

OFFICERS OF THE SOCIETY

Past President:

Jon Harvey

President:

David Schiowitz

President-Elect:

Jeff Geslin

Treasurer:

Tom Staatz

Secretary:

Jolin Cordalis

Newsletter Editors:

Tom Ann Casey
back up Kim Gerhardt

Fieldtrip Chair:

Available! Help!

Website:

Jon Harvey

OFFICERS OF THE FOUNDATION

President:

Mary Gillam

Secretary:

Patti Phillips

Treasurer:

Ron Brogdon

Directors:

Jim Fassett
Gordon Greve

To contact an officer click:
<https://fourcornersgeologicalsociety.org>

FOUR CORNERS GEOLOGICAL SOCIETY

February 2022



FEBRUARY MEETING

SPEAKER:

Dr. David Gonzales, Fort Lewis College

TITLE:

Evolution of the Cenozoic landscape in the western San Juan Mountains

DATE:

Thursday, February 17th

TIME &

5:30 - 6:30 pm Social, Drinks and Yummy & Varied Smaller Bites and plenty of them!

LOCATION

*Colorado Room, Student Union Building Fort Lewis College (down the hall from Vallecito Room)
6:30 pm - 7:30 pm. Speaker, followed by raffle
ZOOM meeting will start at 6:30 pm.*

ZOOM LINK: [Click Here for Zoom Meeting Link or https://fortlewis.zoom.us/j/91570470770](https://fortlewis.zoom.us/j/91570470770)

COVID: *Meeting is at FLC: Per Fort Lewis Policy, VACCINATION IS REQUIRED TO ATTEND IN PERSON. If you are not vaccinated, please use the Zoom option.*

COST: *\$20/person. Please RSVP by Tuesday, February 15th if possible. PLEASE go to the website to pay and register: <https://fourcornersgeologicalsociety.org/event>. Or you can email Jon Harvey at jeharvey@fortlewis.edu 15 (Wow!) students will be sponsored by our very own superstar Tim Rynott. To sign up, contact Dr. Harvey.*



Four Corners Geological Society, P.O. Box 1501, Durango, CO 81302
www.fourcornersgeologicalsociety.org

Our Speaker:

Dr. David Gonzales, Fort Lewis College

David Gonzales is a professor of geology at Fort Lewis College. He is an alumnus of Fort Lewis College (1982) and after his graduate studies joined the college in 1997. Dr. Gonzales is interested in research that focuses on the magmatic, tectonic and landscape evolution in the Four Corners region. He frequently involves students in his research and has received funding from the National Science Foundation, the U.S. Geological Survey EDMAP program, Kinder Morgan and other sources to support his research. He has served as a reviewer for many academic journals, geologic software products, and grant programs. In addition, Dr. Gonzales has been a geological consultant for numerous companies and academic activities.



Dr. Gonzales was the 2006-2007 Featured Scholar and the 2003 recipient of the New Faculty Teaching Award at Fort Lewis College. He lectures and presents his research at professional geological conferences around the country.

