



Eruptions at the distal tip of Kīlauea Volcano's East Rift Zone encroach on the village of Pahoa, 11/2014

## Newsletter February 2015

### Geology Working for Society

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### Greetings from the Chair

*Chris Carlson  
US Forest Service*

Greetings from Washington, DC! The new Congress elected in last November's midterms has now begun its efforts to shape the country's policies with a clear eye toward the next presidential contest in 2016. With the shifts in power on the Hill, it is clear that the issues that we as geoscientists work on at the interface of society and policy will be at the center of much that takes place. Whether it is climate change and variability, energy and minerals, water supply and clean up, soil quality and erosion, hypoxia, geohazards, remote sensing, or other work we do as geoscientists, we have a role to play. We are glad you have decided to make the Geology and Society Division your home within the Geological Society of America.

I am honored to be your chair for this year of change and repositioning within the US and beyond. I am hopeful that I can live up to your expectations and help move the Division forward. We had an excellent program at the 2014 Annual Meeting in Vancouver and we are well underway with planning for the 2015 Annual Meeting in Baltimore, where we expect to have a number of timely sessions on the societal implications of geoscience. While the Division has been successful in sponsoring many sessions at annual meetings, we have not been as successful at encouraging technical sessions on the intersections of geoscience with policy and society at the various Section meetings. The other members of the

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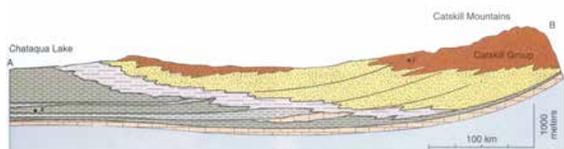
### **Greetings from the Chair (con't)**

Management Board and I would like to urge our members to work harder at proposing and developing these kinds of technical sessions at the 2016 section meetings.

I would like to thank our past chair, Suzanne O'Connell, for all her efforts on behalf of the Division. In addition, I would like to thank the rest of the volunteers that make your Division work, including your Management Board: Jon Goodwin, secretary-treasurer; Bruce Clark, 2<sup>nd</sup> vice-chair; Larry Davis, past chair; and Rob McDowell, newsletter editor. Without their service, your Division would cease to function. I would also like to thank: Kasey White, GSA's Director of Geoscience Policy, and the rest of the GSA staff for their support of the G&S Division.

This newsletter marks the end of Rob McDowell's five-year tenure as editor. We will miss his enthusiasm in our Board meetings and the untold hours of his service. Our best wishes to Rob for his future endeavors. We hope to see him around.

Please email me with your thoughts and suggestions. In addition, if you are interested in volunteering, please let me know. I welcome your help!



## **MANAGEMENT BOARD SEEKS MEMBERS' APPROVAL ON TWO PROPOSALS**

Geology and Society Division Members soon will receive a ballot asking you whether you approve two actions by the Management Board:

***Student Member on the Management Board.*** At a meeting held on October 20, 2014, at the GSA annual meeting in Vancouver, the members of the Management Board unanimously approved amending the Division's Bylaws to allow election of a student member to serve on the management board as a voting member. The students who will run for this elective office will be nominated by the nominating committee in odd-numbered years and must be enrolled as full-time students at an accredited university at the time of the election. The student who is elected will serve a two-year term on the management board and will not be eligible to be re-elected to that position.

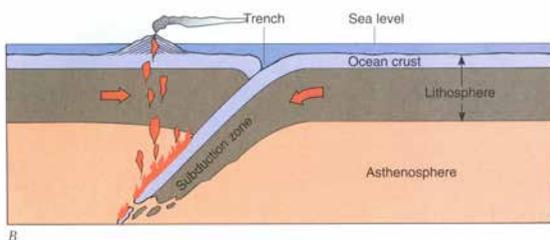
Amending the By-Laws requires that a majority of the members voting approve the proposed amendments. The amendments must also be reviewed and approved by the GSA Council before taking effect. The Board fervently hopes that the members will approve this proposal to add a student voice to the Board.

***Dues Increase.*** The Division's Secretary-Treasurer has consistently reported that the Division spends more each year than it receives in dues payments. We have been surviving on very generous donations members have made to the GSA Foundation on behalf of the Division. To help overcome this problem, and to bring the dues structure of the Geology and Society Division into closer alignment with the other Divisions of GSA, the Management Board proposes that the dues for all Division members be increased. Among the 18 divisions of GSA currently, 10 charge \$10 for dues for professional members and fellows; 6 charge \$8; one charges \$7 and one charges \$12. For

students, teachers and other associate members, 7 divisions charge \$4; 7 charge \$5, and the remaining 4 divisions charge \$0, \$3, \$6 or \$7.

