

American Geosciences Institute

Annual Report 2012-2013



American Geosciences Institute

2012-2013 Annual Report

American Geosciences Institute
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Glacier in the Alaska Range north of Paxson.

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Founded in 1948, AGI serves its member societies and a community of more than 250,000 geoscientists. AGI provides information services, serves as a voice of shared interests in our profession, plays a major role in strengthening geoscience education, and strives to increase public awareness of the vital role the geosciences play in society's use of resources, resiliency to natural hazards, and interaction with the environment.

The institute, a not-for-profit 501(c)(3) organization, supports its programs and initiatives through sales of its publications and services, royalties, contracts, grants, contributions and affiliated society dues.

AGI's global staff of 60 provides professional and information services for government affairs and science policy; geoscience education, outreach, geoscience workforce, and scholarships; environmental policy; the bibliographic database, GeoRef, and its Document Delivery Service; the monthly news magazine, EARTH, and other publications. A member Society Council and the Executive Committee, elected by the Council, govern AGI. The member Society Council meets twice a year in conjunction with the meetings of the American Association of Petroleum Geologists and the Geological Society of America. The AGI Foundation, a Finance Committee, and advisory committees provide financial, policy, and program support to the Institute.

2012 Highlights & Milestones

Center for Geoscience and Society

The Center is a major initiative of AGI and its Foundation to help monitor the state of secondary geoscience education and make a free-access repository of resources available to decision makers, the general public and geoscientists.

GeoRef Continues Strong Performance

AGI signed an agreement with the Geological Society of London (GSL) to hire a full-time employee to index GSL's extensive collection. In addition, GeoRef again added more than 100,000 new references to the database.

Outreach

Earth Science Week celebrated its 16th year with the theme of "Mapping Our World." This year included a partnership with the Houston Geological Society, and a special Earth Science Week Houston celebration was held throughout the city.

Geoscience Policy Program

Dr. Wayne D. Pennington, AGI Past-President, concluded a successful tour for the new Science, Technology and Innovation Expert Partnership (STIEP) speaker series, part of the U.S. State Department's Targets of Opportunity Program. AGI was also active in the formation of a minerals science and information coalition which included the AGI member organization, the Society for Mining and Metallurgy Exploration, and other stakeholders in the supply of mineral commodities.

Status of Recent Geoscience Graduates Report

The AGI Workforce Program released the results of their National Geoscience Student Exit Survey. Nearly 100 departments participated in this pilot survey, with responses from all levels of graduating students. An Geoscience Online Learning Initiative (GOLI) Course called Preparing Our Workforce (POW) was rolled out to help train professional geoscientists to recruit students to geoscience majors and demonstrate the breadth of career opportunities and salaries available.

Leadership

Fiscal year 2012-2013 at the American Geosciences Institute (AGI) was a year of change, growth and perseverance including new players at AGI, development of a center to cater to the needs of decision makers and educators in better understanding geoscience, navigating a government shutdown that affected many partners of AGI, and the 2013 EARTH Science Week celebrations.

The institute welcomed Dr. Maeve Boland as the director of the Geoscience Policy Program (formerly the Government Affairs Program). Boland looks forward to the program continuing its critical role of informing the geoscience community about changes in relevant Federal-level legislation, and guiding decision-makers to the newly formed Center for Geoscience Education and Public Understanding. Unfortunately, Travis Hudson, director of the Environmental Affairs Program, left the Institute this year. His presence will be greatly missed and we wish him all the best.

Perhaps AGI's most significant accomplishment this year was the formal launch of the Center for Geoscience Education and Public Understanding with the support of the AGI Foundation. The goal is to create a repository of resources directed at both geoscience educators, and decision makers, at the municipal and state-levels. By the close of the year, the Center had already released a report regarding the state of Earth science education at middle and high schools nationwide.

In addition to compiling the many education resources available on the Center website, and publishing the first Center report, the AGI Education & Outreach Program hosted the 16th Annual Earth Science Week celebration and took the lead on the 2013 National Fossil Day, which was dramatically impacted by the U.S. Government Shutdown. Even with the shutdown, AGI saw to it that National Fossil Day was still celebrated nationally. AGI's Information Technology staff also was able to prevent the EarthInquiry online curriculum, heavily dependent on real-time data from the government, from being affected by the government shutdown. EarthInquiry users experienced a seamless transition to backup documents while government websites went dark during this time.



The Geoscience Policy Program appointed Leila Gonzales, past AGI Workforce employee, to spearhead the curation of decision maker materials for the Center website. The new AGI-Schlumberger Geoscience Communication Fellow will assist in this. The Geoscience Policy Program, in addition to gaining a new director, continued to produce valuable monthly reports of geoscience-related legislation moving through Congress including: the ongoing discussions of the Keystone XL Pipeline, funding for agencies that engage with the geosciences, and beginning assessment of the sequesters' impact on our community.

The first-ever report on the experiences of geoscience graduates was released as part of the National Geoscience Student Exit Survey, hosted by the AGI Workforce Program. This provided a snapshot of the experiences of bachelor's, master's and Ph.D. graduates during college up to the point of graduation. The AGI Workforce Program continued to grow its presence in the geoscience community by hosting valuable networking luncheons between professionals and students at the annual meetings of our Member Society Organizations.

In addition to these accomplishments AGI continued development and publication of distinguished products, such as GeoRef, EARTH Magazine, the Directory of Geoscience Departments and the Environmental Awareness Series. This year has demonstrated the flexibility AGI has to respond to external challenges, but also AGI's ability to respond swiftly to the needs of the geoscience community and the general public.

Sincerely,

Dr. P. Patrick Leahy
Executive Director, American Geosciences Institute



2012-2013 Executive Committee



Courtesy of Sharon Mosher, photo by Sasha Haagensen

President: **Sharon Mosher**

Mosher is currently Dean and the William Stamps Farish Chair at the Jackson School of Geosciences at the University of Texas at Austin. She received degrees in Geology from the University of Illinois at Urbana (B.S. 1973, Ph.D. 1978) and Brown University (M.S. 1975), and has been a full professor since 1990 specializing in structural geology and tectonics. Dr. Mosher is a dynamo and serves as an exemplary model for researchers and professors everywhere. She has extensive experience both in the classroom and in the field, including 38 years of field mapping experience, and 34 years of teaching at both undergraduate- and graduate-levels. She is dedicated to her students, having mentored and successfully graduated 17 Ph.D. students, 34 M.A./M.S. students, 9 undergraduate senior honor students, and three postdoctoral scientists since 1978.



Courtesy of Berry H. Tew Jr.