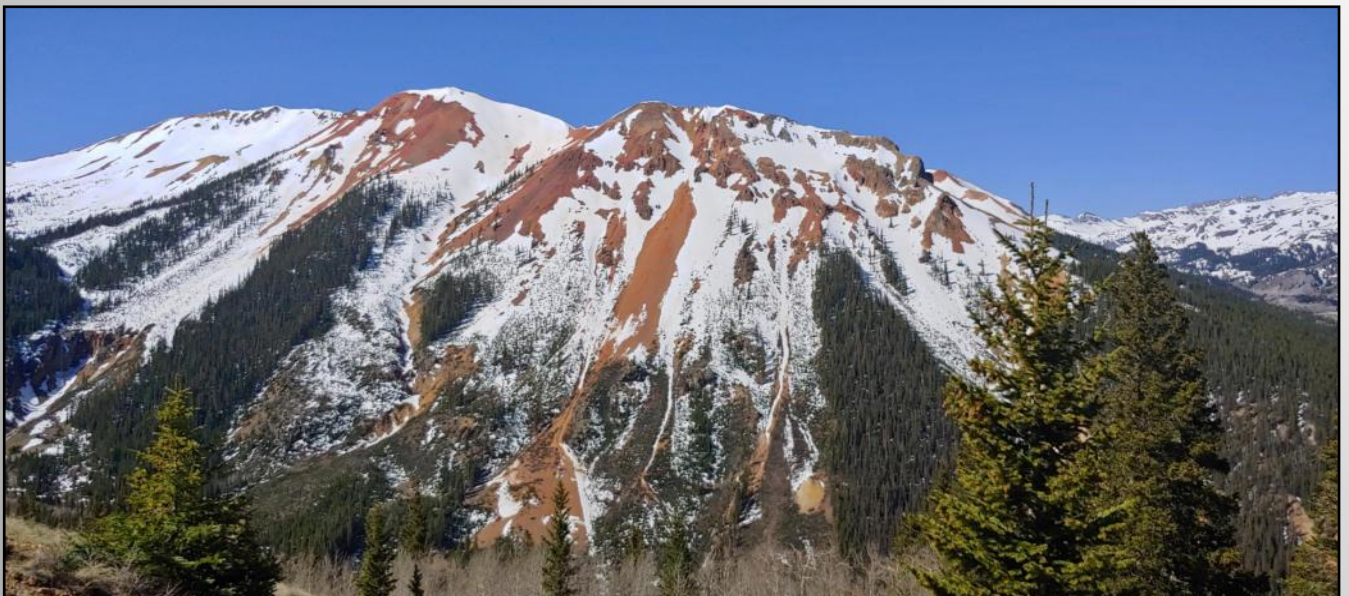
Education:

Ph.D., Geology and Isotope Geochemistry, University of Kansas, 1997

Master of Science, Geology, Northern Arizona University, 1988

Bachelor of Science, Geology, Fort Lewis College, 1982

***a HUGE THANK YOU to
Tim Rynott for sponsoring 15 Student Dinners this month.***



Abstract:

Evolution of the Cenozoic landscape in the western San Juan Mountains

This presentation will highlight field observations and geomorphic reconstructions of stratigraphic-time surfaces test ideas about post-Laramide landscape evolution in the western San Juan Mountains. Recent findings offer further insight into the nature and relations of processes that crafted geologic events over the past ~35 million years.

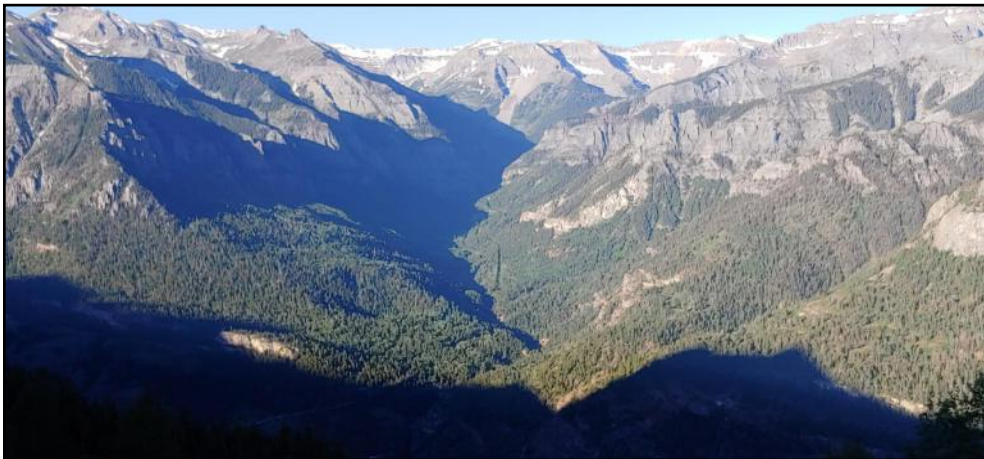
Laramide uplift and magmatism (75-60 Ma) was followed by a protracted period of fluvial incision prior to ~35 Ma. The landscape was mostly sculpted into undulating terrain with less than 200 feet (~60 meters) of relief, but rugged canyons up to 1,500 feet (460 meters) deep were carved near Ouray. This was followed by deposition of the 34 to 32 Ma Telluride Conglomerate in westward-flowing rivers that formed in response to rapid tectonic uplift and erosional unroofing of highlands to the east and southeast. Eruptions from stratovolcanoes between 32 to 30 Ma deposited thick successions of the San Juan Formation conformably on the Telluride Conglomerate and infilled pre-Telluride canyons. The highlands that emerged prior to deposition of the Telluride Conglomerate remained elevated in the Oligocene as revealed by thinning of the San Juan Formation along their flanks.

