FOUR CORNERS GEOLOGICAL SOCIETY

Winter of 2023!

FEBRUARY '23 MEETING

SPEAKER: ***Lauren Broes, Kassandra Lindsey, Nathan Rogers***
Colorado Geological Survey. Golden, Colorado

TITLE: ***SURFICIAL GEOLOGIC MAPPING NEAR DURANGO***
Update on recent surficial geologic mapping in SW Colorado

DATE: ***Thursday, February 16, 2023***

TIME & ***5:30 - 6:30 pm Social Hour and Buffet Dinner.***
Includes 2 drink tickets for beer, wine, hard cider or waters. Lecture will start at ~6:30 pm and raffle at 7:30.

LOCATION ***Vallecito Room, Student Union Building: FLC***
5:30- 6:30 pm Dinner; 6:30 pm - 7:30 pm speakers; then Raffle; ZOOM meeting will start at 6:30 pm.

ZOOM LINK: ***Join Zoom Meeting:***
LINK
or https://fortlewis.zoom.us/j/95120346679

COST: ***$20/person.***
Please RSVP by Monday February 13th if possible.
PLEASE go to the website to pay and register: https://fourcornersgeologicalsociety.org/event Or you can email Jeff Geslin at jkgeslin@gmail.com

10 students will be sponsored by by our long-time members Jay Lebeau and Chuck Baltzer, FLC Alums! To sign up, please contact Dr. Geslin at jkgeslin@gmail.com

OFFICERS OF THE SOCIETY

Past President:
David Schiowitz

President:
Jeff Geslin

President-Elect:
Chris Heine

Treasurer:
Tom Staatz

Secretary:
Jolin Cordalis

Newsletter Editors:
Tom Ann Casey
back up Kim Gerhardt

Fieldtrip Chair:
Jim Corken

Website:
Jon Harvey

OFFICERS OF THE FOUNDATION

President:
Mary Gillam

Secretary:
Patti Phillips

Treasurer:
Ron Brogdon

Directors:
Gordon Greve
Cindy French

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

Surficial Geologic Mapping Near Durango

Lauren Broes, Kassandra Lindsey, and **Nathan Rogers**

Colorado Geological Survey. Golden, Colorado

lbroes@mines.edu, kolindsey@mines.edu, narogers@mines.edu

**** ZOOM LINK ****

ABSTRACT:

During the summer and fall field seasons of 2021 and 2022, the Colorado Geological Survey (thru the USGS funded STATEMAP program) have conducted surface geological mapping of four 7.5 minute quadrangles in the Durango to Ignacio area of southwest Colorado. These newly mapped quadrangles have delineated surficial extents of Cretaceous thru Eocene sedimentary formations, mapped, and placed age control on Quaternary glacial river outwash terrace deposits, identified faulting, folding, and identified past landslides. Geological Survey mappers will present their mapping and geological observations of the Loma Linda, Bondad Hill, Gem Village, and Ignacio Quadrangles. Geological units discussed will range from the recent Holocene valley fill, landslides, and colluvium, Quaternary deposits ranging from glacial outwash and terrace alluvium like Florida Mesa, and terraces along the Animas and Florida River corridors, along with rather thick red eolian loess deposits. Stratigraphic formations will include: the Paleogene San Jose Formation (including the Ditch Canyon, Regina, and Cuba Mesa Mbrs.) exposed in the Mesa Mountains, Nacimiento Formation exposed along the Animas and Florida River corridors, the Animas Formation along the foothills of the hogback and seen along Hwy 160 from Durango to Bayfield, and the McDermott, Kirtland, Fruitland and Lewis Shale formations as seen from Carbon Junction (aka Durango's Home Depot and Walmart).

Lauren Broes
lbroes@mines.edu

Kassandra Lindsey
kolindsey@mines.edu

Nate Rodgers
narogers@mines.edu

A HUGE THANK YOU TO JAY LEBEAU AND CHUCK BALTZER FOR SPONSORING TEN STUDENTS THIS MONTH!
WE COULDN'T DO IT WITHOUT THE SUPPORT OF OUR WONDERFUL MEMBERS.

Surficial Geologic Mapping Near Durango

Update on recent surficial geological mapping in southwest Colorado by the Colorado Geological Survey. Geologic units include Cretaceous thru Quaternary deposits of four quadrangles between Durango, Bayfield, Ignacio and the New Mexico State line.

CGS Staff on Las Animas River and terraces

Gravel Pit in Animas Terrace

CGS Staff at San Jose Formation Regina Member

Surficial Geologic Mapping Near Durango

Kassy with OSL Tube gravel pit near Florida River

Mary Gillam mapping up on the Mesa Mountains

Mary Mapping Lava Creek B from burrows near Ignacio

San Jose Formation Top is Regina Member and base is Upper Ditch Canyon Member

Our Speakers:

Lauren Broes lbroes@mines.edu

Geologist at the Colorado Geological Survey (2018-current)

Geologic Mapping, GIS, groundwater.

Lauren has worked in various outdoor fields from raft guiding to working for the Wyoming Geological Survey.

