



NMGS NEWSLETTER

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President's Message

Nelia W. Dunbar

Introduction

The New Mexico Geological Society continued to thrive in 2012. As current president of our society, I would like to summarize activities of the past year, and highlight some things that are coming up. Our mission continues to focus on promoting interest in the geosciences generally and in the geology of New Mexico particularly, and to support geoscience education and study of, and publications on, the geology of the state. Four important activities that contribute towards fulfilling this mission are the Spring Meeting, the Fall Field Conference, a robust program of scholarships and research grants supporting geoscience students at New Mexico's colleges and universities, and production of publications relating to the geology of the state. The 603 current members of NMGS include a wide variety of people, from professional geoscientists in academia, industry, and government, to students, to many who are retired or who work outside of the geosciences but share an interest in the state's remarkable geological environment. Many members contribute towards the Society's major functions. I thank all of you who value the Society's activities sufficiently to renew your membership year in and year out. And a special thanks to all of you who donate to the scholarship funds and contribute your time and effort towards the Spring Meeting and Fall Field Conference. These simply would not be possible without your dedicated support. In addition to appreciating your ongoing support, the Executive Committee are always interested in your thoughts and suggestions regarding all that NMGS does and how the goals of the Society may better be carried out.

General Information

NMGS is managed by the Executive Committee (EC), elected by the membership at the end of each year. The EC acts to ensure that all of the Society's programs are conducted successfully, on time, and within budget, as well as working on new initiatives to further the Society's goals. Current members of the committee, in addition to myself, are Greg Mack (NMSU), vice-president; Virginia McLemore (NMBGMR), treasurer; Mary Dowse (WMNU), secretary; and Barry Kues (NMHU), past president. Each officer of the committee stands for election to the next position at the end of the year, with a new secretary joining the committee and the past president rotating off. This sequential movement from secretary through to past president ensures that each member of the EC masters a particular segment of the Society's functions each year, and provides effective institutional memory for the Society. David Ennis, of the Energy, Minerals and Natural Resources Department, has agreed to stand for secretary in 2013. A ballot containing the slate of candidates for the EC (with room for write-in candidates for each office) will be sent out electronically to members before the end of this year. Please take the time to review the ballot when you receive it and vote for the candidates of your choice. The main sources of annual income for the Society are membership dues and sale of publications. Registration fees for the Spring Meeting and Fall Field Conference also provide income to the Society, but the costs of these events typically balance the registration revenue. The bulk of our income is devoted to producing new publications, generally one new guidebook and a separate volume consisting only of the road logs each year, as well as any other new Society publications. We contribute funds to the New Mexico Bureau of Geology and Mineral Resources, which allows selected personnel to perform essential duties for the Society (we have no paid staff of our own). For the past few years income has slightly surpassed

expenditures, and the Society's financial condition has been steady and good even through the economic uncertainties of the past few years. Membership dues for 2013 will be the same as for 2012. We are also planning to advertise on local public radio stations in an effort to increase visibility of NMGS, and possibly to attract more members.

Publication sales are the largest component of the Society's annual income. This includes sales of past editions of the guidebook as well as the most recent one, and other publications currently in print, such as the Geologic Highway Map and Special Publication 11, The Geology of New Mexico. The Society maintains a large inventory of its publications in Socorro, and this year has begun to try to significantly reduce that inventory by offering many older guidebooks at the bargain price of \$5 each. In addition, the Society is committed to publishing three new books (in addition to the yearly guidebooks) within the next three years. All of the Society's publications may be ordered from the NMGS web site and of course are available at the Bureau's offices in Socorro and Albuquerque, at NMGS meetings, and at local and regional meetings of other geological organizations through the much appreciated efforts of Connie Apache, April Brunson, and Susie Ulbricht. We are making an effort to increase the visibility and sales of our publications through attending a greater range of professional meetings, including the world-famous Tucson Gem and Mineral Show in February 2013.

