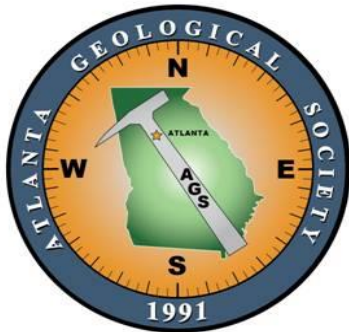
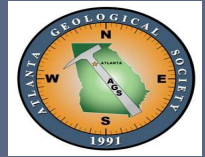


# Atlanta Geological Society Newsletter

## August 2024



### AGS: Atlanta Geological Society

#### Annual membership

- General: \$25
- Student: \$10
- Corporate: \$200
- [Click here to join](#)

**Newsletter deadline:** 15<sup>th</sup> of month  
Send articles & announcements to  
John Clarke, Editor: ice12jsc@gmail.com

### August Meeting

Join us August 27, 2024 for our AGS hybrid in-person and webcast meeting.

6:00: Pizza social at the museum  
6:45: Business meeting  
7:00: Presentation

*See page 2 for presentation details*

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### President's Message

*Pamela Gore*

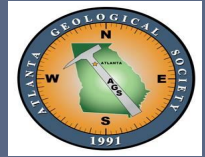
We have had a busy Summer, considering that we don't hold an in-person meeting in July. I would like to thank all of those who helped make our June Barbecue Social a success. Thanks to the event organizer, AGS Hospitality Chair and Treasurer, John Salvino, and to all those who helped make the event a success! Special thanks to Fernbank Museum of Natural History for allowing us to use their fabulous rotunda under the dinosaurs, and for showing us a movie on the Giant Screen Theater. We appreciate their employees for hosting us.

I would like to thank Dr. Aislin Reynolds, Post-Doctoral Fellow at Georgia Institute of Technology, for her July 30, 2024 Zoom presentation to AGS on thermally-induced fracturing and exfoliation at Arabia Mountain. Thanks to those who planned and led the field trip to Arabia Mountain on August 4, 2024. This includes our Fieldtrip Committee Chair, Will Dunn, assisted by Bill Witherspoon, and our field trip leaders, Aislin Reynolds, Karl Lang, and Zhigang Peng.

We also had a sad summer with the loss of two former officers of the Atlanta Geological Society. First, Robert (Rob) White, former Secretary of AGS, died July 28, 2024 at the age of 58. Then former AGS President and one of the founding members of AGS, Ben Bentkowski, died August 5, 2024 at the age of 69. We are grateful to them for their leadership and service. They will be missed. More information on their lives is elsewhere in this newsletter. Our condolences go out to their families. AGS was pleased to receive a donation in memory of Ben from Kay Wischkaemper, which will support our next two monthly meetings.

# Atlanta Geological Society Newsletter

## August 2024



### August Presentation: Along the Divide – What Shapes Our Mountains?

Bill Witherspoon, retired geoscience educator

When: August 27, 2024

6:00: Social: refreshments and snacks served

6:45: Business meeting (zoom starts)

7:00: Presentation

The meeting will be in person at the Fernbank Museum and via [zoom](#). [Click on this link](#) to join meeting via zoom.



**Speaker bio:** Dr. Bill Witherspoon is producer of the *Rock On, Mother Earth* podcast series and co-author of *Roadside Geology of Georgia*. Since the book appeared in 2013, Bill has presented more than 100 walks, talks, and workshops throughout the state. He completed his PhD at the University of Tennessee in 1981 with a study of the geological structure of the Great Smokies. Bill taught at UT Chattanooga, then investigated the structure of northeast Alaska and adjacent Canada in the Global Geology section of Shell Development Company. He became a business co-owner and software developer, then began 17 years as a geoscience educator at Fernbank Science Center, part of DeKalb County Schools. In 2007, the National Association of Geoscience

Teachers named him Georgia Outstanding Earth Science Teacher. Since retirement in 2014, Bill has studied climate science, economics, and communication at Georgia Tech and Georgia State. His next teaching project will engage several of the experts who mentored and inspired his climate studies in "Conversations on Climate," an 8-part series taught onsite in Tucker for the Senior University of Greater Atlanta, beginning January 17.

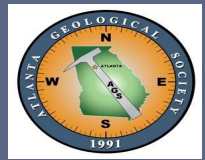
**Abstract:** Trivia question -- What connects Okefenokee Swamp, the Georgia State Capitol, the trailhead at North Carolina's Whiteside Mountain, and Terra Incognita Vineyard near Clarkesville? Answer -- the Eastern Continental Divide (ECD).