Lauren has degrees from Colorado Mountain College, Montana State University-Bozeman. Lauren is currently working full time with the CGS, while also pursuing her Master's Thesis at the Colorado School of Mines.

Kassandra Lindsey
kolindsey@mines.edu

Geologist at the Colorado Geological Survey (2015-current)

Geological mapping (more than six 7.5 minute quadrangles), land use reviews, advanced user of lidar and ArcGIS, geological hazards: landslides, rockfalls, debris flows, and other geomorphic features.

Internships and Volunteering at various governmental industries; Oregon Department of Geology and Mineral Industries (DOGAMI), GeoCorps (BLM), and the USGS.

MS – Portland State University. Portland, Oregon.

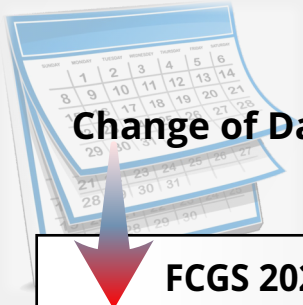
BS – Eastern Washington University. Spokane, Washington.

Nathan Rogers narogers@mines.edu

Contract Geologist at the Colorado Geological Survey (2021-current)

Geologic mapping and minerals.

Nathan has worked as an exploration and development geologist for Crescent Point Energy, ConocoPhillips, Antero Resources, among other internships and contract positions. He received his BA from Western State College, Gunnison, Colorado, and MS from University of Colorado-Boulder.



Change of Date!

FCGS 2023 MEETING DATES

MARCH 16d:	Matt Klema, FLC
APRIL 20th:	FLC Student Presentations
MAY:	Possible Spring Party

VOLUNTEERS NEEDED

Organizations like ours cannot function without everyone pitching in. Please consider helping out. Right now we are looking for folks to run for FCGS offices. Most importantly we need candidate (s) for President Elect. The Pres-Elect (VP) plans and organizes our speakers with help from other members, especially the great folks at FLC.
But all offices, except President, are open for new candidates. If you have ideas for field trips, fund-raising, fun activities or a membership drive, please pitch in. Suggestions are welcome too! Thank you.

"**PREZ SEZ**" by Jeff Geslin

Greetings!

I hope that this winter is treating you well and you are enjoying all the snow, and the recent sunshine. ***Society activities…*** Our meeting this month will be on the 16th, in the Vallecito Room (Student Union Building at FLC). It will be at our normal starting time of 5:30 with the technical talk at 6:30. We'll be doing a buffet dinner this month, followed by a talk about recent mapping done in the Durango area by the Colorado Geologic Survey. It will really interesting to learn more about our local geology, and I hope that you can attend.

Out and about… At our recent meetings I have been giving updates on the fieldtrips that are being planned by FCGS. We have a lot in the works! Over my career, I have led many fieldtrips and field schools, for both industry and academia, and field safety has always been the highest priority on these trips. I like to tell trip participants: "nothing that I teach you is worth getting hurt for." As part of that safety effort, I had always maintained certification in basic first aid and wilderness first aid. Over the years I have helped people with a lot of minor illnesses and injuries (fortunately, nothing very serious), and I'm glad that I had the training.

However, with the pandemic and related suspension of fieldtrips, I let my certification lapse. So, now it is time for me to get back up to speed on field safety. And I want to encourage any of you that like to go out into remote areas to get at least some safety training. Generally, there are two levels of introductory training that can get you ready for activities in the outdoors:

1) Basic CPR/AED and First Aid: This is offered through Durango Fire and Rescue / Heart Safe La Plata. Their web address is: Cpr | Heart Safe La Plata | Durango. The classes are a combination of online (about 4 hours) and in-person (about 2 hours) learning. The in-person sessions are held every Wednesday evening in Durango. The cost is $95.

2) Wilderness First Aid: This typically a two-day, in-person course with a mix of theory and "in the field" practice. I have taken this class several times from the National Outdoor Leadership School (NOLS) and thought it was very well done. There are also other course providers that can be found online, but I have no experience with their courses. NOLS has a searchable course catalog at: Wilderness First Aid (nols.edu), and classes are offered in numerous places in Colorado and surrounding states. The prices vary from $295 to $375.

There is also an advanced Wilderness First Responder training, which is a five-day course. I've never taken this training, but I'm sure that it is really valuable if you spend a lot of time in the backcountry.

First aid courses provide a learning experience that can be extremely valuable in the outdoors, and (as you can tell) I'm a strong supporter. Be safe out there!

Best regards,

Jeff

FCGS Foundation News

Four Corners Geological Foundation Update

Your Four Corners Geological Foundation is again **offering grants to Master's degree students** who are doing geological field work in Colorado, New Mexico, Arizona or Utah. The application deadline is March 1. More information and the application form may be found at https://fourcornersgeologicalsociety.org/scholarships.

Members, please support this program by donating to the Foundation at https://fourcornersgeologicalsociety.org/foundation, or contact Foundation president Mary Gillam at

NEW BOARD MEMBER! A Big Welcome to Cindy French

Following the retirement of former director Jim Fassett last year, we are pleased to report that Cindy French has joined our board as an interim director, pending confirmation by the usual vote of FCGS members in May. Cindy studied geological sciences at the University of Michigan (BS) and Virginia Tech (MS). She then worked at Chevron USA Exploration and Production Company in the 80s and 90s, with assignments in New Orleans, Lafayette and Houston. After transferring to Chevron Chemical Company, she held management positions in account and production management before retiring in 2014. We welcome her expertise!