The Division's dues have not been increased since the Division was formed in 2003. The membership of the Division has increased significantly in the past 3 years, rising from 309 members of all types in 2012 to 443 members in 2014, but the average dues amount paid has decreased from \$5.67 per member in 2012 to just \$3.50 per member in 2014. The reasons for this decrease are not clear, but two factors seem likely. First, a majority of the new members of the Division are student members who do not have to pay any dues if they join only one division when they join the GSA. Second, the number of senior members and fellows of the Division increased by almost 50 percent from 2012 to 2014, and they do not have to pay dues to the Division (or to GSA) if they choose not to.

The Board requests that you approve an increase in the dues for professional members and fellows from \$8 per year, to \$10 per year. The Board also requests that the members approve an increase in the dues for students, teachers and other associates from \$4 per year to \$5 per year. Increasing the dues requires the approval of the majority of the members voting on the question, and the review and approval of the Council. If enacted, the dues increase will take effect on July 1, 2015, at the start of the 2015-16 fiscal year.



## FY 2016 REQUEST PROPOSES INCREASES FOR GEOSCIENCE RESEARCH

**Karen Paczkowski and Kasey White**  
**GSA Geoscience Policy team**  
**Washington, D.C.**

The Obama Administration released its FY 2016 budget request on February 2. The request includes \$146 billion for R&D, a six percent increase over FY 2015. Increases are proposed for nearly all agencies of interest to the geoscience community. Because the budget does not adhere to the spending caps set by the Budget Control Act, these increases, in R&D and other categories, face a difficult road to implementation in Congress during the appropriations process.

### U.S. Geological Survey

The President submitted a [budget request for USGS](#) of \$1.2 billion, an increase of \$150.0 million or 14 percent from FY15: double the overall seven percent increase requested for discretionary spending. Suzette Kimball, Acting Director of the USGS, stated, "This budget request recognizes [the USGS's] unique capabilities with multidisciplinary earth science research, and will allow the USGS to meet societal needs for our Nation now and in the future." At the press conference on Monday, Kimball highlighted key requested increases to interdisciplinary initiatives at the USGS, including Meeting Water Challenges in the 21st Century, Powering Our Future and Supporting Sustainable Energy & Mineral Development, Responding to Natural Hazards, Building a Landscape-Level Understanding of Our Resources, Foundations of Land Management, and Supporting Community Resilience in the Face of a Changing Climate. The request also includes funding to support and advance the 42-year continuous Landsat data stream for an additional two decades. The funding request details for each of the agency's mission areas are expected to be released later in February.

## National Science Foundation

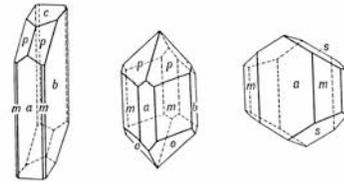
The [FY16 request](#) of \$7.7 billion for the National Science Foundation would be an increase of 5.2 percent. Education and Human Resources would see the largest percentage increase of 11.2 percent to \$962.6 million. Agency Operations and Award Management would also see a large increase as NSF moves its headquarters. Research and Related Activities would increase 4.3 percent to \$6.2 billion. Geosciences would see a slightly larger percentage increase of 4.7 percent to \$1.4 billion. Two new cross-foundation initiatives have a geoscience lead or co-lead: Innovations at the Nexus of Food, Energy and Water and Prediction of and Resilience Against Extreme Events. The Geoscience Directorate is also participating in NSF's new broadening participation program and will increase support for Research Experiences for Undergraduates.

## National Aeronautics and Space Administration

The President requested \$18.5 billion for [NASA](#), an increase of \$518.9 million or 2.9 percent. The request includes an additional \$43.9 million for NASA's Science Mission Directorate, for a total FY16 request of \$5.3 billion. NASA's Aeronautics Mission Directorate received a request for \$571.4 million, down by \$79.6 million or 12.2 percent from FY15. Within the Science Mission directorate the Earth Science division would receive an increase of \$174.8 million or 10 percent from FY15, which is the largest percentage increase of the Science Mission divisions. The FY16 request would provide \$1.9 billion, and specifies that the Earth Science division would be responsible for all non-weather satellite operations previously run by NOAA. The Astrophysics divisions also would receive an increase, with a request of \$709.1 million, 3.5 percent above FY15. The Planetary Science request is \$1.4 billion, a \$76.6 million or 5.3 percent decrease, and the Heliophysics request is \$651.0 million, a 1.7 percent decrease from FY15 levels. NASA Administrator Charles Bolden

stressed that "the state of NASA is strong," and that this budget request will allow NASA and the U.S. to remain leaders in space exploration and scientific discovery.