The paleogeographic record after 30 Ma in the western San Juan Mountains chronicles episodic tectonic uplift coupled with magmatic inflation that warped and tilted the pre-Telluride erosional surface and overlying San Juan Formation eastward. Emplacement of 27 to 4 Ma plutons contributed to regional doming and uplift especially in the San Miguel and Rico Mountains where magmatic inflation was ~3,000 feet (~915 meters). Recurrent tectonic uplift after 35 Ma was focused in the Needle Mountains. The driving forces for this tectonism are not well constrained but were possibly related to upwelling of low-velocity asthenosphere into the crust from latest Paleogene to Neogene, particularly in the past 10 to 6 million years.



[Zoom Link is: \(click\)](#)





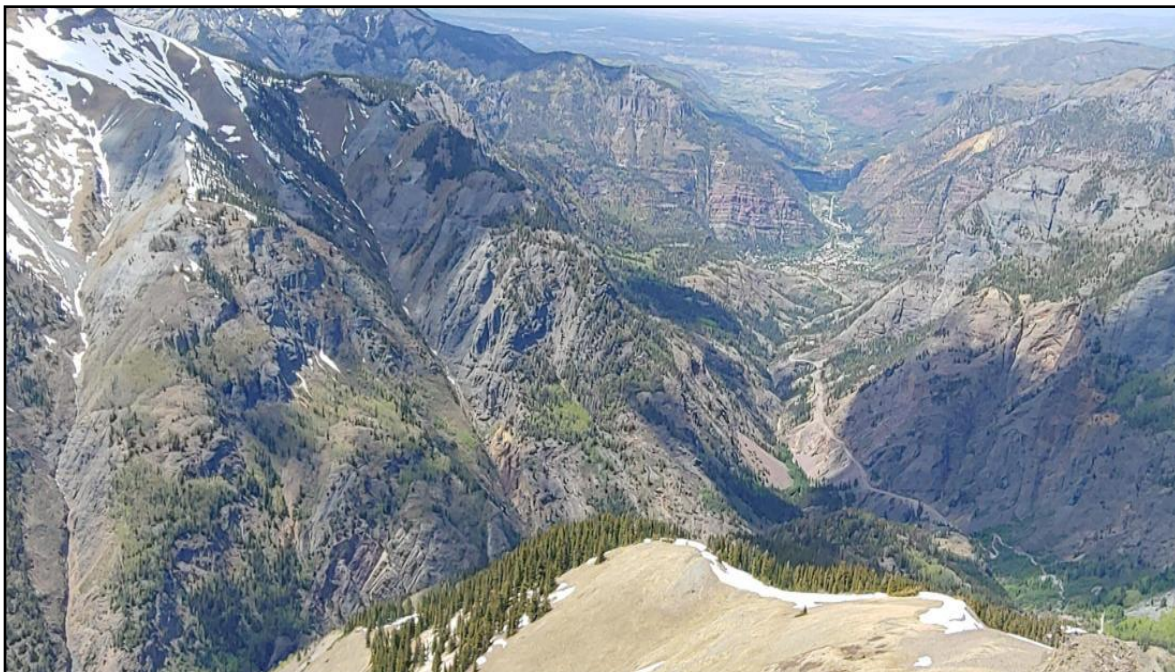
*All San Juan Mountains Photos by Dr.
David Gonzales.*



