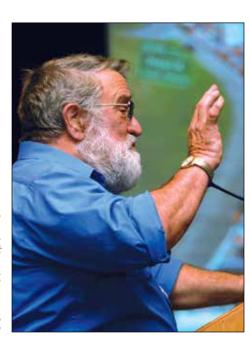
#### **Awards**

In support of our mission to advance the geoscience profession, GSA honors outstanding scientific achievement each year at the GSA Awards Ceremony held during the annual meeting. The three highest awards are the prestigious Penrose Medal, the Arthur L. Day Medal, and the Young Scientist Award (Donath Medal).

#### Other notable honorees include:

- President's Medal of the Geological Society of America
- GSA Public Service Award
- Randolph W. "Bill" and Cecile T.
   Bromery Award for Minorities
- GSA Distinguished Service Award
- Subaru Outstanding Woman in Science Award
- John C. Frye Award
- AGI Medal in Memory of Ian Campbell
- Honorary Fellows
- GSA Fellowship
- and a number of GSA Division Awards.

Information about the awards, the nominations process, and recipients is available at geosociety.org/awards/.





### **GSA International Initiatives**

With over 2000 members outside of North America, GSA remains active within the international geoscience community in the belief that "science knows no borders." Beyond the United States, Canada, and Mexico, most of our members reside in the United Kingdom, Germany, Japan, Australia, and China. There are several arenas in which we work to accomplish our international strategic goals:

- International Section activities
- International travel grants
- Partnerships with international Associated Societies
- Partnering on international meetings
- International lecture tour
- GSA representation on international committees, commissions, and projects
- International campus representatives.

A high impact international initiative is the GSA International Lecture Tour. Dr. Marjorie Chan represented GSA as the 2014 Distinguished International Lecturer and delivered two lectures throughout India, New Zealand, Australia, China, and Japan on the themes: Eolian Explorations: Dunes, Deformation, & Diagenesis and Mars for Earthlings: Using Earth Analogs to Decode the Sedimentary History of Mars. Dr. Chan lectured to approximately 2600 people through her 51 lectures and relayed her experiences to the GSA membership through her popular blog posts, which combined local culture and geology (http://geosociety.wordpress.com /category/international/). Her blogs helped inform members of connections to people, places, culture, and how GSA is reaching out globally.

GSA has Associated Societies based outside of the United States and partners with them in order to develop strategic initiatives:

#### Societies in other countries:

Asociación Geológica Argentina (AGA)

European Geosciences Union (EGU)

Geologica Belgica (Geological Society of Belgium) (GB)

Geological Society of Africa (GSAf)

Geological Society of Australia (GSAus)

Geological Society of China (GSC)

Geological Society of London (GSL)

Geoscience Society of New Zealand (GSNZ)

Geological Society of South Africa (GSSA)

Geologische Vereinigung (Germany) (GV)

Israel Geological Society (IGS)

Nepal Geological Society (NGS)

Sociedad Geológica Mexicana, A.C. (SGM)

Società Geologica Italiana (SGI)

### **Special interest international societies:**

Association of Geoscientists for International Development (AGID) Blueprint Earth (BE)

International Association for Geoscience Diversity (IAGD)

International Association of Emergency Managers (IAEM)

International Association of GeoChemistry (IAGC)

International Association of Hydrogeologists (IAH)

International Medical Geology Association (IMGA)

International Society for Aeolian Research (ISAR)

The Mineralogical Society (MS)

Society for Environmental Geochemistry & Health (SEGH)

Society of Exploration Geophysicists (SEG)



# **Publications**

### Communicating Geoscience Discovery

### **Journals**

GSA's peer-reviewed journals are available at www.gsapubs.org, on an annual DVD, and through GeoScienceWorld. Accepted papers are posted online as they are ready.

GSA Bulletin, published since 1890, is published in print and online bimonthly. With new content added in FY14, archives from 1923 to the present are now online. 2014 impact factor\*: 4.398; five-year: 4.897.

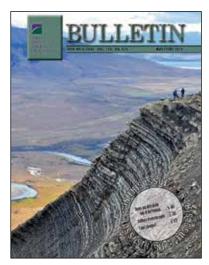
Geology's short papers on new investigations and provocative topics from all earth-science disciplines are published monthly online and in print; online archives go back to volume 1 (1973). It has ranked as the #1 geology journal for eight years in a row. 2014 impact factor: 4.638; five-year: 4.925.

Geosphere, published bimonthly online, covers all geoscience disciplines and features papers with animations, sound, and movie files, as well as collections of themed issues. 2014 impact factor: 2.372; five-year: 2.743.

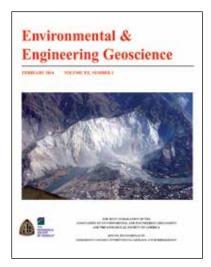
Lithosphere, providing an outlet for the high interest in tectonics and structural geology, is distributed online and in print bimonthly. It is now ranked fifth among geology journals worldwide. 2014 impact factor: 2.687; five-year: 2.811.

Published jointly by the Association of Environmental and Engineering Geologists and GSA is the quarterly *Environmental & Engineering Geoscience*. Online at GeoScienceWorld, it contains new theory, applications, and case histories illustrating the dynamics of environmental and applied disciplines. 2014 impact factor: 0.596; fiveyear: 0.689.

GSA Today, GSA's science and news magazine for members and the earth-science community worldwide, features science articles as well as member news and announcements. It is open access online at www.geosociety.org/gsatoday.

