

2018 SSA Annual Meeting Report

Miami, Florida

14–17 May 2018

The 2018 Annual Meeting of the Seismological Society of America (SSA) was held during the 2018 Seismology of the Americas conference, a joint international meeting of SSA and the Latin American and Caribbean Seismological Commission (LACSC), held 14–17 May 2018 at the Hyatt Regency Miami Hotel in Miami, Florida. The conference was the first joint meeting of SSA and LACSC, one of the four Regional Commissions of the International Association of Seismology and Physics of the Earth's Interior (IASPEI).

The SSA Technical Program Committee co-chairs were Carol S. Prentice (U.S. Geological Survey) and Elizabeth A. Vanacore (University of Puerto Rico). They were assisted by program committee members Sergio Barrientos (University of Chile), Christa G. von Hillebrandt-Andrade (National Oceanic and Atmospheric Administration), Xyoli Pérez-Campos (National Autonomous University of Mexico), and Mario Ruiz (Instituto Geofísico Escuela Politécnica Nacional, Ecuador).

The conference drew 726 registered attendees from 45 countries, including 118 attendees from Latin American and Caribbean countries. The registered attendees included 293 early career and student attendees.

The conference opened on Monday, 14 May, with a welcoming ceremony and reception. Three pre-meeting workshops also were held that day: “Getting Published—Writing Papers, Work with Editors, Responding to Reviews,” with Roland Bürgmann (University of California Berkeley), John Ebel (Boston College), and Brent Grocholski (Science); “Probabilistic Seismic Hazards Assessment: Subduction Zone Sources and Borders,” with Gavin Hayes (USGS), Hugo Yepes (Instituto Geofísico, Escuela Politécnica Nacional), and Julio García-Pelaez (Global Earthquake Model); and “Social Media: Not Just Kid Stuff!” with Susan Hough (USGS), Emily Wolin (USGS) and Julian Lozos (California State University Northridge).

The conference technical program began Tuesday 15 May and included 765 scheduled presentations: 424 oral presentations and 341 poster presentations among 53 sessions. Slidecasts of many of the presentations have been posted online at the SSA website and are accessible to members. The full pro-

gram, listing sessions and abstracts, was published in SRL vol. 89, number 2B.

Outgoing SSA President Andy Michael welcomed everyone to the SSA Annual Luncheon, including the guests representing LACSC. He pointed out SSA's new Code of Conduct for meeting attendees; and recognized program committee chairs, committee members, SSA journal editors, and the first annual Outstanding Reviewers for SRL and BSSA. He turned the meeting over to Peter Shearer, the president for 2018, who reported on the board meeting, acknowledged the travel-grant recipients, recognized volunteers

and sponsors, and conducted the presentation of awards (see the Business Meeting Minutes in this report for details). On Tuesday afternoon SSA held Lightning Talks and a “Special Interest Group Meeting on Articulating the Mission of State and Regional Earthquake Centers,” followed by a reception for student and early career members.

On Wednesday 16 May, SSA's Mentoring Breakfast brought together student and early career seismologists with seismology veterans. Elizabeth Duffy, SSA's government relations liaison in Washington D.C., held a discussion about the current legislative climate in Washington D.C. At the annual public policy luncheon, Alejandro De La Campa, director of the Caribbean Area Division of the Federal Emergency Management Agency was the guest speaker. Ellen M. Rathje delivered the 2018 William B. Joyner Memorial Lecture, “Seismic Landslide Assessments: Bridging the Gap between Engineers and Earth Scientists” Later that evening, SSA held its first “Women in Seismology” reception.

Technical sessions continued on Thursday 17 May and concluded with a LACSC-SSA celebration cruise that evening along the Miami shoreline. On Friday 18 May there were two post-conference workshops: “Aftershock Forecasting,” with Nicholas van der Elst, Jeanne Hardebeck, Sara McBride, Andy Michael, and Morgan Page, all USGS; and “ShakeMaps,” with Eric Thompson, David Wald, and Bruce Worden, all USGS.

Special thanks to sponsors of the SSA 2018 Annual Meeting, program committee members, SSA staff, and all the volunteers who contributed to the event.



▲ SSA 2018 featured 341 posters presentations, 131 by students.

Minutes of the 2018 Business Meeting 14 May 2018

The 2018 Business Meeting of the Seismological Society of America was held during the annual luncheon on Tuesday, 14 May 2018. The business meeting was part of SSA's 112th Annual Meeting, held 14–17 May 2018, at the Hyatt Regency Miami in Miami, Florida.

Outgoing SSA President Andy Michael opened the business meeting by welcoming members and guests to the first joint meeting of SSA and the Latin American and Caribbean Seismological Commission. He acknowledged the excellent cooperation between the two communities, particularly given the need to relocate the meeting from San Juan, Puerto Rico, following the hurricanes of 2017. He pointed out SSA's new Code of Conduct for meeting attendees, and then he recognized meeting co-chairs Carol Prentice and Elizabeth Vanacore and the meeting program committee; SSA journal editors Thomas Pratt (BSSA) and Zhigang Peng (SRL) and noted that, because Peng is stepping down, the SSA board is conducting a search for the next SRL Editor-in-Chief; and Klaus-G. Hinzen and David Rhoades as the first annual Outstanding Reviewers for SRL and BSSA, respectively. He introduced the SSA president for 2018, Peter Shearer, who took over the business meeting.

President Peter Shearer reported on the previous day's SSA Board of Directors meeting, pointed out that the Society is financially healthy and committed to maintaining its core strengths in publishing and meetings, and added that the board of directors is considering sponsoring meetings of topical interest. He acknowledged the 20 people who were selected as 2018 SSA travel-grant winners, as well as four recipients of the new SSA global travel grant. He announced that the SSA board

selected Susan Hough to serve as president-elect for 2018, and he acknowledged volunteers and sponsors including the program committee as well as PG&E, REF TEK, Kinematics, and all the SSA corporate members. He asked for SSA members' participation in the Society's 2019 meeting, to be held in Seattle, co-chaired by Michael Bostock of the University of British Columbia and Joan Gomberg of the U.S. Geological Survey.

President Shearer then turned to the presentation of awards designated for recognition at the 2018 luncheon. He presented the Charles F. Richter Early Career Award to Annemarie Baltay; the Frank Press Public Service Award to Lori Dengler; and the Distinguished Service to SSA Award to Keith Knudsen.

Peter Molnar of University of Colorado Boulder then read the citation for the award of the Harry Fielding Reid Medal to George Plafker of the U.S. Geological Survey, and Plafker accepted the award.

The complete citations and acceptances for these awards are included in this report.

President Shearer then re-introduced Past President Michael, who presented the SSA Presidential Address, which is included in this meeting report. President Shearer followed with closing remarks.

The complete program of the 2018 Annual Meeting was published in SRL volume 89, number 2B. The proceedings and reports of the meeting, including citations and awards, are published in this issue of SRL (volume 89, number 5). SSA 2018 drew 726 registered attendees from 45 countries, including 293 early career and student attendees.



▲ Winners of the 2018 SSA travel grants at the annual meeting in Miami.

Charles F. Richter Early Career Award

The Charles F. Richter Early Career Award honors outstanding contributions to the goals of the Society by a member early in her or his career. The award is presented at the Annual Meeting following the year of the award. The 2017 Charles F. Richter Awardee Annemarie Baltay.

Citation for Annemarie Baltay

Annemarie Baltay “has carved a niche for herself that is unique in seismology for her generation” and made “tangible contributions to increasing seismic safety,” said Professor Gregory Beroza, her Ph.D. advisor.

Baltay’s research has focused on various methods for estimating earthquake source parameters—in particular, radiated seismic energy and stress drop—and how they control the amplitudes of strong ground motion as functions of ground-motion frequency and earthquake magnitude.

As part of a “new wave” of interest in earthquake source parameters, Baltay has made valuable contributions to the Next Generation of Attenuation engineering seismology ground-motion models and the Extreme Ground Motion project, her colleagues noted in their support for her Richter award.

They also praised her for bridging the gap between the seismological evidence underlying ground-motion prediction equations and the application and refinement of those equations required for engineering applications, through her work with the Pacific Earthquake Engineering Research Center, among others.

Baltay received her undergraduate degree in applied mathematics with a concentration in geophysics from Yale University (2005), and her master’s (2009) and Ph.D. (2011) in geophysics from Stanford University. She served as a Mendenhall Postdoctoral Fellow at USGS Menlo Park (2013-2015).

For these accomplishments, Annemarie Baltay is honored today with SSA’s Charles F. Richter Early Career Award.

Annemarie Baltay’s Response

Thank you, SSA, colleagues and friends. It is a humbling and exciting honor, to stand up here today—humbling to receive an award with Charles Richter’s name, and also exciting that SSA and you, my colleagues and friends, felt that my work was interesting enough to warrant this distinction.

That the SSA presents the Richter Award is especially fitting for its role stimulating interaction between earthquake science and engineering. Although you might never have thought about it this way, Charles Richter was actually the first ground-motion prediction equation (GMPE) developer. His local magnitude scale was the original GMPE, relating the earthquake source size to the observed ground-motion amplitudes at distance, and even including a site correction factor to account for instrumental and near-surface response. It is this relationship that allowed much of earthquake science to develop as it has. Furthermore, the Richter scale helped the public connect to earthquake science and engineering. And ultimately, it paved the way for a functional form of GMPEs that is still used today. Modeling and interpreting ground motions is at the core of the SSA, tying together the seismology and engineering disciplines, and I am focused on bridging these communities. To reduce risk, we must work together, and so it is really apt that the SSA honors Richter in this way, and I hope to be able to continue in his tradition.

I’d also like to take this moment to acknowledge the Latin American and Caribbean Seismological Commission for co-hosting this meeting. That we were not able to meet as intended in San Juan is a pertinent reminder that what we study is but one part of the larger natural hazards discipline, and we can learn much from the hurricane preparedness and relief that should inform how we think about earthquakes holistically.

Of course, I owe many thanks to my support network—colleagues, friends and family who have encouraged me along the way. In particular, I’d like to mention Greg Beroza and Tom Hanks, my primary mentors who are constantly looking out for me. Many of my ideas, ways of thinking and connection to engineering have come through discussions with Greg and Tom, and I am forever grateful for their support. Thanks also to my family, especially my parents who led by example and encouraged me to pursue science and research. And naturally, my husband Eric, who has accompanied me daily on this journey, and my toddler son Bennett, who is already showing off his emerging skills bridging engineering and seismology, building precipitous towers to withstand the everyday shaking of life.



▲ Annemarie Baltay accepts the Charles F. Richter Early Career Award.

Frank Press Public Service Award

The Frank Press Public Service Award honors outstanding contributions to the advancement of public safety or public information relating to seismology. The award is presented at the Annual Meeting following the year of the award. The 2017 Frank Press Public Service award recipient is Lori Dengler.

Citation for Lori Dengler

For more than 30 years, Lori Dengler has worked tirelessly to prepare coastal communities for tsunamis. Her impressive resume includes co-authoring the Intergovernmental Oceanographic Commission of the United Nations Educational, Scientific and Cultural Organization's "International Post-Tsunami Survey Field Guide" and helping develop the National Tsunami Hazard Mitigation Program and authoring its initial Strategic Implementation Plan for Mitigation Projects.

In 1996 she was a founding member of the Redwood Coast Tsunami Work Group, which unites local, state, tribal and federal agencies, nongovernmental organizations and businesses to reduce and learn more about seismic risks along California's northern coast. "Living on Shaky Ground: How to Survive Earthquakes and Tsunamis in Northern California," Dengler's preparedness guide, has become a model for similar citizen guides throughout California. Her bilingual Japanese-English children's book, "The Extraordinary Voyage of Kamome: A Tsunami Boat Comes Home," has inspired a new California school curriculum on earthquakes and tsunami preparedness.