Four Corners Geological Society, P.O. Box 1501, Durango, CO 81302
www.fourcornersgeologicalsociety.org



*Photos by Dr.
David Gonzales.
Thanks so
much!*



"PREZ SEZ" by David Schiowitz

January 2022

Greetings FCGS members!

Thank you to everyone that was able to participate in last month's excellent and thought-provoking meeting. I'd like to personally thank Dr. Chris Heine for giving a wonderful talk discussing wind-blown sands and how to recognize them in modern dunes, outcrops, and the subsurface. I really enjoyed seeing the modern dune analogies from the Middle East and Africa compared to ancient eolian deposits across the Colorado Plateau.

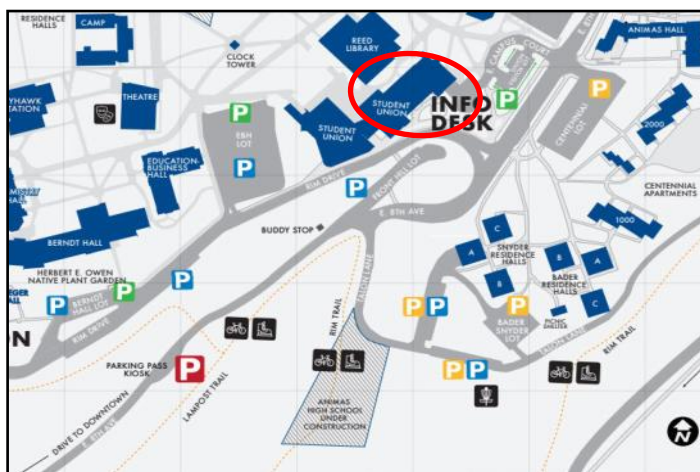


For our next meeting, Thursday, February 17th, we have Fort Lewis College's own Dr. David Gonzales discussing the evolution of the Cenozoic landscape in the western San Juan Mountains. This talk is not to be missed and I encourage all that are comfortable to attend. Please RSVP for the talk and see page 1 for additional details and COVID-19 requirements. We understand that some members may not be able to attend, so we will continue to have a Zoom option starting around 6:30 pm ([link](#)).

As for Society news, we are currently looking for any members that are interested in leading or organizing field trips for later this spring, summer, or next fall. Observing and discussing rocks in the field with other like-minded folks is what first attracted me to study geology and it is what continues to keep me intrigued. I have been fortunate to attend a few FCGS field trips and I would love to continue to bring that experience to our young and old members alike. So please reach out if you are interested in volunteering. Finally, I would like to thank Tim Rynott for sponsoring 15 students for next month's meeting! Students, please reach out to John Harvey if you would like to attend.

All the best,

David.



Map of Meeting Location



Photo by Tim Rynott!

I dig piling up rocks.
This WSW facing pic was
taken near Schnebly Rd,
Sedona, Az on 1.1.2020.



January '22 News

SAVE THE DATES!

**March 31: Peter Vrolijk,
ExxonMobil retired**

**April 21: FLC student
presentations**

May 19: TBD



NEWS FROM THE FOUNDATION

The Foundation is pleased to announce that the application for our 2022 MS Thesis Grant program is now available from the committee chair, Jim Fassett (jimgeology@aol.com) and should be posted soon on our web page here:

<https://fourcornersgeologicalsociety.org/scholarships/>. Applicants must be working on geoscience theses in Colorado, New Mexico, Utah or Arizona. Available funds vary but we usually make 1-3 grants per year in the \$500 to \$1000 range. The deadline for submittal is April 1 and applicants will be notified around April 15.