I created "Along the Divide" for a "talk & walk" this month at Terra Incognita Vineyard. The program traces the ECD from the sandhills of Florida through Atlanta to the peaks of North Carolina. In northeast Georgia, the focus is on the stream capture event that led to Tallulah Gorge and a signature bend in the GA-SC boundary. At Whiteside, the program considers a travel writer's claim that this is "the world's oldest mountain" and argues that the opposite is closer to the truth. This leads into the recent excitement over possible Neogene uplift in the Southern Appalachians as well as pushback in a 2022 review article by Virginia Tech researchers.

**Sponsor of this month's meeting—** Kay Wischkaemper, retired EPD geologist in memory of Ben Bentkowski.

# Atlanta Geological Society Newsletter

## August 2024



### AGS Annual BBQ Social—Dining under the Dinosaurs

The annual BBQ social was held on June 25, 2024, at Fernbank Museum of Natural History with more than 100 in attendance. This may be the largest crowd to ever attend an AGS sponsored event. Under the watchful eye of Mr. T-rex and friends, participants dined on delicious BBQ from Shane's Rib Shack. Prior to the meal, participants viewed poster exhibits from AGS members and from two winners of the annual Nils Thomson Award—given to the best projects from Georgia's State Science Fair. A mini geo-bookfair provided free literature and maps. AGS t-shirts and apparel were distributed to those who bought online and additional shirts were sold.



While dining, a variety of door prizes were given out including a grand prize of a nice rock hammer, tickets to a Braves game, T-shirts from AGS and other organizations, and a variety of company SWAG. After dinner, we were treated to a 3D big screen presentation titled, "Into America's Wild."



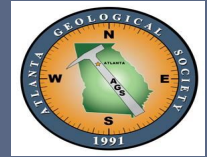
Thanks to sponsors -- GeoLogic, the City of Atlanta, and AEI Consultants. We appreciate the assistance of all who helped checking in members and guests, taking dues, setting up/taking down tables and chairs, assisting with door prize tickets, serving dinner and/or drinks and cleaning up the dining room. Special thanks to hospitality



*Photos: clockwise from top right, dining under the dinosaurs; getting 3d glasses ready for the show; President Pam Gore welcomes attendees; Chef Salvino serves BBQ with members of the Salvino family; attendees viewing posters.*

chair and Treasurer John Salvino and his family who organized and facilitated the event and arranged for our delicious meal. Thanks to Burton Dixon and Nate Burnside for acting as masters of ceremony and handing out door prizes.





### AGS mourns loss of two long time members

*John Salvino, AGS Treasurer*

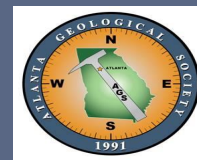
AGS has had a rough couple of weeks, with the passing of **Rob White P. G.**, former AGS secretary (2009? – 2022), and **Ben Bentkowski P. G.**, AGS founding member and past president (2016-2020), both of whom will be dearly missed.

Rob passed away on July 28, 2024, after complications with his third kidney transplant. Rob was already the longtime AGS Secretary when we met 14 years ago. Back then you could count on him to get you that professional development certificate, if you needed it like I did for an out of state continuing education requirement. But that was not his only contribution. You may remember Rob in the back row at meetings usually with one of his service dogs, or from our annual socials. I remember him from the pre-meeting speaker dinners, when the late Nils Thompson would gather the executives at a nearby restaurant for a beer to get us caught up on AGS business. Rob was always comfortable bringing his characteristic sense of humor and backwoods Virginia perspective regarding politics, geology and consulting. In the years since he stepped back from being an active AGS member, I would check in with him to talk geology, etc. whenever I came across his name in an old EPD report. When I heard he got his new kidney earlier this year, I thought things were looking up for him. I should have known better. His family let us know that donations in his name can be made to the [National Kidney Foundation](#).



Nothing tells you more about a person than the words shared by family and friends once they have left us. This week after Ben passed away on August 5, 2024, after a short illness and complications from his battle with cancer, Ben's family and friends shared stories about him as a father, husband, neighbor and professional geologist with EPA. Most of us knew Ben as a founding AGS member and the longtime AGS newsletter editor. Others knew him as the president that stepped in to fill the vacancy in 2016, when the prior president moved out of state. That was Ben, always willing to contribute. His colleagues at EPA thought the world about him as a geologist, mentor, Superfund site project manager and technical course instructor. For the most part, I knew him from AGS meetings, field trips and workshops, where he would occasionally wear a favorite geology shirt that said, "I

Pick Up Rocks and Know Stuff". I'm sure I am not the only one Ben checked in with to talk about AGS, rocks (like the boudin at Kennesaw Mountain) or his professional geologist workshop lesson on ethics. The best part about Ben was that even when we didn't see eye to eye on a subject, whether it was donations, sponsorships or how to spend AGS money, Ben showed his characteristic kindness, patience and personal generosity to hear me out and respond with innovative solutions to any of our society's issues. During our recent June barbecue social, Ben was excited to share his poster presentation about his recent Alaska trip, that's when I promised him that sometime soon, we would compare notes from my time there in the 1990s. Ben's family asked that donations can be made in his name to [Fernbank Museum of Natural History](#)