FIG. 11.48. Augite crystals.



## SUMMARY OF THE ANNUAL MEETING OF THE G&S DIVISION'S MEMBERSHIP

### Jonathan Goodwin Division Secretary-Treasurer



About 10 members and officers of the Geology and Society Division gathered in Room 110 of the Vancouver Convention Center West, immediately following the presentation of the Division's Distinguished Lecture by William W. Shilts to carry out the business of the Division.

**Division members and officers who attended:** 1<sup>st</sup> vice chair Christopher P. Carlson; 2<sup>nd</sup> Vice Chair Bruce R. Clark; Past Chair R. Laurence Davis; member Robert Dietz; member Joan Fryxell; Secretary-Treasurer Jonathan H. Goodwin; Chair Suzanne O'Connell; past chair of the GPPC and member Jeffrey Rubin; G&S Division GPPC representative and member David Wunsch, and 2 other unidentified members. Chair Suzanne O'Connell called the meeting to order at about 6:45 PM on October 21, 2014.

**Best Student Paper Award winners.** 1<sup>st</sup> Vice Chair Christopher Carlson announced the names of the winners of the Best Student Paper Awards from the 2013 meeting held in Denver. The winners were:

- Niaz Morshed, a student at Texas State University in San Marcos, TX,

for his presentation entitled *Modeling the Effects of Sea Level Rise in the Coastal Region of Bangladesh*

- Kevin McCoy, a student at the Colorado School of Mines in Golden, CO, for his presentation entitled *Analysis of Economic Risk from Post-Wildfire Debris Flows*.

The students were unable to attend the meeting so their \$300 award checks and certificates will be mailed to them.

***Student Representative on the Management Board.*** The chair summarized the plans for electing a student member to serve a single two-year term on the management board of the division. A proposal to amend the Division's By-Laws to implement this will be put before the membership in the spring. The nominating committee, comprised of members appointed each year by the chair, will have the responsibility of finding two candidate students to run for the office.

***Treasurer's report.*** Treasurer Jonathan Goodwin reported that the Division had received \$7,550 in unrestricted donations to the GSA Foundation during the past fiscal year. Those donations have now been transferred to the division's current operating funds. As of the end of the first quarter of fiscal 2015, the Division has a total of almost \$12,000 in unrestricted net assets. Almost \$1,200 of that was spent to host the very successful Rocks and Hops Soirée on Sunday here in Vancouver. Jon noted that receipts from dues in Fiscal 2014 totaled \$1,688, but expenses totaled a little over \$3,100, so we actually spent a little over \$1400 more than we took in from dues. This tradition of spending beyond our means has been sustainable only because donations have more than made up for the losses. Information provided by GSA headquarters has shown that despite our increase in membership from 309 members of all types in 2012, to 443 in 2014, the average amount paid in dues by those members has gone from \$5.67 in 2012 to just \$3.50 per member in 2014. Jon observed that almost all the new members are students, who aren't required to

pay dues for one division membership. The number of senior members and fellows, who also don't have to pay dues to the division, also has increased by 50 % from 2012 to 2014. The substantial increase in membership is certainly a good thing, but many of them aren't paying the freight so far. It seems clear to the treasurer that we need to increase the dues for full members and fellows, and for student members as well, if we are to reverse this trend and bring our dues structure into alignment with most of the other divisions.

***Outreach.*** The Division hopes to continue to produce a newsletter in some form. The current newsletters are archived and accessible from the Division's web site, which is accessible through the GSA Connected Community pages. Suzanne O'Connell, as Past Chair, will be the Division's web-site administrator and that task will now be the major responsibility of each successive Past Chair of the Division.

