Bulletin

of the Eastern Section of the National Association of Geoscience Teachers

Volume 74, Issue 1: Winter 2024

Views of McAfee Knob and Dragon's Tooth from Tinker Cliffs, 1/22/24

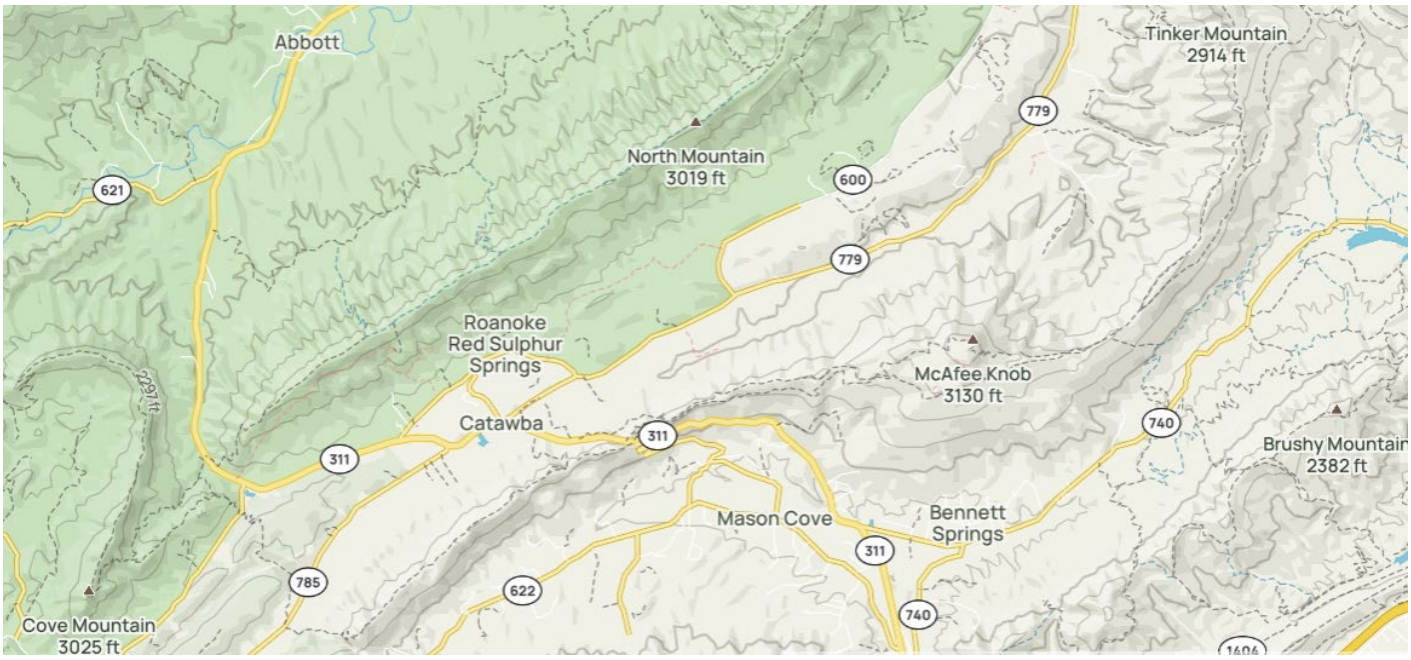
Geologic Gems on Virginia's Valley and Ridge Triple Crown

by Wendy Grimshaw
Pulaski County Public Schools, Virginia

The Appalachian Mountains just west of Roanoke, Virginia, were formed between 250 and 450 million years ago during the Taconic and Alleghenian Orogenies. Their summits offer majestic views from several venerable locations. Hiking three of these vistas, locally known as the Triple Crown, yields many opportunities for geologic study. Traversing all three peaks—Dragon's Tooth, McAfee Knob, and Tinker Cliffs--makes for a truly elevated experience.