Dengler received her bachelor's (1968), master's (1973) and Ph.D. (1979) degrees in geophysics from the University of California, Berkeley. The director of the Humboldt Earthquake Education Center since 1986, Dengler was recognized as Humboldt State University's Scholar of the Year (2008) and received the Alfred E. Alquist Medal for Outstanding Achievement in Earthquake Safety (2009).

For these accomplishments, Lori Dengler is honored today with SSA's Frank Press Public Service Award.

Lori Dengler's Response

Thank you to the SSA, and thank you, committee members and the people who nominated me. This is an unexpected honor, and—coming from you, my colleagues—means a great deal to me.

I have been fortunate in my career in many ways. I arrived at a small university in northwest California in 1978. At that time, the Cascadia subduction zone had no name. There was debate as to whether it was even capable of producing moderate—let alone great—earthquakes, and only a very few people were beginning to poke at sediments to see if they could say anything about past earthquakes.

I had great colleagues both at Humboldt and other institutions that were beginning to pick at the Cascadia problem. Slowly, like a grand suspense novel, the puzzle pieces began to take form. One of the pieces was an earthquake 26 years ago almost beneath my feet—the M 7.2 Cape Mendocino earthquake. It produced a modest tsunami and convinced a U.S. senator from Oregon that it was time to invest a little funding into the near source tsunami hazard.

I was fortunate to be part of a very small group of representatives from federal agencies and the Pacific states that formed and developed the U.S. National Tsunami Hazard Mitigation Program in 1996. From the very beginning, the

NTHMP was based on three legs—warning guidance, hazard assessment and mitigation, including outreach and public education. For reasons I am still not quite clear on, I was tasked with putting together the mitigation plan.

It was a steep learning curve for me and for all of us in those early NTHMP days. For eight years, it was a small, little known program.

I like to say that Christmas Day 2004, there were perhaps 45 people in the world actively working on U.S. tsunami hazards. By the next day, everyone was paying attention.

I have been fortunate to be part of several International Tsunami Survey Teams, studying the impacts of tsunamis in the weeks and months after the events. Although driven initially by tsunami modelers, these teams recognized early on the value of comprehensive, interdisciplinary observations, and that tsunami risk reduction depended just as much on how people perceived the hazard as it did on technology.

I am fortunate to live on California's North Coast, where earthquakes and tsunamis are relatively frequent. We had the freedom to develop our own approaches—messaging and materials—to address our threats. With no funding, we created an ad hoc group, the Redwood Coast Tsunami Work Group. One that 22 years later continues to expand and address the continuing reassessment of the earthquake and tsunami hazard. This honor really belongs to everyone in the Redwood Coast Tsunami Work Group—and I thank all of them.



▲ Lori Dengler receives the Frank Press Public Service Award from SSA President Peter Shearer.

Distinguished Service to SSA Award

The Distinguished Service to SSA Award honors individuals who have made outstanding contributions to the work of the Seismological Society of America. This award is presented at the Annual Meeting following the year of the award. The 2017 Distinguished Service to SSA Award honors Keith Knudsen.

Citation for Keith Knudsen

Keith Knudsen is recognized for his nine years of service as secretary for SSA. In their nomination of Knudsen, five past presidents of SSA commended him for his advice on multiple issues related to operations and for his work in a demanding role for the Society, carried out from 2007 to 2016.

Knudsen was praised for his contributions, including reviewing and updating the SSA Bylaws and Board Policy manual, instituting a more formal annual review of the Society's executive director and developing a new strategic plan.

As secretary, Knudsen was tasked with reporting the actions of the SSA Executive Committee to the SSA Board and representing the Executive Committee to the Budget and Headquarters Management Committees. He also worked with the executive director and legal counsel to ensure compliance with the Society's bylaws and policies.

Knudsen has been the deputy director of the Earthquake Science Center at the United States Geological Survey at Menlo Park since 2011. He graduated with a B.A. in geology from Carleton College (1983) and received his M.S. in

environmental systems/geology (1989) from Humboldt State University. He continues to serve as a member of the SSA Government Relations Committee.

For these contributions, Keith Knudsen is honored today with the Distinguished Service to SSA Award.



▲ Keith Knudsen accepted the SSA Distinguished Service Award.

Keith Knudsen's Response

I am delighted to be recognized by the Seismological Society of America with its Distinguished Service Award! I enjoyed and value the time I spent serving as SSA's secretary, and I hope to maintain the friendships formed with so many others involved in the leadership of SSA.

I learned a great deal from my colleagues in this role, and I encourage others to consider volunteering with SSA and/or other professional societies. My involvement has made me appreciate the energy, enthusiasm and just plain hard work that goes into making SSA such a wonderful organization.

I would like to thank the SSA presidents who led us so ably during my tenure as secretary: Jim Mori, Ruth Harris, Lisa Grant Ludwig,

Tom Jordan, Christa von Hillebrandt-Andrade, Rick Aster and Bill Ellsworth. I also really appreciated getting to know and work with Mitch Withers, SSA's treasurer—the organization's finances are in good hands. Lastly, of course, special thanks are due to Susan Newman and Nan Broadbent, who have made SSA the vibrant (and growing) organization we all value so highly!

Harry Fielding Reid Medal

The Harry Fielding Reid Medal of the Seismological Society of America is awarded for outstanding contributions in seismology or earthquake engineering. The medal is presented at the Annual Meeting following the year of the award. The 2017 Harry Fielding Reid Medal honors George Plafker, United States Geological Survey (USGS) Research Scientist Emeritus.

Citation for George Plafker

George Plafker turned Harry Fielding Reid's elastic rebound model of earthquakes on its side, and by doing so, he demonstrated subduction in action, and he created the subdiscipline megathrust earthquake geology.

With a bachelor's degree in geology from Brooklyn College, George started inauspiciously, with a brief inquiry with Maurice Ewing, founding director at the then-fledgling Lamont Geological Observatory. Ewing, no doubt, boasted of never having read a geology textbook, and George concluded, "This guy will never amount to anything." This meeting launched a love-hate relationship between George and geophysicists.

George then made his way to the USGS, to Chevron and back to the USGS. When the 1964 Great Alaskan earthquake occurred, someone had to look at its effects.

Seeing what George saw in the aftermath of that earthquake required much more imagination than textbook syntheses reveal to students. Using airplanes and a tugboat that served as a mobile field camp, as well as modes of transport preferred by geologists and grizzly bears, George mapped surface deformation along the 800-km rupture zone. Among non-traditional geologic materials, like "the common acorn barnacle, *Ballanus balanoides*," he found numerous red herrings, such as a 5-m-high fault scarp, myriad cracks from liquefaction settlement and huge slumps like that at Turnagain Heights, a suburb of Anchorage, where entire houses moved hundreds of meters. Not just geophysicists, but also young geologists find difficulty in conceiving the imagination it took to dismiss huge fault scarps as secondary faulting, and see the simple pattern that George found: broad subsidence to the northwest and shoaling of the sea floor to the southeast.

Two different styles of faulting matched this surface deformation: gentle underthrusting, as occurs at subduction zones, or reverse slip on the conjugate, nearly vertical plane, which to fit the data would extend to 100-to-200 km depth, but not

reach shallower than 15 km below the surface. These two views brought George in confrontation with geophysicists. Frank Press, arguably the Goliath of seismology, and David Jackson, a bright young student, argued for the latter interpretation. Press and Jackson described George's data as "unmatched in extent and precision," and they offered "Mr. Plafker" thanks for letting them "see his data in advance of publication."

Mr. Plafker substituted his geological insights for a slingshot, and defended the first view—thrust faulting on a gently dipping plane.

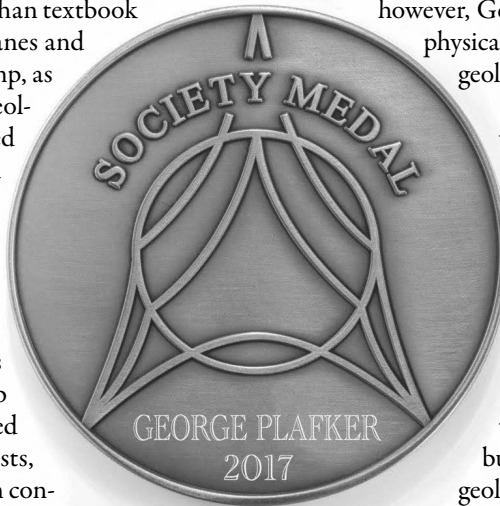
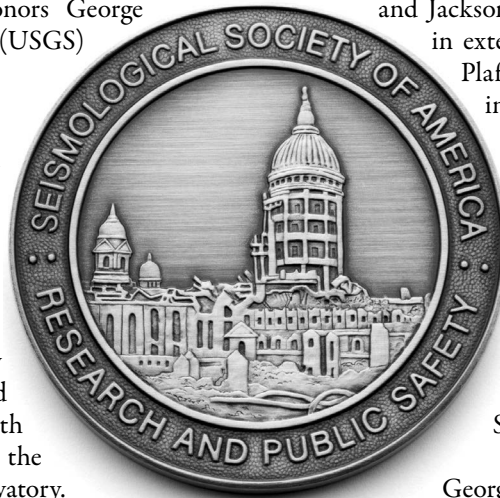
A few years later, he showed that the great 1960 Chilean earthquake ruptured in similar fashion.

"The rest is history," though in the meantime, George picked up a Ph.D. from Stanford.

By demonstrating subduction in action, George laid the foundation of one of the basic elements of plate tectonics: subduction, and serves as the exception to the rule that geophysicists (not field geologists) gave us plate tectonics. Perhaps this total immersion among the enemy precipitated Plafker's Law: "When the geology and geophysics clash, throw the geophysics in the trash." Then, plate tectonics—rigid plates—works best where there is no tectonics at all; so conversely, maybe Plafker's Law applies best when there is no geology to challenge the geophysics. Actually, however, George has long been a strong backer of geophysical studies, particularly in Alaska, as tests of geological hypotheses.

If subduction was well-established in the 1960s, megathrust earthquake geology had just begun. George showed that one could not get away with mapping faults and folds, but must look at other evidence of deformation, such as drowned swamps, and exploit atypical geologic materials like "the common olive-green rockweed" or "dark gray encrusting alga."

If Bernard of Clairvaux were alive today and able to reflect on the contributions made by tectonic and earthquake geologists over the past 50 years, he surely would point out that virtually all have stood on George Plafker's shoulders. Among the crowd on those shoulders, engineers use seismic hazard maps that incorporate George's findings about megathrust faults as earthquake sources. Science journalists who wrote insightfully about the greatest earthquakes in the current century—2004 Aceh-Andaman, 2010 Male and 2011 Tohoku—relied on Plafker's insights from previous events. As a specific example, Brian



Atwater stood on those shoulders when he worked out the past history of great earthquakes along the Cascadia margin, using tree rings to determine when abrupt submergence occurred last in swampy areas along that margin.

No wonder George hunches over a little today.

Could Harry Fielding Reid have imagined a scientist who took his ideas about elastic rebound further than George Plafker did, and with more imagination?