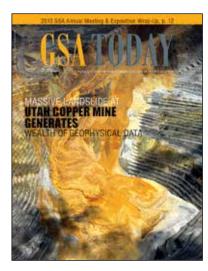


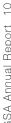








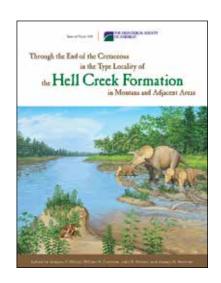


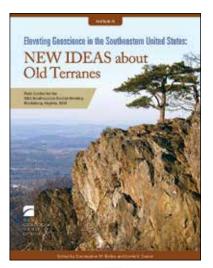


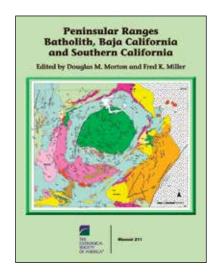
### **Books and Maps**

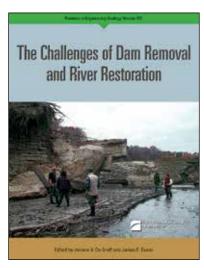
GSA published 20 peer-reviewed scholarly books and maps in fiscal year 2014. The Special Paper series (nine volumes in FY14) is for state-of-the-art treatments of rapidly evolving subjects. Memoirs (one volume in FY14) remain an authoritative reference for a number of years. Field Guides (six volumes in FY14) feature guides from field trips held at GSA meetings and those of associated organizations. The Reviews in Engineering Geology series is produced in cooperation with GSA's Environmental and Engineering Geology Division. Two printed maps, six digital maps, and six individual Memorials (to deceased GSA members) were published in FY14. GSA also published its annual calendar, featuring images from annual meeting photo exhibits, and a collection of notecards featuring images from book and journal covers.

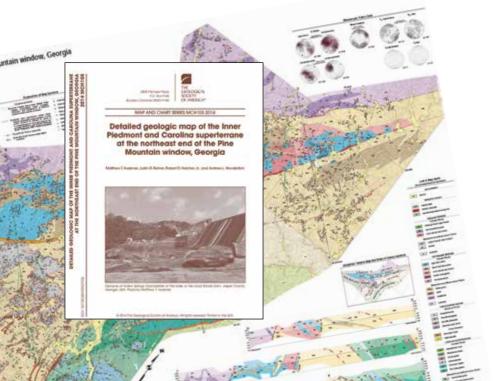
GSA's e-book collection (www.gsapubs .org) includes Special Papers, Field Guides, Memoirs, and Reviews in Engineering Geology volumes in PDF back to volume 1 from each series. Individual papers from Special Paper and Memoir volumes in progress are now posted "Online First" at the website as they are ready. Also new in FY14 is the addition of the complete digitized Decade of North American Geology, available at GeoScienceWorld and at the GSA Store. Other digitized books available at GeoScienceWorld include the GSA Field Guide and Reviews in Engineering Geology volumes, Engineering Geology Case Histories, GSA Microform Publication Series, Penrose Field Guides, and numerous non-series books.













### **Geofacets**

In September 2013, GSA began participating in Geofacets, contributing about 80,000 maps from GSA publications. Geofacets, a research tool primarily for exploration geoscientists that lets subscribers search and download thousands of georeferenced geological maps and other content, is designed for institutions, but GSA members can subscribe to the GSA Millennium Edition (30,000+ items published from 2000 to the present).

# Meetings

### Connecting the Geoscience Community

SA meets the need for face-to-face scientific exchange and networking with meetings and programs of the highest quality throughout the year. These include the Annual Meeting and Exposition, regional GSA Section Meetings, prestigious Penrose Conferences, Thompson Field Forums, and specialty meetings. In fiscal year 2014, GSA hosted eight meetings and conferences, bringing together thousands of geoscience professionals and students.

The 2013 Annual Meeting and Exposition celebrated the 125th Anniversary of the Society. Held in Denver, Colorado, 27–30 October, 8061 attendees from 62 countries enjoyed events honoring GSA's past as well as looking toward the future. The special events and unique opportunities enjoyed at the meeting included a 125th Gala Dinner, which included a performance by the Boulder Philharmonic Orchestra of a

new symphony, Formations, created for GSA's anniversary and inspired by Colorado's geology. Hundreds of students enjoyed an evening at the Denver Museum of Nature & Science, and a special label beer, Field Assistant Ale from Left Hand Brewing Company, was presented to attendees in abundance. A record 4792 abstracts were presented, 22 field trips ran, and 29 GSA short courses were held. Hundreds of volunteers participate yearly in the 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 abroad. There is something for everyone at the GSA Annual Meeting!

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. The 2014 section meetings were held across the country,

bringing together 3388 scientists. Section meetings are a great opportunity for members. Meetings were held in Lancaster, Pennsylvania (GSA Northeastern Section), Blacksburg, Virginia (GSA Southeastern Section), Fayetteville, Arkansas (GSA South-Central Section), Lincoln, Nebraska (GSA North-Central Section), and Bozeman, Montana (Joint GSA Rocky Mountain and Cordilleran Sections).

GSA's Penrose Conferences were established in 1969 to bring together multidisciplinary groups of geoscientists and facilitate an open and frank discussion of ideas in an informal atmosphere, as well as to stimulate individual and collaborative research. Two Penrose Conferences were held during FY14. Predicting and Detecting Natural and Induced Flow Paths for Geothermal Fluids in Deep Sedimentary Basins was held 19-23 October 2013 in Park City, Utah, USA. Eighty-two scientists attended. Linkages and Feedbacks in Orogenic Processes—A Conference Honoring the Career of Robert D. Hatcher Jr. was held 30 March-4 April 2014 in Asheville, North Carolina, USA. Fifty-seven people attended.