WELCOME CINDY

FCGS Field Trip News

APRIL '23

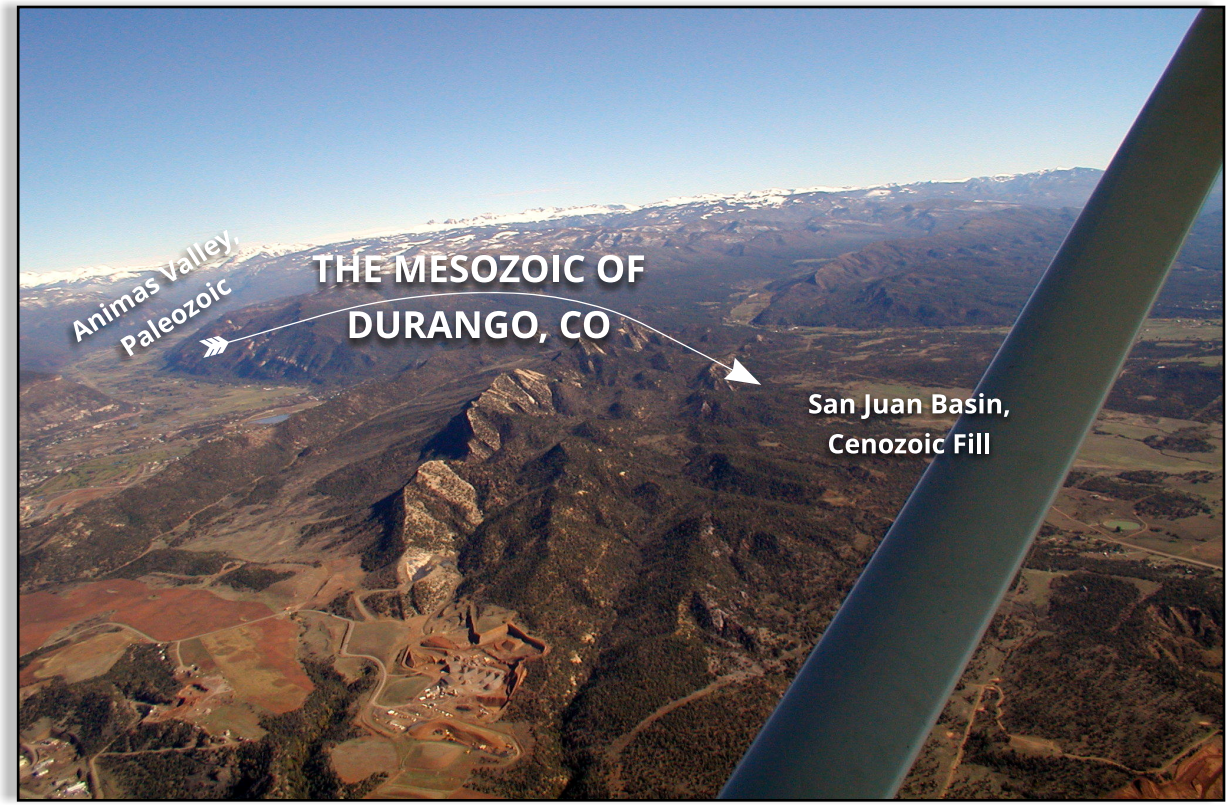
The Field Trip Committee is planning four field trips in 2023, listed in the following pages. Details are still being worked out but please keep these trips in mind as you make your travel plans for spring, summer and fall. We hope to see everyone on the outcrop this year.

Please note that ALL field trip participants must be members of the Four Corners Geo. Society.

1. THE MESOZOIC OF THE DURANGO AREA

Date: **Saturday, April 15th**
Leaders: Gary Gianniny and David Gonzales
Cost: Estimate ~ $25
Limit: ~23
Transportation: 2 FLC vans & overflow in carpools
Registration: Opens March 17, 2023 on our website

Trip Description: This is a one-day trip looking at the Triassic Chinle (Dolores) Fm. through the Cretaceous McDermott Fm. (a.k.a. the Purple Cliffs). As we travel from the lower Animas Valley south to Bodo Park we look at a section that spans the period between the breakup of Pangea to the Laramide Orogeny; a journey from near-equatorial to middle latitudes, from arid to humid climates and from dominantly westerly to dominantly easterly drainages. This was a transition from stability within the interior of a supercontinent to a position marginal to an interior seaway in a foreland basin, inboard of an active subduction zone and overthrust belt. How were these regional events recorded here? Join us as Fort Lewis College Professors Gary Gianniny and David Gonzales explain the sedimentologic and tectonic signature of the Mesozoic in Durango, Colorado.