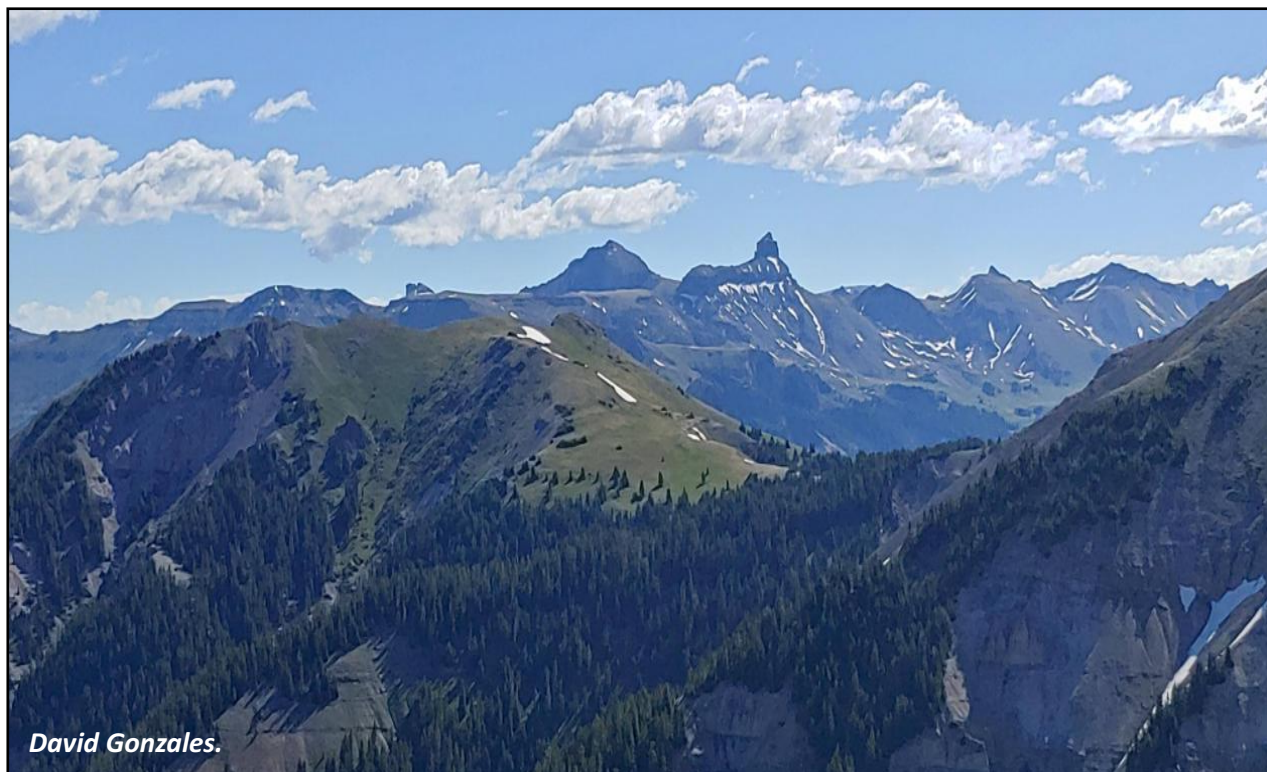


GEO QUESTION OF THE MONTH!

Courtesy of Dr. Jon Harvey

What is the largest-magnitude earthquake to hit one of the Four Corners states (UT, CO, NM, AZ) since 1980?

(see answer next page)



David Gonzales.