Some Society functions are maintained through each year by a group of dedicated individuals, without whom we would find it difficult to operate. These people deserve a strong thank-you from the membership and the executive committee! Virgil Lueth, our managing editor, combines individual papers, road logs, and photos into the field conference guidebook and sees to its publication by the time of the conference. Virgil's final editing effort for NMGS will be the "Notable New Mexico Geologists" publication (discussed later), and Stacy Timmons will step into this position, starting with the 2013 Fall Field Conference guidebook. Adam Read maintains the Society's web page, which currently allows online purchase of publications and registration for meetings, but will be serving an expanded role starting in early 2013. Connie Apache serves as registration chair for the Spring Meetings and Fall Field Conferences. Shari Kelley chairs the publications committee, and keeps careful track of sales and inventory. In addition, the healthy and mutually beneficial relationship between the New Mexico Bureau of Geology and Mineral Resources and NMGS continues to work well, and I am pleased to take this opportunity to thank the bureau Director, Greer Price, for his continued support of the Society.

NMGS Foundation

The NMGS Foundation is another important part of the NMGS enterprise. NMGS created the Foundation in 2003 as a separate entity to manage scholarship funds and other assets and donations, to preserve the nonprofit status of the Society, and to shelter these funds from any liabilities faced by NMGS and its executive committee. The assets of the NMGS Foundation are currently hovering around the 1 million dollar mark, quite a significant milestone! We owe this financial security to generous donations from past Society members, and careful investment and stewardship of our assets by the NMGS Foundation. The Foundation is governed by a board of directors, nominated by the executive committee, and elected annually by the NMGS membership. The vice-president of NMGS serves as one of the five-person board. I wish to thank the members of this year's board – Tony Benson, Laura Crossey, Greg Mack, Tim Lawton, and John Shomaker – for their service and stewardship of the Foundation's assets, allowing the Society to maintain its support of student scholarships and other geoscience-related activities. A ballot for the 2013 board of directors will be sent to the NMGS membership towards the end of the year.

New Books

In addition to the yearly guidebooks, NMGS is in the process of producing three books about the geology of New Mexico. The first is a book on the history of the study of New Mexico geology, centered on biographical profiles of 50 to 75 notable geologists who have contributed significantly to our understanding of the geology of the state. Numerous Society members contributed profiles for this book, which were edited by Barry Kues. Barry has also written a comprehensive description of the geological history of the state into which the profiles were woven. The first draft of this book has been completed, and we hope to have it available for sale at the 2013 Spring Meeting. The second is a volume of contributed papers, edited by

Ginger McLemore, providing up-to-date summaries of most of New Mexico's economically important geological resources. The NMGS Special volume on Mineral Resources in New Mexico is proceeding on schedule. Most of the chapters are completed, and we hope that the final pieces fall into place soon. A draft of the entire volume could be completed by early 2013. And the third book, written by Virgil Lueth, will trace the geological evolution of New Mexico's most important mineral deposits. This book will include information on major mining districts and many color photos of outstanding New Mexico minerals.

Web Resources

The NMGS web site (<http://nmgs.nmt.edu>), maintained by Adam Read, contains all essential information about the Society and its activities, including information on upcoming events, applications and information about various student scholarships and research grants, and a complete list of publications. The strength of New Mexico Geological Society field trips and guidebooks comes directly from the many researchers who dedicate their time to preparing presentations to be made at the outcrop, and papers for the guidebook.

The Society is very cognizant of the effort made by all contributors of high-quality research, and is eager for the contributors' papers to receive the highest possible level of readership and recognition. Towards that goal, we recently decided that we will provide reprints of all guidebook scientific papers on-line, in searchable PDF form, through the NMGS web site. Articles from the two most recent guidebooks will be available free only to NMGS members, whereas papers from older guidebooks will be available free to all. Although we have some concerns about the possible financial impact of this decision to the Society, we felt that a more important concern was promoting easy access to the papers in order to maximize visibility and readership. We hope that authors of guidebook papers will be happy with this decision, and will be encouraged to continue to submit their scientific work to our venue.

Thanks to great efforts by Adam Read, two new features will be debuted on our web site in 2013. The first is that abstracts for the Spring Meeting will be submitted through the web site, rather than being emailed to the conference organizers. This should avoid the problem of abstracts going astray, and will also make preparation and formatting of the abstract volume simpler. Also, applications for student "grants-in-aid" will be submitted through a web interface starting with the 2013 application deadline, which we hope will simplify the process for both the applicants and the reviewers.

We are continuing to move forward with two new online repositories connected to the website are in the process of being created. The first is a data repository, mainly designed for guidebook authors to allow them to shift voluminous data related to papers from printed appendices to an online data file. The second repository will be a historical archive of information related to New Mexico geologists and NMGS. Ultimately we hope this will be a place for biographical information about geologists who have worked in New Mexico, oral histories, anecdotes and recollections, and the like, that will allow otherwise transitory unpublished information to be preserved.