More FCGS Field Trip News

JUNE '23

***There will be two FLOW (Fort Lewis College on the Water) float trips offered in the early summer. The FLOW program is like a commercial river trip in that boats, oarsmen, gear and food are all supplied. This arrangement increases the cost over our usual member-run trips but allows us a set opportunity to float not available through the lottery system. Learn more about FLOW here**: https://www.fortlewis.edu/academics/schools-departments/multidisciplinary-programs/fort-lewis-on-the-water/flow-home .*

2. RMAG FLOAT TRIP ON LOWER SAN JUAN RIVER (57 MILES)

Although this trip is being run by the Rocky Mountain Association of Geologists, it is open to non-members. See the RMAG website for more information and to register (https://www.rmag.org/index.php Events > Field Trips).

Dates: **June 4-8th float Mexican Hat to Clay Hills. Drive out on 8th.**
 # Days: 5 days / 4 nights on river.
Leaders: Dr. Gary Gianniny, Fort Lewis College and Dr. Rip Langford, UTEP.
Cost: **$1,400 members / $1,500 non-members.**
Transportation: FLC vans from the college and back.
Registration: Opening soon on RMAG website, closes May 26th, refunds available until May 10th .
Limit: 20
Itinerary: Day 1: Early departure from Durango, drive to Mexican Hat, launch on river, enter goosenecks. Pennsylvanian microbial / *Cheatetes* bioherms, incised valley.
Day 2: Optional hike up Honnaker Trail, stacked microbial bioherms, oil seeps.
Day 3: Run Government Rapid, hike up Slickhorn Cyn., marine to fluvial / eolian.
Day 4: Cedar Mesa Sandstone, aggraded San Juan sediments, hike Oljeto Cyn.
Day 5: Upper Cedar Mesa Sandstone. Take-out at Clay Hills, drive back to Durango.

Trip Description: The lower San Juan River exposes the Pennsylvanian Hermosa Group, which is age-equivalent to the section seen along the Hermosa Cliff trend north of Durango. Whereas the Durango section was deposited on the eastern, active margin of the Paradox Basin, the San Juan River exposures formed on a stable, broad, shallow shelf on the western margin. Lithologies outcropping along the river are outcrop analogs for producing intervals at Aneth oil field. Geologists rafting through these folded Pennsylvanian and Permian strata can examine phylloid algal bioherms (oil reservoirs), organically-enriched black shale (source rocks) and basinally-restricted evaporites (seals). Higher up in the canyon, cross-bedded carbonate grain stones appear in the younger Honaker Trail Formation, followed upwards by rhizolith channel-fill conglomerates in the Permian Halgiato Formation. Honaker Trail and side canyons provide opportunities to hike.

Dr. Gary Gianny on the outcrop.

DID YOU KNOW?

Dr. Vince Matthews, Guest Columnist & FCGS Member

Did You Know--that Banded Iron Formation (BIF) is best known from the Iron Range district of northern Minnesota, Wisconsin, and Michigan (Figure 1)?

Figure 1. *Touted as the most photographed outcrop in Minnesota this glacially polished outcrop of BIF in the Mesabi Iron Range exposes striking displays of tightly folded, Archean BIF.*

But, did you know that BIF also occurs near Durango? In mapping the Bayfield quadrangle for the Colorado Geological Survey, Dr. Gonzales recognized cobbles of the Vallecito conglomerate in a Quaternary alluvial conglomerate. A conglomerate within a conglomerate! He further recognized the fragments of BIF within the meta-conglomerate.

Figure 2.*One of my most treasured specimens! A cobble collected from a Quaternary alluvial deposit on the Bayfield quadrangle by Professor Gonzales. The arrow points to a BIF fragment that contains the red-chert/grey-specular-hematite combination that is typical of BIFs. The cobble contains many smaller fragments of BIF.*

This was exciting because it meant that in-place BIF was present in the source area of the Vallecito conglomerate. But, was it still in place?? For years, I heard rumors that someone in the USGS had seen BIF in place in the San Juans, but no one could tell me where.

Finally, our new State Geologist Matt Morgan found this 1969 description by Gair and Klemic of banded iron formation in the Irving formation in the Needle Mountains: “Cross and Howe (in Cross, Ho we, Irving, and Emmons, 1905, p. 2) described a "15-foot band of more or less siliceous magnetic iron" interbedded with siliceous schists or mashed quartzite on the west side of Irving Peak, in the east-central part of the Needle Mountains.In 1966, Fred Barker of the U.S. Geological Survey (oral commun., 1968) found a bed of laminated magnetite-quartz rock at an altitude of approximately 11,000 feet on the main west ridge of Irving Peak that may be the same occurrence. These rocks are typical of an assemblage of iron-rich rocks generally known as iron-formation, although strictly speaking, this term is limited to rocks containing 15 percent or more Fe (James, 1966, p. Wl, W46-W47). In the present study of the Irving Formation, five localities containing laminated magnetic iron-formation or similar rock with somewhat less than 15 percent Fe were found in beds that range in thickness from about 4 inches to 50 feet. Because of their small size and low grade, none of these occurrences appears to have commercial potential.

REWARD—I will pay $50 to the first person to provide me with digital images of the in-place, banded iron formation in the Needle Mountains!