—Peter Molnar

George Plafker's Response

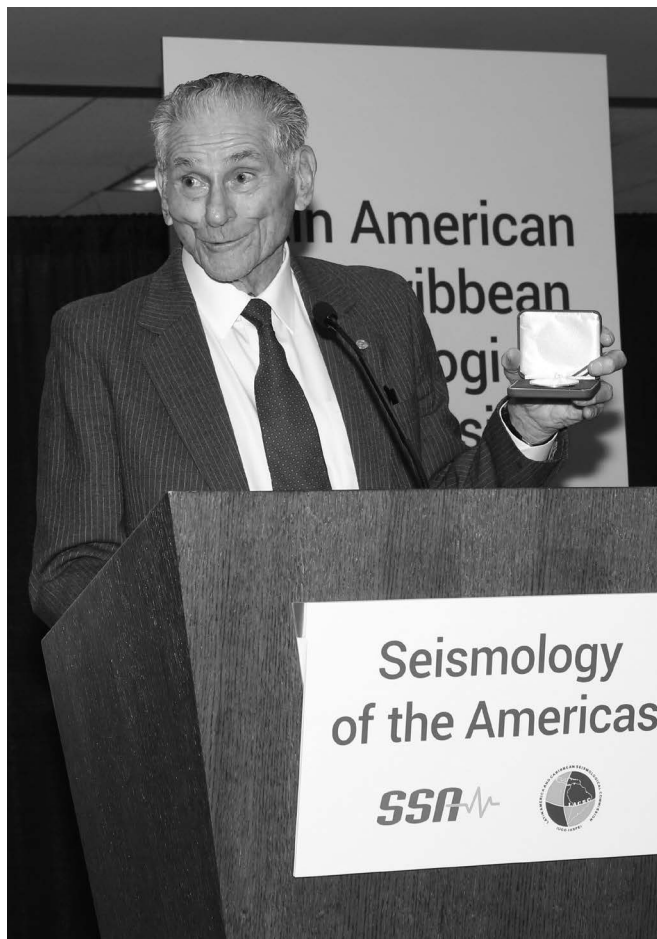
My sincere thanks go to Dr. Peter Molnar, the award nominating committee and officers of the Seismological Society of America for finding my career achievements in earthquake and tsunami studies worthy of the 2017 Harry Fielding Reid Medal. I am proud to be the recipient of the Reid Medal. It is an affirmation that some of my contributions to our science have been recognized by peers as deserving of this prestigious award. I am also humbled by finding myself listed among those giants in Earth science who comprise the fraternity of Reid Medalists. They include three of my heroes: G.K. Gilbert, Robert Wallace and Clarence Allen—leaders in surficial earthquake research.

Why Geology?

I could not have received a Reid Medal if it had not been for Dr. A. C. Hawkins. In 1947

I had finished my sophomore year at Brooklyn College with a declared major in civil engineering. Prerequisites were completed except for geology, a subject I knew absolutely nothing about. Fortunately, a summer course in introductory geology was available that was taught by Dr. Hawkins, a retired mining geologist, mineralogist and part-time professor. I signed up for the course, and on the first day Dr. Hawkins emphasized that geology is a subject that must be experienced in the field. He offered to take a car full of interested students on weekend field trips, and I jumped at the opportunity. We happily spent weekends that summer visiting mines, quarries and geological features of interest throughout the greater New York area. Dr. Hawkins lived in New Jersey, so field trips began and ended at the Clam Broth House, a sleazy but inexpensive bar/restaurant near the Hoboken-Manhattan ferry terminal. For the price of a

beer, one could make a dinner of free clam broth and the sandwich bar while Dr. Hawkins regaled us with stories of mining exploits in exotic places. I thought this was a fine way to earn a living, and before summer ended I switched majors to geology. Thanks to Dr. Hawkins, that was my career-changing decision (#1) that I never regretted!



▲ George Plafker delivers his response after receiving the Harry Fielding Reid Medal.

A Budding Geologist

At the end of the 1949 fall semester I graduated with honors in geology. For the following 15 years I had a variety of jobs and sporadic graduate studies that were all fine learning experiences. These began with one and a half years as a beginning engineering geologist with the California Corps of Engineers, where my jobs involved geologic mapping of potential reservoir areas and logging core drill holes for dam sites in the Sierra Nevada foothills. In mid-1950, I left the Corps after being accepted into a Master Degree of Science program at U.C. Berkeley.

I completed one semester before being hired by the USGS for a temporary project in Washington, D.C. Soon, I was extraordinarily lucky to be able to transfer to the Alaskan Branch of the USGS with headquarters in Menlo Park, California. For the next four years, I worked summers as Don Miller's field assistant along the Gulf of Alaska coast. Miller was one of the most experienced and capable field

geologists in the Alaska team. His interests were oil and coal in Tertiary strata, structure, neotectonics, glaciers and glacial history. My years with Miller were a veritable class in extreme field geology. While at the USGS headquarters, I completed enough part-time courses at U.C. Berkeley to earn a Master of Science degree (1956).

South to Latin America

By 1956, I had been married six years with two young children. We were ready to expand our horizons beyond Alaska. I was hired as a field party chief in petroleum exploration for Chevron Oil Company to work in Latin America (career-changing decision #2). For six and a half years we were based first in Guatemala City, where our third child was born in 1959, and then in Cochabamba, Bolivia. Fieldwork was

mainly geologic mapping in jungle-covered carbonate areas of northern Guatemala on foot, on mules or canoe, and in logging my first oil exploration well. In Bolivia it was helicopter-supported stratigraphic and structural studies in the eastern Andes foothills and adjacent Beni Basin. In late 1962 our company abruptly shut down all petroleum exploration in Latin America. I was offered a transfer to an Oklahoma subsidiary to do subsurface stratigraphic studies, but neither the location nor the work appealed to me.

Home to California and Alaska

Almost simultaneously, I received a telegram from the Alaska branch chief with shocking news that Don Miller, my USGS mentor, and an assistant drowned in a river-rafting accident. Because I was one of the few geologists familiar with Don's work, he thought I might be interested in taking over his project. We accepted this offer, moved to California, and I resumed geologic mapping in Alaska (career-changing decision #3).

The March 27 1964 Alaska Earthquake

About two years after my return to Alaska work, I was in Seattle at a GSA convention when the M=9.2 earthquake, the

second largest recorded in instrumental history, struck southern Alaska. Art Grantz, a senior Alaska geologist who was also at the convention; Reuben Kachadoorian, an engineering geologist at our Menlo Park office; and I were asked by our branch chief to go to Alaska immediately for a quick damage assessment required for planning comprehensive follow-up studies during the summer. We arrived in Anchorage by commercial flight the next day. With excellent logistic support by the U.S. Army Fort Richardson, for housing, cold weather gear and air transport, we completed reconnaissance of about 5,000² km in 12 days. During our brief reconnaissance, I became obsessed with understanding the mechanism for extensive coseismic uplift and subsidence of shores with no visible faults. Consequently, tectonic and tsunami effects were what my field party focused on during the 1964 summer (career-changing decision #4). Results of that work were included in Dr. Molnar's medal presentation. The earthquake opened an entirely new and exciting field of neotectonic research and tsunami studies that I have thoroughly enjoyed. Receipt of the Reid Medal for doing something I love for the past 50-plus years is awesome. I am truly grateful.

2018 SSA Annual Meeting Travel Grant Award Winners

Supported by the Kanamori Fund, General Fund and Student Travel Fund, these grants waive the fee for registration and provide a cash stipend for travel expenses. Congratulations to the 2018 travel grant recipients!

ESC/SSA Travel Grant

Rodrigo Contreras Arratia, Institute of Geophysics and Tectonics, University of Leeds, Leeds, England

International Travel Grant

- Albert Aguilar, Universidad Nacional de Colombia, Bogotá, Colombia
- Marcella Cilia, University of Birmingham, Birmingham, England
- Garmalia Mentor-William, GeoHazards International, Haiti
- Maria Mesimeri, Aristotle University of Thessaloniki, Thessaloniki, Greece
- Rebecca Salvage, Observatorio Vulcanológico y Sismológico de Costa Rica, Universidad Nacional, Heredia, Costa Rica
- Hema Sharma, Western University, London, Ontario, Canada
- Hubert Zal, Victoria University of Wellington, Wellington, New Zealand

Student Travel Grant

- Claudia Aristizábal, ISTERre—Universite Grenoble Alpes, Grenoble, France
- Lirca Feliciano-Centeno, University of Puerto Rico at Mayaguez, Mayaguez, Puerto Rico, USA
- Laney Hart, University of Wisconsin-Madison, Madison, Wisconsin, USA
- Jacob Kukovica, The University of Western Ontario, London, Ontario, Canada
- Pamela Moyer, University of New Hampshire, Durham, New Hampshire, USA
- Jessica Schobelock, Virginia Polytechnic Institute and State University, Blacksburg, Virginia, USA
- Vianca Severino Rivas, University of Puerto Rico at Mayaguez, Mayaguez, Puerto Rico, USA
- Kahoko Takahashi, Yokohama City University, Yokohama, Japan
- Sin-Mei Wu, University of Utah, Salt Lake City, Utah, USA
- Shuo Yang, University of Notre Dame, Notre Dame, Indiana, USA
- Jefferson Yarcce, University of Colorado Boulder, Boulder, Colorado, USA
- Lizhong Zhang, University of Bristol, Bristol, England

SSA Presidential Address

With the oft-repeated history that the Seismological Society of America was founded after the 1906 San Francisco earthquake, it is easy to consider SSA as part of the bedrock of our lives, regularly publishing excellent science, holding this increasingly popular meeting, and having done so since time immemorial and into the future without change. But doing so risks taking the Society for granted. Instead, we must nurture SSA because its core purpose, to “advance seismology and the understanding of earthquakes for the benefit of society” is a worthy goal.

During my year as President, the Board focused on new ways to serve our community and we are always trying to improve our existing activities. With no government funding, we, as a community, decide what the Society will do and how to support those activities. This is a process that has gone on since the beginning and I invite all of you to help us face today’s challenges.

In the early years, SSA struggled to find its role. There was talk of setting up a research institute and projects such as studying the oscillatory periods of brick chimneys, building geodetic monuments across the San Andreas fault, and developing a modernized and Americanized intensity scale. Today, we don’t expect SSA to be setting the research agenda.

In 1908, SSA decided to publish a journal. The effort stalled and the society almost went bankrupt in 1909 when, due to illness, the Secretary failed to collect the dues. Revived late in 1910, the Board appointed John Branner, Andrew Lawson, and Sidney Townley to lead the effort and the first issue of BSSA was published in 1911, with articles covering seismology in the US, Costa Rica, and Chile.

A member, Robert Sayles, gave \$5000 to support BSSA. Sayles earned his money from the family weaving business but he was also in charge of the Geology Museum at Harvard and had an interest in seismology. His gift not only stabilized BSSA’s initial health but, after earning interest for many years, the last of the fund was used in 2006 to digitize the back issues. Thus, you can easily read Sayles’ sole publication in BSSA, on earthquakes and rainfall, published in 1913, and his obituary in 1944.

At first, BSSA published a wide variety of material such as the minutes of meetings, reviews of books, even the lyrics to the “Song of the Seismologist,” which was written at a meeting in 1911, along with the formal research articles that now dominate its pages.

The Eastern Section started publishing “Earthquake Notes” in 1927. Renamed Seismological Research Letters in 1987, the journal was taken over by SSA in 1995. Under the leadership of Editors from John Ebel to Zhigang Peng, SRL has become the most creative and diverse journal in seismology with content ranging from the columns to short research articles, while the Eastern Section maintains its publications in the back of each issue. The “Song of the Seismologist” would now be published in SRL. It’s the fun journal.

Our journals are doing extremely well but there will continue to be challenges and opportunities. Open Access has become an important movement and we provide “Green Open Access,” allowing articles to be immediately shared on personal web sites and posted in institutional repositories after an embargo period. But calls for even greater access are sure to continue and we need to remain vigilant. Open Access is a noble goal, but so is paying the staff members that get our work published. And our journals are available to nearly 3,000 members and to everyone at over 1,600 subscribing institutions.

There are also challenges to the peer review system. While Editor of BSSA, I came to value the process because it improves papers and lets us seem smarter than we really are. But the outcome is a bit stochastic, depending on who agrees to do a review. An open review process might reduce that randomness by obtaining a broader range of opinions. One set of journals is experimenting with direct communication between authors and reviewers. Perhaps SSA should join some of these experiments.

Another change is an emphasis on short articles with, ironically, ever growing electronic supplements. This trend worries me because the supplements can become critical parts of the articles, but often these hidden addenda are barely reviewed. Also, while the journals themselves are designed and archived to assure future availability, no journal promises that their supplements will be readable in a century. And so this trend may undermine leaving behind a full record of our work.