President-Elect: **Berry H. (Nick) Tew, Jr.**

Dr. Tew has served as Alabama's State Geologist and Oil and Gas Supervisor since 2002. In these capacities, he is the Director of the Geological Survey of Alabama and the State Oil & Gas Board of Alabama. He joined the GSA/OGB staff in 1984 and during his career has conducted extensive research on the geology and natural resources of Alabama and surrounding areas. His work has led to over 150 publications, including guidebooks, journal articles, technical reports, and abstracts, as well as scores of technical presentations. In addition to his position in state government, Tew holds an appointment as an Adjunct Professor in the Department of Geological Sciences at the University of Alabama and serves on the University of Alabama Museum's Board of Regents and the UA Department of Geological Sciences Advisory Board.



Courtesy of Wayne Pennington, photo by Adam Johnson

Past-President: **Wayne Pennington**

A geophysicist, Pennington's research is centered on the response of Earth materials to changes in physical conditions, such as stress, saturation, and temperature. The applications of this work are found in induced seismicity, deep earthquakes, as well as oil and gas exploration and development. He has worked in both academia and in industry and has conducted fieldwork at sites around the world. Pennington was named a 2009-10 Jefferson Science Fellow by the US Department of State. He served a one-year assignment working full-time as a Senior Engineering Advisor with a group at USAID, the Agency for International Development, helping to improve methods of infrastructure development for increased capacity building, particularly in post-disaster and post-conflict settings in Haiti, Pakistan and Afghanistan.



Courtesy of Dorian Kuper

Secretary: **Dorian Kuper**

Dorian Kuper, is the Cofounder and President of Kuper Consulting LLC. She has held office for a number of geoscientific associations including Secretary, Treasurer, President-Elect, President and Past-President of Association of Environmental & Engineering Geologists (2004-2009), National Association of State Boards of Geology (2000-2004), Oregon Board of Geologist Examiners (1993-2000), International Landslide Research Group (2005-2011), Oregon Society for Marketing Professional Services (1991-1994), and the San Diego Association of Geologists (1980-1983). AGI is proud to have Dorian Kuper as its newest incoming Executive Committee Secretary.



Courtesy of Michael Lawless, photo by Glenn R. Comeau

Treasurer: Mike Lawless

Michael D. Lawless, Professional Geologist, is the Executive Vice President and Principal at Draper Aden Associates. His expertise is in groundwater monitoring, as well as geological and hydrogeologic investigations. Mr. Lawless is active in the American Institute of Professional Geologists,

served as its national president in 2010, and is the current Virginias Section president. He also serves on Virginia’s State Water Supply Plan Advisory Committee.



Courtesy of David W. Bieber

Member at Large: David W. Bieber

Bieber is a Senior Geologist and Geological Services Manager of Geocon Consultants, Inc. in Sacramento, California. In addition to his involvement with AGI, Bieber has served as President of the Association of Environmental and Engineering Geologists

(2004-2005) and President of Surveyors, Architects, Geologists, and Engineers in El Dorado County (2010). He is an active member of the American Association of Petroleum Geologists and the Geological Society of America.



Courtesy of Jackie Huntoon

Member At Large: Jackie Huntoon

Jacqueline Huntoon is the Graduate School Dean at Michigan Technological University, and will serve as an AGI Member-At-Large. She is a Fellow and board member of the Geological Society of America (GSA), a Councilor for GSA’s Minorities

and Women Committee, a life member of the Society for the Advancement of Chicanos and Native Americans in Science, and an associate editor for the Journal of Sedimentary Research. Huntoon also served as a program director in the Directorate for the Geosciences at NSF (2003-2005). Through her work as Dean and at

numerous geoscience societies and agencies, Huntoon has helped increase diversity and strengthen the geosciences as a whole.



Courtesy of John Parrish

Member at Large: John Parrish

John G. Parrish is State Geologist of California. He assumed his current role in 2005, and was previously the Executive Officer of the California State Mining and Geology Board (1994-2005) following a 20-year career in the petroleum industry. He is an

active member of the American Institute of Petroleum Geologists and was the 2005 John T. Galey Sr. Memorial Public Service Award recipient.



Courtesy of Richard M. Powers

AGI Foundation Chair: Richard M. Powers

Prior to serving as the AGI Foundation Chair, Mr. Powers served as the 2010 AGI President, and AGI’s representative to the International Year of Planet Earth. Powers is President and Chief Executive Officer of BCI Engineers & Scientists, Inc.



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GeoRef is the primary bibliographic source for the geosciences and, as of October 2013, about 86,000 new references have been added, bringing the total number to almost 3.5 million. References in GeoRef cover the global geoscience literature of over 100 countries and 40 languages and provide abstracts, controlled geoscience keywords and geographic coordinates, and, where available, links to full-text.

GeoRef is funded by sales of its products and services. It is distributed globally by a network of vendors that specialize in the delivery of abstracting and indexing services to the library community. More than 1,500 organizations subscribe to GeoRef with approximately 50% of the subscribers originating outside of the US.

In FY 2012-2013, a staff of 34 working at six locations in the US produce the database and are supplemented by individual contractors and consultants. An international network of cooperative bibliographic services (including groups in Germany, China, Russia, Australia, New Zealand, Canada, Spain, Poland, Hungary, Finland and others) helps ensure the continued high quality and comprehensiveness of the database.

GeoRef Services and Publications

- GeoRef Thesaurus
- Serials
- GeoRef Previews
- GeoRef In Process
- Geoscience Open-Access Series List
- Custom Searches

GeoRef Subsets/Additional Products

- Antarctic Bibliography
- Bibliography on Cold Regions Science and Technology
- Arctic Bibliography
- Glossary of Geology Online
- Geologic Guidebooks of North America Database
- AusGeoRef
- Groundwater and Soil Contamination Database
- Ocean Drilling Citation Database
- CanGeoRef
- Minabs Online

GeoRef Subsets Re-Design

Through an agreement with 'Andornot', a discovery design firm, the re-design of the search interfaces for most of the GeoRef subsets began. The AusGeoRef subset will be re-launched with new features including: search filters by availability of full-text, auto-filling of queries, links to social media sites, etc.

GeoRef Thesaurus, 12th Edition

The GeoRef Thesaurus, 12th edition will be released to GeoRef's vendors in November 2013. The Thesaurus is the guide to the GeoRef Controlled Vocabulary and powers the search and retrieval systems for all of the versions of GeoRef and its subsets. The new edition will contain about 32,000 Controlled Terms of which 1,350 are new. More than 2,800 of the terms have been modified since the 11th edition in 2008. The changes and additions to the terminology are extensively reviewed by an international group of Thesaurus experts.

GeoRef Custom Searches

As part of AGI's renewed focus on the GeoRef Custom Search, AGI has provided a free custom search as a prize to a lucky AIPG member at their annual meeting. The GeoRef Custom Search is designed to assist the independent consultant in locating materials/publications on a case-by-case basis. With assistance from AIPG, ads for the GeoRef Custom Search are being distributed more widely to this community.