The arc of the Triple Crown spans a fourteen-mile moderate-to-difficult hike on the Appalachian Trail between Cove Mountain to the south and Tinker Mountain to the north. Atop Cove Mountain, is Dragon's Tooth, elevation 2,842 feet. The peak's namesake, a grand tooth-like thirty-five-foot Tuscarora quartzite rock monolith, prominently displays the metamorphosed sandstones. Of Silurian age, the tooth is one of several 433 to 419 million year old structures that adorn the summit. From this spire, views of the neighboring summits of McAfee Knob and Tinker Cliffs, flanking the Catawba Valley, are regnant.

Northbound from Dragon's Tooth about three miles, the Appalachian Trail intersects Virginia Rt. 311. At this juncture, the crown really shines, with a trove of geologic treasures on full display. At the base of the Martinsburg Formation in roadcuts on Rt. 311, abundant fragments of the trilobites *Cryptolithus* can be found. Adjacent to this



intersection, outcrops yield small articulate *Rafinesquina planulata* brachiopod fossils, also from the Martinsburg Formation, which formed during the Late Ordovician time period.
On the McAfee Knob side of Rt. 311, the parallel fire road was built on an unconformity. Separating the deeper water deposits of the Maysville aged Martinsburg Shale formation from the near-shore "Keefer" Tuscarora Sandstone deposits, this unconformity is hard to miss. Absent between them are the Late Ordovician Hirnantian and Richmondian age rocks.

Another four-mile trek to the north leads through the Late Ordovician Martinsburg and conglomerates of the Tuscarora to the summit of Catawba Mountain, McAfee Knob. At an elevation of 3,197 feet, this peak is renowned as the crown jewel—the most photographed spot on the entire Appalachian Trail. The 270-degree panoramic views from the Silurian Tuscarora Sandstone ledge atop McAfee Knob, especially at sunrise, are indeed regal in any season.

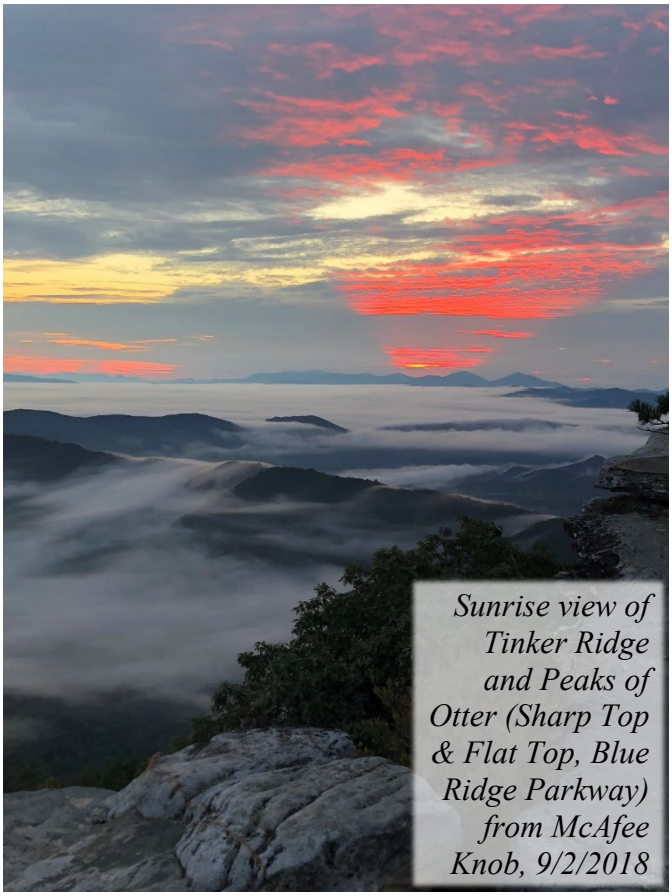
Continuing northbound from McAfee Knob just shy of six miles completes the Triple Crown arc. At the summit of Tinker Mountain, with a 2,980-foot elevation, are the impressive Tuscarora quartzite Tinker Cliffs. From this vantage point, expansive views southward, overlooking Catawba Valley and including both McAfee Knob and Dragon's Tooth, are especially magnificent.


Along Tinker Cliffs, 1/22/24

Without a doubt, observing the geologic gems embedded along the ridges, peaks and valleys of the Triple Crown provides a unique opportunity for any hike-inclined geologist. The hike's entirety requires some agility, and pre-planning is recommended. There are plenty of access points to choose from, all in close proximity to Roanoke, and the journey is well worth the effort.