### Ben's colleagues offered some reflections on his life

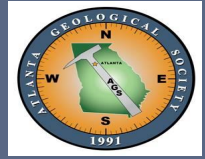
**Ralph Howard:** Ben's passing came as a shock to me. I'm taking it as a reminder that our connections to one another, professionally, socially and personally, to our friends and colleagues, are more central to our lives than we usually realize. I first met Ben when he was with a consulting firm working for a private party dealing with us (EPA) on a cleanup project. I recall thinking, "if only there were more like him" working for those companies, which were typically in conflict with EPA. Later after he joined EPA, during 2014-16, he was the technical reviewer providing me excellent hydrogeology review on one of my sites. I recall feeling quite lucky that Ben was assigned to the project. We spoke many times about a range of topics; his knowledge of hydrogeology, groundwater cleanup, and related areas was amazing. Outside of work, I found that he was not only a well-rounded geologist, but also a fellow rockhound (or "rockhead" as we said), and we exchanged unusual rock samples many times. Ben not only donated rock and minerals to children; he even arranged to create a "replacement collection" of minerals for a child whose town was devastated in the Moore, OK tornado in 2013. Several of us contributed, but Ben made it happen, which was typical of him. Finally, in looking through old emails, I was reminded that Ben led AGS well during his tenure, including the difficult Covid period. After retirement, I'd only seen Ben at AGS meeting, something I'll always regret. Though I only knew him from work and AGS, I knew him well enough to know that Ben had a great love of our environment, the Earth as our home, and was a wise, steady man, a great friend to have. He will be missed.

**Tim Frederick:** It is with a heavy heart and deep sadness that we share the passing of esteemed Professional Geologist and good friend to many, James "Ben" Bentkowski. Ben was a founding member of the Atlanta Geologic Society and its former President. Ben earned his Bachelor's degree in Geology from Florida Atlantic University and went on to obtain a Master's degree in Geology from Oklahoma State University.

Ben had an illustrious career in the private and public sectors. Ben was most recently the Senior Hydrogeologist in EPA Region 4's Superfund & Emergency Management Division. His significant contributions in support of the Superfund Program have had a tremendous and direct impact on the health and well-being of many communities across the Southeast. Ben's dedication and expertise were nationally recognized by EPA with numerous awards and accolades. Ben was appointed to the Georgia State Board of Registered Geologists by Governor Nathan Deal in 2014. He served as a board member until 2020. His expertise often made him the go-to geologist for news organizations reporting on geologic issues, such as [this article](#) printed in Smithsonian Magazine about Stone Mountain.

Ben was always ready and available to talk geology with anyone who asked. He loved sharing his knowledge and considerable expertise beyond the EPA, as he presented on geologic topics to groups as varied as the Taiwan EPA, university students, scout troops, and elementary school students. At his memorial service, EPA employees shared with one another stories of the many instances in which Ben had provided critical technical assistance to their work and improved the outcomes of their projects. Ben had also, over the years, given rocks, minerals, and fossils to the children of many EPA employees. The rocks are prized possessions of the children (many of whom are now adults) and kickstarted many a rock collection.

Ben's love for being a Professional Geologist was evident in his work and in his life. He found immense intellectual stimulation and satisfaction in helping others within and outside of EPA. He balanced his professional dedication with spending time with his family and pursuing hobbies, many of which were geology related. Ben is remembered not just for being an excellent scientist, but also for his warmth and great kindness. Ben was a great person, teacher, mentor, and friend to all whom he met. He will be greatly missed.