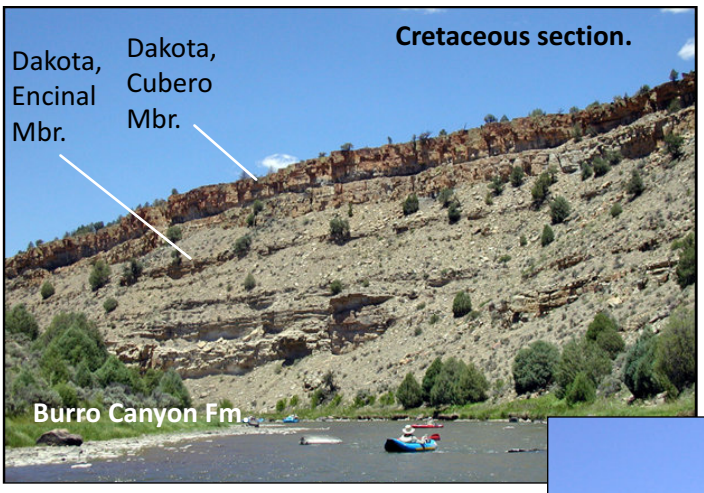
JULY Field Trip News

JULY '23

3. FCGS FLOAT TRIP ON THE CHAMA RIVER (31 MILES)

Dates: **Friday, July 21 - Sunday, July 23.**
 # Days: Paul Bauer and possibly another NMBGMR geologist, who are both among the authors of the new Chama geologic river guidebook published in 2021.
Organizer: David Schiowitz
Cost: **TBD but estimated $700-$750**
Limit: 13 participants (not including leaders and guides)

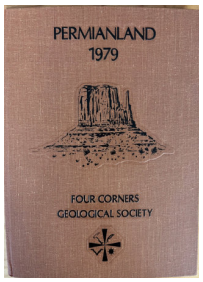
Trip Description: The Chama River, in NW New Mexico, is a tributary of the Rio Grande, flowing south from headwaters in the San Juan Mountains of Colorado to Abiquiu, then east around the Jemez volcanics into the Rio Grande rift zone. This trip runs from below the El Vado dam through a designated Wild and Scenic River section to the Big Eddy take-out above Abiquiu Reservoir. The exposed geologic section on this stretch is entirely Mesozoic, cutting down from the Cretaceous, Dakota Sandstone to the Triassic, upper Chinle Formation as we travel south. The FCGS last floated the Chama in 2004. That trip, led by members Don Owen and Chip Head (who had to drop out), focused on the exposed Cretaceous sandstones which are outcrop analogs to producing petroleum reservoirs in the nearby San Juan Basin. This trip will be led by several geologists from the New Mexico Bureau of Geology and Mineral Resources (NMBGMR), who published a new geologic river guidebook for the Chama in 2021. The guidebook can be found here: https://geoinfo.nmt.edu/publications/search/home.cfml?StartRow=1&index=geoinfo-pubs&Title=The+Rio+Chama&submit=+Find+Publications+



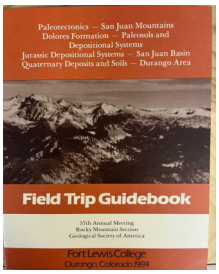
BLOW OUT BOOK SALE & CLEARANCE

We still have these Classic Books.

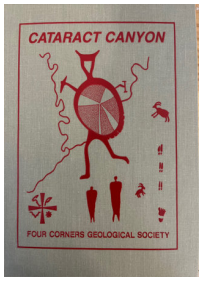
We didn't get the locker cleaned out before the snow came! You can still order these until April 15th, 2023. We hope you can add to your library before they are gone forever.



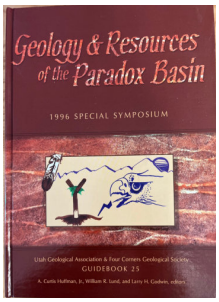
Permianland
1979
Ninth Field Conference Sept. '79
17 Technical Papers & 4-day road log from Moab, Lisbon Valley, the Needles, Monument Valley, Flagstaff, to Sedona.



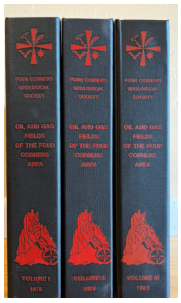
Durango Field Guide
1984
Field Trip Guidebook, GSA 37th Annual Meeting Rocky Mtn. Section
5 Technical Papers & road logs from Durango to Silverton & Telluride plus Quaternary geology of Durango area.



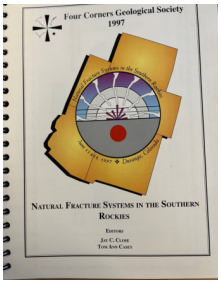
Geology of Cataract Canyon
1987
28 Technical Papers. General Overview, Structure-Tectonics, Stratigraphy, Sedimentation & Paleontology, Economic & Groundwater Geology.



Geology and Resources of the Paradox Basin
1996 Special Field Symposium
UGA Guidebook 25
33 various Technical Papers & 3-day road & river logs from Moab to Bluff to Mexican Hat along the San Juan River & back to Durango. *This is an incredible book!.*



Oil & Gas Fields of the Four Corners
1979-1983 (Vol I, II & III)
3-ring binders. General papers on various subjects from CO2 to helium to studies. Plus detailed description of almost every conventional field in the 4-corners area to 1983.