Boulder Philharmonic Orchestra of Colorado, Jeffrey Nytch composer.



### **Section Meetings**



Wilson Park, Fayetteville, Arkansas; used with permission of Wikimedia Commons.



Ohiopyle falls at Ohiopyle State Park, Ohiopyle, Pennsylvania; used with permission of Wikimedia Commons.



Blue Ridge Mountains, Shenandoah National Park, Virginia. Photo by Amrinder Arora; used with permission of Wikimedia Commons.



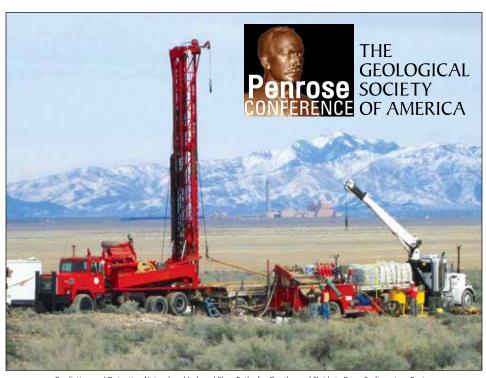
Chimney Rock National Historic Site, Morrill County, Nebraska. Photo by Allen Stutheit; used with permission of Wikimedia Commons.



Grinnell Glacier, Glacier National Park, Montana. Public domain.







Predicting and Detecting Natural and Induced Flow Paths for Geothermal Fluids in Deep Sedimentary Basins.

19–23 October 2013, Park City, Utah, USA. Northern Black Rock Desert, Utah, USA,
a basin where temperatures of less than 200 °C were found in Paleozoic carbonates at 3 km depth during oil exploration drilling in 1981.



## Education & Outreach

Nurturing Current and Future Generations



arth science education and outreach activities at all levels are at the core of GSA's mission to increase appreciation of Earth's history, processes, and resources.

GeoCorps America™ had a milestone year. The Bureau of Land Management, the National Park Service, and the U.S. Forest Service hosted 140 projects on public lands all across the country. Interest in GeoCorps, from partners and participants, continues to grow. This growth is a positive sign for the program's relevance and resilience. The Mosaics in Science program, a partnership between the National Park Service and GSA designed to promote further diversity among those working in Science, Technology, Engineering and Math (STEM) with the National Park Service, almost doubled in its second year. The program hosted 22 participants, all from groups underrepresented in the sciences, to complete STEM projects at National Park sites. More than 30 of these GeoCorps and Mosaics in Science participants attended the 2013 GSA Annual Meeting to present their work. In addition, due to its involvement in GeoCorps America and Mosaics in Science, GSA was named one of the 91 initial

members of the 21st Century Conservation Service Corps this year, and GeoCorps America has become an affiliate member of The Corps Network.

GSA Mentor programs were once again a highlight for students at the 2014 section meetings and the 2013 annual meeting, providing mentoring opportunities for more than 1000 students with more than 240 mentors.

The Short Course program is thriving. The 2013 annual meeting saw 662 people attending 29 courses. This is our largest short course participation to date, the second highest was in 2012 with 567 people. Student attendance represented 44% of the total and the average course fee was only \$44. The lower costs associated with these courses have served to make them more accessible to everyone.

The GSA/ExxonMobil Bighorn Basin Field Award, an extension of the Short Course program, ran in 2013 with five faculty, five graduate students, and 15 undergraduate awardees. This program seeks to energize and enhance the education of geology students and faculty by introducing them to the breadth and challenges of integrated basin and petroleum systems analysis.

In summer 2014, the GSA/ExxonMobil Field Camp Excellence Award provided \$10,000 to the University of Missouri Branson Field Laboratory, based on safety awareness, diversity, and technical excellence.

The GSA/ExxonMobil Field Camp Scholar Award was given to 20 students (eleven with diverse backgrounds), who were each awarded \$2000 to attend the field camp of their choice based on diversity, economic/financial need. and merit.

The Employment Service Center (ESC) is GSA's online résumé database system and is free to all GSA members. In 2013, there were 855 active résumés in the database. The ESC is also available to employers who are seeking candidates for open positions. For a fee, potential employers can view résumés and interview candidates at the annual meeting. In 2013, the ESC sold 15 spots at the annual meeting to host on-site interviews.

The Geoscience Careers in Industry program originated from a need to readily address future workforce shortages in the geosciences. The Careers in Industry program connects students and recent college graduates with private sector professionals in a series of events offered at the annual meeting. Events include a career workshop, student poster session, professional career panel, and professional practice session where students have the opportunity to learn about working in a particular company, and ends with a networking reception. Popularity of these events is undeniable; at the 2013 annual meeting, student registration ranged from 137 to 256 students per event.

The EarthCache™ program, an educational geocaching project that takes the general public to interesting Earth science sites, has continued to grow this year. More than 4 million people have logged visits to EarthCache sites since its inception. The Second International EarthCache Mega Event took place in September 2013, among the red rocks of St. George, Utah. Over 300 people from around the world attended, and plans for the third event, which will be held in Duncan on Vancouver Island, Canada, are well underway.