End-of-the-Year Matters

As in the past, all members will be receiving several communications near the end of the year. In addition to this newsletter, a brochure with an updated list of all NMGS publications will be sent via regular mail, to facilitate ordering of those much-coveted past guidebooks, geological highway map, and special publications (perusing or ordering NMGS publications may also be done via the Society's web site). In December you will receive membership renewal information and a ballot for the slate of officers for the 2013 executive committee and for the NMGS Foundation Board of Directors. Please take the time to vote and to renew your membership!

Scholarships and Research Grants

The Society has always placed great emphasis on supporting the education and research of geoscience students at colleges and universities across New Mexico. We accomplish this both through the award of a variety of scholarships and grants in aid of research throughout the year, as well as supporting students with free NMGS memberships, a 35% discount on all NMGS publications, and subsidies for attending the Spring Meeting and Fall Field Conference. These awards are derived from interest generated by funds – much of them donated by past and present NMGS members – managed by the NMGS Foundation. Grant proposals are judged by a committee and scholarships are determined by recommendations from the students' academic departments.

The amount awarded to students for scholarships and research grants in 2012 is comparable to that awarded in 2011. Los Alamos Geological Society has continued to support student attendance at the Fall Field Conference, as has NMGS member John Throne, through fall field conference scholarships.

In all, NMGS awarded over \$42,500 in graduate and undergraduate research grants, and an additional \$30,000 in scholarships was awarded through NMGS. The total of more than \$72,000 represents an important investment in the education of the next generation of geoscientists. We take great pleasure in listing all of the 2012 student award recipients here.

Frank E. Kottowski Research Award (\$2500) – Magdalena Donahue (UNM)

Graduate Research Grants (total = \$34,000) – Jeffrey Carritt (UNM), Dani Cedillo (NMHU), David Decker (UNM), Nick Dolan (NMT), Erin Fitch (UNM), Marine Foucher (NMHU), Sean Gaynor (NMSU), Eva Gladish (NMSU), Tara Jonell (NMSU), Sarah Machin (NMSU), Iain Mason (NMT), John Nybo (NMT), Alexandra Priewisch (UNM), Jason Ricketts (UNM), Robert Salaz (NMT), Matthew Sophy (NMT), Joel Stone (NMHU), April Tafoya (UNM), Mussie Tewelde (NMT), Rhonda Trujillo (NMHU), Pavel Vakhlamov (UNM), Zachary Vance (NMT)

Graduate Mentorship Awards (\$1500 each) – Alexandra Priewisch (UNM), Rhonda Trujillo (NMHU)

Lucille Pipkin Undergraduate Research Grants (total = \$3,000) – Clayton Pilbro (UNM), Andrew Romero (NMSU)

Outstanding Student Spring Meeting Presentation Awards (\$100 each) – Jason Ricketts (UNM; best paper), Sarah Machin (NMSU; best poster)

Robert Wellnitz Memorial Scholarship (\$1000) – Kevin Hobbs (UNM)

Beverly Wellnitz Memorial Scholarships (\$500 each) – Amy Galanter (NMT), Sean Gaynor (NMSU)

Lucille Pipkin Senior Scholarships (\$3000 each) – Neil Currie (NMT), Katherine Hamilton (ENMU), Amelia Hayes (NMSU), Shane Rocha (UNM)

Lucille Pipkin Book Scholarships (\$150 each)

ENMU – Nathan Acker, Sierra Doherty-Cardenas, Raelene Keesling

NMSU – Jordan Faltys, Bridgette Miller, Israel Torres

NMT – Kimberly Haar, Peter Revelle, Kylian Robinson

San Juan College – Christofer Brack, Wanda Brack, Dennis Marquez

UNM – Alexandria Bazen, Samantha Cafferky, Hannah Redwood

UNM-Dona Ana – Ty Hamilton, Lorrie Hedman, Graciela Lopez

UNM-Taos – Keith Coker, Linda M. Glickenstein, Abby S. Mouer

WNMU – Franz Raiter

Fall Field Conference Graduate Scholarships (\$150 + registration paid)

NMHU – Adam Brister, Danielle Cedillo, Rhonda Trujillo

NMSU – John Curry, Cory Paliewicz, Nicolas Slater, Rosemary Williams

NMT – Amy Galanter, Mark Green, Matthew Sophy, Zach Vance

UNM – Amanda Cantrell, Tom Suazo

Fall Field Conference Undergraduate Scholarships (\$150 + registration paid)