A difficult challenge is that we publish international journals in a single language. Writing in English is hard for some authors and we have yet to find a commercial editing service, or set up a volunteer one, that reliably helps our authors. When important ideas aren’t published due to a language barrier, we all lose. This issue came up at yesterday’s publishing workshop and we also discussed solutions at last night’s Publications Committee meeting. If you have an idea, tell us.



▲ SSA Past President Andy Michael.

After the journals, the Annual Meeting is our largest activity, having been held most years since 1906. Over time, and especially in the last decade, the meeting has grown substantially. But it hasn't fundamentally changed in many years. The basic structure still centers on 15 minute talks and posters.

For a few years, we had the Dave Jackson led Earthquake Debates, which pitted people against each other on controversial topics. They were educational, although facing off with Jim Dieterich over the value of numerical earthquake simulators was terrifying.

We've made some tweaks, providing more time to view posters and adding a plenary hour of 5-minute Lightning talks. I gave one last year and found that you can fit a lot of information into 5 minutes. I'm looking forward to tonight's session. Maybe using shorter talk formats in the technical sessions would leave us more time for discussion.

Another challenge is simply travel. Some scientists were denied visas to attend this meeting, while others can't leave the US, and U.S. government scientists face limits on travel outside the country. While we provide recordings of talks and copies of posters in the members' area of the SSA website, we haven't fully explored remote attendance at meetings. Face to face discussions are incredibly valuable and so I doubt remote attendance could replace the in person experience, but can we do more for people who can't attend?

As we have more and more science to share, we must explore the best ways to do that. Smaller, topical meetings might help and we are exploring that option. And, I was so pleased that we could support the Student Seismology Workshop at Lamont Doherty this year and I hope we can help this grass roots effort expand as they continue their success. We also support students through travel grants to this meeting and we recently added travel grants to other meetings.

How else can we support professional education? Several years ago, a group of us started an open access, online textbook called the Community Online Resource for Statistical Seismicity Analysis or CORSSA.org. We've gotten positive comments on the initial chapters but the effort has been difficult to sustain. Perhaps partnering with SSA could give us the continuity that can come from organizational support and we could grow beyond statistical analysis to include other specialties. Or maybe SSA can develop different models for providing technical education, such as yesterday's PSHA workshop.

Without government funding, SSA has the freedom to lobby the government about the importance of our science. As a U.S. government employee, I have restrictions on my activity and so I very much appreciate that our work has a voice. In the past year, the SSA Government Relations Committee updated all of our policy statements and provided advice as a bipartisan group of Senators submitted the National Earthquake Hazards Reduction Program Reauthorization Act of 2017. We expect it to be submitted into the House in June and, hopefully, passed later this year.

Note that I emphasized the bipartisan nature of this effort. SSA maintains an active government relations program, hold-

ing briefings on Capital Hill and sending students to visit lawmakers on the Geological Congressional Visits Day, but we stay out of partisan politics. That was established in 1920 when SSA was asked to endorse a candidate for the U.S. Presidency. The board declined, despite that the candidate, Herbert Hoover, was an SSA member. That year, he lost his bid for the Republican nomination and also lost an election for the SSA Board. His fortunes turned around and he won election to the SSA Board in 1921 and the U.S. Presidency in 1928. He never published in BSSA, but his wife, Lou Henry Hoover, the first woman to graduate from Stanford with a degree in geology, was an SSA member and, in 1912, published a fascinating article about her visit with John Milne. Yes, we had two members in the White House!

Our focus has been on the U.S. government but 40% of our members are from other countries and this joint meeting with LACSC strengthens our international ties. Perhaps we can expand our impact by providing advice to members in other countries on how to work with politicians or by sharing strategies with other national seismology societies. Last year, our lobbyist, Elizabeth Duffy, gave a fantastic webinar on gaining influence by building relationships. It was advice that can work well beyond any particular political system.

Finally, SSA has always focused on public information throughout its existence. Christine Goulet and Maurice LaMontagne, under the auspices of our Communication Committee, recently started a column in SRL to share ideas on how to communicate successfully. You must read Sara McBride's recent contribution on how and why to be likeable. With Sue Hough's leadership the committee is also focusing on the use of social media and 90 of you attended last night's workshop. I've found a tradeoff between controlling the message by releasing it ourselves and losing control of the message, but gaining a much larger audience, by using the mass media. Social media could upend that equation, if we can find ways for our tweets and posts to go viral.

SSA supports our careers and our field in many ways. By reviewing bits of our history, we can see that these things didn't just happen. They happened because people dedicated part of their careers to this organization. I hope that one of these topics is something that you particularly care about and that you will also make service through SSA part of your life, regardless of where you live. Our membership is global and the Board includes scientists from Japan, New Zealand, Australia, Mexico, and Chile, as well as the US.

We have one extremely great opportunity at the moment: becoming Editor-in-Chief of SRL. It really is the fun journal where your creativity can shape how we communicate. If you aren't ready for that ask about joining a committee, apply for the Congressional Visits Day, ask about becoming an associate editor, or come to us with a new idea. Our careers depend on SSA and SSA depends on us.

Thank you.

Andrew J. Michael

2018 SSA Student Presentation Awards

The SSA Student Presentation Awards recognize excellence in student oral and poster presentations at the annual meeting. The award is given to up to 10% of the number of students presenting at the annual meeting whose presentations meet absolute criteria that cover the quality of both content and presentation. The 2018 SSA Student Presentation Awards were given based on evaluation by the Student Award subcommittee, led by Meghan S. Miller and Sergio Barrientos and assisted by dozens of evaluators among the conference attendees. From among a total of 203 student presentations (72 oral, 131 poster) at the 2018 SSA Annual Meeting in Denver, Colorado, the subcommittee chose the following for recognition:



Paul Geimer

University of Utah
Spectral Monitoring of Rock
Arches
P. R. Geimer and J. R. Moore



Qingkai Kong

Berkeley Seismology Laboratory
MyShake—Building an
Earthquake Early Warning System
Using Smartphones
Q. Kong, A. Inbal, and R. M.
Allen,



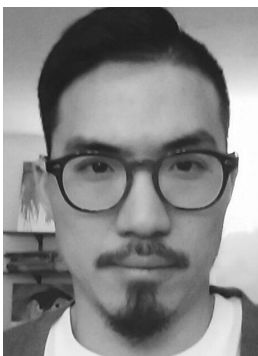
Tiegan Hobbs

Georgia Institute of Technology
Episodic Forearc Sliver Creep dur-
ing Relocking of the Nicoya, Costa
Rica, Megathrust: An Unexpected
Observation
T. E. Hobbs, A. V. Newman, and J.
M. Protti.



Anne Lamontagne

*University of California, Santa
Barbara*
Tracking Tropical Cyclones with
Backprojection
A. M. Lamontagne, T. Tanimoto,
and A. Anderson



Doyeon Kim

Cornell University
High Resolution Imaging of
the Plate Interface in Central
Alaskan Subduction Zone Using
Autocorrelation with Local
Earthquakes
D. Kim, K. M. Keranen, G. A.
Abers, and L. D. Brown



Emily Morton

New Mexico Tech
Newly Detected, Small
Earthquakes to Delineate Fault
Heterogeneities in the Cascadia
Seismogenic Zone
E. A. Morton, S. L. Bilek, and C.
A. Rowe



Karen Pearson

University of Maryland
Determining Periodicity in Non-Homogeneous Catalogs Using a Modified Schuster Test with Application to Induced Seismicity in Oklahoma
K. M. Pearson, A. M. Thomas, and V. Lekic



Vianca Emir Severino Rivas

University of Puerto Rico, Mayagüez Campus
Pedestrian Evacuation Analysis in Case of Tsunami for the Puerto Rico Municipalities of Aguadilla, Arecibo and Ponce
V. E. Severino, J. Maldonado, R. Ruiz, E. A. Vanacore, W. Gonzalez



Mauricio Reyes Canales

University of Alberta, Canada
Monte Carlo Simulations for Analysis and Prediction of Non-Stationary Magnitude-Frequency Distributions in Probabilistic Seismic Hazard Analysis
M. Reyes Canales and M. Van Der Baan



Yongfei Wang

University of California, San Diego/San Diego State University
Complex Source Spectra in Small Earthquakes Caused by Multiple Asperities
Y. Wang and S. M. Day

Seismological Society of America

Annual Meeting of the Board of Directors

May 14-17, 2018
Miami, Florida

At 7:30 AM, the meeting was called to order by SSA President Andy Michael.

The 2017-18 Board Members in attendance: Sergio Barrientos, Doug Dreger, Christine Goulet, Susan Hough, Andy Michael, Meghan Miller, Jim Mori, Jessica Murray (joined by phone at 9:50 AM), Kate Scharer, Peter Shearer, John Townend, Bill Walter

Also in attendance: Peggy Hellweg, secretary; Mitch Withers, treasurer; Nan Broadbent, executive director; Thomas Pratt, *BSSA* editor-in-chief; *Elizabeth Duffy*, *government affairs liaison*; *Kathleen Gaffney*, *publishing director*; *Betty Schiefelbein*, *BSSA manuscript coordinator*; *Mary George*, *managing editor for SRL*; and *Xyoli Perez-Campos*, *2018-19 Board Member*.

President's welcome and review of agenda (Andy Michael)

Michael reviewed the agenda and recognized Jim Mori for his initiative and effort to hold a joint meeting with the Latin American and Caribbean Seismological Commission (LACSC).

Approval of Minutes

Michael asked for any questions or discussion about the various minutes, and there was no discussion:

- April 18, 2017 Board Meeting
- May 24, 2017 teleconference call
- October 3, 2017 teleconference call
- October 19, 2017 teleconference call
- November 30, 2017 teleconference call
- January 9, 2018 teleconference call
- February 15, 2018 teleconference call

Reports by Officers

Michael remarked that it had been a very busy year, requiring more Board meetings and corresponding action. He thanked the Board for their work and cited its accomplishments, among them: the move of the meeting from Puerto Rico to Miami, several new policy statements, additional programming for students, a new code of conduct policy and an exploration of new business ventures for the Society.

Secretary Peggy Hellweg summarized the work done by the Executive Committee and Management Committee.

Treasurer Mitch Withers highlighted that the Society remains financially strong, with more than \$2 million in assets, including sufficient funding for 9-10 months of operations at current level. Withers reported that he now has access to all financial and main operational accounts to that he can provide

back-up should there be a local disaster in Northern California where SSA's headquarters is located.

Report by Executive Director

Nan Broadbent said that Society could expect another strong meeting, with more than 700 attendees, including nearly 300 early career and students and more than 100 LACSC members. Many people have signed up for the three SSA-sponsored and two USGS-sponsored workshops, reflecting significant engagement by this year's attendees. She summarized the highlights of her submitted report, namely:

- The technology upgrade, based on February 2016 audit, is nearly complete;
- Improvements to the publishing program continues, and there are early indications that changes to the production process for *BSSA* will yield much shorter time to publication. Kathleen Gaffney led the move from Highwire to Silverchair as part of GSW, and she did excellent work.
- The Society's new website, launched late 2017, allows for easier access to *BSSA* and *SRL*, and new features, such as the column At Work, are helping the Society increase awareness of the work by its members.
- Membership numbers remain strong, and staff is reaching out to potential student and early-career members.

With the involvement of the Executive Committee, the Society created a new poster that will be given away at the meeting and featured on t-shirts for sale, with all proceeds going to support the Student Travel Fund.

Standing Committees

The Board heard reports from standing committees. Hellweg included the reports by the Executive and Management Committees in her earlier comments.

Jim Mori presented the Audit Committee report, explaining that the committee selected a new auditor, following the Board's tradition of changing auditors every five years. The auditor issued a clean, excellent report.

Mori also presented the Investment Committee report, explaining its oversight of investments by meeting quarterly with investment firm Modera. The Society continues to follow a moderate approach, which has provided slower growth in a hot market, but also has limited losses in a down market.