Unconformity at Rt. 311/AT Intersection, 1/27/24

Brachiopods, Rt. 311 Outcrop, 1/17/24



Sunrise view of Tinker Ridge and Peaks of Otter (Sharp Top & Flat Top, Blue Ridge Parkway) from McAfee Knob, 9/2/2018

Appalachian Trail Through Hiker at McAfee Knob's Iconic Ledge, 3/23/21

Sunrise view of Tinker Mountain from McAfee Knob, 9/2/2018

Developing and Writing NSF Proposals:
A Virtual Workshop for 2YC Geoscience Faculty

June 25, June 27, and July 8-12, 2024; pre- & post-workshop activities.
Application deadline: Friday, March 1, 2024
Workshop website:
https://sites.google.com/highline.edu/building-capacity/

- Are you interested in writing a grant proposal for a STEM education project?
- Do you want to learn more about NSF grant opportunities that are suitable for two-year colleges (2YCs) as the lead institution?
- Would you like support in developing, writing, and submitting an NSF proposal?
- Are you interested in expanding your professional network and finding collaborators for your ideas?

Whether you are a first-time proposal writer or have been involved with successfully-funded proposals in the past, we encourage you to apply for this workshop.

This workshop will provide support for full-time 2YC faculty to find collaborators and develop and write NSF grant proposals. Apply on your own or apply with colleagues as a team. Each team member must submit their own application. Successful applicants will be expected to take a leadership role in development of their proposal, submission of the proposal to NSF, and if the proposal is funded, implementation of the project.

The workshop will provide a space for 2YC faculty to build a community of peer collaborators for single and multi-institutional grants, conference proposals, and planning grants. Post-workshop activities include mentoring, writing consultations, and webinars to assist in finalizing their proposal and submitting it to NSF.

The workshop has two parts. Part 1 will occur on June 25 and June 27 and will focus on the initial phase of the proposal development process with background on NSF programs, examples by 2YC grant recipients, and an opportunity to identify potential project collaborators. Part 2 will span five days from July 8-12 taking participants through the actual process of proposal development, including time for writing, reflection, feedback, and discussion, ending in a rough draft of a grant application. The workshop also includes pre- and post-workshop activities. For details, see the workshop schedule linked on the website: https://sites.google.com/highline.edu/building-capacity/

Dates: June 25 & 27; July 8-12 (4 hours/day on Zoom), pre-& post-workshop activities

12PM - 4PM (ET) plus an hour/workshop day of additional writing/work.

Participants: Full-time 2YC geoscience faculty; apply as an individual or as part of a team that includes at least one geoscientist and may include faculty from other disciplines. We anticipate that proposal teams will typically be two or three 2YC faculty members. Depending on the nature of the proposal, a team might consist of all geoscience faculty members or a geoscientist and 2YC faculty members from other disciplines (e.g., an S-STEM proposal). A team might include a 4YC faculty member (e.g., a proposal focused on 2YC-4YC transfer).

Stipends: Participants who complete the 7-day workshop and the associated proposal draft will receive a stipend of $2,000. Those who complete the post-workshop activities and submit all components of a complete NSF proposal by November 8, 2024, will receive an additional $1,000.

Application deadline: March 1. Applicants will be notified by Monday, March 18.

Conveners: Becca Walker (Mt San Antonio College), Eric Baer (Highline College), Laura Guertin (Penn State Brandywine), Karen Layou (Reynolds Community College), Heather Macdonald (William & Mary, Emerita); Sean Tvelia (Suffolk County Community College); Sharon Zuber (William & Mary, Emerita)

In considering prospective applicants, we will aim for a diverse group including participants from a range of 2YC institution types and with a wide variety of experiences and professional expertise, including those with no prior experience writing grant proposals.

This workshop is based upon work supported by the National Science Foundation under Grant No. 2349758. For questions contact Becca Walker (walkerbecca@gmail.com)

NESTA Seeking Executive Director

The National Earth Science Teachers Association (NESTA) is seeking an Executive Director (ED) to lead its vibrant community of Earth and space science educators into the future. The organization is for K-12 educators and is led by K-12 educators. The ideal candidate has a passion for Earth science education and has connections to support our mission "Champion excellence in Earth and Space Science for all in a community of support." Visit https://nestanet.org to learn more about NESTA, and for details about the position, reach out to Belinda Jacobs at bjrockgirl11@gmail.com or Missy Holzer, PhD at missy.holzer@gmail.com.