ENMU – Sara Delfin, Katherine Hamilton

Mesa College – Keith Coker

NMHU – Darren Lemen, Chris Prokupek

NMSU – Jaime Campo, Jordon Faltys

NMT – Kimberly Haar

San Juan College – Bonny Keil

UNM – Cody Bodman, Bradley Conway, Dylan Rose-Coss

UNM-Taos – Linda Glickstein, Ricardo Gonzales

WNMU – Travis Bradfute, Whitney Hutchison

Fall Field Conference Flag people (registration waived) – NMHU: Adam Brister, Dani Cedillo, Darren Lemen, Chris Prokupek, Geno Castillo, Amanda Melendrez, Andrew Romero

2012 Spring Meeting

The 2012 annual Spring Meeting was held on Friday, April 27, in the Macey Conference Center on the New Mexico Tech campus in Socorro. The meeting was organized by Kate Zeigler from Zeigler Geoscience Consulting and NMHU (technical chair) and Dave Love from NMBG&MR (logistics chair), and Connie Apache (NMBG&MR) as registration chair. The theme session was “Evaluating how continental sedimentary basins fill: development and preservation of sedimentary successions”, and Gary Weissmann (UNM) presented the keynote address, “Evaluating how continental sedimentary basins fill: Development and preservation of sedimentary successions”. A total of 46 talks and posters were presented at the meeting, many of them by students. The meeting was attended by 137 people, 51 of which were students.

2012 Fall Field Conference

The 63rd annual Fall Field Conference (FFC) was held on October 3 to 6 and featured three days of field trips examining the geology of the Warm Springs region of south-central New Mexico's Sierra County. The trip also included a pre-meeting outing to the incredibly lovely and geologically interesting Cañada Alamosa. Many thanks go to the field trip organizers for producing an outstanding conference. The lead organizers were Spencer Lucas (New Mexico Museum of Natural History) and Virginia McLemore (New Mexico Bureau of Geology and Mineral Resources), assisted by Karl Krainer (University of Innsbruck), Justin Spielmann (NMMNH) and William Berglof (NMMNH). The trip, hosted out of Truth or Consequences, focused on a geologically diverse portion of the center of the state. Participants were able to observe all aspects of the local geology, including Rio Grande rift tectonics and sedimentary history; Paleozoic stratigraphy, sedimentation and paleontology; geology of the Caballo and Mud Springs Mountains; and Tertiary volcanism, mining history, and incredibly beautiful landscape of the southern San Mateo Mountains. This is the third time that a New Mexico Geological Society focused on the geology in the Sierra County area. The first time was in 1955, when the second day of a 3-day trip visited some of the same areas that we visit on this trip. An eminent engineering geologist, Richard H. Jahns, led the trip on that occasion. More recently, in 1986, the fall field conference was also based on Truth or Consequences, with a day spend in the Sierra County areas of Sierra Cuchillo, Winston Graben and Black Range. Bob Osborn, Russ Clemons, Bill King, and Greg Mack (to whom this guidebook was dedicated) organized the field trip and guidebook, and Greg returns to this trip as the vice president of the Society. Ginger and Spencer, our two lead organizers, both had papers in the 1986 guidebook, and during this trip, we were able to hear how their research has progressed over the past 26 years! This continuity of dedicated membership, as well as ongoing addition of new members, keeps the New Mexico Geological Society the healthy organization that it is today. Putting together a field conference typically begins at least two years before its scheduled time and involves much detailed planning, road-logging, and arrangement of all the logistics (transportation, banquet, barbecue, daily lunches, etc.), as well as production of the accompanying guidebook.



Colin Cikoski points out Quaternary terraces in Cañada Alamosa.



The grand NMGS caravan. Looking north from the Day 1 lunch stop toward the Caballos.



Geologists puzzle over gravels along the west side of the southern Caballo Mountains.

Day one of the trip toured the Southern Caballo Mountains, focusing mainly on upper Paleozoic stratigraphy for the first three stops, and finishing with a stop where evidence of three great Phanerozoic orogenies could be examined. We finished the day with a barbecue dinner at Caballo Dam State Park. Day two of the trip allowed us to visit the Southern San Mateo Mountains, where we were able to examine rocks associated with caldera collapse volcanism and volcanic-epithermal mineralization. The final stop provided a scenic overview of the terraces of Cañada Alamosa and geomorphic expression of the Willow Draw fault. A lively banquet followed at the Bella Luca restaurant in Truth or Consequences. The third day of the conference focused on the Mud Springs area, and included an impromptu champagne toast to celebrate John Hawley's 80th birthday!