Doug Dreger, chair of the publications committee, described both journals as healthy, as evidenced by a growing number of quality submissions. The page charge policy is working as planned. Last year the page charge waiver policy was introduced, and resulting in a reduced number of waivers. *SRL* Editor-in-Chief Zhigang Peng will step down in the summer of 2019, and the process to find the next editor-in-chief has started, with the goal of making a selection before the 2019 Annual Meeting. The Board encouraged seeking gender balance on the search committee.

SSA unveiled a new honor this year, the Outstanding Review Award. Klaus G.-Hinzen was selected for the honor by *SRL* and David Rhoades was selected by *BSSA*.

BSSA Editor-in-Chief Thomas Pratt provided an update to the Board of Directors, stating that *BSSA* continues its strong tradition of publishing quality papers. He is anticipating positive feedback on the two special issues scheduled for publication in 2018.

On behalf of Zhigang Peng, Doug Dreger summarized the active year for *SRL*, including the launch of a new column focused on scientific communications and five special focus sections planned for 2018.

Michael reported on the work of the Meetings Committee, which participated in reviewing the proposed sessions for the Annual Meeting.

Susan Hough reported on the work by the Communications Committee, which was sponsoring a workshop on social media at the Annual Meeting. The committee had also advocated for the recently launched *SRL* communications column.

Report from Task Committees

Mori reported that the Kanamori Fund remains healthy and was not tapped this past year due to availability of funds in the operations budget.

Michael summarized the report submitted by Thomas Hanks, chair of the Joyner Fund, which remains financially healthy. This year the Joyner Fund, per Board approval, will now pay \$1,500 to the Richter Award winner and provide \$6,000 in support to the LACSC/SSA reception.

Report on Sections and Affiliated Organizations

Christine Goulet, who serves as president of the Eastern Section-SSA, reported on the success of its 2017 meeting in Norman, Oklahoma, thanks to many former students of Zhigang Peng who organized it. The next ES-SSA will be in June in Niagara Falls with various Canadian societies.

The Board of Directors approved the proposed recipients of the 2018 IRIS/SSA Distinguished Lecture Series: Susan Hough and Artie Rogers.

Government Relations Discussion

The Government Relations Committee Chair Lisa Grant Ludwig and Elizabeth Duffy, SSA's government relations liaison, met with the Board.

- Grant Ludwig updated the Board on the status of NEHRP reauthorization.
- Grant Ludwig explained that the committee has concerned itself with federal issues and asked the Board for guidance on whether it should also concern itself with state and local issues. The Board suggested that the committee may be open to considering state and local issues, taking care to consider the appropriateness of the topic to SSA and the SSA community's expertise as it pertains to the topic. All recommendations would follow standard procedures.

- Grant Ludwig and Duffy described the recent briefing on Capitol Hill and explained the goal is to educate policy-makers on issues relating to seismology and earthquake science to support quality discourse, policies and legislation. The goal is to hold two briefings each year over a range of topics and never about a specific piece of legislation.

Report on new travel grant program

Broadbent updated the Board on the results of the first stage of a pilot program that provides grants to eligible student members for travel to domestic and international meetings (excluding SSA Annual Meeting). The Board approved continuation of the pilot program. July 2018 will be the next open application period.

Board Appreciation

The Board agreed to a resolution expressing appreciation for the co-chairs of the 2018 Annual Meeting.

Meeting with 2018 Annual Meeting Co-Chairs

Carol Prentice and Elizabeth Vanacore met with the Board of Directors. Prentice, who co-chaired meetings twice before, said the process is much easier now that SSA headquarters takes care of the planning and logistics. Prentice and Vanacore cited good feedback from the community, noted some challenges with the database and made recommendations for improvements to the process.

Thanks to Retiring Directors

Jessica Murray is retiring after two terms as a board member, and Michael expressed appreciation for her wisdom and advice. The Board agreed. Bill Walter and Doug Dreger, who are also finishing terms, were re-elected for an additional term.

Approval of Consent Agenda:

Mori moved to approve the consent agenda, and Shearer seconded the motion, which passed unanimously without abstentions.

Adjournment of the 2017–18 Board

Kate Scharer moved to adjourn the meeting, and John Townend seconded the motion, which passed unanimously without abstentions.

Call to Order, 2018-19 Board of Directors

Peter Shearer called the meeting to order at 11:30 AM.

Roll Call

The following board members were present: Sergio Barrientos, Xyoli Perez-Campos, Doug Dreger, Christine Goulet, Susan Hough, Andy Michael, Meghan S. Miller, James J. Mori, Kate Scharer, Peter Shearer, John Townend, Bill Walter

Also in attendance: Nan Broadbent, executive director; Kathleen Gaffney, publishing director

Election of Officers

The Board voted unanimously to elect Susan Hough as president-elect, Mitch Withers as treasurer and Peggy Hellweg as secretary. Susan Hough recused herself from the vote.

Thanks to Retiring President

Shearer thanked Andy Michael for doing excellent work as president of the Society.

Appointments to Committees

Shearer reviewed the committee assignments for the upcoming year. Christine Goulet agreed to continue to serve as Board liaison to the Joyner Committee.

New Business

Approval of annual budget for FY19

SSA is financially strong, reported Treasurer Mitch Withers. The Board approved the budget for FY19, which includes a deficit due to moving the 2018 annual meeting from Puerto Rico to Miami and to supporting LACSC participation. Hough made a motion to approve the budget, and Michael seconded the motion, which passed unanimously without abstentions.

Dues Increase

Broadbent explained the proposed dues increase, citing the additional services in place since the last dues increase. For regular members, the last increase was in 2004. For corporate members, the last raise was 1995.

Michael moved to approve the dues proposal with the modification that life membership dues would be calculated using the applicable current rate. Bill Walter seconded the motion, which passed unanimously without abstentions.

Townend suggested, and the Board agreed, that the dues schedule should be reviewed regularly, and the Executive Director make a recommendation every two years. Michael made the motion, and Townend seconded. One board member opposed the motion and eleven were in favor, passing the motion.

Privacy Policy

There are new rules in Europe about privacy policies. Broadbent consulted technology consultants, the Society's lawyer and

others. The legal view is that we are not required to adhere to the new rules in Europe, however SSA seeks to be transparent and up-to-date.

The Board discussed the proposed revised privacy policy.

Meghan Miller made a motion to accept the proposed language, and Townend seconded the motion, which was passed unanimously without abstentions.

Code of Ethics

The Board discussed whether SSA should establish a code of ethics. The Board decided to explore the idea by establishing a task committee, chaired by Peter Shearer, including John Townend, Andy Michael, Bill Walter and Peggy Hellweg.

New Ventures

Michael reminded the Board about the recent new initiatives, including student travel grants to other meeting and support of external activities (Lamont Doherty Earth Observatory student-run workshop, for example).

The Board discussed the proposed idea of a second meeting, which surfaced from Board discussions during the past year. The Board suggested coming back with a firm proposal that is developed with input from the meetings committee, which would identify the scientific focus of the meeting.

The Board approved \$15,000 to spend on external support, funded by the interest earned on the Life Membership Fund.

Honors

The Board approved the following honors:

- The Reid Medal: David Boore
- Press Public Service Award: Lucy Jones
- Richter Early Career Award: Amanda Thomas

The Board approved edits to the Board Policy Manual to state that the Honors Committee and award subcommittees may consider the extent to which each candidate reflects the core values of the Society.

The Board established the SSA Awards Nomination Encouragement (SANE) committee as an established subcommittee of the Honors Committee.

Adjournment

Meeting adjourned at 3:45 PM.

Secretary's Report

Period: May 2017 – April 2018

The Society completed a very successful FY17 (February 1, 2017 – January 31, 2018), delivering quality services on behalf of its members and the broader community.

The Society and its volunteer leadership are fortunate to have a professional staff with considerable expertise and experience. This group is led by Executive Director Nan Broadbent and includes Rikki Anderson, program coordinator; Sydni Schieber, membership officer; Jan Woo, financial manager; and Connor Russell, a part-time administration assistant. The Society employs a cadre of consultants who contribute to its success: Miranda Beasley (Grant and Smith—accounting services), Kevin Cristiano (Tadpole—technology consultant), Elizabeth Duffy (Federal Affairs Office, Washington, DC, representation), Adrienne Ford (editor and creative director), Kathleen Gaffney (KG Publishing Solutions—publishing director), Mary George (SRL managing editor), Becky Ham (science writer), Joyce Martinez (Choyce Events, on-site meeting coordination), Bo Orloff (IT support), Barbara Ozaeta (MVP Meetings—meeting site selection and contracts), Ron Riba and Dave Laatz (ISCG—technology consultants), Betty Schiefelbein (BSSA manuscript coordinator), Sarah Tyler (BSSA production coordinator) and Erin Vito (designer).

Each August SSA takes a tally of its membership to allow for a year-to-year comparison. As of August 2017, SSA's membership numbered 2825, as compared to 2511 in August 2016. SSA implemented several new outreach programs in 2017 to help grow membership. These efforts included:

- An introductory offer in January-February that brought in 197 new free student members/
- Exhibition at scientific meetings such as AAPG, SEG and AGU that promoted the society and also brought in 157 new free students.
- A special 18-month membership was offered to lapsed members and non-member authors of our publications, resulting in 41 new members.

During the fiscal year ending January 31, 2018, the Seismological Society of America (SSA) published six issues of volume 107 of the *Bulletin of the Seismological Society of America* (BSSA), totaling 3055 pages. The Society also published volume 88, numbers through 2 through 6, and volume 89, number 1 of *Seismological Research Letters* (SRL), totaling 1908 pages. SRL published one focus section, volume 88-4 (September/October), on the 2016 Pawnee, Oklahoma, Earthquake. SRL launched *Communicating Science*, a peer-reviewed column that provides a forum on a broad range of issues relating to the communicating of earthquake science.

The 2017 Annual Meeting was held in Denver, Colorado from April 18-20. Richard Briggs and Gavin Hayes of the U.S. Geological Survey co-chaired the meeting, and the program committee included: Rick Aster, Colorado State University; Shideh Dashti, Colorado University; Whitney Trainor-

Guilton, Colorado School of Mines; Christine Puskas, UNAVCO; and Mark Zellman, Fugro Consultants.

The formal program included 803 scheduled presentations: 440 oral presentations and 363 poster presentations distributed among 53 sessions. Slide casts of many of the presentations have been posted online at the SSA website and are accessible to members. SSA offered three workshops:

- Probabilistic Seismic Hazards Assessment: From Basics to Induced Seismicity
- Be a Better Reviewer, Advance Your Career,
- That Poster Is Just Fine and So Are You: Maintaining Self-Confidence and Balance in the Uncertain World of Early-Career Science

The inaugural Career Mentoring Breakfast was held in Denver, matching student and early career attendees with more experienced SSA members who offered their experience and advice. It was a popular event that will be repeated in 2018.

SSA had planned to prepare for the 2018 Annual Meeting, to be held jointly with the Latin American and Caribbean Seismological Commission (LACSC) in San Juan, Puerto Rico. Due to the devastating impact of two hurricanes in late 2017, SSA, working in concert with the leadership of LACSC, decided to move the 2018 meeting to Miami. Abstracts for the Annual Meeting in Miami in May 2018 appeared on the SSA website and in SRL volume 89, number 2B. The Annual Meeting co-chairs are Carol Prentice of U.S. Geological Survey and Elizabeth Vanacore of the Puerto Rico Seismic Network.