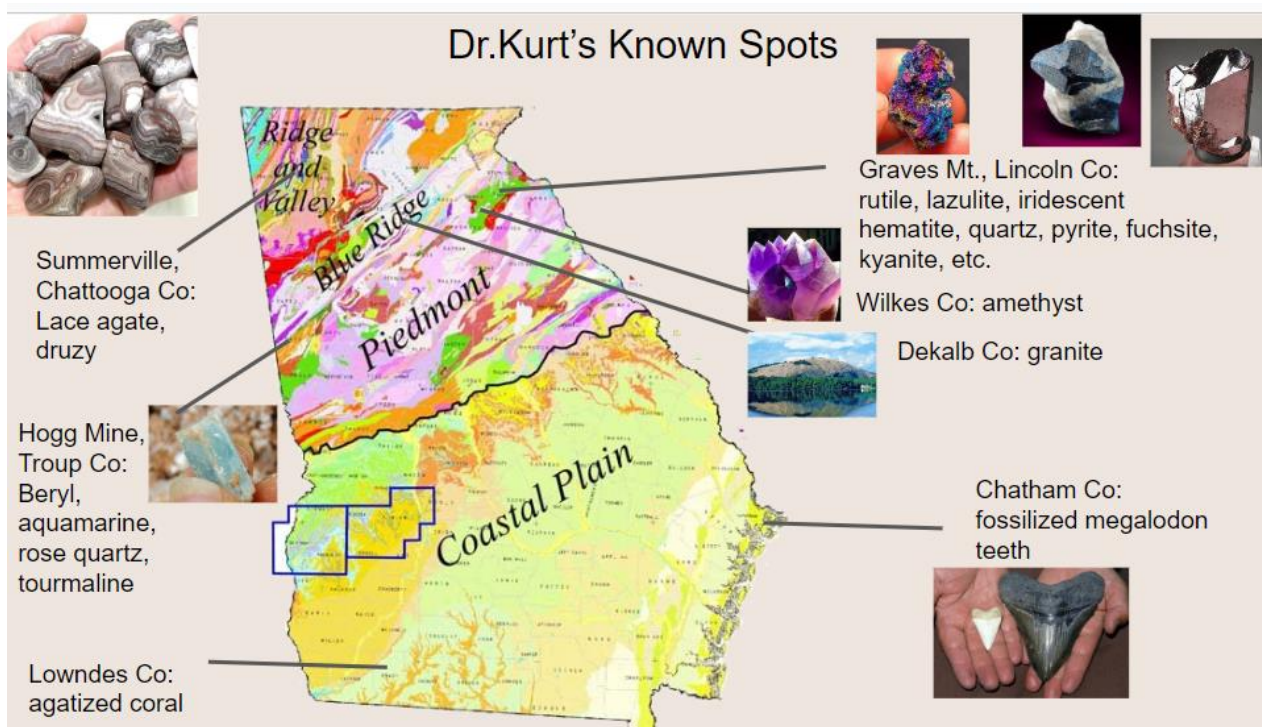
### Teacher Mini-Grant Report—Crystal Caverns Rockhound Geology and Lapidary Club

David Kurt, Ph.D., Visual Arts, Senior Academy, Charles R. Drew Charter School

The [Crystal Caverns Rockhound Geology and Lapidary club](#) was established in 2024 to teach students about rocks and minerals and how to make jewelry. Funds from the Atlanta Geological Society-Georgia Mineral Society [teacher grant program](#) supported this initiative. A series of PowerPoint presentations and online assignments provided students an opportunity to expand their geologic knowledge.

Topics included:

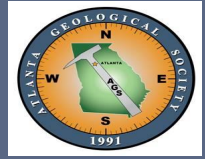
- \*Georgia geology and rockhounding locations
- \*Making and using lapidary equipment
- \*Identifying rocks and minerals
- \*Working with stones for jewelry
- \*Crystalopedia—an index of the properties of minerals, some of which are used to make jewelry



Slide from lecture titled "Georgia geology and rockhounding locations."







### AGS Field Trip Report, August 4 2024: Exfoliation Event Field Near Arabia Mountain

Bill Witherspoon

In the year following the AGS July 30, 2023 field trip to investigate the aftermath of a huge July 17 exfoliation event, its site near Arabia Mountain has become host to a study on exfoliation involving geoscientists from Georgia Tech, USGS and UNC-Charlotte. To bring AGS members up to date, AGS member and Ga Tech postdoc Aislin Reynolds gave a July 30 Zoom presentation followed by an August 4 field trip, assisted by her advisor Karl Lang and Tech seismologist Zhigang Peng.

A group of 13 (fig. 1) walked the mile to the site near Arabia Lake and began examining the borehole instrumentation, some of which California-based USGS researcher Brian Collins provided. As mentioned in this newsletter a year ago, Brian and colleagues published research in 2018 following up on a similar August 2014 event near Twain Harte Lake in the Sierra Nevada. He offered to collaborate and provide equipment after hearing Aislin's presentation about the Georgia event at a conference in Austria.

The site is loaded with sensors that will be active at the site at least through this month:

1. GEOKON Model 4300 Vibrating Wire Borehole Stressmeters and
2. GEOKON Model 8940 GeoNet Dataloggers
3. GEOKON Model 4422 Monument crackmeter
4. SmartSolo Node Seismic Data Collectors (Built-In Geophone)
5. Brinno MAC200 DN Motion Activated Cameras
6. Onset HOBO Temperature/Relative Humidity Data Loggers
7. Lascar Electronics EL-USB EasyLog Dataloggers with Thermister Probes

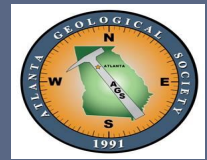
USGS provided the GEOKON equipment, and Georgia Tech supplied the remainder, including the Seismic Data collectors that Zhigang brought into the project. Some seismometers were buried, as is typical, in soil. But since there is no soil on the study site itself, those had to be placed several hundred feet from the area of interest. To mount others on rock within the site, a special part had to be custom -manufactured at Tech's Montgomery Machining Mall.