Worldwide Climate & Justice Education Week

Bard College invites all NAGT community members to participate in Worldwide Climate and Justice Education Week, (April 1-8 2024). Watch our 3 minute video Worldwide Climate and Justice Education Week 2024 - YouTube You can join by Making Climate an Event or Pledge here to Make Climate a Class. Follow our LinkedIn group.

A survey for Pennsylvania State teachers

The survey is being done by a nonprofit environmental education organization, the Westmoreland Land Trust. The Westmoreland, Pennsylvania Land Trust, would like to distribute a short survey to science teachers, both locally and around the state, to help us prepare new free resources for the 2025 STEELS standards that are coming.

Westmoreland Land Trust
https://westmoreland-landtrust.org

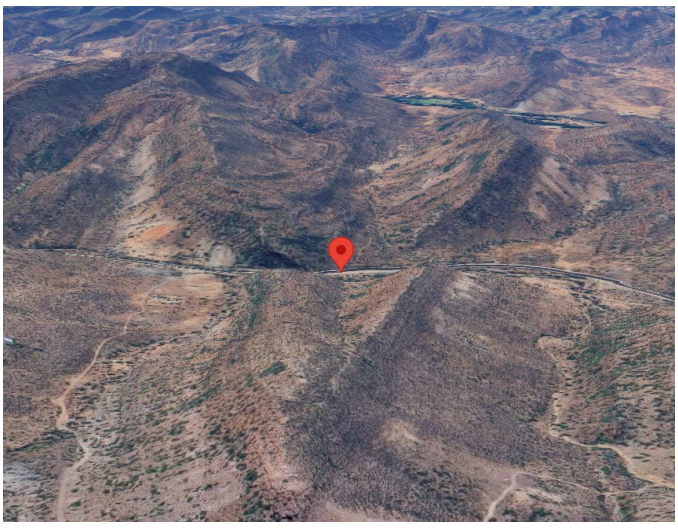
Survey Link: https://forms.gle/jeot2AAzuZDpcnpU8

-- Karen Rose, Westmoreland Land Trust

Field photo: Cape Fold Belt, ZA

by Martin Schmidt, Jr.
The McDonough School, Maryland

This fold is at -33.528311,21.255814, which is not far south of Ladismith, South Africa on route R62. Viewable in StreetView in Google Maps. Macrostrat puts it near the contact between Carboniferous and Devonian mixed sedimentary layers, seemingly on the edge of a broad anticlinal area on the basis of age relations, though "walking" this roadcut it seems synclinal at its ends, perhaps explaining this fold foreshortening in the middle. 3D Google Maps view looking east below, and confirms the synclinal shape, in an area with lots of folds.



The *Bulletin* is edited by Callan Bentley, Piedmont Virginia Community College. Please get in touch with your feedback, contributions, or if you would be interested in helping out with editing: cbentley@pvcc.edu

Spring 2024 Eastern Section Conference
May 2,3,4 at Berkeley Springs, West Virginia

The Spring 2024 meeting is set for the weekend of May 2,3,4 at Berkeley Springs, West Virginia. Our "base of operations" (meeting location, workshops, social events, Saturday night awards dinner, departure for field trips) will be the historic "Country Inn Of Berkeley Springs" located in the center of town right on main street (route 522). There are rooms available in the historic inn and also the hotel annex called the "West Inn" which is located in the rear lot of the Country Inn. There are other hotels and B&B's available in Berkeley Springs (Best Western) and nearby Hancock, Md.

It is the responsibility of the meeting attendee to make their own housing reservations for the conference.

Conference host and coordinator; Steve Lindberg, Johnstown, Pa.