An SRL special focus section, volume 89 2A, features articles on Latin American networks. Complimentary copies of this issue will be available to attendees at the joint meeting. The Executive Committee consists of President Andy Michael, President-Elect Peter Shearer and Secretary Peggy Hellweg. The Executive Committee's role is to act on behalf of the Board of Directors and make those decisions requiring action between meetings of the Board. The Executive Committee consults with Mitch Withers, the Treasurer, on many matters. This year the Executive Committee took the following actions:

- Approved organizational goals for the year, based on actions taken at the April board meeting and discussions with the Management Committee and the Executive Director.
- Agreed to financially support a student-run workshop at Lamont-Doherty Earth Observatory (\$11,000).
- Worked with Executive Director to move the annual meeting from Puerto Rico to Florida.
- Reviewed and selected 20 annual meeting travel grant recipients:
 - ESC/SSA Travel Grant: Rodrigo Contreras Arratia, Institute of Geophysics and Tectonics, University of Leeds, Leeds, England
 - International Travel Grant: Albert Aguilar, Universidad Nacional de Colombia, Bogotá, Colombia; Marcella Cilia, University of Birmingham,

Birmingham, England; Garmalia Mentor William, GeoHazards International, Haiti; Maria Mesimeri, Aristotle University of Thessaloniki, Thessaloniki, Greece; Rebecca Salvage, Observatorio Vulcanológico y Sismológico de Costa Rica, Universidad Nacional, Heredia, Costa Rica; Hema Sharma, Western University, London, Ontario, Canada; Hubert Zal, Victoria University of Wellington, Wellington, New Zealand

- Student Travel Grant: Claudia Aristizábal, ISTERre-Universite Grenoble Alpes, Grenoble, France; Lirca Feliciano-Centeno, University of Puerto Rico at Mayaguez, Mayaguez, Puerto Rico; Laney Hart, University of Wisconsin-Madison, Madison, Wisconsin, USA; Jacob Kukovica, The University of Western Ontario, London, Ontario, Canada; Pamela Moyer, University of New Hampshire, Durham, New Hampshire, USA; Jessica Schobelock, Virginia Polytechnic Institute and State University, Blacksburg, Virginia, USA; Vianca Severino Rivas, University of Puerto Rico at Mayaguez, Mayaguez, Puerto Rico; Kahoko Takahashi, Yokohama City University, Yokohama, Japan; Sin-Mei Wu, University of Utah, Salt Lake City, Utah, USA; Shuo Yang, University of Notre Dame, Notre Dame, Indiana, USA; Jefferson Yarce, University of Colorado Boulder, Boulder, Colorado, USA; Lizhong Zhang, University of Bristol, Bristol, England
- Along with Past President Jim Mori, Board Member Meghan Miller and Membership Committee Chair Jessica Murray, selected four students to receive grants under a new program established in January 2018. The recipients are Rachel Hatch of University of Reno, Nevada; Meredith Kraner of University of Reno, Nevada; Heather McFarlin

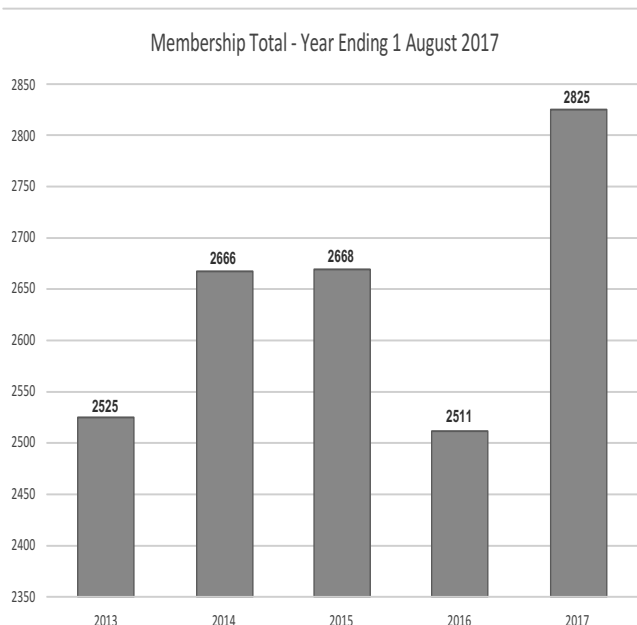
of University of South Florida; and Nadine Reitman of University of Colorado, Boulder.

- Selected Albuquerque, New Mexico, as the site for the 2020 Annual Meeting.
- Developed a Code of Conduct policy for the Annual Meeting for consideration by the full Board of Directors. Several Society members served as members of the Nominating Committee for candidates for the 2019 Board of Directors. Thanks are due to these committee members: John Townend (chair), Ruth Harris, Satoshi Ide, Martin Mai, Kristine Pankow and Mark Stirling. For 2017-18, the commitment to a consistent presence on Capitol Hill continued. Meetings with targeted members of Congress and Congressional staff contributed to the introduction of a Bill, sponsored by Senators Feinstein and Murkowski, to reauthorize the National Earthquake Hazards Reduction Program (NEHRP). The Bill was favorably passed by the Senate Commerce Committee and is awaiting action by the full Senate. Efforts to introduce a House companion Bill are well underway. Additional meetings were conducted with staff at the Department of Interior, Department of Commerce, White House, Office of Science and Technology Policy and federal science agencies to promote and advocate for SSA issues and concerns. Elizabeth Duffy, of the Federal Affairs Office, represented SSA at numerous coalition, alliance and caucus meetings, as well as attended relevant Congressional hearings on the budget, hazards legislation and confirmation hearings for presidentially nominated agency positions. Executive Director Nan Broadbent and the Government Relations Committee were kept abreast of developments in Washington through monthly calls and periodic updates, and SSA members were updated through 3-Minute update emails as needed. SSA once again had a leadership role in the annual Geosciences Congressional Visits Day (GEOCVD), and with the support of member contributions, sent two students to participate in the event last September. The Government Relations Committee, in consultation with the Board, updated SSA position statements:

- Statement on Federal Investment in Earthquake Science
- Statement on Education and Workforce Development
- Statement on Earthquake and Tsunami Monitoring
- SSA-AGU Reaffirm Position on Comprehensive Nuclear-Test Ban Treaty
- Statement on Reauthorization of the National Earthquake Hazards Reduction Program (NEHRP)

In March 2018, SSA sponsored an informational briefing on the role of seismology in nuclear test monitoring at the Capitol Visitors Center. The briefing featured Board Member Bill Walter and Thorne Lay. They highlighted the science behind the monitoring and the need for robust global monitoring.

Peggy Hellweg
SSA Secretary



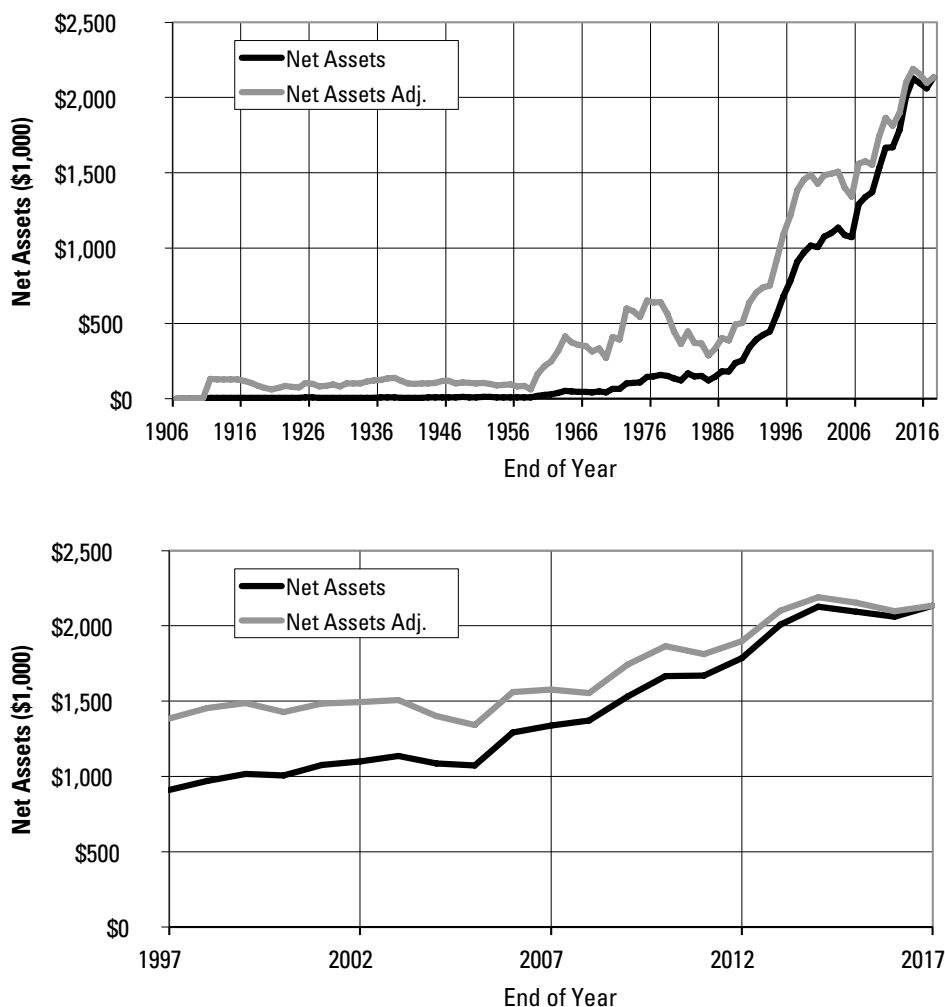
Treasurer's Report

The Society again had a good financial year. As of the Fiscal Year End on January 31, 2018 (FYE 2018), our net assets stood at \$2,132,783—a 3.5% increase over the previous fiscal year end. Net assets are total assets minus any liabilities; liabilities were \$545,769 at the end of the fiscal year. The history of the Society's net assets is shown in Figure 1. The Consumer Price Index (CPI) from the Commerce Department of the federal government was used to correct the raw dollar amounts to an inflation-adjusted series in this figure, with the average CPI for 2017 as the normalization value. The line labeled "net assets adj." is then the more comparative picture of the society's assets. Liabilities for the FYE 2018 are large due to \$447,585 in deferred revenue, which is partially due to changes that shift member dues from the year they're paid to the year which the

service is provided (other deferred revenue include collections for the annual meeting and subscriptions and print purchases).

The Society had \$1,397,478 in its investment account as of FYE 2018, a 12% increase over the \$1,249,991 balance as of FYE 2017. (There was also a 12% increase the previous fiscal year.) Equities again did very well in 2017. The Kanamori Fund contained \$79,513 and the Joyner fund had \$354,814 as of FYE 2018 (and after deposit of all 2017 donations).

A common measure of the fiscal health of a non-profit is the ratio of current assets to current liabilities. The SSA asset/liability ratio is 4.9; greater than 1.0 is generally considered healthy (*i.e.* assets are on hand to cover liabilities). Additionally, the Society had about \$1.6M in unrestricted net assets as of FYE 2018, which provides a healthy nine to ten months operating reserve. A measure of a non-profit efficiency is the expenses



▲ **Figure 1.** History of the net assets of the Seismological Society of America through the end of FYE 1/31/2018. The "adj" curve takes into account inflation using the consumer price index from the Bureau of Labor Statistics (<http://www.bls.gov/data>) normalized to 2017. The upper plot shows the entire history of the society and the lower plot shows the previous two decades.