GeoRef Marketing

GeoRef had a booth presence in the Prospectors and Developers Association of Canada (PDAC). Hosted annually in Toronto, Canada, GeoRef materials were visible to the over 30,000 conference attendees.

The GeoRef banner then travelled to the Special Libraries Association exhibit in San Diego in June. GeoRef shared an exhibit booth with GeoScienceWorld at SLA to jointly market our products. The Special Libraries Association is the primary annual meeting for librarians in science/technology libraries.



GeoRef Serials List

The GeoRef Serials List contains the titles, ISSNs, publishers and web addresses (where available) for all of the series covered in GeoRef since its inception. The online version of the list has been re-designed to allow live links to publisher web sites.

Cooperative Arrangements

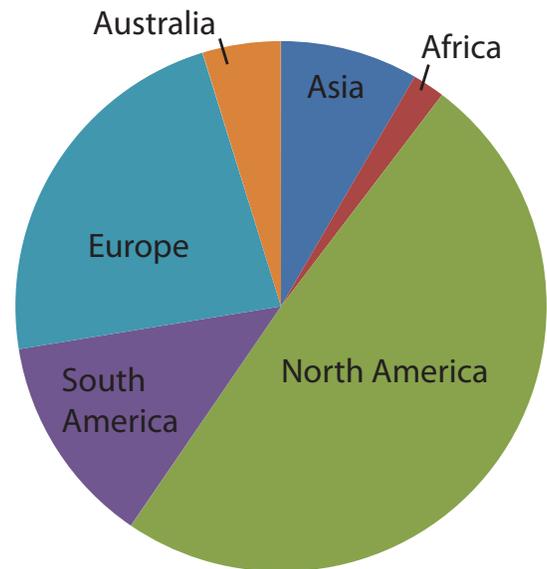
Springer – AGI and Springer completed arrangements for GeoRef to receive metadata for Springer’s book series. Springer continues to produce many books and has transitioned many to the online environment. The books are assigned Digital Object Identifiers in much the same way as journals which allows automatic linking from GeoRef to the publications.

GeoScienceWorld – GeoRef staff worked closely with GeoScienceWorld to supply metadata for the site as it expands into eBooks and adds new journals. GeoRef’s metadata supplies the basic data for the pre-2000 issues of new journals and is searched as part of the Advanced Search in GSW. GeoRef’s geographic coordinates are being used to power the map-based search capability of GeoScienceWorld.

GeoRef and Open Access

GeoRef covers many open-access series as part of its routine updating. GeoRef staff have begun an examination of the list for additions to the State geological survey section of the list. To see the current list of open-access series included in GeoRef see: www.agiweb.org/georef/about/openaccess.html.

GeoRef Subscribers by continent — 2013



Technology & Communications



The Technology and Communications department works across all program areas in support of AGI's mission. The technology program carries on two functions. The first is the primary IT functions for AGI, ranging from servers and desktops to connectivity and procurement. The second is that of shepherding programs at AGI that tap technical geoscience expertise. Recent projects include the ad hoc committee on Academic Program Classification, involvement alongside member organization AGU in the heads and chairs webinars and YES Congress webcasting. Communication needs are also a key function of this department including: press releases, conference presence, meeting logistics, advertising, and intersociety communication.

Starting in fall 2013, AGI was part of the broader EarthCube cooperative agreement through the Arizona Geological Survey. AGI will be helping in the areas of community engagement and developing testing strategies for EarthCube governance proposals through game theory approaches

Technology

In addition to the daily support of on- and offsite-computers, software, printers, servers, and the network, AGI began the process of transitioning to the new website, www.americangeosciences.org, and continued to modernize tech infrastructure and software. Staff were trained on creating web pages in Drupal, and assisted in populating the new site's content with material previously hosted on www.agiweb.org.

Testing began on the compatibility of Windows 8 with the GeoRef production system. Additionally AGI's accounting system was transitioned from Great Plains to a cloud-based Microsoft Dynamics. The technology department also facilitates the creation and publication of ePub materials.

EarthInquiry

EarthInquiry has transitioned to an e-publication. AGI continued to provide support, instructional materials and access to content through www.earthinquiry.org. During the October 2013 Federal Budget Sequester, EarthInquiry continued to function well, even though

many of the activities require access to federal government-hosted data sets. Backup copies of stored data allowed students to continue using the lesson to their full capability, even while real-time data access was offline.

Faces of Earth

AGI was pleased to announce that the Faces of Earth series, which premiered on the Science Channel in 2007 was made available in their entirety, in HD, on YouTube. By making these documentaries freely available online, AGI hopes it will encourage awareness of the geosciences by being used in classrooms and the lay public.

Press Releases & Social Media

AGI continues its aggressive distribution of press releases, including expanding targets into mainstream media. Hits on AGI press releases through services through EurekaAlert as well as follow-on use of press releases indicate that this process remains a steady growth area for expanding awareness of the geosciences and the Institute. The effectiveness of these efforts is evident with increased media inquiries. Likewise AGI is increasingly engaging in social media outlets such as Twitter, Facebook and YouTube to expand the scope and nature of its communications audience.

GeoSpectrum

Publication of GeoSpectrum is ongoing, and is meeting the needs for intersociety communications. AGI staff post news notes from within the Institute and, more importantly, from member societies and other science organizations. Topics covered include society items, workforce, education, awards, passages and meeting news. Most issues are seeing download levels on the order of 10,000 unique downloads, and AGI Member Organization contributions continue to improve both in volume and quality.

Publications

EARTH Magazine

EARTH continues its monthly publication as a science news magazine of earth, energy and environmental topics. EARTH is provided as a print subscription or digital through Zinio. Institutional subscribers also have site-licensed access to the entire digital archive of EARTH and beginning in 2014, all paper subscribers will also be provided full digital access through the EARTH website. Digital readers now represent 40% of total readership, and has been the key growth area for the magazine. In addition, AGI is now releasing e-book versions of content selections from EARTH, such as the content provided in the Consumer's Guide to Minerals.

The Consumer's Guide to Minerals

Rather than focusing on visual and physical properties, this ePub explores minerals' myriad of uses in scientific research, manufacturing, medicine and many commercial applications. This digital exclusive is an important reference for all geoscientists – students to professionals, and hobbyists alike. This was compiled with content originally published in EARTH Magazine.

The Dawn of the Anthropocene

In this new ePub, author George A. Seielstad explores the challenges associated with building a sustainable future in a world struggling to meet society's needs. The technology and innovation that have allowed humanity to manipulate the planet on a massive scale have also been accompanied by repercussions. The chemical compositions of the atmosphere and oceans have changed, sea levels have risen, watersheds have been modified, and landscapes have been transformed from natural to man-made.