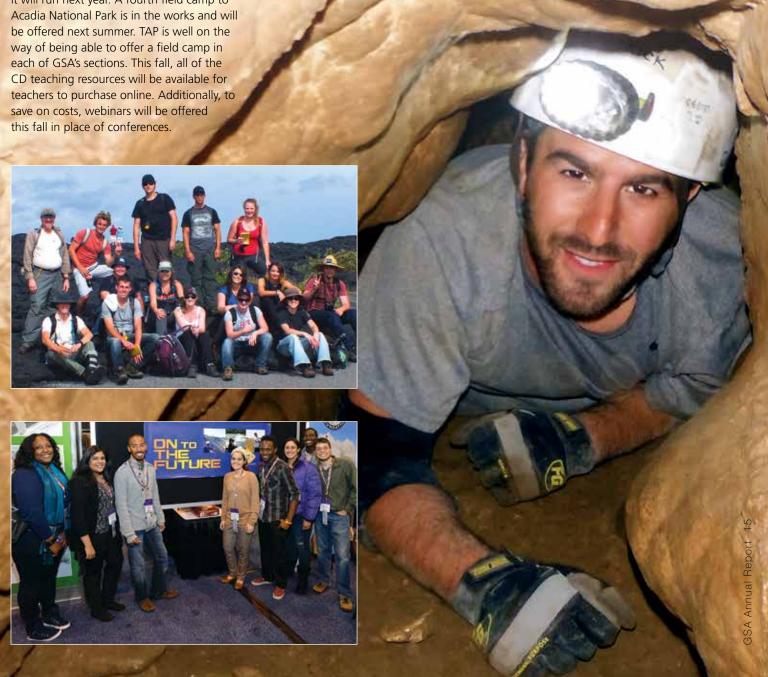


The Teacher Advocate Program (TAP) had a very successful year. Workshops were taught at the National Science Teachers' Association National and Regional Conferences, the Ohio Science Teachers Conference, the Northwest Ohio STEM Conference, and AGI. More than 345,000 students and 2600 teachers benefited from these workshops. Field camps continued to be successful this year. The Rocky Mountain Field Camp ran for the second year with nine teachers. The Mammoth Cave Field Camp was developed and will run with eight teachers. A third field camp was developed but was not able to run because we were just shy of having the number of teachers needed. There is interest in the trip and we are hopeful that it will run next year. A fourth field camp to Acadia National Park is in the works and will be offered next summer. TAP is well on the way of being able to offer a field camp in each of GSA's sections. This fall, all of the CD teaching resources will be available for teachers to purchase online. Additionally, to save on costs, webinars will be offered this fall in place of conferences.

Teachers, college students, and geologists attended GeoVentures located in Moab, Hawaii, and Iceland this year. These trips continue to extend the field-based offerings for GSA members and their friends. This year the program has been extended to the EarthCache community, with a November trip planned and fully subscribed to study the volcanoes on Hawaii.

The On To the Future (OTF) program is an initiative that addresses the GSA's overall strategic commitment to building a diverse geoscience community by engaging

groups traditionally underrepresented in the geosciences. The OTF program awards travel scholarships to undergraduate and graduate students, and recent graduates studying in the geosciences, to attend their first GSA Annual Meeting. In 2013, 121 students were supported to attend the 2013 annual meeting. In 2014, a record number of students applied to the program—more than 180. GSA aims to support 125 underrepresented students to attend the 2014 annual meeting in Vancouver, BC, Canada.



# Thank You Sponsors

(as of 30 June 2014)

GSA and the Foundation are pleased to collaborate in a wide range of sponsorships supporting the annual meeting, and more: field camps, teacher excellence recognition, geoscience students' field camp attendance, undergraduate diversity scholarships, and a number of in-kind services are all made possible thanks to partners and sponsors. We were pleased to launch the Geoscience Careers in Industry program, fully supported by a variety of sponsors.

Our 125th anniversary year and meeting offered distinctive projects that reached into local communities and continue to reach those at a distance. We aim to increase unique sponsorship opportunities that shed a spotlight on GSA and partners—even beyond our membership and regular supporters.

The combined efforts of business and science can make a greater difference than any organization alone. As GSA strives to

convey and expand its relevance to the private sector, we look forward to building new 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 that join us in the meaningful impacts of partnership.

### **DOUBLE DIAMOND**





Confidence in Motion
Subaru of America Inc.

ExxonMobil

#### DIAMOND



Left Hand Brewing Company\*

#### **PLATINUM**



Anadarko



Chevron



GigaPan Systems\*



She





NEWMONT.

Newmont Mining Corporation



#### **SILVER**

American Elements CH2M HILL Hess Corporation Image Audiovisuals\*

Jackson School of Geosciences, The University of Texas at Austin

Moxie Sozo

### CONTRIBUTORS

Dept. of Earth and Atmospheric Sciences, University of Northern Colorado
Dept. of Earth & Planetary Sciences, Northwestern University
Moncrief Petroleum Geology Dept., Western State College of Colorado
Paleontological Society

### **PARTNERS**

Lava Cap Winery

# Government Affairs & Public Policy

Bridging the Geosciences and Public Policy

eep up with policy developments by subscribing to GSA's "News from the Hill" RSS feed (http://feeds.feedburner.com/ GSAGeologyAndPublicPolicyNews).

### **GSA Advocates for Geoscience Research Funding**

GSA testified in support of geoscience research at the U.S Geological Survey (USGS). National Science Foundation (NSF), and National Aeronautics and Space Administration (NASA). On 10 April 2014, GSA past president John Geissman testified before the House Committee on Appropriations Subcommittee on Interior, Environment, and Related Agencies and requested that Congress provide an increase in funding for the USGS. GSA also submitted testimony to the Senate and House Appropriations Subcommittee on Commerce, Justice, Science, and Related Agencies supporting geoscience research at NSF and NASA. As funding cuts known as the "sequester" and a government shutdown dominated the policy discussions, GSA worked with policymakers and coalitions to emphasize the importance of geoscience research and the impact that cuts would have on the future of the U.S. research enterprise and our capacity to remain a competitive nation.