The researchers have also conducted multiple flyovers with UAV (drone) – mounted cameras, both for photography and infrared imaging. The latter measure thermal inertia, which correlates to bulk density, in



Figure 1-Attendees pose in front of feature "y" that formed after the July 17 event but before the July 30, 2023 field trip. From left, Zhigang Peng, Jacq Marie Jack, Dan Schwartzberg, Zijia Huang, Scott Harris, Donna Morehead, Hartford Hight, Galo Velasco-Jackson, Bill Witherspoon, John Salvino, Aislin Reynolds, and Karl Lang. Photo by AGS field trip chair Will Dunn.





turn related to the degree of weathering of the rock. This is done by flying once in the coolest part of the day and again at the hottest and taking the difference.



*Figure 2-borehole near the center of the lens of rock that detached around June 14, 2024. The ledge visible in the upper right portion of the hole, about 5 inches down, is the separation surface, and shows that the lens moved very slightly (and counterintuitively) opposite to the surface slope."*

**Documenting a new popup around June 14, 2024--**While drilling a new borehole on June 14, researchers were able to capture [this video](#) of popup activity at a new location just to the northwest of the 2013 fractures. Examination of seismometer and camera data were able to document the full development of a feature over a few very hot days preceding and following that date. It is a lens-shaped body about 15 feet in diameter and about five inches thick at the center. Karl invited us to view and feel the fracture inside an older borehole near the center of this lens (fig. 2) The hole reveals an offset of a few millimeters on the fracture. Karl noted the offset is not downslope as might have been expected.

Karl mentioned that he initially placed similar equipment astride a long crack known to have activated in 2023 (based on exuded white dust; this was feature "G" pictured on p. 6 of last year's August AGS newsletter). But Brian advised the Tech team to measure instead at the tip of a crack that might be likely to continue propagating.

Now, on the laptop display, Aislin and Karl showed the most recent few days of data that confirm what Aislin had shown in her talk: stress rises and falls in strong relationship with temperature variations, both with time of day and depth.

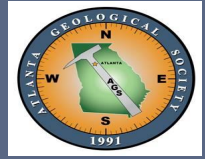
**Observing borehole data collection--**The group followed Aislin to a spot within the 2023 fracture area. There she had connected a laptop computer to the data logger, in turn attached to borehole stress meter (fig 3). Each borehole contains 4 stress meters at different depths, each with a temperature sensor. Brian Collins of USGS helped and instructed Aislin and Karl on installing this instrumentation during a site visit.



*Figure 3-Aislin displays one of the stressmeters from the control borehole.*

### **Solar heat connects preexisting cracks -> explosion?**

Karl noted that the maximum stress that can be calculated or measured from solar heating is around one or two megapascals, far short of the 10 megapascals required to fracture intact rock. If explosive exfoliation events seem to coincide with a series of hot days, one explanation could be the linking up of pre-existing cracks. Karl said their collaborator on the project, Missy Eppes at UNC-Charlotte, has written about this concept, contending that it happens when rocks, weakened by weathering, experience temperatures elevated beyond their previous "experience." Karl was initially skeptical, but has become comfortable with



the idea that "When you heat the rock... you have really high stresses right at the tip of those small fractures and you're linking them together...What ... solidified that idea in my mind is that when we were out here listening to one of these events happen, it sounds like ripping the painters' tape off of a painted wall ...you can hear the acceleration. And I think what you're actually hearing is the linking up of all of those small fractures all at once. And it's a feedback process that ends up concentrating a lot of stress onto one single fracture that then gives the pop at the end."

**Quarrying and older popups--**Because solar heating seems to have relatively shallow penetration, Karl thinks an additional mechanism is necessary to explain some older tent structures that have elevated slabs much thicker than a few inches. He led some of us down slope past the south edge of the area of the 2023 event, to examine such a structure. More classic exfoliation joints, those that the quarry industry has used in their "raising a ledge" technique, could be the surface of failure. Removal of overburden during quarrying could provide the trigger.

Scott Harris shared his observations that there are two lithologies in the Arabia Mountain Nature Preserve, a metapelite and, contorted in with it, a metafelsite. He associates the latter with the locations quarry operators have preferred, as well as the popups under investigation. In thin section, he has observed that the metapelite is sericitized. The metafelsite contains little clay. He hypothesized that the larger grain size and greater strength of the felsic rock allows stress to build up to the point of explosive fracturing.



Figure 4 Karl explains the temperature monitoring setup along the trail back to the Nature Center.