***2015 meeting plans.*** Chair O'Connell announced the Division's plans for technical meetings in 2015. The management board encourages the members of the Division to propose and organize policy-oriented technical sessions for the Baltimore meeting and for the section meetings as well. Plans for Baltimore include the following:

- Distinguished Lecture. Marcia McNutt, former director of the U.S. Geological Survey and current Editor in Chief of *Science* magazine
- Lecture by Simon Winchester, geologist and author of *The Map That Changed the World*, an account of the creation of William Smith's map of the geology of England, Wales and part of Scotland, the first "modern" geological map of any place in the world. Technical sessions directed toward the development and use of geological maps will be featured at the meeting.
- Post-meeting field trip to important federal agencies and the Capitol so

that geologists can meet with the leadership of federal agencies and with the staffs of their representative or senator.

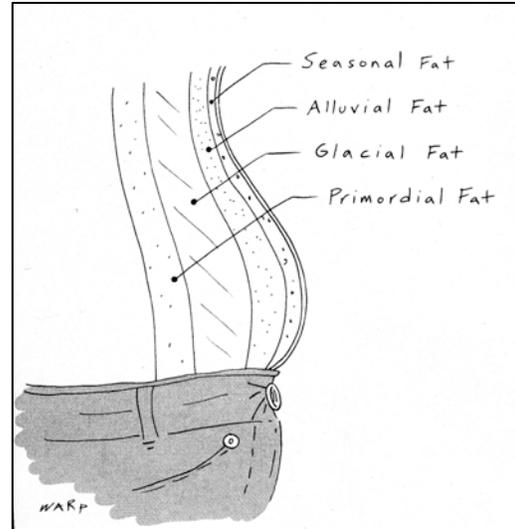
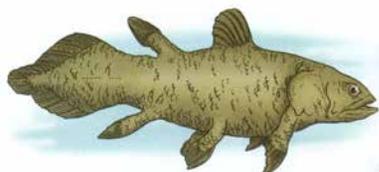
Other technical sessions being considered by the management board include:

- The Chesapeake Bay ecological restoration program.
- The only urban site for a Long-term Ecological Research (LTER) Program
- A Pardee symposium or technical session, or noon-time panel discussion on state models for obtaining input for regulating hydraulic fracturing.

### ***Boulder, Colorado “town hall” meeting.***

Larry Davis reported on the very successful first GSA-sponsored “town hall” meeting to publicly present scientific findings on the causes of the disastrous 2013 flash flood that heavily damaged Boulder and surrounding communities. The one-day meeting, organized by Boulder city planning officials with assistance from GSA, offered an afternoon of technical presentations by geologists, meteorologists, engineers, sociologists and other scientists on the causes of the flood and the impacts on infrastructure and people. The evening session provided an opportunity for citizens to tell their stories about the impacts of the flood on their lives. Plans are going forward for a similar meeting in summer of 2015 on the impacts of the major earthquake in southern Napa County, California.

***Transfer of Leadership.*** The meeting was declared adjourned at 7:30 PM, and the officers elected during the summer of 2014 officially assumed their new offices.



The Problem

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## **GEOSCIENCE MEETS SOCIAL SCIENCE: VANCOUVER AND BEYOND**



**Dave Szymanski  
Bentley University**

The need for transdisciplinarity seems to be an increasingly common theme among technical sessions addressing the

most complex geo-societal problems. Sessions in Vancouver like *Climate Literacy: Formal and Informal Education and Outreach Efforts to Increase Awareness and Enable Responsible Decisions (T71)*, spanned the breadth of the natural sciences, social sciences, and even the humanities (e.g. “Artists Communicate Science,” presented by Diane Burko). Many of us who do research at the nexus of geoscience and social science have often struggled with finding the most appropriate peer-reviewed outlets for our work, especially when it doesn’t fit neatly (or even messily) into a sub-discipline like geoscience education. The following call for papers in a special issue of *Geosphere* is an exciting opportunity (from Julie Libarkin, Michigan State University):

*We are pleased to announce a call for papers for a special issue on “Human Dimensions in Geoscience,” to be published in Geosphere. Geosphere is a publication of the Geological Society of America (impact factor: 2.37), is an online-only journal that targets an international audience, and publishes high-quality research results from all fields of the geosciences. We invite anyone with high quality research that sits at the interface between geoscience and social science, including education, to submit to this special issue. You can find the call and more information about Geosphere at:*

<http://geosphere.gsapubs.org/site/misc/smartgin.xhtml>

*(continued on the following page)  
Geosphere Themed Issue: Human Dimensions in Geoscience (continued on the following page)*