As detailed in Dawn of the Anthropocene, humanity has reached an inflection point in history in which there is extraordinary opportunity. The challenge, according to Seielstad, is to learn how all members of society may enjoy rewarding lives while creating a sustainable future so their descendants may as well. Leveraging extensive research and literature on sustainability, this well-documented book charts a course for humanity to rectify the decisions made during more than a century of massive consumption.



Environmental Awareness Series: Meeting Environmental Challenges with Remote Sensing

Recognizing environmental change is critical to social and economic development. Over the last 50 years, advances in remote sensing and imagery have increased our ability to identify and track these changes over time. From resource development and environmental restoration, to coping with weather and geologic hazards, this book identifies case studies where cutting-edge remote sensing technology has helped society function in a rapidly changing world. This book published in 2013 is the eleventh in the Environmental Awareness Series from the Environmental Affairs Department.

Directory of Geoscience Departments — 48th Edition

The directory is an invaluable resource for individuals working in the geosciences, and is used to help identify researchers and specialists within the geoscience fields. The 48th edition of the Directory of Geoscience Departments was released by the AGI workforce program and has included, for the first time, student theses and dissertations from 2010 for programs in the United States and Canada. 2,282 academic departments and programs were reported globally, with 1,046 of those departments in the United States, 395 of which were two year institutions.

Environmental Affairs Program



AGI formally established its Environmental Affairs Program department in 1993 and began to fully function in 1998 with the appointment of an Environmental Geoscience Advisory Committee (EGAC) along with liaison representatives from select government agencies, academic institutions, and industry. Geoff Plumlee of the U.S. Geological Survey is the current EGAC Chair.

Environmental Awareness Series

The Environmental Affairs Program continued the highly successful Environmental Awareness Series (EAS). This series educates citizens and policy-makers of the role of earth sciences in all aspects of understanding and mitigating environmental concerns. Each volume addresses specific environmental topics in a timely and non-technical fashion.

Manuscripts developed by authors from AGI's Member Organizations are extensively reviewed. The reviews enable the authors, editors, and designers to create a booklet that is appealing, informative, and scientifically accurate. Each publication is supported through publishing partners who also help distribute the publications. This model also enables cost-effective bulk distribution to public outreach and education programs, along with complementary copies distributed to selected educators, lawmakers and congressional staff.

To date, AGI has produced eleven publications in the series, including *Sustaining our Soils and Society*; *Metal Mining and the Environment*; *Living with Karst – A Fragile Foundation*; *Water and the Environment*; *Petroleum and the Environment*; *Meeting Challenges with Geologic Maps*; *Aggregate Operations and the Environment*; *Soils, Society and the Environment*; *Coal and the Environment*; *Living on Unstable Ground*; and *Meeting Environmental Challenges with Remote Sensing Imagery*. Authors are developing manuscripts for other topics in the series.

EarthNotes

AGI, with support from the AGI Foundation, developed an online template for creating and publishing EarthNotes, a new product for public education and outreach. EarthNotes are summaries of interesting and

timely information about Earth and geoscientists that inform the general public of the vital role the geosciences place in society's use of resources and interactions with the environment.

Environmental News

The Environmental Affairs Program provides a monthly email of environmental news to the EGAC members and other interested parties. This service enables AGI member society representatives to relay relevant environmental information to their organizations in a timely manner.

Workforce Program



The American Geosciences Institute Geoscience Workforce Program is the preeminent source of geoscience workforce data in the United States. The program promotes the development of a strong workforce for the geosciences through its outreach activities and collaborations across all sectors of the profession.

Two NSF grants are underway for the workforce department. A track-1 NSF grant was completed seeking to provide a development workshop for underrepresented minority geoscience faculty. The other grant, Geo Career Master's Preparation Survey (MaPS) is a project being administered by AGI and AGI member organization AAG. This research will provide insight into the disparities that may exist between what is being taught in U.S. master's level programs, and what recent graduates identify as useful skill sets for employment in the workforce.

Monitoring the Workforce

AGI continued to collect data from university departments, private industry, professional societies and government agencies. FY 2012-2013 was the first year that data were collected via the National Geoscience Student Exit Survey which was the first nation-wide survey of its type for recently graduated geoscience majors. These data are used to characterize the supply and demand for geoscientists at all experience levels. Results of this data collection were presented at many professional meetings including: AIPG, GSA, AGU, AAPG and SLOAN-C.

In the first study of its kind, AGI published the results of the National Geoscience Student Exit Survey, documenting the experiences of graduating geoscience majors. Analyzing a myriad of experiences, from preparation in mathematics to internships to job searching strategies, the 2013 Status of Recent Geoscience Graduates provides critical insights into the newly minted geoscience workforce, at the Bachelor's, Master's, and Doctoral levels. At the close of the survey, 428 graduating students from 71 different departments provided responses — 339 bachelor's graduates, 63 master's graduates, and 26 doctoral graduates. The report was covered in EOS, a publication of AGI member organization the American Geophysical Union.

The 48th edition of the Directory of Geoscience Departments was released by the AGI workforce program and has included, for the first time, student theses and dissertations from 2010 for programs in the United States and Canada. 2,282 academic departments and programs were reported globally, with 1,046 of those departments in the United States, 395 of which were two year institutions.

There were 16 *Geoscience Currents* data briefs released in FY 2012-2013 distributed through targeted emails and available for download from the AGI website. Approximately 40,000 of these were distributed using these methods, and anecdotal conversations held at conferences suggest that *Geoscience Currents* are actively displayed by departments for use by students enrolled in geoscience programs globally. Whenever *Geoscience Currents* briefs are published on topics such as salary or fellowships, AGI web traffic increases by upwards of 3000%.

A Focus on Community

AGI has led efforts to host networking luncheons between professionals and students at the annual meetings of AIPG, GSA and AGU. These high-energy events allowed students to talk to a variety of professionals from the private industry, government, academic and non-profit sectors. Students are encouraged to move about the room and engage in conversations with professionals from different career types, and practice their networking skills. Professionals have the opportunity to promote their companies and share opportunities that may exist there. At each luncheon approximately 40 professionals and 100 students were in attendance.

Geoscience Online Learning Initiative

Following efforts made in FY 2011-2012, materials created and presented as part of the "Roadshow," were synthesized into a physical toolkit for nationwide distribution. In addition to the toolkit, a Geoscience Online Learning Initiative (GOLI) course was developed to help train professionals to use the toolkit. The Preparing our Workforce (POW) course lasts about 2-3 hours with strategies on how to fully engage students and faculty in career discussions. These materials were again used



to update the “Careers that Change the World” brochure and a corresponding webinar was developed.