### **Meet with Policymakers**

GSA provides opportunities for its members to discuss geoscience policy issues with members of Congress by participating in Congressional Visits Days, including Climate Science Day (28–29 February 2014), Science-Engineering-Technology Congressional Visits Day (25–26 March 2014), and Geosciences Congressional Visits Day (17–18 September 2013). Participants begin with an afternoon orientation program that includes updates on current legislation, background on the organization and structure of Congress, and strategies to build relationships between scientists and policymakers. The second day is devoted to congressional visits in teams based on geographic location that are paired with a society staff member.

Can't come to D.C.? Join other geoscientists in Geoscience Congressional District Visits Day, and meet with your elected representatives when they return to their home districts! This is a great opportunity to have a direct impact on the process of government and to expand your science communication skill set. Contact GSA to participate.

# **GSA Sponsors Congressional Exhibitions and Briefings**

GSA joined with the American Geophysical Union and the American Geosciences Institute to highlight the contributions of the USGS hazards program at the Science-Engineering-Technology Exhibition and Reception (25 March 2014) and discoveries of ocean drilling at the Coalition for National Science Funding reception (7 May 2014). Both of these events attracted more than two hundred attendees. As co-chair of the USGS Coalition Reception and Exhibition (17 September 2013), GSA played a lead role in this event honoring congressional champions of the USGS and highlighting its research and applications.

GSA joined with many geoscience societies and agencies to hold a new briefing series that provided the geoscience underpinning that is essential for effective energy and environmental policy making. The Energy from the Earth series featured leading experts discussing topics ranging from carbon capture and storage, to natural gas, to geothermal, to global energy trends during six well-attended congressional briefings.

GSA also sponsored briefings on earthquakes, landslides, Earthscope, and flood maps through the Natural Hazards Caucus Alliance.

### **Congressional Science Fellow**

Anna Mebust served as the 2013–2014 GSA-USGS Congressional Science Fellow. She spent a year working in the office of Senator Bernie Sanders (I-VT) on climate change, energy, and other science policy issues.

# **New GSA Position Statements Adopted**

GSA Council approved two new Position Statements during this fiscal year: "Critical

Mineral Resources" and "Managing U.S. Coastal Hazards." In addition, a new Hydraulic Fracturing Critical Issues (CI) website was created to provide a resource on this important topic. The site received more than 11,000 views in its first three months and has been used by the media, educators, GSA members, and policymakers.



Anna Mebust, 2013–2014 GSA-USGS Congressional Science Fellow.



Kasey White, GSA's Director for Geoscience Policy, presents the USGS Coalition Leadership award to Rep. Ken Calvert.



Suzanne O'Connell, chair of the Geology and Society Division, meets with Sen. Richard Blumenthal during Geosciences Congressional Visits Day.

## **GSA** Foundation

#### The Foundation

The Geological Society of America Foundation's mission is to support the programs of the Geological Society of America. The Foundation welcomes contributions from individuals, corporations, foundations, and institutions.

### **2013–2014 Highlights**

In fiscal year 2014, the GSA Foundation received contributions of approximately \$1.25M from individual GSA members and corporations. This makes FY14 one of our most successful years ever. Our success was assured by 4818 separate gifts at all levels—the largest number in the Foundation's 34-year history.

The responsibilities of the Foundation are to (1) support GSA programs and (2) preserve the Foundation's assets for the future. With respect to the first (see chart below), we were able to provide GSA with \$960,000 to support its programs—a record amount. This is a 56% increase in just the past five years. With respect to the second responsibility, the Foundation's assets ended the year at a historic high—more than \$16M as compared with \$14M at the end of FY12 (see the GSA/ GSAF Investment Committee report on the portfolio as Foundation funds are managed by the joint GSA/GSA Foundation Investment Committee). We have recovered from the Great Recession of FY10.

We are pleased that in FY14 we initiated the ExxonMobil Research Awards program that supports ten dissertation grants at the level of \$7500 apiece and additionally supports travel to the GSA Annual Meeting for selected recipients of research awards. Several other research funds have been created to honor several distinguished GSA members. These include:

- The Robert D. Hatcher Research Award for field-based research in the Appalachian orogen
- The John (Jack) W. Hess Research Award for karst studies
- The Lauren A. Wright and Bennie W. Troxel Research Award for research in Death Valley and portions of the Basin and Range Tectonic Province.

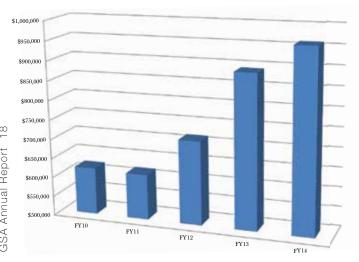
Looking back on the activities of FY14, the Society can take great pride in the initiation of the On To the Future (OTF) Program—a 125th anniversary year challenge to the Society from the GSA Diversity Committee, making it possible for 125 students from underrepresented groups to attend their first-ever annual meeting. Building on the

success of this project at the Denver meeting in October 2013, the Foundation received a very generous three-year grant of \$172,500 from Jeffrey and Paula Gural to provide continuing support for the On To the Future project as a tangible legacy of GSA's 125th anniversary and to assist nontraditional students enrolled at urban/metropolitan universities to attend a GSA Northeastern Section Meeting. The OTF program received in excess of \$70,000 in new support from members, corporate partners, sections, divisions, and associated societies in its inaugural year.