In addition to the conference leaders, who devoted hundreds of hours to planning and organizing this three-day event, others also played critical roles in making the conference a success, including Connie Apache, registration chair; April Brunson and Patrick Moore, who managed the publications tables; Jim McLemore, Annie Riggins and myself, who kept the snack and drink truck well supplied; Gina Rhone, Bonnie Frey and Stephanie Chavez, who produced the now-traditional annual conference tee-shirts; and the intrepid group of New Mexico Highlands flag people, who helped keep us from getting lost, and did so with great style. Shari Kelley took on the complicated job of keeping track of who was riding in which vehicles and making sure that everyone had a place to ride. Posters for many of the stops were printed by Leo Gabaldon, Stephanie Chavez, Mark Mansell and the New Mexico Museum of Natural History Exhibits Department. We also thank all of the numerous authors of guidebook papers and road logs, and to the speakers at each of the stops, who greatly enhanced our understanding of the geology we were seeing. Total attendance at the conference was 154, including the 28 scholarship students noted above.

2012 NMGS Honorary Member – Kate Zeigler

To our great pleasure, the NMGS executive committee was able to present this year's honorary member of the New Mexico Geological Society to Dr. Kate Zeigler. This award is presented to a person who has made an outstanding contribution to the society in the time that they have been a member. Kate has exemplified this quality since she first became involved in the society 12 years ago as a 1st year MS student at UNM. In that time, she has contributed greatly to essentially every aspect of the NMGS. She has attended every spring meeting since 2000, and has either presented a paper or poster, chaired a session, or co-chaired the whole meeting, or sometime done all three at a single meeting. She has made excellent science presentations at many fall field conferences, and co-chaired a number of field conferences, including one in 2010 which was awarded "Best Guidebook of the Year" by the Geoscience Information Society. Kate joined the NMGS Executive Committee in 2006, and served on the committee for 6 years. Although she rotated off the Executive Committee last year, she is continuing her involvement by serving as NMGS Scholarship Chair, and she is one of the co-organizers of the 2013 NMGS field trip.

But beyond her great involvement in many aspects of running our society, in my mind, this year's honorary member outstanding characteristic is her great enthusiasm for NMGS, and her huge willingness to support the society in any way possible. Kate truly exemplifies what it means to be an NMGS member.

Upcoming Events

Several events scheduled for 2013 are worth your attention and are listed below:

Student Grant-in-Aid Proposals for research grants, the Kottowski Research Award, and the Pipkin Undergraduate Research Awards must be submitted through the NMGS web site

< <http://nmgs.nmt.edu/scholarships> >. The deadline this year is Friday February 15, 2013.

The Annual Spring Meeting will be held in the Macey Center in Socorro on Friday, April 12, 2012. The theme session will be on "Hydrology and History of the Rio Grande". Abstracts will need to be submitted through the NMGS web site < <http://nmgs.nmt.edu/meeting/abstracts> >.

Abstracts can be submitted between January 2 and March 29, 2013. Registration for this meeting will open on March 3, 2013.

The 2013 Fall Field Conference is scheduled for September 25-28 and will examine the geology of eastern Arizona and western New Mexico along the I-40 corridor from Flagstaff to Albuquerque. This conference, organized by Kate Zeigler, Mike Timmons, and Steve Semken, will be jointly hosted by the New Mexico and Arizona Geological Societies. Although not done recently, there is an old tradition of the two societies co-hosting field conferences, including the 1958, 1962, and 1978 trips. We look forward to seeing some new country, and to renewing the relationship with a similar society in a neighboring state, and we hope to see many of you there. All members are encouraged to contact the leaders to lend a hand as volunteers or as contributors to the guidebook. Those interested in contributing papers or minipapers are asked to inform the organizers before December 31, 2012, and the deadline for final manuscript submission is March 30, 2013. See the NMGS web site for details on the conference and guidebook format and submission instructions. Looking forward to 2014, the Fall Field Conference will be in the Sacramento Mountains, and will be organized by Geoff Rawlings, Stacy Timmons, and others.