Tentative Meeting Schedule:

Thursday, May 2:
3:00 pm. Registration table will be open at the Country Inn. The first floor banquet room will serve as the center for all events held at the Country Inn. Arrive early and enjoy the historic town and area of Berkeley Springs. There are many pubs, gift, and antique shops. Berkeley Springs is located just a few miles south on Route 522 from Hancock, Maryland. In Hancock the Potomac River, and the C&O Canal Path provide excellent hiking and biking trails! Dinner is on your own tonight.

7:00 pm. Evening social gathering at the Country Inn banquet room. A new event for this conference will be a "Swap and Share". Bring your extra items; labs, handouts, maps, samples, etc. It is all swap and share, no selling. *Hors d'oeuvres* and soft beverages will be provided; other beverages are available at the Country Inn's "Morgan Tavern."

Friday, May 3.
9:00 am -12:00 noon
"Short Presentations" session in banquet room. Coffee and pastries will be served. Full breakfast on your own at the Country Inn or other nearby restaurant. Similar to the short presentation sessions held at GSA meetings; prepare your posters, PowerPoint presentations, demonstrations, short lesson, *etc*., to fit a *20 minute allotment*. Buffet lunch provided in the banquet room at 12 noon. Banquet room has a large screen and projector for group presentations.
See presentation form included in this announcement.

1:00 pm - 4 pm.
Field trip to THE U.S. SILICA QUARRY in Berkeley Springs, located just a few miles from the

Country Inn. Tour the quarry and processing facilities with an opportunity to collect rock, mineral, and fossil specimens.

In case of unavoidable circumstances optional field trips will include:
National Park Site along C&O Canal in nearby Hancock, Maryland. Trip to the Sideling Hill "Big Cut" along route 68 a few miles west from Hancock. Third stop to the Sandy Mile Road cut along route 68 to view a very unique outcrop of the Devonian Oriskany Sandstone (called the Ridgeley SS in West Virginia). A great location to collect samples, including fossils!

4 pm. Return to Berkeley Springs and dinner on your own.

Mud cracks in Wills Creek Fm. Round Top Hill, MD

7:00 pm - ????
Eastern Section Geoauction in the banquet room of the Country Inn with Hors d'oeuvres and soft beverages. Other beverages available in the Morgan Tavern.

Saturday, May 4. Breakfast on your own.

9:00am - 3:00 pm
Field trip to Hancock and the "Round Top Hill" geologic site along the C&O Canal. Departure will be from the Country Inn at 9:00am. Transportation to the drop off point will be provided due to limited parking. This trip requires approximately 2.5 miles of hiking along the level, paved C&O Canal bike trail that parallels the scenic Potomac River. The Round Top Hill exposures are about .5 mile in length and offer exceptional geologic structures that include folding and faulting that can be viewed closeup. Round Top Hill has been described as having "*some of the most beautiful folds and other structures in the Appalachian region*" (Cloos, E., 1951).

An optional hike to the lower path will be available to view the "Devils Eyebrow" anticline along with other folds at the abandoned cement plant along the Potomac River. Box lunch will be provided.

Return to Berkeley Springs by 4pm.

6:00pm
Saturday evening eastern section awards/recognition dinner at the Historic Country Inn, banquet room; recognition of the eastern section state OEST and section awardees. Buffet dinner with several selections that will include a vegetarian entree. Guest speaker to be determined.

Anticline at Round Top Hill
(James St. John photo, CC-BY)

We hope you can join us!

You can contribute to the _Bulletin_!
Consider writing up your recent teaching triumphs, field trip locations, geoscience-themed travels, or essays. This issue offers a wealth of examples you might emulate for future editions of ***our*** newsletter.

Registration Form

National Association of Geoscience Teachers Eastern Section
Conference and Field Trips. May 2,3,4; 2024
Berkeley Springs, West Virginia

Each participant must submit a registration form. Lodging accommodations are the responsibility of the registrant. Pre-registration for the conference deadline date is **April 20, 2024. Registration questions? Please contact Steve at slindber@pitt.edu.**

Please fill in the form below and indicate your registration preferences.