Another legacy of the Society's 125th anniversary was the commissioning and world premiere of Formations, a fourmovement symphony by composer Jeffrey Nytch of the University of Colorado School of Music (online at www.geosociety.org/ 125/BPOC.htm). Performed in FY14 by the Boulder Philharmonic (including a performance at the GSA Annual Meeting in Denver) and the Denver Philharmonic, future performances are now being scheduled. This project was funded by a grant from ExxonMobil to the Foundation.

The Foundation is pleased to announce the election of two new Trustees to serve on its board for the next five years. They are: Barbara Dutrow, Adolphe G. Gueymard

## Foundation Support of GSA





Professor of Geology in the Department of Geology and Geophysics at Louisiana State University, and **Jeffery Oslund**, recently retired Manager of Geoscience Career Development and Recruiting, Anadarko Petroleum Corp., Houston, Texas.

#### The Future

As we have in the past, the Foundation will host its Silent Auction, Senior Fellows Reception, Pardee Coterie breakfast for those who include the Foundation in their estate plans, and Penrose donor lounge for Penrose Circle level (\$500/a) contributors at the Annual Meeting in Vancouver. We hope you can join us there.

Finally, this is my last opportunity to report on the work of the Foundation as its president as I retire effective 31 December 2014. It has been an honor and a joy to help raise critical resources to support the vast array of important programs at GSA. I have been endlessly impressed over the past four-and-a-half years with the commitment of GSA and Foundation professional staff; the magnificent generosity of GSA members in terms of their gifts of time, expertise, and monetary resources to both the Society and the Foundation; and the critical attention paid by all to achieving the priorities determined by GSA Council for the betterment of our profession. I am also pleased that Jack Hess, retiring executive director of GSA, has consented to assume the leadership of the Foundation at this critical time in the Society's history. No one could be better suited to this task.

The work of the Foundation on behalf of the Society and its members is ongoing and grows in importance each year. I encourage every member to avail themselves of the opportunity to serve GSA and to support the Foundation in their combined efforts to ensure the dynamism and strength of the geosciences. I certainly intend to continue to do so post-retirement.

P. Geoffrey Feiss, GSA Foundation President



The GSA International Lecture Tour is made possible through a gift to the GSA Foundation and is organized under the guidance of GSA's International Section. Chan's lectureship is cosponsored with generous support from the University of Utah.







# **GSA** Operations Report

(in millions)

Fiscal Year 2014 (FY14) ended the year with revenues approximately \$1M ahead of budget and expenses on budget. This result reflects the continuing dedicated commitment of all staff and volunteers. Brock and Company completed their combined audit report of GSA for FY14 and issued an unqualified opinion.

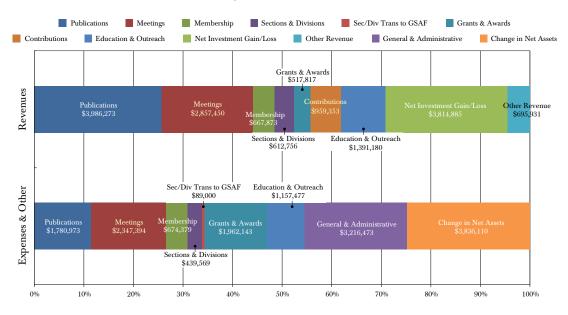
Compared to Fiscal Year 2013 (FY13), the change in net assets before investment earnings increased \$1.2M (101%). The principal components of this favorable difference are net increases for Publications (\$.6M) and Meetings (\$.4M) operations.

During FY14, GSA drew from investments \$.4M for strategic spending and Council authorized \$.3M from the Pardee fund for research grants and meetings.

For FY14, the Society had a net investment gain of \$1.1M compared to an investment gain in FY13 of \$2.7M. These principally reflect a result of general worldwide economic and market conditions.

### **GSA Audit Report Summary**

(year ended 30 June 2014)



# GSA Investment Portfolio Report

During FY14, the GSA portfolio in total increased \$2.8M (12%), net of withdrawals, due primarily to market conditions through year-end.

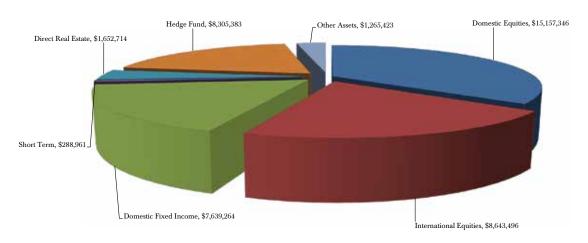
GSA and the GSA Foundation have a well-diversified investment portfolio and a dedicated team of volunteer members to manage these assets. Through FY14, the joint Invesment Committee was composed of eight dedicated and knowledgeable

voting members. The Committee relies on expertise provided by an outside consulting firm, Watershed Investment Consultants, Inc. A formal evaluation of these services was performed in FY13, and Watershed replaced Innovest Portfolio Solutions as the investment consultant as of 1 January 2014. The organization continues to follow an investment strategy of diversification among investment 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 the long-term health of the portfolio, and consequently, the mission of GSA.

### **GSA and GSA Foundation Joint Managed Investment Portfolio**

(year ended 30 June 2014)



Unrestricted funds are vital to the future of GSA because they can be used where Council deems there is greatest need. In recent years, these funds have supported strategic projects such as digital publications, Government Affairs, E&O programs and staffing, and Social Media staffing.