**Using a quarried "cliff" for temperature monitoring--**Halfway back along the path to the parking area, we stopped at the location that the researchers use to record rock temperatures at depth across day-night cycles. It a vertical joint where quarry operators have removed enough rock from the west side to create a mini-cliff more than two meters high. The tech researchers drilled horizontal holes at 2, 15, 60, 125, and 250 centimeters below the top edge of the joint (fig. 4) and installed relatively inexpensive thermocouples, which, Karl said, have worked great. They chose this site and method because of the difficulty of drilling multiple holes to such depths in a horizontal surface. The two deepest holes are far enough below the upper surface to avoid its solar heating effects. Together, they allow subtracting out

effects of heating of the joint wall from the side. To establish a minimum and maximum rock surface temperature, the upper rock surface also has two aluminum plates, one black and one white, on the surface of the rock to essentially measure a maximum and minimum temperature, since the color of the rock surface is quite variable.

**Gratitude--**As the trip ended, I reflected on the amazing progress the researchers have made since last year's AGS visit. We are indebted to Ranger Robby Astrove and the other staff at Arabia Mountain for bringing the July 17 event to geoscientists' attention and for DeKalb County Parks and Recreation's wholehearted support of the research team's access to the site.





### More on Scottish Geology

Jim Renner

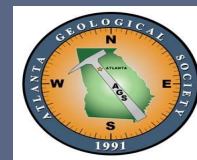
I very much enjoyed the June newsletter article by Rob McDowell about the Georgia State University undergraduate trip to Scotland. Every geologist should have a chance to visit the cradle of our science. Of course, even a non-geologist would be captivated by the stunning scenery.

In June 1993 I traveled through the islands and highlands of Scotland's northwest. I was not seeking out specific geologic points of interest, but fascinating rocks are everywhere. I had my sketchbook with me and offer a few highlights here.

*Artwork: Top, Glen Sannox, a glacier-carved U-shaped valley, extends north from the saddle between The Goatfell and Cir Mhór, Isle of Arran. Middle: Red granite is exposed at low tide in Red Bay, Fionnphort, Isle of Mull. Bottom: Loch Coir a Ghrunnda sits in a glacial cirque beneath Sgurr Alastair and Sgurr Dubh Mor, the Black Cuillins, Isle of Skye.*







### Show Us your AGS T-Shirt—Geology of the Tour de France

*John Clarke, AGS Newsletter Editor*

As I watched the Tour de France from my air-conditioned room in July, I marveled at the beautiful scenery and numerous mountains the riders had to climb. I wondered about the diversity of geologic settings the riders crossed during their 21-day journey that included the Pyrenees and Alps through Italy and France. To my dismay, none of the riders chose to wear an AGS T-shirt rather than the yellow leader jersey.

A web search revealed that there is a 2-minute geology segment on the race that is available on United Kingdom and Netherlands television. The following is excerpted from an [online article in Eos](#) by [Grace van Deelen](#), 24 May 2024.

The Geo-Sports clips feature Utrecht University geologist [Douwe van Hinsbergen](#) and Utrecht University Earth scientist [Marjolein Naudé](#) presenting the geologic history surrounding the routes. In 2023, the subjects covered by Geo-Sports varied widely, ranging from fossils found on the banks of the Lot River to volcanic materials used to build the striking cathedral of Notre Dame de l'Assomption in Clermont-Ferrand. This year, the team has created clips about the earthquake history of the Italian Apennine Mountains and the ways that geology influenced wine culture in the Burgundy region of France, among other topics. To see one of the broadcasts [click here](#).

Along with the broadcasts, Geo-Sports produces blogs written by geoscientists from around the world. "We try to make it a completely open platform for everybody to share their knowledge," van Hinsbergen said. The Geo-Sports team also plans to work with secondary school teachers to adapt some of their materials for educational purposes, he said.

Creating clips for cycling fans requires a different approach to communication than the one van Hinsbergen normally takes. Viewers pay attention to the race broadcast because they're interested in cycling, not necessarily in geology, van Hinsbergen said. Because of that, the content needs to be not only accurate and clear but highly interesting, uplifting, and fun, he explained.