Please register early!
*Make a check for the total registration fee payable to **Steve Lindberg** and send it along with this form to:*

Steve Lindberg, 615 Indiana Street, Johnstown, PA. 15905

Name(s) and affiliation_____

Email and phone number_____

Mailing Address_____

Total Payment Enclosed at $50 per person_____

****OEST eastern section award winners from 2023 attend Free! Please indicate this on your registration information. Email me if you have any questions.**

FULL OR PARTIAL CONFERENCE REGISTRATION FEE IS A FLAT RATE OF *$50 PER PERSON*. THERE ARE NO OTHER DISCOUNTS OR OTHER RATES. YOUR $50 REGISTRATION RATE INCLUDES ALL THREE DAYS, LUNCHES AND REFRESHMENTS AS DESCRIBED IN MEETING AGENDA AS WELL AS THE SATURDAY EVENING DINNER.

On site registration day of conference will be $65

Are you a 2023 OEST awardee? Please indicate that on registration form

Register early, make your hotel reservations. Send registration form and presentation form by April 20, 2024 with full payment, check payable to Steve Lindberg. You will receive a confirmation of your registration.

Questions? Concerns? Did I forget something? Hope to see you in Berkeley Springs for the Eastern Section Conference !

Steve Lindberg

Conference Coordinator

Eastern Section President

PRESENTATION PROPOSAL FORM

NAGT-Eastern Section 2024 Annual Meeting

Submission Deadline: April 20, 2024

Presentations will be scheduled for **20 minute sessions**. Double sessions will be accommodated only as space and time permits. As many presentations as possible will be accommodated.

Return completed form to: Steve Lindberg, 615 Indiana Street, Johnstown, PA. 15905. You may also submit proposals electronically at slindber@pitt.edu

Poster displays are also welcome and should use this same proposal form.

Name and affiliation:_____

Email: _____

Address: _____

Phone: _____

Presentation Title: _____

Description (max. 100 words):

Presentation equipment needed: (room has projector and large screen)

Earth Educators' Rendezvous 2024

July 15-19, 2024 | Philadelphia, PA – program and registration are online now!

Bergy bits and growlers:
Ice navigation in the Arctic

by Beth Doyle
Northern Virginia Community College

Reproduced with the author's permission from the blog of the *Joides Resolution*, on which Beth served as outreach officer for Expedition 400.

In this blog, we speak with Victor Gronmyr, an Expedition 400 ice navigator, about the tools he uses to keep icebergs at bay and the JOIDES Resolution safe.

Victor Gronmyr, one of the two ice navigators on Expedition 400 (Beth Doyle)

How did you become an ice navigator?

I am a retired Canadian Coast Guard Captain, with 33 years of Coast Guard service. I was fortunate enough to spend many seasons in the Canadian Arctic understudying experienced Coast Guard captains. Eventually, I got to be a captain of an icebreaker myself. I'm in my 17th season working in polar waters and am an ice navigator with Martech Polar Consulting. https://martechpolar.com I confer regularly with the principal consultant, Captain Duke Snider, my mentor of over 30 years, as well as dozens of colleagues via the company's WhatsApp Channel.

What do Ice Navigators do?

One of our primary functions is to help the captain, ship's officers and crew avoid dangerous hard ice.

Simply put – We don't dent ships!

While navigating in the polar waters of Greenland we need to be aware of both sea ice and glacial ice. Expedition 400's nearshore location for this time of the year in Baffin Bay means that glacial ice is the biggest concern. From the moment the Greenland glaciers calve into icebergs, they disintegrate until they completely melt. This breaking apart is also referred to as calving, or what I call "sharding," and produces smaller icebergs, "bergy bits" and "growlers."

What makes bergy bits and growlers unique?

A growler off of the port side of the JR (Beth Doyle)

Glacial ice is incredibly hard – it is like reinforced concrete. Bergy bits are glacial ice with heights of 1 to 5 meters above the sea surface. Growlers have heights of 0 to 1 meter above the water's surface and 4 to 9 meters below. Both can, and will sink ships. Their low height in the water makes growlers very hard to sight. The only sure-fire method is visually, by eye.

What other types of tools do you use as an ice navigator?

Ice charts, satellite imagery, marine radar and ice radar, and our own eyes. There are many visual aids that I use: Polarized sunglasses, binoculars, searchlights and FLIR.

Can you tell us more about FLIR?