Natural Fracture Systems in the Southern Rockies
1997
SOLD OUT
28 Technical papers in a wide range of topics from theory to practical applications. Softbound.

We are closing our storage locker so these volumes will not longer be sold. Price includes shipping.
The Society will continue to sell the digital CD containing **all** of our publications ($105) and the San Juan River Guidebook ($15). Please see the website: fourcornersgeologicalsociety.org.

_____ ***Permianland : $11*** (50% off)
_____ ***Cataract Canyon: $12*** (50% off)
_____ ***Oil & Gas Fields 3-vol: $36*** (40% off)
_____ ***Durango Field Guide: $11*** (50% off)
_____ ***Paradox Basin: $42*** (35% off)
_____ ~~***Natural Fracture Systems: $16***~~ ~~(65% off)~~

_____ ***All 4 of Remaining Field Guide Volumes (not the O&G vols):*** **$61** **SPECIAL BUNDLE SALE!**

Instructions to order books: Decide what you want & email your name, address and order details to Tom Ann at: talcgeo@gmail.com or fcgeosociety@yahoo.com.

We will invoice you via our FCGS PayPal site and mail or deliver your books. Questions? Contact Tom Ann!

FALL FCGS Field Trip News

SEPTEMBER '23

4. A TOUR OF JURASSIC LAKE T'OO'DICHI: ALKALINE, SALINE WETLANDS OF THE MORRISON FORMATION IN THE FOUR CORNERS AREA

Dates: **September 22-24, 2023.**
 # Days: 3 days, 2 nights
Leaders: Dr. Christine Turner and Mr. Neil Fishman, Retired USGS
Organizers: Kim Gerhardt & others
Cost: **TBD**
Limit: 25 including leaders. To include FLC students & FCGS members.

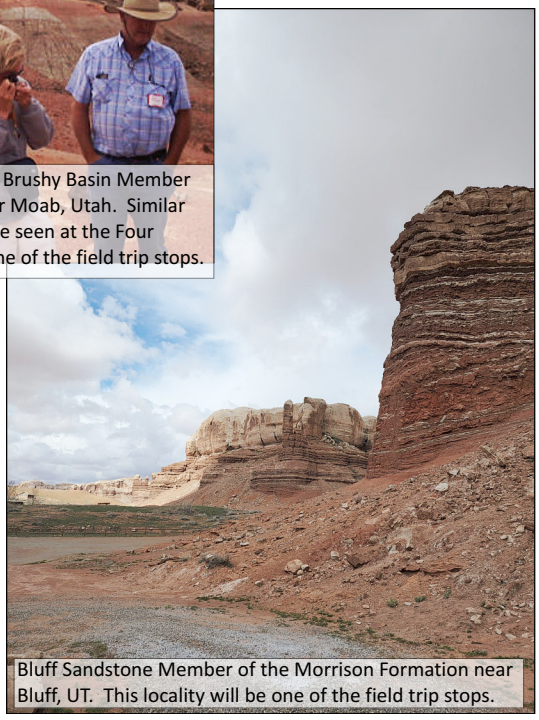
Field trip co-leaders, Neil Fishman and Christine Turner, standing on an analcime-bearing tuff at Beclabito Dome, New Mexico. This locality will be one of the field trip stops.

Trip Description: What rock formation is green, purple, orange and blue, known for dinosaur fossils and hosts uranium? The Morrison Formation! It's all around us in the Four Corners Area, but how much do we really know about the depositional systems that formed it? Join us as we travel from the interior to the margins of the oldest, largest, alkaline, saline wetland in the geologic record with retired USGS geologists Dr. Christine Turner and Neil Fishman. In their interpretation, unusual pore water chemistry related to the alteration of silicic ash from calderas to the west resulted in a diagenetically zoned distribution of zeolitic minerals in the Brushy Basin Member only found west of the Uncompahgre uplift. We will also observe and discuss the tectonic, stratigraphic and sedimentologic aspects of the entire Morrison (including the Salt Wash and Bluff Sandstone Members) as we traverse the depositional basin in the greater Four Corners region.

Analcime-bearing tuffs in the Brushy Basin Member of the Morrison Fm., Arches National Park. Similar analcimic tuffs will be seen at Beclabito Dome, New Mexico, one of the field trip stops.

Clinoptilolite-bearing tuff in the Brushy Basin Member of the Morrison Formation, near Moab, Utah. Similar clinoptilolite-bearing tuffs will be seen at the Four Corners National Monument, one of the field trip stops.

Brushy Basin Member of the Morrison Formation near Montezuma Creek, UT. This locality, another stop on the field trip, contains tuffs that are variably altered and contain one or more authigenic minerals (e.g., clinoptilolite, analcime).



Bluff Sandstone Member of the Morrison Formation near Bluff, UT. This locality will be one of the field trip stops.