What is the largest-magnitude earthquake to hit one of the Four Corners states (UT, CO, NM, AZ) since 1980

Answer:

The St. George, Utah earthquake of September 2, 1992. A summary of the event can be found here:

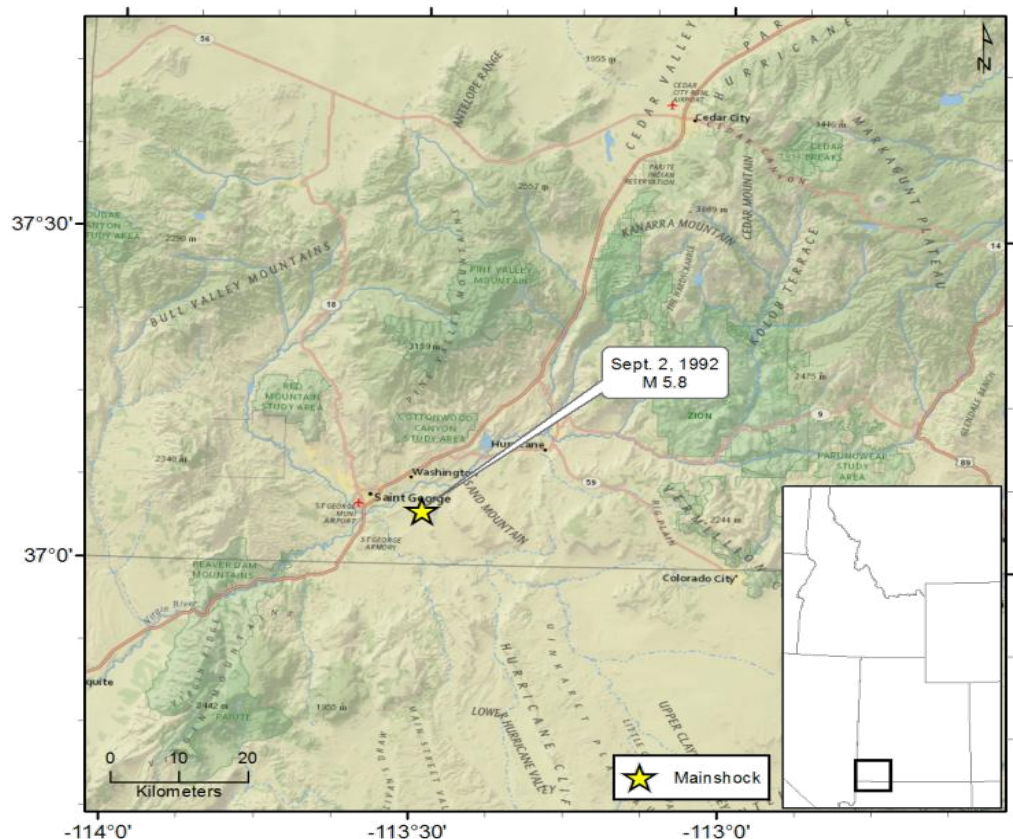
<https://quake.utah.edu/isbhep/1992-st-george-ut-m-5-8>. Some highlights:

The earthquake was reported felt as far west as Las Vegas, Nevada; as far south as Flagstaff, Arizona; as far to the east as Escalante-Boulder, Utah, and as far north as Richfield, Utah.

Most of the destruction occurred near the town of Springdale, Utah, near the mouth of Zion National Park. Utah State Route 9 (SR-9) connecting Springdale and the south entrance of Zion Park was closed as a nearby hillside began to slide down over the road. One report estimated that the slide was moving at 3-4 feet per hour. At one point, the slide was measured at two-thirds of a mile long and one-fifth of a mile wide. The slide left a scarp as high as 50 feet in one location.

*Thank you to Dr. Jon Harvey,
Fort Lewis College, for
sending us this fun fact.*

*Send in Your GEO FUN FACT
to Tom Ann at
talcgeo@gmail.com*





SPONSORSHIP

*Celebrating the 100-year anniversary of
The Rocky Mountain Association of Geologists*