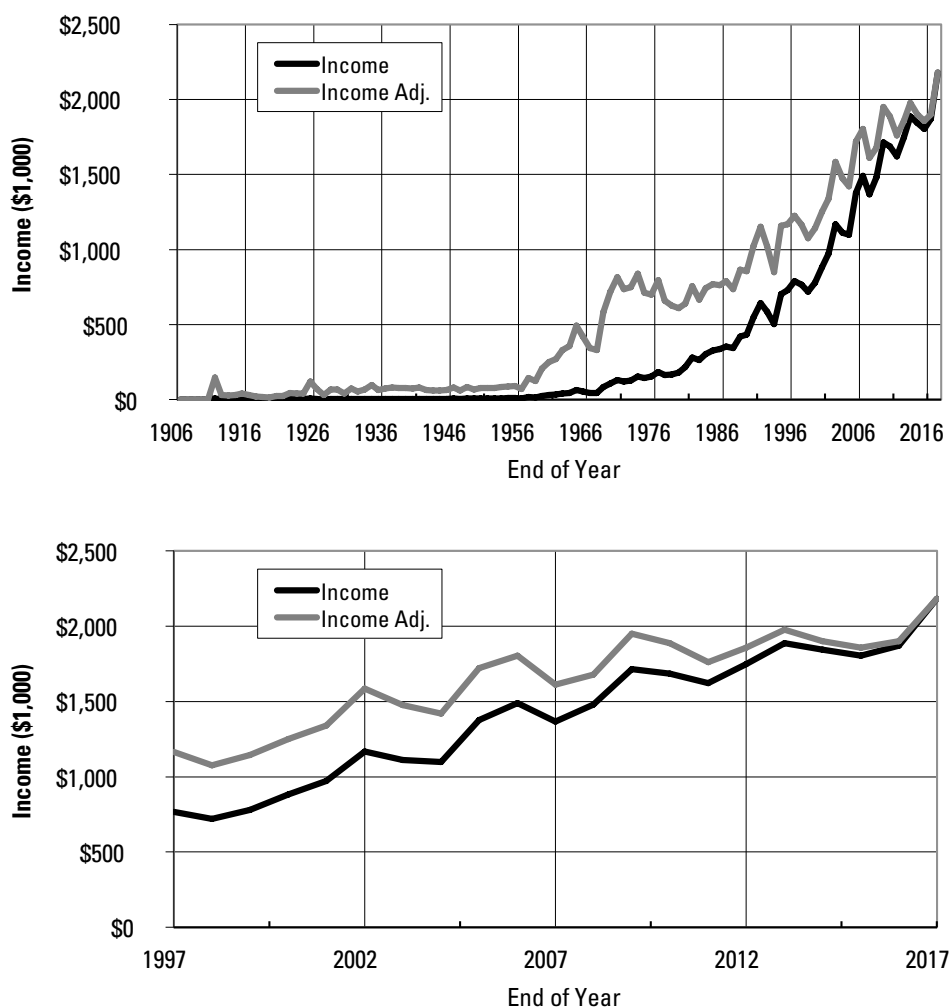
used toward programs (e.g. journals, meetings, and other activities that advance the SSA mission) versus expenses used primarily for management and fundraising. While classification of these expenses, particularly staff salaries, is imprecise, from February 2017 through January 2018 (FY 2018) generally about 82% of SSA expenses were for programs and about 18% were used for general management and fundraising. While the expense ratio is not directly applicable to SSA, the Charities Review Council recommends that this number be higher than 70%.

Figures 2 and 3 show the history of the income and expenses of the society—again with adjustments for the CPI. Income and expenses for FY 2018 were \$2,180,636 and \$2,109,451 respectively. This represents an increase in income

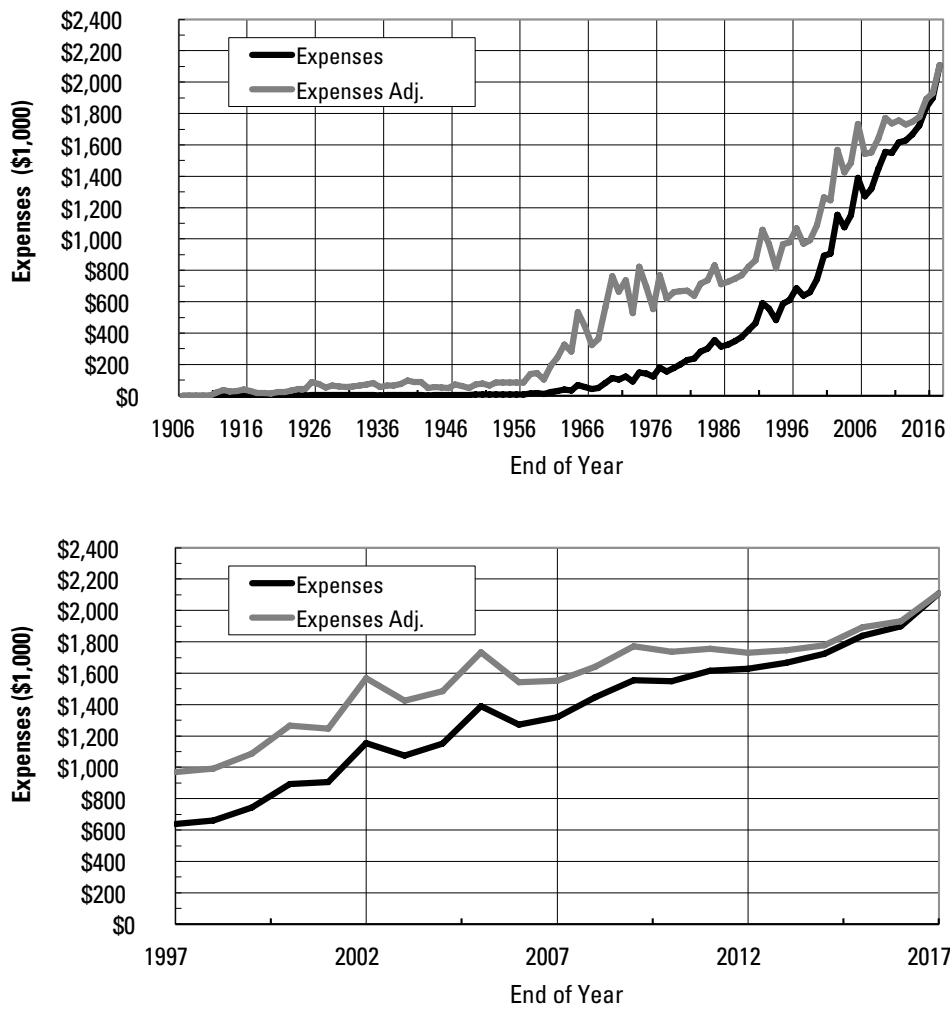
of \$311,943 (16.7% of FY 2017 Income) and an expense increase of \$209,628 (11% of FY 2017 expenses). The reported income includes \$197,499 in unrealized gains on investments.

We were again able to finalize the audit report prior to the Board meeting, and the Audit Committee approved it during a conference call on April 16, 2018. The report again concludes that the financial statements provided by the SSA “present fairly, in all material respects, the financial position of the Seismological Society of America ... in accordance with accounting principles generally accepted in the United States of America.”

Mitch Withers
SSA Treasurer



▲ **Figure 2.** History of the income of the Seismological Society of America through the end of FYE 1/31/2018. The “adj” curve takes into account inflation as in Figure 1. The upper plot shows the entire history of the society and the lower plot shows the previous two decades.



▲ **Figure 3.** History of the expenditures of the Seismological Society of America through the end of FYE 1/31/2018. The “adj” curve takes into account inflation as in Figure 1. The upper plot shows the entire history of the society and the lower plot shows the previous two decades.

SEISMOLOGICAL SOCIETY OF AMERICA

FINANCIAL STATEMENTS

WITH

INDEPENDENT AUDITOR'S REPORT

YEAR ENDED JANUARY 31, 2018

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INDEPENDENT AUDITOR'S REPORT

To the Board of Directors
SEISMOLOGICAL SOCIETY OF AMERICA

We have audited the accompanying financial statements of Seismological Society of America (a California nonprofit organization), which comprise the statement of financial position as of January 31, 2018, and the related statements of activities, functional expenses, and cash flows for the year 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 audit. We conducted our audit 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 from 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 risks 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 Seismological Society of America as of January 31, 2018, and the changes in its net assets and its cash flows for the year then ended in accordance with accounting principles generally accepted in the United States of America.



Oakland, California
March 19, 2018

SEISMOLOGICAL SOCIETY OF AMERICA

**STATEMENT OF FINANCIAL POSITION
AT JANUARY 31, 2018**

ASSETS	<u>Unrestricted</u>	<u>Temporarily Restricted</u>	<u>Total</u>
Cash	\$ 454,623	\$ -	\$ 454,623
Accounts receivable	125,343	-	125,343
TOTAL CURRENT ASSETS	579,966	-	579,966
Prepaid expenses and deposits	74,299	-	74,299
Investments	1,484,651	460,249	1,944,900
Property and equipment	108,166	-	108,166
Accumulated amortization and depreciation	(28,779)	-	(28,779)
TOTAL OTHER ASSETS	1,638,337	460,249	2,098,586
TOTAL ASSETS	\$ 2,218,303	\$ 460,249	\$ 2,678,552
LIABILITIES			
Accounts payable	\$ 85,987	\$ -	\$ 85,987
Deferred revenue	447,585	-	447,585
Accrued compensation	12,197	-	12,197
TOTAL CURRENT LIABILITIES	545,769	-	545,769
NET ASSETS			
Unrestricted	1,559,552	-	1,559,552
Board designated, life membership	112,982	-	112,982
Temporarily restricted	-	460,249	460,249
TOTAL NET ASSETS	1,672,534	460,249	2,132,783
TOTAL LIABILITIES AND NET ASSETS	\$ 2,218,303	\$ 460,249	\$ 2,678,552

See Independent Auditor' Report and Accompanying Notes to Financial Statements

SEISMOLOGICAL SOCIETY OF AMERICA

**STATEMENT OF ACTIVITIES
YEAR ENDED JANUARY 31, 2018**

	<u>Unrestricted</u>	<u>Temporarily Restricted</u>	<u>Total</u>
SUPPORT AND REVENUE			
Support			
Contributions and donations	\$ 5,825	\$ 38,856	\$ 44,681
Membership dues	54,335	-	54,335
Revenue			
Annual meeting	488,856	12,950	501,806
Investment income (loss)	160,318	37,181	197,499
Publication charges	1,031,540	-	1,031,540
Royalties	331,773	-	331,773
Other income	19,002	-	19,002
Net assets released from restrictions	46,870	(46,870)	-
Total support and revenue	<u>2,138,519</u>	<u>42,117</u>	<u>2,180,636</u>
EXPENSES			
Program services			
Seismology advancement	1,725,391	-	1,725,391
Supporting services			
Management and general	337,143	-	337,143
Fundraising	46,917	-	46,917
Total expenses	<u>2,109,451</u>	<u>-</u>	<u>2,109,451</u>
INCREASE/(DECREASE) IN NET ASSETS	29,068	42,117	71,185
NET ASSETS AT BEGINNING OF YEAR	<u>1,643,467</u>	<u>418,132</u>	<u>2,061,598</u>
NET ASSETS AT END OF YEAR	<u>\$ 1,672,534</u>	<u>\$ 460,249</u>	<u>\$ 2,132,783</u>

See Independent Auditor' Report and Accompanying Notes to Financial Statements

SEISMOLOGICAL SOCIETY OF AMERICA

**STATEMENT OF FUNCTIONAL EXPENSES
YEAR ENDED JANUARY 31, 2018**

	Seismology Advancement	Management General	Fundraising	Total
Salaries	\$ 220,294	\$ 123,431	\$ 15,512	\$ 359,237
Payroll taxes	17,185	9,629	1,210	28,023
Fringe benefits	23,305	13,058	1,641	38,003
Total compensation	260,783	146,117	18,363	425,263
Awards	32,769	-	-	32,769
Bad debts expense	8,584	-	-	8,584
Conferences and meetings	427,087	724	622	428,433
Dues, fees and other charges	21,008	54,346	119	75,475
Equipment lease and purchase	260	145	18	423
Government relations	35,000	-	-	35,000
Insurance	1,288	3,629	91	5,007
Outside services	155,344	10,266	1,867	167,477
Postage	5,891	3,301	519	9,711
Printing	3,192	1,789	225	5,206
Professional services	11,880	86,258	447	98,584
Public relations	49,670	-	18,712	68,382
Publication cost	635,363	-	-	635,363
Rent	29,480	16,517	2,076	48,073
Supplies	5,013	2,809	353	8,175
Telephone and internet	8,936	5,007	629	14,572
Travel	25,046	1,306	2,257	28,609
Subtotal before:	1,716,594	332,214	46,298	2,095,106
Amortization and depreciation expense	8,797	4,929	619	14,345
TOTAL	\$ 1,725,391	\$ 337,143	\$ 46,917	\$ 2,109,451