February Grand Junction Geological Society Meeting
Wednesday, February 15, 2023; 7:30 PM Mountain Time; In-person and Zoom
Saccomanno Lecture Hall (Room 141 in the Wubben-Science Building), Colorado Mesa University, Grand Junction, CO
Joint meeting with the CMU Geology Students

Jordan Walker, PhD Student, Baylor University
"Stratigraphic reevaluation of Mollies Nipple, Kane County, Utah, USA to better understand the origin of alunite and jarosite cements"

Abstract:
Mollies Nipple is a butte located in Kane County, Utah and is part of Grand Staircase-Escalante National Monument (GSENM). Mollies Nipple is now of particular interest to the Mars research community because of the presence of unusual diagenetic alunite and jarosite minerals. These minerals are present in sedimentary environments on Mars and have been used to interpret the diagenetic and depositional environments as acidic and/or arid. On Earth, these minerals are present in modern acid saline lakes, fumaroles, or acid mine drainage, but not commonly as diagenetic cements. The butte was mapped as Navajo Sandstone via photogeologic mapping, but the apex is 200 m higher than the surrounding upper extent of that unit in adjacent areas and there are some lithological inconsistencies that suggest the caprock may be a different overlying formation. Correctly understanding the diagenetic and depositional history of Mollies Nipple will inform future studies on Mars and has the potential to change the paradigm of these interpreted jarosite-bearing Martian environments. Stratigraphic sections were measured in the field and samples were collected for laboratory analysis. The dominant lithofacies is a cross-bedded quartz arenite. Structureless quartz arenite to wacke with lenticular green-gray quartz wacke (ash) is also present. Jarosite cement is common in upper sections of Mollies Nipple and is present, but sparse, in lower section of Mollies Nipple. Alunite is present in the upper section of Mollies Nipple. ANOVA conducted on point count data from samples collected from Nipple and representative samples of potential formations at Mollies Nipple do not differentiate between the possible formation candidate and Navajo Sandstone. Based on distribution of lithofacies, comparison with adjacent outcrops of Temple Cap Formation, Page Sandstone, and Carmel Formation, we conclude that the caprock at Mollies Nipple is most likely the Temple Cap Formation.

Zoom link: https://coloradomesa.zoom.us/j/94594496785
Meeting ID: 945 9449 6785

GeoEvents
Compiled by Pete Modreski (pmodreski@gmail.com), USGS, Retired

Fri., Feb. 17, 2:00-3:00 p.m., Denver Museum of Nature & Science, Earth Science Colloquium, "Living large in the Neoproterozoic: Diving into snowball oceans with the funky fossil Bavlinella," by Boz Wing, CU-Boulder. In the VIP Room.

Fri.-Sun., Feb. 24-26, Gem and Mineral Show at Jefferson County Fairgrounds, sponsored by Denver Gem & Mineral Guild. Free admission!

Mapping a Sinkhole and Hazardous Coastal Areas Safely
Thursday, 22 February 2023; 3.00 pm MT; 45 minutes

When a dangerous sinkhole the size of half a tennis court suddenly appeared at a popular tourist location on the Robe coastline (Australia), the council looked to a leading provider of spatial data services, Veris, to safely capture the data needed for accurate decision-making.

In this webinar, Nicholas Davies, Client Director – Digital and Spatial at Veris, will share the considerations of capturing the data and how Veris was able to obtain a complete picture of the coast, parts of which previously would have been unmappable. He will also share how the resulting model is used by the local government and other key stakeholders to monitor changes over time and make more informed decisions about coastline protection.

Join this webinar to learn how Veris:
--Obtained high resolution 3D data of the sinkhole without putting personnel in danger,
--Captured the entire 48 hectares of coastline, including previously unmapped areas, and
--Found a safe alternative to capturing the unstable limestone cliffs along the coastline.

Can't make it? Register and we'll send you a recording.
To register, go to https://www.emesent.com/2023/02/02/webinar-capturing-a-sinkhole-and-previously-unmappable-coastal-areas/?utm_campaign=Webinar%20-%20Sinkhole%20and%20coastal%20areas&utm_medium=email&_hsmi=244393657&_hsenc=p2ANqtz--nRLpmTjk2q9n_2Yh2nY-y4qWszcHkXB8ZbuzOC5fWea6o79nHRHhog9lSrRYwNal7L5qucG74BTugAiXtXVJCXo9X6BfiPc2OzmrqxNxa-cxjIdo&utm_content=244392742&utm_source=hs_email

NEWS FROM AROUND THE REGION

AAPG Orphan, Idle, and Leaking Wells: Best Practices, Data Access, Funding Sources, and Business Opportunities
Tuesday, 21 February – Wednesday, 22 February 2023; 8:00 a.m.–5:00 p.m.
Oklahoma City, Oklahoma; In-person

This workshop will bring together industry practitioners, government and state agencies, nonprofit and academic institutions in a first of its kind event that will spark new ideas, motivate interdisciplinary and multi institutional collaboration and support the establishment of best practices for cleaning up and repurposing wells across the nation.