As indicated in the chart below, GSA investments have primarily increased or decreased due to overall market conditions.

The investment balances also fluctuate from investment earnings, less amounts paid from the Pardee fund for Research Grants and amounts designated for strategic spending.

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 viablility of the portfolio over the long term to ensure the continuing mission of GSA.

GSA gratefully acknowledges that invaluable contributions of Dr. Jonathan G. Price, Treasurer, and Carl P. Fricke, GSA Investment Committee Chair, for service to the Society and preparation of the financial data included in this report.



The yellow line indicates amounts paid to cover the gap between revenues and operating expenses which has generally decreased over time. The blue line shows the increase in strategic spending.



Dr. Jonathan G. Price, Treasurer



Carl P. Fricke, GSA Investment Committee Chair

# Stewardship at GSA Headquarters

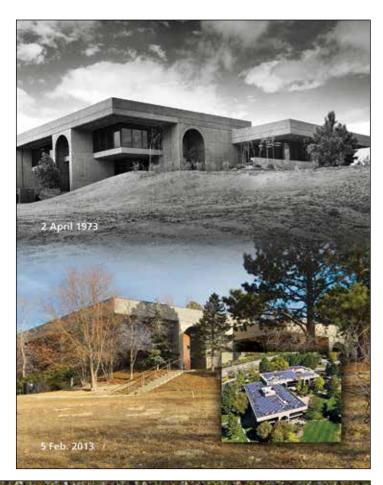
his past year, operations personnel have had the opportunity to work with the GSA green team, Boulder Energy Smart, and others to further the GSA mission to save energy and operate as a more environmentally aware business.

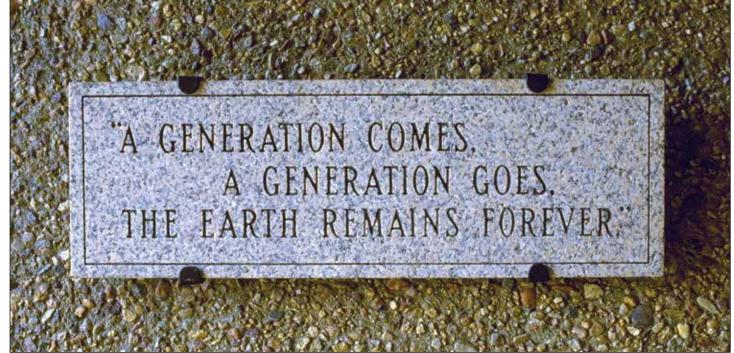
- Exit lighting and other lights throughout the building were changed to LED bulbs for a significant energy savings.
- A rooftop HVAC unit needed replacement this year. After extensive research, we determined that we could downsize that unit from a capacity of 25 to 20 tons of cooling, saving potentially thousands a year in cooling costs.
- Coffee makers were replaced on a trial basis with stainless steel carafes in one kitchen, saving energy and also making a better pot of coffee. We hope to expand these carafes into the other kitchen areas in the coming year.
- Solar energy continues to provide power to our facility and save us significant money on energy usage.

Landscape improvements continued with the addition of new plantings and a few new trees.

The entry doors are now managed with a keyless entry system, and automatically lock and unlock for convenience and added security of our facility.

We look forward to more improvements and continued energy savings in the next fiscal year.





## GSA's Associated Societies

(as of 30 June 2014)

### Allied in Service to Members and the Larger Geoscience Community

AASP—The Palynological Society

American Association of Petroleum Geologists (AAPG)

American Geophysical Union (AGU)

American Institute of Professional Geologists (AIPG)

American Quaternary Association (AMQUA)

American Rock Mechanics Association (ARMA)

American Water Resources Association (AWRA)

Asociación Geológica Argentina (AGA)

Association for the Sciences of Limnology and Oceanography (ASLO)

Association for Women Geoscientists (AWG) Association of American State Geologists (AASG)

Association of Earth Science Editors (AESE)

Association of Environmental & Engineering Geologists (AEG)

Association of Geoscientists for International Development (AGID)

Blueprint Earth (BE)

The Clay Minerals Society (CMS) Colorado Scientific Society (CSS)

Council on Undergraduate Research Geosciences Division (CUR)

Cushman Foundation (CF)

Environmental & Engineering Geophysical Society (EEGS)

European Geosciences Union (EGU)

Geochemical Society (GS) Geologica Belgica (GB)

Geological Association of Canada (GAC®)

Geological Society of Africa (GSAF)
Geological Society of Australia (GSAus)
Geological Society of China (GSC)
Geological Society of London (GSL)
Geological Society of South Africa (GSSA)

Geologische Vereinigung (GV) Geoscience Information Society (GSIS)

Geoscience Society of New Zealand (GSNZ)

Groundwater Resources Association of California (GRA)

History of Earth Sciences Society (HESS)

International Association for Geoscience Diversity (IAGD) International Association of Emergency Managers (IAEM)

International Association of GeoChemistry (IAGC)

International Association of Hydrogeologists (IAH)

International Medical Geology Association (IMGA)
International Society for Aeolian Research (ISAR)

Israel Geological Society (IGS) Karst Waters Institute (KWI)

Mineralogical Association of Canada (MAC)

The Mineralogical Society (MS)

Microanalysis Society (MAS)

Mineralogical Society of America (MSA)

Minnesota Ground Water Association (MGWA)
National Association of Black Geoscientists (NABG)
National Association of Geoscience Teachers (NAGT)

National Association of State Boards of Geology (ASBOG®)

National Cave and Karst Research Institute (NCKRI) National Earth Science Teachers Association (NESTA)