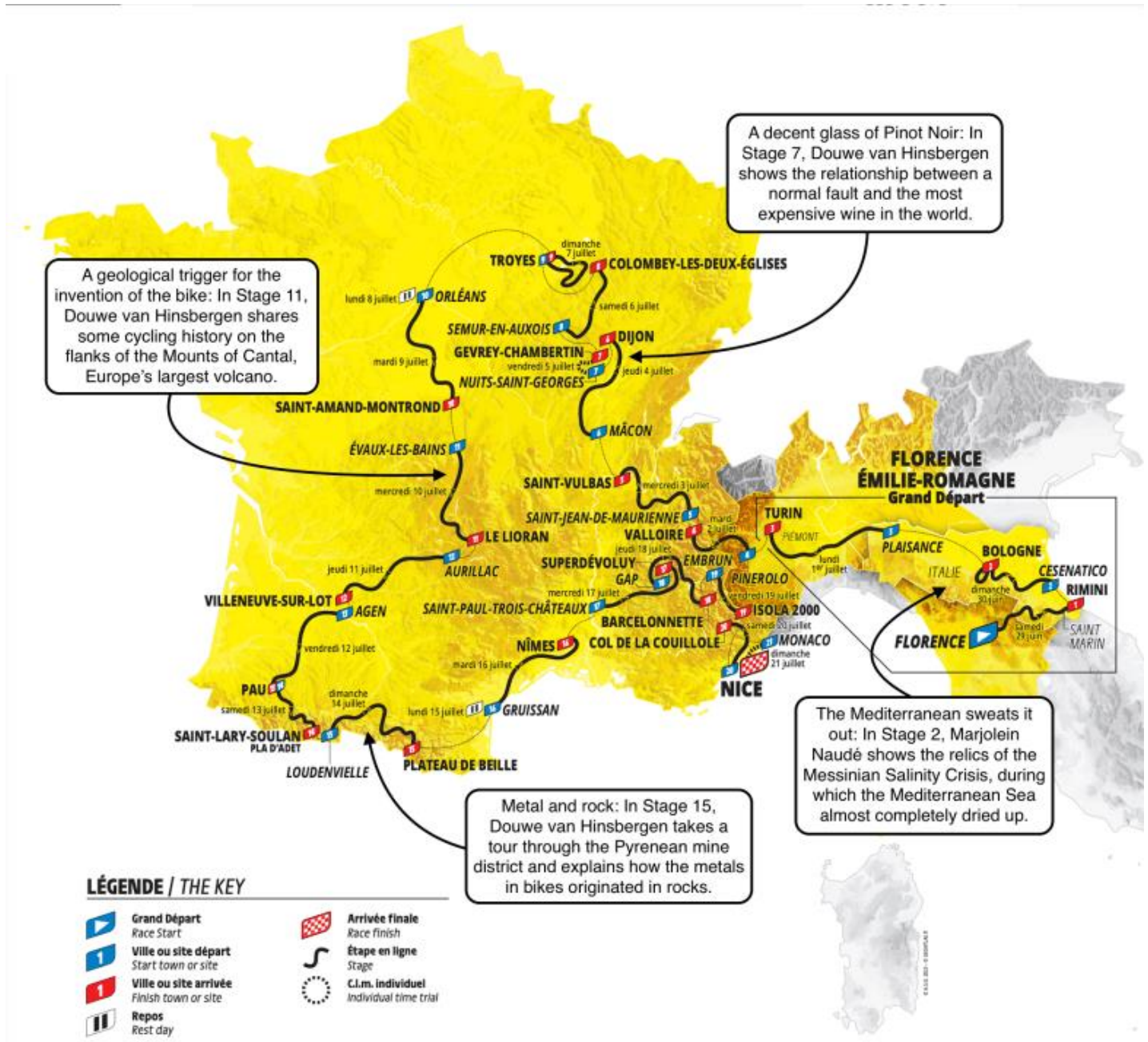
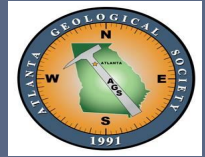
For those reasons, van Hinsbergen and the team focus the videos on highly visible, physical examples of geological processes, said [Mark Carpenter](#), a filmmaker, geoscience educator, and the team's producer and director.

"It requires a unique amount of patience to construct something which is articulate and sufficiently specific to tell a story," Carpenter said. "In a 2-minute clip, it's all got to be at the right pitch." As director, he watches carefully for moments that might exceed the public's understanding or interest and guides the presenter back on track.

The team's appreciation for cycling lends them an advantage, too: They're able to relate the geology of each tour stage to how the cyclists might perform. "What [the audience] is tuning in for is someone who's a cross between an interesting science journalist and someone who has a feel for bike racing," Carpenter said. "That's what makes us unique."

# Atlanta Geological Society Newsletter

## August 2024



This year, the Geo-Sports broadcasts covered 9 of the Tour de France's 21 stages. Credit: Amaury Sport Organisation, Douwe van Hinsbergen, Grace van Deelen



### Siccar Point, A Poem in Memory of James Ben Bentkowski

Yen Bentkowski

*My eyes encountered a feast  
Of beautiful illustrations  
35 miles east  
of Edinburgh.  
Among the high cliffs  
of the Berwickshire Coast  
lies an unconformable treasure trove.*

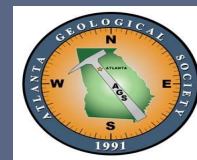


*Rising out from the North Sea  
Tilted, vertical layers of greywacke  
Formed in the long lost Lapetus Ocean Floor  
435 million years before.  
Meets  
370-million-year-old  
Horizontal, Old Red Sandstone  
For a deep time  
tango.*

*My mind grew giddy  
In Reverence  
Like Hutton and Playfair  
As I stare,  
deep into the abyss of time  
With marvel and wonder*

*At the antiquity  
of planet earth  
and my soul ...  
erupts  
at geological speed  
towards the homecoming  
of my  
unfolding,  
thunderous,  
beautiful life.*





### Events Calendar

**August 15, 2024, 6pm** Atlanta Geological Society executive committee meeting via zoom.

**August 24, 2024 10am-12pm:** AGS PG Workshop—Topic: Karst. Speaker: Steve Stokowski. Zoom only presentation. To join session [click here](#).