General Chairs

Larry Rasmussen & Thomas Hearon

Sponsorship Co-chairs

Chantel Maybach and Erika Davis

MEETING WILL BE HELD LIVE AND IN PERSON

July 24 – 27, 2022 in Denver, Colorado

For meeting information, go to: <https://www.aapg-rms.org/>

	Diamond \$10,000	Titanium \$5,000	Platinum \$2,500	Gold \$1,000	Silver \$500
Company logo printed on canvas bag given to registrants	✓	✓			
Complimentary 10' x 10' booth in the exhibit hall	Two	One			
Complimentary full-convention registration	Three	Two	One		
Invitations to the President's Reception	Five	Three	Two		
Advertisement in Technical Program Book	✓	✓	✓		
Opportunity to offer approved promotional materials	✓	✓	✓		
Company logo/name on PowerPoint slides for main events	✓	✓	✓		
Company logo on PowerPoint slides in Technical Session rooms	✓	✓	✓	✓	✓
Company logo with hyperlink on event website and app Company logo with hyperlink on event website and app	✓	✓	✓	✓	✓
Drink Tickets	Eight	Six	Four	Two	One

For more information contact Sponsorship Co-chairs:

chantel.maybach@columbineco.com erikapdavis1@gmail.com

Safety Policies

The safety of RMS-AAPG attendees, staff, and volunteers is our highest priority. We are planning a fully in-person meeting and expect all attendees to abide by the current CDC COVID guidance and regulations, including all City and County of Denver Public Health Orders. As of January 2022, face coverings are required for everyone ages two and older in all public indoor spaces. For your own safety and the safety of others, please be prepared to wear face coverings for all events and sessions including field trips, workshops, networking, and social events.

If you have any questions about meeting policies, please contact us at: 2022rmsaapg@gmail.com



Four Corners Geological Society, P.O. Box 1501, Durango, CO 81302
www.fourcornersgeologicalsociety.org



FOUR CORNERS GEOLOGICAL SOCIETY

P.O. Box 1501, Durango, CO 81302

MEMBERSHIP RENEWAL or APPLICATION: June 1, 2021 to May 31, 2022



*Name: _____

*Address: _____ City: _____ State: _____ Zip: _____

*Email: _____ Phone: _____

*Employer: _____

Please Identify a Membership Category:

Active Member	\$25	Any person engaged in the practice or teaching of geology or who holds a Bachelor's Degree in geological science from a college of acceptable academic standards. Degree requirement may be waived if applicant has adequate professional experience. *Highest Degree, Type and Year: _____ *College / University: _____
Associate Member	\$25	Any person who is a graduate of a college of acceptable academic standards with major studies related to, or associated with, geology. Degree requirement may be waived if applicant has adequate professional experience. *Highest Degree, Type and Year: _____ *College / University: _____
Student Member	Free	Any undergraduate or graduate student majoring in geology at a college of acceptable academic standards. *College / University: _____ *Year expected to graduate: _____
Emeritus Member	Free	An Active Member of 65 years old or older who has been a member for 25 years including time spent in military service. *Year emeritus status was awarded: _____
Honorary Member	Free	An Active Member who has contributed distinguished service to the profession of geology and to the betterment of the FCGS. Determination is made by the FCGS Executive Committee. *Year honorarium was awarded: _____

Other Professional Interests:

** Required information for new members. Current Members, please update.*

Please either print, complete and return this form with your check for dues made payable to: "Four Corners Geological Society" and mail to the address above or go online to fourcornersgeologicalsociety.org.

Please donate to the Foundation to support student research. Make out your check to: "Four Corners Geological Foundation" and include it in the envelope with your dues.

*Please check your interests:

- ☐ Sedimentology & stratigraphy
- ☐ Structure & tectonics
- ☐ Mineralogy, petrology, geochemistry
- ☐ Igneous geology, volcanology
- ☐ Ore geology and hard rock mining
- ☐ Other mineral extraction
- ☐ Petroleum geology
- ☐ Geophysics
- ☐ Geological engineering
- ☐ Geomorphology
- ☐ Quaternary geology
- ☐ Hydrology & water resources
- ☐ Environmental geology
- ☐ Geography / GIS
- ☐ Other interest (see box)