See Independent Auditor' Report and Accompanying Notes to Financial Statements

SEISMOLOGICAL SOCIETY OF AMERICA

STATEMENT OF CASH FLOWS
YEAR ENDED JANUARY 31, 2018

CASH FLOWS FROM OPERATING ACTIVITIES	
Increase (decrease) in net assets	\$ 71,185
Adjustments to reconcile increase in net assets to net cash used by operating activities:	
Amortization and depreciation expense	14,345
Net realized and unrealized changes in investment values	(197,172)
(Increase) decrease in operating assets	
Accounts receivable	(6,990)
Other receivable	17,656
Prepaid expenses and deposits	(43,556)
Increase (decrease) in operating liabilities	
Accounts payable	(6,861)
Deferred revenue	114,817
Accrued compensation	(9,851)
NET CASH PROVIDED / (USED) BY OPERATING ACTIVITIES	<u>(46,427)</u>
CASH FLOWS FROM INVESTING ACTIVITIES	
Payments for property and equipment	(76,775)
Investment (purchases), net of redemptions	<u>(8,698)</u>
NET CASH PROVIDED / (USED) BY INVESTING ACTIVITIES	<u>(85,473)</u>
NET INCREASE IN CASH AND CASH EQUIVALENTS	(131,900)
BEGINNING CASH AND CASH EQUIVALENTS	<u>586,521</u>
ENDING CASH AND CASH EQUIVALENTS	<u>\$ 454,623</u>

See Independent Auditor' Report and Accompanying Notes to Financial Statements

SEISMOLOGICAL SOCIETY OF AMERICA

NOTES TO FINANCIAL STATEMENTS

NOTE 1 – SUMMARY OF ACTIVITIES

Seismological Society of America, (the Organization) is a California nonprofit public benefit corporation formed in 1906. Seismological Society of America is an international scientific society devoted to the advancement of seismology and the understanding of earthquakes for the benefit of society.

NOTE 2 – PROGRAM SERVICES

Seismological Society of America, a scientific society, has worldwide membership and represents a variety of technical interests. In addition to seismologists, members include geophysicists, geologists, engineers, insurers, and policy makers actively working in government, academic and private sectors to promote earthquake public safety. It is the primary forum for the assembly, exchange and dissemination of scientific research essential for earthquake awareness. Seismological Society of America publishes two bi-monthly scientific journals: an advanced research journal, the Bulletin of the Seismological Society of America (BSSA) and a journal of shorter, general science papers featuring articles, the Seismological Research Letters (SRL). Seismological Society of America coordinates and hosts an annual conference, held in April, in which researchers share the results of their work. In addition, Seismological Society of America advocates for improvements in earthquake science, engineering and preparedness through coalitions with related science and engineering societies.

NOTE 3– SIGNIFICANT ACCOUNTING POLICIES

Basis of Accounting

The accompanying financial statements have been prepared on the accrual basis of accounting in accordance with accounting principles generally accepted in the United States of America, which involves the application of accrual accounting; consequently, revenues and gains are recognized when earned, and expenses and losses are recognized when incurred.

Financial Statement Presentation

The Organization prepares its financial statements in accordance with Accounting Standards for Not-for-profit Organizations. The Organization reports information regarding its financial position and activities according to three classes of net assets: unrestricted net assets, temporarily restricted net assets, and permanently restricted net assets. In addition, the Organization is required to present a statement of cash flows.

Unrestricted net assets include those assets over which the Board of Directors has discretionary control in carrying out the operations of the Organization. Temporary restricted net assets include those assets, which are subject to donor restriction and for which the applicable restriction was not met at the end of the current reporting period. Permanently restricted net assets include those assets, subject to non-expiring donor restrictions, such as endowments. The Organization currently has no permanently restricted net assets.

NOTE 3– SIGNIFICANT ACCOUNTING POLICIES (continued)

Income Taxes

The Organization is not classified as a private foundation and is exempt from federal and state income taxes under section 501(c)3 of the Internal Revenue Code and Section 23701(d) of the California Code. The Organization is considered a publicly supported organization. The Financial Accounting Standards Board prescribes a recognition threshold and a measurement attribute for financial statement recognition of tax positions taken or expected to be taken on a tax return. Management has evaluated its uncertain tax positions and related income tax contingencies and does not believe any material uncertain tax positions exist.

Use of Estimates

The preparation of financial statements in conformity with generally accepted accounting principles requires management to make estimates and assumptions that affect the reported amounts of assets, liabilities, and disclosures at the date of the financial statements, and the reported amounts of revenues and expenses during the reporting period. Accordingly, actual results could differ from those estimates.

Cash and Cash Equivalents

For purposes of the statement of cash flows, the Organization considers all cash accounts, with an initial maturity of three months or less to be cash equivalents.

Investments

The Organization carries investments in cash, money funds, fixed income and mutual funds with readily determinable fair values in the statement of financial position. Unrealized gains and losses, interest and dividends, realized changes and related fees are included in the change in net assets in the statement of activities.

Contributions In-kind

Donated services are recognized as contributions if the services (a) create or enhance nonfinancial assets or (b) require specialized skills, are performed by people with those skills, and would otherwise be purchased by the Organization.

During the year ended January 31, 2018 the Organization received services from unpaid volunteers that do not satisfy the criteria for recognition under *FASB ASC 958-605-25-16*.

The management estimated that the Organization received approximately 2,088 volunteer hours for help in program and administrative activities provided by 224 volunteers for the year ended January 31, 2018.

NOTE 3– SIGNIFICANT ACCOUNTING POLICIES (continued)

Contributions

The Organization accounts for contributions as unrestricted, temporarily restricted or permanently restricted support depending on the existence and nature of any donor restrictions. Restricted contributions are reported as an increase in temporarily or permanently restricted net assets and reclassified from restricted net assets to unrestricted net assets when donor requirements are met.

Property, Equipment and Depreciation

Property and equipment is recorded at cost when purchased or at estimated fair market value if donated. It is the Organization's policy to capitalize items that have a life greater than two years and a cost of at least \$1,000. Depreciation is computed using the straight-line method over the asset's estimated useful life, which ranges from three to five years. Depreciation is charged to the activity benefiting from the use of the facilities or equipment.

Revenue Recognition

The Organization recognizes revenue on the accrual basis of accounting. Meeting registrations, publication charges, membership dues and royalties are recognized as revenue in the period in which the related services are provided and revenue is earned. Contributions and donations are recognized as revenue in the period when they are unconditionally promised. The Organization's primary revenue sources are publication charges and membership dues.

Accounts Receivable

Accounts receivable represent amounts due primarily for publication charges, all are current. The amount receivable at January 31, 2018 is \$149,176, which is reported net of \$23,833 allowance for doubtful accounts at \$125,343.

Allowance for Doubtful Accounts

The Organization maintains an allowance for doubtful accounts based on historical collection trends which approximates 15% of the total receivables. Balances still outstanding after management has used reasonable collection efforts are written off against the allowance account.

Statement of Functional Expenses

The costs of providing program and other activities are summarized on a functional basis in the statement of functional expenses. Expenses that can be identified with a specific program or support service are charged directly to that program or support service. Costs common to multiple functions have been allocated among the various functions benefited. General and administrative expenses include those costs that are not directly identifiable with the program, but which provide for the overall support and direction of the Organization.

NOTE 3– SIGNIFICANT ACCOUNTING POLICIES (continued)

Deferred Revenue

Deferred revenue represents page charges, abstract fees, meeting registrations and subscriptions fees received prior to when the related service is provided.

Fair Value Measurements

Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. In determining fair value, the Organization uses a fair value hierarchy which is categorized into three levels as follows:

Level 1 – Valuations are based on unadjusted quoted prices in active markets for identical assets or liabilities that the Organization has the ability to access. Since valuations are based on quoted prices that are readily and regularly available in an active market, valuation of these balances does not entail a significant degree of judgment.

Level 2 – Valuations are based on quoted prices for similar assets or liabilities in active markets from those willing to trade that are not active or for which other inputs can be corroborated by market data.

Level 3 – Valuations are based on inputs that are unobservable and significant to the overall fair value measurement and represent the Organization’s best estimate of what hypothetical market participants would use to determine a transaction price for the asset or liability at the reporting date.

The Organization’s assets measured at fair value at January 31, 2018 are as follows:

	Fair Value	Level 1
Cash and money funds	\$ 43,476	\$ 43,476
Fixed income and mutual funds	1,901,524	1,901,524
Total	\$ 1,944,900	\$ 1,944,900

NOTE 4 – INVESTMENTS

Investment income for the year ending January 31, 2018 is as follows:

Interest and dividends	\$ 67,822
Realized and unrealized changes	140,487
Investment advisory fees	(11,137)
Sub-total	197,172
Interest on savings accounts	327
Total investment income	\$ 197,499

NOTE 5 – PROPERTY AND EQUIPMENT

Property, equipment and related accumulated depreciation is as follows:

Equipment & furniture	\$	108,166
Accumulated depreciation		<u>(28,779)</u>
Net book value	\$	<u>79,387</u>

Depreciation expense for the year ending January 31, 2018 is \$14,345.

NOTE 6 - RETIREMENT PLAN

The Organization has a defined retirement contribution plan that qualifies under IRS Code 403(b). The plan covers all employees who have completed one year of employment. Contributions are equal to nine percent of each employee’s salary, which totaled \$19,387.

NOTE 7 – TEMPORARILY RESTRICTED NET ASSETS

During the year ended January 31, 2018 the Organization's temporary restricted net assets activity is as follows:

<u>Donor Restriction</u>	<u>01/31/17</u>	<u>Contributions</u>	<u>Earnings</u>	<u>Releases</u>	<u>01/31/18</u>
Joyner fund	\$ 317,096	\$ 2,400	\$ 33,745	\$ (10,429)	\$ 342,812
Kanamori fund	70,142	5,940	3,431	-	79,513
Student travel fund	25,894	17,105	5	(17,430)	25,574
Student travel, GeoCVD	-	6,570	-	(2,061)	4,509
Annual meeting	5,000	12,950	-	(16,950)	1,000
Other	-	6,841	-	-	6,841
Total	\$ <u>418,132</u>	\$ <u>51,806</u>	\$ <u>37,181</u>	\$ <u>(46,870)</u>	\$ <u>460,249</u>

NOTE 8 – COMMITMENTS

The Organization leases office space in Albany, California under a non-cancelable operating lease expiring in June 2020. Future minimum lease payments under this agreement are as follows:

For the year ending January 31,

2019	\$	47,950
2020		49,387
2021		<u>20,830</u>
Total	\$	<u>118,167</u>

Rent expense for the year ending January 31, 2018 is \$48,073.

NOTE 9 – BOARD DESIGNATED FUNDS

The Board has designated life memberships to be held in an investment account and the earnings to be expended at the Board's discretion. At January 31, 2018 the total fund \$112,982 consists of core life memberships, \$82,681 and accumulated earnings, \$30,301.

NOTE 10 – FINANCIAL INSTRUMENTS

Financial instruments that potentially subject the Organization to concentrations of credit risk consist principally of temporary cash investments. The Organization maintains a majority of their cash in bank deposit accounts that, at times, may exceed federally insured limits of \$250,000. The organization has not experienced any losses in such accounts. At January 31, 2018 the Organization's uninsured cash balance is \$66,963. The Organization maintains a majority of their investments with Charles Schwab, which carries SIPC insurance up to \$500,000. At January 31, 2018 the amount exceeding SIPC limits is \$971,071. Management believes the organization is not exposed to any significant credit risk related to its cash or investments.

NOTE 11 – SUBSEQUENT EVENTS

Management of the Organization has reviewed the results of operations for the period of time from its year end, January 31, 2018, through March 19, 2018, the date the financial statements were available to be issued, and have determined that no adjustments are necessary to the amounts reported in the accompanying financial statements nor have any subsequent events occurred, the nature of which would require disclosure.

Published Online 8 August 2018