**August 27, 2024, 6pm:** Atlanta Geological Society Monthly Meeting. Speaker: Bill Witherspoon, retired geoscience educator. Topic: Along the divide—what shapes our mountains?

**September 21, 2024 10am-12pm:** AGS PG Workshop—Topic: Engineering Geology. Speaker: Ben Black. Zoom only presentation. To join session [click here](#).

**September 27, 2024,** Fiber Optic Distributed Sensing as a Window on Subsurface Flow, 2024 Darcy Lecture by Dr. Matt Becker, Virtual

**October 3, 2024, 6pm** Atlanta Geological Society executive committee meeting via zoom.

**October 4-6, 8am-6pm:** Graves Mountain Open House. For more information [click here](#)

**October 26, 2024 10am-12pm:** AGS PG Workshop—Topic: Geophysics. Speaker: TBD. Zoom only presentation. To join session [click here](#).

**January 15, 2025, 6pm** Atlanta Geological Society executive committee meeting via zoom.

**January 25, 2025 10am-12pm:** AGS PG Workshop—Topic: Economic Geology. Speaker: Steve Stokowski. Zoom only presentation. To join session [click here](#).

### Fernbank Museum Events

#### Upcoming Events

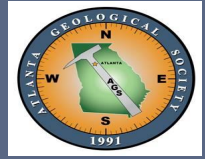
- Fernbank... but Later: Fossil Friday, August 30, 6:00 – 9:00 PM
- Fernbank Forestry Day, September 21, 10:00 AM – 1:00 PM
- Fernbank... but Later: Stellar Science, September 27, 6:00 – 9:00 PM
- Armored Animals Dat, October 19, 10:00 AM – 1:00 PM
- Evening Hike, October 23, 6:30 – 8:30 PM
- Dinosaur Trick-or-Treat, October 26, 10:00 AM – 1:00 PM

#### Exhibits

- **A Mirror Maze: Numbers in Nature (June 8 – September 9)** This interactive and immersive exhibit features a life-size mirror maze, that exposes the mathematical patterns that abound in the natural world.
- **Forest Forms (June 29-September 29)** Walk alongside 18 larger-than-life metal sculptures of flowers and animals in this artistic outdoor exhibit.
- **Golden Opportunity: Botanical Illustration (Coming soon! August 31 – January 1)** Discover the world of yellow plants and pigments in this special artistic exhibit.
- **Armored Animals (Coming soon! October 5 – January 5)** Dive into the history of animals connected by their use of armor.

# Atlanta Geological Society Newsletter

## August 2024



Fernbank's Giant Screen Theater is OPEN daily. Now Playing

- **Now Playing**
  - T. Rex 3D
  - Superhuman Body: World of Medical Marvels 3D
- **Coming Soon**
  - Cities of the Future (opening August 30)

### Tellus Science Museum Events

**August 17, 2024, 10am:** Fossil Workshop for ages 8+. For more information [click here](#).

**August 17, 2024, 1pm:** Fossils of Georgia with Tellus Curator Ryan Roney. For more information [click here](#).

**August 24, 2024, 10am-430pm:** Science in space with retired NASA astronaut Col. Terry Virts and retired NASA food scientist Dr. Vickie Kloeris. For more information [click here](#).

### GeoPorn for August: Zebra Schist, Cape Borda, Kangaroo Island, Australia



These outcrops of tightly folded, thinly bedded schist known as zebra schists due to their bands of colors, are found at Kangaroo Island, Australia. A 400-meter section of this coastline has been designated as a "Geological Monument" by the Geological Society of Australia.

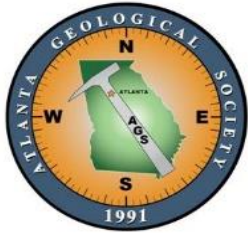
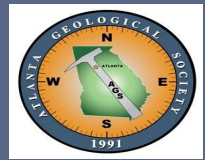
The zebra schist was formed by deformation of flat-lying marine sediments of Cambrian age that were stressed by a continental collision over 500 million years ago.

The "zebra stripes" consist of quartz rich (white) and biotite rich (dark) layering.

[Source](#)

# Atlanta Geological Society Newsletter

## August 2024



### AGS Annual membership

- General: \$25
- Student: \$10
- Corporate: \$200
- [Click here to join](#)

### AGS Officers

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### Our Corporate Sponsors



### AGS Committees and Activities

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