**Guest Editors:**

*Julie Libarkin, [libarkin@msu.edu](mailto:libarkin@msu.edu)  
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Suzanne O'Connell,  
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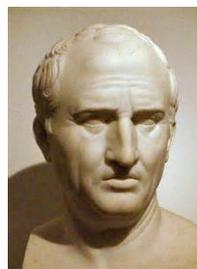
*This themed issue will focus on the research that occurs at the interface between geoscience and social science. Political science, education, history, philosophy, communication, information science, diversity studies, and similar fields can help illuminate some of the most vexing issues facing the geosciences. Best practices for communicating climate science, for example, emerge when deep understanding of geoscience intersects graphic design. Similarly, the solutions to the immediate and future need to train more geoscience students may lie in lessons already learned by diversity and access scholars. This special issue will provide a venue for researchers investigating human dimensions in geoscience to share research findings with each other and the broader geoscience community. We encourage submission of high quality research that sits at the*

*interface between geoscience and social science, including science communication, science policy, history and philosophy of science, learning in formal and informal settings, diversity in science, and similar fields.*

*To submit a paper for this issue, go to [www.editorialmanager.com/geosphere](http://www.editorialmanager.com/geosphere) and be sure to note in your cover letter that this submission is for the “Human Dimensions in Geoscience” themed issue. Although this special issue will remain open for two years, we encourage authors to submit manuscripts by June 1, 2015.*

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## WHY NOT A GEOLOGY TRAIL?



*Robert Titus  
Department of Geology  
Hartwick College  
[titusr@hartwick.edu](mailto:titusr@hartwick.edu)*

Nature trails are commonly encountered in our Catskills region and all across the country. You pick up a map and with it is a written field guide. You hike down the trail, following the guide. There are usually numbered stops along the way with descriptions of the trees, plants, flowers, or whatever. I approve, and I hope there will be many more of them. But, let me tell you of an experience I had that you might find helpful for you where you live.

I have been writing geology columns for the *Woodstock Times* since 1996, so I am pretty well known in that community. One of the town's most successful nature groups is the Woodstock Land Conservancy. The group was founded several decades ago to save a particularly scenic cornfield that was threatened by developers who wanted to turn it into a housing development. The Conservancy formed in response to this threat, and soon raised the money needed to buy the land and maintain it as it was. Since then, they have gone on to preserve other

scenic sites and to hold back the tide of development where it threatened the best natural or historic locations in their community.

Some years ago they received a donation of a parcel of land called Sloan Gorge. It's about 90 acres of land, stretched out on either side of a canyon. Never of any value for development, it had been owned by an artist named Allan Edward Sloan. Shortly before his death, he gave the land to the Conservancy and that left them with the problem of deciding what to do with it. They contacted me.



I had never heard of the place but I was happy to come down and see it. We all met on a nice early autumn day and they led my wife and me through the woods to the gorge. It was a wonderful hidden landscape feature, packed with interesting geology. The very first thing that I noticed is that the Sloan Gorge canyon had no water in it. That's not as unusual as you might think. Here in the Catskills, the landscape is dotted with spillways that were active only for a brief time at the end of the Ice Age, when glaciers were melting rapidly. That's when Sloan Gorge was a powerful whitewater torrent, and that is when the stream cut the now dry canyon. I don't know how long the stream was so erosive, but it was long enough to cut an impressive scenic canyon. My hosts

found it fascinating to hear its ice age history.

We continued up the canyon and saw that the bedrock recorded a history of the Devonian age Catskill Delta. The old delta formed at the base of the rising Acadian Mountains. It was easy for me to explain to my hosts where there were exposures of Devonian stream and floodplain deposits. An ancient bluestone quarry only helped to generate interest.

It was also easy for me to persuade them to let me turn Sloan Gorge into a geology trail. We set up numbered sites, and the guide that I wrote has, for years now, led visitors back to the Ice Age and into the Devonian. Over the years since, Sloan Gorge has been a popular, and I hope educational, destination for the many outdoors oriented folk in this region. You may well be able to do something like this where you live. That's, of course, the purpose of this column. For more information, navigate to [www.woodstocklandconservancy.org](http://www.woodstocklandconservancy.org)

By the way, this is only my third column for this newsletter, but it is the 600<sup>th</sup> column I have written for publication, mostly here in the Catskills with plenty more in the Hudson Valley.

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## FAREWELL AND THANK YOU!