Outcomes
--identify the types of completions used in old wells
--share case studies, experiences, and lessons learned
--use drones, satellites and other technologies identify orphan wells
--combine historical, geological and current information to characterize orphan wells
--use new data sources and registries for decision-making
--implement best practices for cementing and maintaining well integrity
--incorporate geological information with orphan wells to improve field development plans

Strategies
--explain how orphan wells and abandoned wells play a role in optimizing recovery from the entire field
--determine suitability for geothermal, critical minerals mining, energy storage, and more
--evaluate new business opportunities such as carbon credits, blockchain smart contracts, and more
--meet and network with key people
Registration and information:
https://www.aapg.org/career/training/in-person/workshops/workshop-details/articleid/64689#program

Grand Junction Geological Society: Speakers wanted for April

The GJGS has been asked by the geology faculty at Colorado Mesa University to have some of our geological members give a 10 to 15-minute talk on their careers at our April meeting. These would not be technical talks, just a short talk on what kinds of things that you did or are doing during your career as a geologist. The idea is to give the CMU students some idea as to what geologists actually do in their working lives. It would also give all of us a chance to know you better because I would wager that most of us don't know that much about what each of us did in our job or jobs.
Please give this some serious consideration and let Bill Hood (whood@bresnan.net) or Jay Scheevel (jay@scheevel.com) know if you are willing to tell us about your professional experiences at the April meeting.

NEWS FROM AROUND THE REGION

FIELD GEAR ANNOUNCEMENT:
The Colorado School of Mines AEG Student Chapter is building a field gear equipment library. With field camp coming up at the end of this semester, we are reaching out to students, faculty, and friends for donations to the growing field gear library. We know that attending field camp is essential for students in the Geology and Geological Engineering department, and want to equip them as best as possible regardless of financial circumstances.

The CSM Student Chapter is looking for donations of basic camping gear, and some field gear, including:

Head lamps
Tents
Backpacks
Sleeping bags
Sleeping pads
Socks
Camp stoves
Coolers
Cooking fuel
Field clothes
Rain gear

The donated gear should be in operational condition, and ready for students to take to the field. We are hoping to build this library up in the next few years, allowing students to rent gear as needed for field camp. All gear donations should be coordinated with Lauren Miller, via email (laurenmiller@mines.edu) or in Berthoud 303. Please contact Lauren Miller with any questions. Monetary donations may also be made, and will be used to purchase remaining needed items, or to rent gear from the Mines Outdoor Recreation Center. Though rental rates are being negotiated, an approximately $200 donation can outfit a group of three students for 1 week sharing a cooler, tent, etc.

The hope is that the field library not only contributes to department equity and accessibility, but also aids in the growth of a greater sense of department community, and eventually helps better support all students.

CO-AIPG Annual Dinner
February 24, 2023; 6:00 PM - 10:00 PM; In-person
The Lobby, 2191 Arapahoe Street, Denver, CO 80205

Please join the Colorado Section for our Annual Dinner. We will be joined by speaker Matt Morgan, the Colorado State Geologist, and we will enjoy an evening of networking, socializing, and good company.

NEWS FROM AROUND THE REGION

There's a new sheriff in town! In late 2022, Matt Morgan assumed the position of State Geologist and Director of the Colorado Geological Survey. During his presentation, he will discuss the history of the Colorado Geological Survey from the early days of the first Territorial Geologists until the present day. He also will bring us up-to date on current projects, recent publications, and where he would like to take CGS in the future. Your feedback is welcome!

You do not need to be an AIPG member to attend this event; all guests, friends, and family are welcome!

Registration closes at noon (mountain time) on February 10, 2023.
To register or get more info, go to https://aipg-cosection.org/meet-reg1.php?mi=13871&id=6

RMS-SEPM Student Research Symposium and Scholarships

As we look forward to 2023, we are excited to shift our focus to students for the month of February. This is the time of year we begin announcing our annual scholarships and look forward to hearing students present their work at our annual Student Research Symposium. We will again be holding this event virtually to provide greater opportunity for student's outside of the Denver metro area to present. This year our event will be on Tuesday, February 28th, from 3-6 pm MT.

We invite students to submit a small abstract to help us organize order of presentations, they can apply at https://mgcp02.engage.squarespace-mail.com/r?m=63cec8bbd34c4116afb727ef&u=https%3A%2F%2Fdocs.google.com%2Fforms%2Fd%2Fe%2F1FAIpQLSdBwTAOZtAK6JrShX8la2Zuejw-iAg9Y1keIFyCBv_c2DqW4g%2Fviewform&w=5c48bea94cde7ad15323f12f&l=en-US&s=PPaxQr_5nY2Q804Zf89rBbKSJZY%3D . All presenters are awarded a cash prize! We are also making this event free to attend to help encourage students to support each other and remove any financial burden on professionals. So please, come support students!

You may register at https://us06web.zoom.us/meeting/register/tZEqcOmsrz8tEtHDEUw4p4QjKH6syCZt_mR0 or on the link above. We look forward to seeing you soon!

Students, please also consider getting ready to apply to our scholarships. We provide 3 scholarships annually and invite you to visit our website for more information : https://www.rmssepm.org/scholarships?ss_source=sscampaigns&ss_campaign_id=6387c9064b941764a6923280&ss_email_id=63cec8bbd34c4116afb727ef&ss_campaign_name=RMS-SEPM+January+Announcement&ss_campaign_sent_date=2023-01-23T17%3A50%3A12Z). Applications are due April 1, 2023.