The Workforce Program, in addition to identifying projected employment shortfalls, is also keen to identify disparities that exist between what is being taught at the university-level and what skill sets employers identify as important. This is being achieved through statistical analyses of recent graduates, online courses administered through the workforce program, such as the GOLI-POW course and grants like Geo Career MaPS.

Education & Outreach



AGI's Education programs include development of curriculum materials for grades 6-12, online resources for grades K-5, teacher enhancement programs and educational adjunct materials. Education and Outreach also works in partnership with AGI member organizations, a number of federal agencies and other organizations to develop non-curricular educational materials, conduct teacher professional development, sponsor awards and publish reports.

Earth Science Week

This year the 16th annual Earth Science Week was held October 13-19, 2013 with the theme *Mapping Our World*, which promotes children and adults learning the many uses of maps in their lives. In addition to the fourth National Fossil Day, Earth Science Week will also highlight Women in Geosciences Day, the second annual Geologic Mapping Day, and No Child Left Inside Day.

"With this theme, Earth Science Week highlights the ways that Earth scientists use maps to understand our planet and how humans use the land," said Geoff Camphire, AGI's Manager of Outreach. "For centuries, people have relied on maps to represent their knowledge of Earth and its systems. From old-world celestial maps and nautical charts to the satellite imaging and digital GIS technology of the 21st century, map-making provides an interactive way of knowing our world."

Earth Science Week 2013 materials and activities offered yet another opportunity to engage young people and others in learning how geoscientists, and mapping professionals use maps to represent land formations, natural resource deposits, bodies of water, fault lines, volcanic activity, weather patterns, travel routes, parks, businesses, population distribution, our shared geologic heritage, and helped show how the Earth systems—geosphere, hydrosphere, atmosphere, and biosphere—interact.

Curriculum Projects and Support Materials

A new edition of EarthComm for the national high school audience is now available and has been mapped to the Next Generation Science Standards. K-5 Geosource continues to be widely used by elementary teachers

and will serve as the source material for AGI's seventh k-5 teacher leadership training in June 2014. Ancillary video materials include: Earth and You for K-5 teachers (Lab-Aids, Inc.), Big Ideas in Geoscience, and Why Earth Science? (YouTube and TeacherTube). Online activities in support of the Big Ideas videos are available through the Earth Science Week web site at <http://www.earthsciweek.org/forteachers/bigideas/main.html>. AGI is continuing the development of a college-level e-book on physical geology in partnership with Pearson Education and another revision of the Laboratory Manual in Physical Geology is well underway. AGI also recently launched Watt's Up?: The Lowdown on Energy – an open-source website to assess teacher use of a set of energy related classroom activities.

Teacher Enhancement

AGI's Grant from NASA (\$1.15 Million, grant: NNX10AD33A) entered its fourth and final year. This project is a partnership with the School of Earth and Space Science at Arizona State University. A third workshop for master teachers from the project was held August 4-8, 2013 at the Jet Propulsion Laboratory in California. The sixth annual training for lead K-5 teachers, sponsored by ExxonMobil, was held June 23-28, 2013 in Houston, TX for teachers from nine states. Professional development guides for teachers and visiting scientists are available on the Education portion of AGI's web site (NASA Triad, K-5 *GeoSource*, Visiting Geoscientist guide). AGI conducted two workshops for teachers at the National Science Teachers Association convention in San Antonio (April 11-14, 2013) and continues to conduct *EarthComm* workshops, both face to face and remotely for *EarthComm* adopters.

Awards

AGI awarded the sixth Edward C. Roy, Jr. Award for Excellence in Grades K-8 Earth Science Teaching to Nathan Shotwell, a middle school teacher from Holman Middle School in Glen Allen, Virginia. Mr. Shotwell's use of project work with his students allows them to develop and test hypotheses in the Earth sciences using actual data and modern information technologies," said



AGI Education Director Ann Benbow on recognizing Shotwell with the award. “This type of instruction not only builds student understanding, but also fosters the workplace skills of working in teams, solving problems, and communicating results.”

AGI continued to sponsor an Earth science award at the Intel International Science and Engineering Fair, and supplied materials to teachers winning the AAPG Earth Science Teacher of the Year Award, NAGT’s Outstanding Earth Science Teacher Award, and the Presidential Awards for Excellence in Science and Mathematics Teaching.

National Parks Projects

The National Park Service (NPS) collaborated with AGI on Earth Science Week and the posters *Volcanoes in the National Parks*, *Caves in the National Parks*, *Glaciers of the National Parks*, *Fossils in the National Parks* and *the geologic Heritage of our National Parks* which were included in the 2013 Earth Science Week Toolkits. AGI worked closely with NPS to promote the fourth National Fossil Day on October 16, 2013. This included events on the National Mall in Washington, DC. National Fossil Day will continue as a part of Earth Science Week in future years. In addition to National Fossil Day, AGI is working with NPS on their new Geologic Heritage publication.

Geoscience Policy Program



The American Geosciences Institute Geoscience Policy Program (GPP), formerly the Government Affairs Program, was established in 1992 to represent the geoscience community in Washington, serve as an information source for federal decision makers, and alert AGI Federation societies, and their membership to developments in Washington DC that affect the geosciences. More than any other part of the institute, this program exists to serve the AGI Federation – providing a flow of relevant policy information and lending logistical support to facilitate Washington visits and congressional testimony by respected leaders within these organizations. The member societies provided about a third of the program’s support through voluntary contributions. In addition to member society contributions, the program is supported by internal AGI funds, and a grant from the AGI Foundation’s William L. Fisher Congressional Geoscience Fellowship Endowment.

Most notably this year was the addition of Dr. Maeve Boland as the new Director of the Geoscience Policy Program. She has experience in private-sector petroleum and mineral exploration, and previously worked for the Geological Survey of Ireland. Most recently, Boland served as an AAAS Executive Branch Science & Technology Policy Fellow at the USGS (2010-2012) and as the American Geophysical Union Congressional Science Fellow to the U.S. Senate (2009-2010). During her fellowships, Boland collaborated with stakeholders from Capitol Hill, the U.S. Department of the Interior, the U.S. Department of Energy, the White House, and the private sector to address geoscience policy issues crucial to society.

Communicating Geoscience Policy

In partnership with the U.S. State Department, AGI and several other scientific organizations implemented the Science, Technology and Innovation Expert Partnership (STIEP) in January in January 2013. AGI was successful in having two speakers participate in this program. Geoscientists were the first of any of the disciplines to participate. A letter requesting potential future participants has been sent to AGI Member Organizations. This program is a great opportunity for geoscientists to practice science diplomacy and interact with U.S. embassy staff to present geoscience topics and general scientific literacy globally.