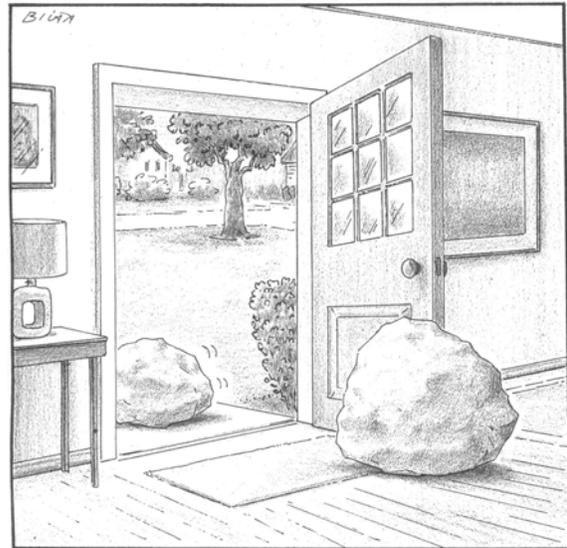
**Rob McDowell**  
*Newsletter Editor*

For the past five years, it has been my honor to be your newsletter editor. Now, however, it is time to pass the torch to someone else. I'm proud of the new look our newsletter developed over the years, with more pictures, feature articles, our new logo, and a regular cartoon lifted from The New Yorker. However, the best part of my job was being a member of the Management Board for the Geology and Society Division. That all started years ago

at the annual GSA meeting in Houston when then-Division Chair Marilyn Suiter allowed me to join the Board for lunch. I was hooked! Soon I was on the Geology and Public Policy Committee, and then-Committee chair Dick Berg asked me to take on the newsletter.

For most of us, geology is not a career but a vocation or way of looking at the world. It's fun looking at rocks, maps, cross sections, and thin sections, but it's really fun bringing all that to the general public and policy makers in ways they can appreciate and understand. Therein lies the beauty of the Geology and Society Division: Earth scientists deeply passionate about how our magnificent science can be used to address and solve some of our most pressing societal problems. With the encouragement and support of committed geologists like Jim Davis, Larry Davis, Jon Goodwin, Rex Buchanan, Marilyn Suiter, Craig Cooper, Suzanne O'Connell (the most patient Chair I served under) and so many others, my passion for geology and public policy was nurtured and my job as newsletter editor made easier. I will very much miss being on the Management Board and hobnobbing (i.e. drinking beer) with such dedicated and fascinating people.

But it's time to move on, and I wish to express my gratitude to my colleagues and friends who helped me over the past few years. I also hope that all of our Division members will never lose interest, or hope, in the critical need for bridge builders who extend themselves between the opposite banks of science and policy. The Earth needs you; GSA needs you; and society needs you.



*Come back - I can change!*

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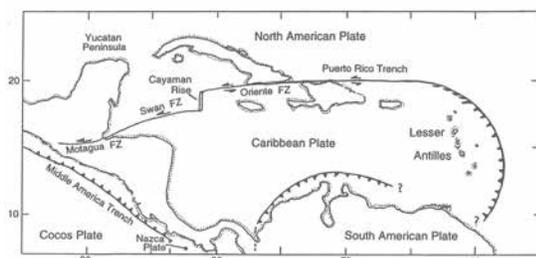
## FAREWELL AND THANK YOU, II



***Jonathan Goodwin***  
***Secretary-Treasurer***

Like Rob McDowell, your Secretary-Treasurer, too, has decided that it is time to step aside and let someone else serve as Secretary-Treasurer. I have served the Division for the last 8 years, from 2007, when I retired from the Illinois State Geological Survey, until now. It's sobering to realize that that period constitutes two-thirds of the total history of the Division so far.

I've had quite an adventure as secretary-treasurer, visiting section meetings in many places to explain the Division's mission and urge the students and professionals at those meetings to join our division. With lots of help from Division members, and support from the ISGS, we created an exhibit about the Division and the Geology and Public Policy Committee that I hauled to Section meetings and annual meetings either in my own car or in ISGS vehicles. After so long, however, that exhibit, like me, has become rather dated. The politicians pictured in the exhibit presenting awards to scientists are no longer in office.



I'll still be coming to annual meetings of GSA, and to some of the section meetings as well, but now I'll actually get to attend some technical sessions instead of standing in the Division's exhibit and meeting people. I'll also look forward to assisting whoever is elected Secretary-Treasurer this summer to ease the transition, transferring all the records of communications between the officers of the Division that convey the history of what we've accomplished so far.

Having worked for a state survey for most of my career, I've been directly involved in projects helping to solve societal problems using geology for a long time. I certainly expect to continue as an active member of the Division as the new officers lead us into the future.

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