National Ground Water Association (NGWA)

Nepal Geological Society (NGS)

Paleontological Research Institution (PRI)

Paleontological Society (PS)

Seismological Society of America (SSA)

Sigma Gamma Epsilon (SGE)

Sociedad Geológica Mexicana, A.C. (SGM)

Società Geologica Italiana (SGI)

Society for American Archaeology (SAA)

Society for Environmental Geochemistry and Health (SEGH)

Society for Mining, Metallurgy & Exploration (SME)

SEPM (Society for Sedimentary Geology)

Society for the Preservation of Natural History Collections (SPNHC)

Society of Economic Geologists (SEG) Society of Exploration Geophysicists (SEG) Society of Vertebrate Paleontology (SVP) Soil Science Society of America (SSSA)

Western Interior Paleontological Society (WIPS)

These national and international societies are affiliated with GSA by virtue of their consistent aims and missions to advance the geosciences and/or science in general.

# GSA's Presidents Through Time

1889 James	1890 James D.	1891 Alexander	1892 G.K.	1893 J. William	1894 T.C.	1895 N.S.	1896 Joseph Le	1897 Edward	1898 J.J.
Hall*†	Dana*†	Winchell*†	Gilbert*†	Dawson†	Chamberlin*†	Shaler*†	Conte*†	Orton*†	Stevenson*†
1899	1900	1901	1902	1903	1904	1905	1906	1907	1908
B.K. Emerson*†	G.M. Dawson†	C.D. Walcott*†	N.H. Winchell*†	S.F. Emmons*†	J.C. Branner*†	Raphael Pumpelly*†	I.C. Russell*†	C.R. Van Hise*†	Samuel Calvin*†
1909	1910	1911	1912	1913	1914	1915	1916	1917	1918
G.K.	Arnold	William M.	H.L.	Eugene A.	George F.	Arthur P.	John M.	Frank D.	Whitman
Gilbert*†	Haguet	Davis*†	Fairchild*†	Smith*†	Becker*†	Coleman*†	Clarket	Adams†	Cross†
1919	1920	1921	1922	1923	1924	1925	1926	1927	1928
J.C. Merriam†	I.C. White*†	James F. Kemp*†	Charles Schuchert†	David White†	Waldemar Lindgren†	William B. Scott†	Andrew C. Lawson†	Arthur Keith†	Bailey Willis†
1929	1930	1931	1932	1933	1934	1935	1936	1937	1938
Heinrich	R.A.F.	Alfred C.	Reginald A.	C.K.	W.H.	Nevin M.	W.C.	Charles	Arthur L.
Ries†	Penrose, Jr.†	Lanet	Daly†	Leith†	Collins†	Fenneman†	Mendenhall†	Palache†	Day†
1939 T. Wavland	1940 Eliot	1941 Charles P.	1942 Douglas	1943 E.L.	1944 Adolph	1945 Edward W.	1946 Norman L.	1947 A.I.	1948 James
Vaughan†	Blackwelder†	Berkey†	Johnson†	Brucet	Knopft	Berry†	Bowen†	Levorsen†	Gilluly†
1949	1950	1951	1952	1953	1954	1955	1956	1957	1958
Chester R. Longwell†	William W. Rubey†	Chester Stock†	Thomas S. Lovering†	Wendell P. Woodringt	Ernst Cloos†	Walter H. Bucher†	George S. Humet	Richard J. Russell†	Raymond C. Moore†
1959	1960	1961	1962	1963	1964	1965	1966	1967	1968
Marland P.	Hollis D.	Thomas B.	M. King	Harry H.	Francis	Wilmot H.	Robert F.	Konrad B.	lan
Billings†	Hedberg†	Nolan†	Hubbert†	Hess†	Birch†	Bradley†	Legget†	Krauskopf	Campbell†
1969	1970	1971	1972	1973	1974	1975	1976	1977	1978
Morgan J. Davis†	John Rodgers	Richard H. Jahns†	Luna B. Leopold	John C. Maxwell	Clarence R. Allen	Julian R. Goldsmith†	Robert E. Folinsbee	Charles L. Draket	Peter T. Flawn
1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Leon T.	Laurence L.	Howard R.	Digby J.	Paul A.	M. Gordon	Brian J.	W. Gary	Jack E.	Albert W.
Silver	Sloss†	Gould	McLaren	Bailly	Wolman	Skinner	Ernst	Oliver	Bally
1989 Randolph W.	1990 Raymond A.	1991 Doris Malkin	1992 E-an	1993 Robert D.	1994 William R.	1995 David A.	1996 Eldridge M.	1997 George A.	1998 Victor R.
Bromery	Price	Curtis†	Zen	Hatcher, Jr.	Dickinson	Stephenson	Moores	Thompson	Baker
1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Gail M. Ashley	Mary Lou Zoback	Sharon Mosher	Anthony J. Naldrett	B. Clark Burchfiel	Rob Van der Voo	William A. Thomas	Stephen G. Wells	John M. "Jack" Sharp	Judith Totman Parrish
, Gilley	LODGER	MOSHE	raidictt	barcinici	****	momas	VVCIIS	Jr.	1 (1115)1
2009	2010	2011	2012	2013					
Jean M. Bahr	Joaquin Ruiz	John Geissman	George H. Davis	Suzanne Mahlburg Kay					
Darii	Nuiz	Geissiliail	Davis	iviallibuly Ray					

<sup>\*</sup> Original Fellow



SCIENCE - STEWARDSHIP - SERVICE

<sup>†</sup> Deceased Fellow