Geoscience policy staff continues to inform the geoscience community about program activities and events in Washington through several methods. Monthly reviews, special updates, and action alerts are sent by email directly to more than 1,000 member society leaders, public affairs committee members, geoscientists and decision makers. Several member societies redistribute these messages, thus reaching a broad segment of the geoscience community. Abigail Seadler, the Geoscience Policy Program Associate, spent part the 2012-2013 year redesigning and further promoting GPP activities by maintaining an active, and rapidly growing, twitter account.

The program’s website www.agiweb.org/gap, provides a unique resource for geoscientists, and others seeking information environmental, resource, natural hazards, and science policy issues. The site includes extensive updates on key legislation, articles by program staff, AGI testimony, summaries of reports and hearings, and tips on how geoscientists can become active citizen scientists.

AGI Geoscience Policy Internship Program

AGI’s successful internship program provides talented geoscience students with the opportunity to get a first-hand look at the federal policymaking process. Interns attend congressional hearings, research a wide variety of topics, and attend seminars and meetings with science policy leaders to develop a broader understanding of policy issues facing the geoscience community.

Internships are supported by generous contributions from AAPG and AIPG. 2012-2013 interns include Spring AGI-AAPG intern, Kimberly Corwin (Wellesley College), AGI-AIPG Summer Interns: Brittany Huhmann (University of Iowa); Clinton Koch (South Dakota School of Mines); and John Kemper (University of Maryland) and the fall AGI-AAPG intern Sophia Ford (Kansas State University). Articles by the AIPG/AGI summer interns appeared in the AIPG publication *The Professional Geologist*, and by the AGI/AAPG spring and fall interns in the AAPG publication, *Explorer*.



William L. Fisher Congressional Geoscience Fellow

Former Fulbright Scholar, and geoscientist, Dr. Kristen Mitchell is this year's William L. Fisher Congressional Geoscience Fellow. Her research focused on assessing the utility of remote sensing to identify plastic debris in the Great Lakes and in oceans. She is currently working in Representative Michael Honda's office (D-CA; 15th district).

Raising Congressional Awareness

AGI, in collaboration with other AGI member organizations, scientific societies and groups organized a training session for GEO-CVD participants on September 17, 2013, and a day of visits to legislators and staff on Capitol Hill on September 18. This was a record year with more than 70 participants from 23 states representing 17 geoscience societies and organizations. Participants stressed the importance of federal investment in the geosciences to provide for public health and safety and to support economic and national security.

The Hazards Caucus Alliance (HCA) is co-chaired by AGI and its member organizations the American Geophysical Union, the Geological Society of America, and the Seismological Society of America. AGI was the lead organizer for a briefing, *Outsmarting the Storm: The Science of Floodplain Mapping*, which occurred on October 22, 2013. This briefing was held at Senator Mary Landrieu's (D-LA) request.

The Geopolicy Working Group is a forum for policy staff from geoscience societies, co-chaired by AGI and AAPG. Through monthly meetings, participants share information and explore areas of collaboration and cooperation. In April 2013 there was a conference call with all the executive directors from participating societies. Based on this success of this event, the Geopolicy Working Group intends to make this an annual event.

AGI participates in several coalitions including the USGS Coalition, the Energy Sciences Coalition, which supports research in the Department of Energy, the Coalition for National Science Funding, which supports the National Science Foundation, the Climate Science Working Group, and the AAAS Science and

Human Rights Coalition. This fall, a Mineral Science and Information Coalition was initiated with the Society for Mining and Metallurgy Exploration Inc. (SME) and other organizations to support minerals research, and minerals statistical data collection and analysis in the federal government.

The Center for Geoscience Education and Public Understanding



The Center for Geoscience Education and Public Understanding (www.geocntr.org) is an initiative of AGI and the AGI Foundation. The purpose of the Center is to serve the geoscience educational and outreach needs of K-12 school audiences and the general public of the United States. The Center consists of a comprehensive clearinghouse of educational, outreach and career resources; and data and geoscientific information for decision makers.

Answering a Critical Community Need

The idea for the AGI Center for Geoscience Education and Public Understanding grew out of the national K-12 Earth Science Education Summit held in Houston, TX on February 8-11, 2010. Key issues discussed were: threats to Earth science courses in high school by school districts and colleges; poor perception of Earth science courses in high school by school districts and colleges; lack of adequately prepared Earth science teachers; and the need to ensure the inclusion of Earth science in new national science education standards and Advanced Placement (AP) examinations.

One of the major summit outcomes was the decision to collaborate among organizations to pull together resources into one central, easy-to-use place. As the umbrella organization for the geoscience community, AGI took project lead by building on existing infrastructure and a record of success for performing specific functions, including: federally funded curriculum development, tailored teacher training and professional development, science standards review, government affairs and policy leadership, public awareness and outreach, coalition building educator networks, online resource collections and more.

An Inaugural Year

During this year's Earth Science Week festivities the Center website was debuted, and the groundbreaking report on the Status of Secondary Earth Science Education in the U.S. was released. The website contains the initial set of collection of resources. Visitors to the website are provided access to high-quality resources from nearly 700 organizations including university, museums,

federal agencies, media groups, AGI and its member organizations. Approximately 2,000 annotated searchable resource entries are available on the site, and this number includes many collections and galleries with hundreds of individual items such as photographs, videos, virtual fieldtrips and presentations.

A landmark report on the status of Earth Science education in U.S. middle and high schools was released in conjunction with the web site. It describes in detail significant gaps between identified priorities and lagging practice just prior to the close of FY 2012-2013. The report, "Earth and Space Sciences Education in U.S. Secondary Schools: Key Indicators and Trends," offers baseline data on indicators of the subject's status since the release of the Next Generation Science Standards (NGSS) in April 2013.

Only one of the nation's 50 states requires a year-long Earth/Environmental Science course for high school graduation, whereas 32 states require a Life Science course, and 27 require a Physical Science course, according to the report. Only six states require that students are taught Earth Science concepts as part of their graduation requirements. Detailed and analyzed are key indicators including:

- presence of Earth Science topics in state and national standards;
- consideration of Earth Science as a graduation requirement;
- evaluation of Earth Science concepts on high-stakes assessments; and
- acceptance of Earth Science courses for college admission.

Based on this report, recommendations for better treatment of Earth Science subject matter include changes in the subject's relevance to graduation requirements, the discipline's presence on assessments, designation of Earth Science courses as laboratory courses,



and establishment of an Advanced Placement Earth Science program.

In addition to the K-12 educational resources available from the Center web site, by the close of FY 2012-2013 a nine-person Advisory Committee for the Critical Issues Program has been established, and they met in August 2013 to start drafting the direction of the Critical Issues Program. The Critical Issues Program hired Senior Researcher, Dr. Leila Gonzales, who is creating databases of content on critical issues for the web site.

The mission of the Critical Issues component of the Center will be supporting well-informed decision making by public and individual audiences through providing relevant geoscience information to decision makers at all levels. The program will serve as a conduit for a steady flow of geoscience information on routine and critical issues, and as an interpreter of geoscience information. The program will facilitate interactions between geoscientists and decisions makers and create a transparent hub for the exchange of ideas, inquiries, and relevant geoscience information between decision-makers and the geoscience community.

Financial Summary



AGI finished FY 2013 in a very strong financial position, with net assets increasing by almost \$109,000. Support and revenue was \$6.09 million and expenses were \$5.98 million for the year ended September 30, 2013.

AGI's investment portfolio underwent significant changes in FY 2013. AGI liquidated its treasury securities and other marketable security accounts and moved these funds to a professional asset management firm, Towneley Capital Management. AGI had \$3.06 million in a long-term fund that was comprised of 39% equities, 58% fixed income and 3% commodities, and \$500,000 in a short-term fund. These investments performed at, or near, benchmarks for the mix of assets in the portfolio. Overall the stock market performed well in 2013, with the S&P up 19% from October 1 to September 30 and the Russell 2000 up 30% in that same time period. Our goal is to have a mix that is 60% equities and 35% fixed income by the end of 2013.

AGI's financial position remains solid; current assets are nearly 1.5 to 1 over current liabilities. Cash and investments were over \$4.8 million at the close of fiscal year 2013. AGI continued making improvements to its building with repairs to the elevator unit and upgrades to the HVAC system. AGI has no material debt.

AGI's conservative financial practice has served well in the past and its financial strength is a key strategic advantage. We have been able to invest in our facilities and in our staff. The phone system and financial accounting system were upgraded, as was payroll and expense reporting.



KOSITZKA, WICKS & COMPANY
Certified Public Accountants

Independent Auditor's Report

**American Geological Institute
T/A American Geosciences Institute**

Report on the Financial Statements

We have audited the accompanying financial statements of **American Geological Institute** (a nonprofit corporation), which comprise the statements of financial position as of September 30, 2013 and 2012, and the related statements of activities and cash flows for the years then ended, and the related notes to the financial statements.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express an opinion on these financial statements based on our audits. We conducted our audits in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risk of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of **American Geological Institute** as of September 30, 2013 and 2012, and the changes in its net assets and its cash flows for the years then ended in accordance with generally accepted in the United States of America.

Kositzka, Wicks and Company

Alexandria, Virginia
August 15, 2014



**American Geological Institute
T/A American Geosciences Institute
Statements of Financial Position
September 30,**

	2013	2012
Assets		
Current assets		
Cash and cash equivalents	\$ 1,310,386	\$ 1,777,746
U.S. Treasury securities	-	1,875,000
Marketable securities	500,274	520,820
Accounts receivable	495,689	471,098
AGIF receivable	44,157	41,901
Grants and contracts receivable	70,944	235,959
Prepaid expenses and advances	38,024	45,421
Inventory of publications	13,209	31,209
	<u>2,472,683</u>	<u>4,999,154</u>
Property and equipment, at cost		
Building and improvements	2,017,575	1,990,954
Furniture and equipment	306,373	306,373
Less: accumulated depreciation	<u>(1,561,379)</u>	<u>(1,507,328)</u>
	762,569	789,999
Land	<u>525,032</u>	<u>525,032</u>
	1,287,601	1,315,031
Other assets		
Long term marketable securities	3,057,411	-
Trademark	108,540	108,540
GeoRef database	4,500,000	4,500,000
Software, net of amortization	9,242	5,865
Mineral displays	13,362	13,362
	<u>7,688,555</u>	<u>4,627,767</u>
Total assets	<u>\$ 11,448,839</u>	<u>\$ 10,941,952</u>
Liabilities and net assets		
Current liabilities		
Accounts payable and accrued expenses	\$ 351,361	\$ 539,198
Advance subscription and project income	1,056,609	471,134
Accrued vacation	201,931	184,931
Publication obligations	14,860	16,560
	<u>1,624,761</u>	<u>1,211,823</u>
Long-term liabilities		
Publication obligations, net of current portion	-	14,860
Total liabilities	<u>1,624,761</u>	<u>1,226,683</u>
Net assets		
Unrestricted	9,771,065	9,662,256
Temporarily restricted	53,013	53,013
Total net assets	<u>9,824,078</u>	<u>9,715,269</u>
Total liabilities and net assets	<u>\$ 11,448,839</u>	<u>\$ 10,941,952</u>

The accompanying independent auditor's report and notes are an integral part of the financial statements.



**American Geological Institute
T/A American Geosciences Institute
Statements of Activities
for the year ended September 30, 2013**

	Unrestricted	Temporarily Restricted	Total
Support and revenue			
Advertising	\$ 106,531	\$ -	\$ 106,531
Dues	132,853	-	132,853
Grants, contracts, and services	1,025,447	-	1,025,447
Contributions	126,077	-	126,077
Publication sales	127,304	-	127,304
Subscription income	278,776	-	278,776
Royalties	4,114,477	-	4,114,477
Interest and investment income	109,256	-	109,256
Other	66,076	-	66,076
	<u>6,086,797</u>	<u>-</u>	<u>6,086,797</u>
Expenses			
Publications	95,749	-	95,749
Workforce	333,200	-	333,200
Outreach	252,113	-	252,113
Environmental series	53,141	-	53,141
Magazine department	677,144	-	677,144
GeoRef department	2,055,409	-	2,055,409
Education and special programs	679,374	-	679,374
Center	89,865	-	89,865
Geoscience policy	248,013	-	248,013
General and administrative	1,493,980	-	1,493,980
	<u>5,977,988</u>	<u>-</u>	<u>5,977,988</u>
Change in net assets	108,809	-	108,809
Net assets, beginning of year	<u>9,662,256</u>	<u>53,013</u>	<u>9,715,269</u>
Net assets, end of year	<u>\$ 9,771,065</u>	<u>\$ 53,013</u>	<u>\$ 9,824,078</u>

The accompanying independent auditor's report and notes are an integral part of the financial statements.



The American Geosciences Institute Foundation assists the Institute in seeking funding and partnerships with foundations, corporations, other organizations, and individuals that share AGI's commitment to create innovated earth science programs of benefit to all citizens. The Foundation provides start-up, development or matching funds for AGI programs approved by the AGIF Trustees. The trustees represent a broad spectrum of geoscience interested and industries, including petroleum, mining, environmental, engineering, government, and education. Their primary role is to raise funds for specific programs and to advise AGI as appropriate. Since 1996 the Foundation has raised more than \$12 million and continues to raise funds and support the following programs.

Supporting Geoscience Endeavors

The Foundation provides major support for programs that prepare teachers to use AGI's two national curriculum programs: *Investigating Earth Systems* (grades 6-8) and Earth System Science in the Community, "Earth-Comm" (grades 9-12). These teacher support programs include face-to-face workshops around the country, online teaching resources, and web-based graduate-level courses. AGI offers the graduate courses to teachers through a partnership with the Illinois Institute of Technology. The Foundation also continues to provide funding support for the K-5 GeoSource professional development web site for elementary teachers. This site, developed by AGI, contains geoscience content, activities, resources, career information, and educational research. These materials have been, and continue to be, used at professional development events and other outreach activities. The Foundation continues to support the Edward C. Roy award for excellence in K-8 Earth Science Teaching. Nathan Shotwell of Virginia was this year's recipient.

The Congressional Geoscience Fellowships provide opportunities to increase the geoscience presence on Capitol Hill. In 2003, the Foundation established the William L. Fisher endowment to provide permanent funding for the AGI Congressional Geoscience Fellowship. The \$2.0 million endowment recognizes William L. Fisher for his outstanding service to the nation, his home state of Texas, and the geological profession. The

Fisher endowment is the first of its kind among all the many scientific and engineering societies that have supported fellows over the 30-year history of the fellowship program, administered by the American Association for the Advancement of Science.

The Environmental Awareness Series consists of publications that provide a balanced review and discussion of key environmental geoscience concerns. Each book is produced in cooperation with AGI member organizations and covers the nature and complexity of major environmental issues on a given topic.

The Workforce Program: the AGI Workforce program continues to track supply and demand of geoscience workers and other parameters affecting the geoscience community' to inform students, parents and other concerning the importance and opportunities in the geoscience. These materials are particularly engaging to students, faculty and others in attracting and retaining high quality geoscience majors.

A new major initiative that the AGI Foundation is working to fund is the implementation of the new AGI Center for Geoscience Education and Public Understanding. The Center builds upon the foundation of the Institute, and capitalizes on its strength as a federation of 49 scientific and professional geoscience societies representing a quarter of a million practicing geoscientists in the United States. For further details on the Center activities see page 19 of this report.

Philanthropy

Contributions from individuals, corporations, and foundations enable AGI to respond to needs in the geoscience community with appropriate programs. Planned gifts from individuals can help provide programs of great benefit to the geoscience community while bringing significant financial advantages to the donor. The Foundation's financial managers, Woodway Financial Advisors, are an experienced and successful trust company in Houston, TX, that has fiduciary responsibility to manage the Foundation's programmatic and endowment accounts. Woodway can provide advice to potential individual donors or their representatives and



to organizations interested in planned charitable giving or establishing meaningful endowments, as well as the management of assets and trusts.

Marcus Milling Legendary Geoscientist Medal



Dr. John D. Bredehoeft was named the 2013 recipient of the Marcus Milling Legendary Geoscientist Medal. A hydrogeologist for more than five decades, Dr. Bredehoeft is recognized internationally as a pioneer in the study of groundwater flow systems and the role of fluids in geologic processes. Born in St. Louis, Missouri, in 1933, Dr. Bredehoeft received his BSE in geological engineering from Princeton University in 1955. His MS (1957) and Ph.D. (1962), both in geology, were from University of Illinois.

During his extensive career, Dr. Bredehoeft achieved legendary status for his lifetime of contributions to the scientific, engineering, and water management. Highlights from his extensive career include development of both groundwater and mass transport simulation models that have evolved into the mainstays of modern hydrogeologic analysis. Other work illustrated the importance of pore pressures on earthquake generation, demonstrated the response of wells to earth tides, showed the coupling of aquifers and streams, and investigated the generation of abnormal pressures in the deep subsurface.

Dr. Bredehoeft has mentored many graduate students who have gone on to become leaders in the field of hydrogeology. He was for 32 years at the USGS and was a visiting professor at the University of Illinois (1967-68) and adjunct professor at Stanford University (1980-90). He is also a member of the National Academy of Engineering and currently a principle with the Hydrodynamics Group in Sausalito, California.

Edward C. Roy Jr. Award



Nathan Shotwell, a teacher at Holman Middle School in Glen Allen, Virginia, has been named the 2013 recipient of the Edward C. Roy, Jr. Award for Excellence in K-8 Earth Science Teaching. Shotwell, who earned his Master's degree in Education from Virginia Commonwealth University, has spent his career challenging middle- and junior-high school students with what he calls "authentic problems" and inquiry-based learning in the Earth sciences.

"Mr. Shotwell's use of project work with his students allows them to develop and test hypotheses in the Earth sciences using actual data and modern information technologies," said AGI Education Director Ann Benbow on recognizing Shotwell with the award. "This type of instruction not only builds student understanding, but also fosters the workplace skills of working in teams, solving problems, and communicating results."

Shotwell was presented with the award at the NESTA Friends of Earth Science Reception during the National Science Teachers Association 2013 National Conference in San Antonio, Texas, in April. Finalists for the award were Laura Finney of Chamberlin Hill Intermediate School in Findlay, Ohio, and John Russell of Columbia Secondary School for Math, Science, and Engineering in New York, New York.

Scholarships



Kelly M. Deuerling was the first recipient of AGI's new Harriet Evelyn Wallace Scholarship for women in geoscience. Deuerling, a Ph.D. candidate and NSF Graduate Research Fellow at the University of Florida, was selected from a group of prestigious applicants for the new scholarship, which is dedicated to increasing the number of women in geoscientific professions.

Deuerling was selected for her outstanding contributions to her field, as well as her commitment to several extracurricular activities and strong participation in the geoscience community. Deuerling is a highly accomplished geoscientist with a wide range of field experiences, lab skills, grants, and awards to support her research, as well as a publication in review. Her current work as a Ph.D. candidate focuses on the chemical weathering of the glacial foreland in western Greenland, using tracers of subglacial hydrologic systems and oceanic fluxes of radiogenic isotopes. The timeliness of her research, as well as its broad appeal and potential impacts on the greater geoscience community, helped to distinguish Deuerling as a promising young scientist within the geoscience profession.

Given annually in honor of Harriet Evelyn Wallace, a founding member of the Geoscience Information Society (GSIS), a national organization and AGI member society that facilitates the exchange of information in the geosciences, the new Harriet Evelyn Wallace Scholarship is awarded to a female student pursuing a thesis-based Master's or Doctoral degree in the Earth sciences.



Image: © Michael Collier, courtesy of the AGI Earth Science World Image Bank. A close-up of the Navajo Sandstone in the The "Narrows" Section of Capitol Wash in Capitol Reef National Park reveals the cross-bedding of its sand dune origin.



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