FLIR stands for "Forward Looking Infrared." They are essentially binoculars with a temperature sensor. They are easy to use and are very reliable.

How does FLIR work?

FLIR is a thermal device that picks up on infrared waves emitted by an object. The primary source of infrared radiation is heat or thermal radiation. The warmer the object, the more infrared radiation it emits.

Gronmyr uses FLIR binoculars to spot icebergs in Baffin Bay (Elizer Figueroa, SIEM Offshore)

Infrared is completely invisible to the unaided human eye. With FLIR you can adjust the visual settings. My favorite presentation is to have black as hot and white as cold. The super cold iceberg whose core temperature is about -15 degrees Celsius shows really well as bright white against the relatively warm salt water, which at 2 degrees Celsius shows as gray-to-black.

FLIR settings can be adjusted to show icebergs as blue (Copyright 2018, FURUNO DANMARK A/S)

Is FLIR different from night vision?

They operate in different ways. Night vision devices amplify existing light so they need light to work, but not too much. They work best in the dark or in low light by enhancing the traces of visible light. On the other hand, thermal imaging as done by FLIR requires no light to work. FLIR works in complete darkness, full daylight or rapidly changing light levels.

For over a decade, oil tankers traveling in Greenlandic polar waters have been experimenting with FLIR. FLIR is allowing the ships to detect ice day or night from a distance so collisions can be avoided.

Are there any drawbacks to FLIR?

FLIR cannot see past glass, so during Expedition 400, ice navigators must leave the warmth and comfort of the Bridge and go outside with the FLIR binoculars to make observations. Here's a case where night vision is more flexible. It can see past glass as it is enhancing the visible light.

I have to ask, what was the size of the iceberg that sunk the Titanic?

Estimates of the iceberg would put it into the medium category, the peak rising approximately 30 meters above the surface of the ocean and a length of about 120 meters. A 1976 United States Coast Guard Study on icebergs in Iceberg Alley of Davis Strait (between mid-western Greenland and Baffin Island) found that icebergs have a height to draft ratio of approximately 1 to 3.95. The draft is the depth below the water line. With this methodology, the Titanic's iceberg was roughly 120 meters deep below the surface of the water. The same study provided a way to estimate the iceberg's mass which would suggest that the Titanic's iceberg would have contained approximately 1.3 million metric tons of ice, or about 2.8 billion pounds.

"Fred" kept company with Expedition 400 for about two weeks (Beth Doyle)

Expedition 400 has also kept company with some big icebergs!

Yes, we've moved away from some a few times. For about two weeks, we were in the vicinity of what is classified as a "Very Large Iceberg." We affectionately called it "Fred." As we retrieved cores, Fred veered as close as 3.5

nautical miles, then out to about 20 nautical miles. This happened a few times before we moved on to the next site. Fred was pointy on top, classified as “pinnacle shaped,” and was about 140 meters above the surface of the water by about 310 meters in length. Fred’s mass would be in the neighborhood of 40 million metric tons.

Icebergs may be enigmatic and formidable, but with skilled ice navigators assisting the captain and his team, Expedition 400 continues to uncover the secrets of the world’s polar regions while staying safe.

Beth also made a video on this same topic: View it on YouTube:
https://www.youtube.com/watch?v=5gkKCPwIL0c

OUTCROPS, WINTER 2024

“Forensic Battlefield Geology”

When well-known Civil War photographer Alexander Gardner arrived at Gettysburg several days after the battle had ended, he began taking a series of photographs at numerous locations across the 25 square miles of the battlefield. Gardner’s photos provide some of best documentation of the conflict and level of carnage that resulted in an estimated 51,000 casualties during the July 1,2,3, 1863 battle. One of the most horrific photos taken by Gardner was that of approximately 40 dead Confederate soldiers arranged in pre-burial rows that were believed to have been killed during the second day of fighting on July 2. Gardner took several photographs at the location pointing his camera in different directions. The setting was along the edge of a sloping field that bordered woods. The location of the photograph was either never documented correctly, or lost to history. For well over 100 years various attempts had been made to determine the location of the Confederate dead pictured in Gardner’s views; none were successful. Finally, in March of 1967, after a five year search; college student and Gettysburg historian William Frassanito discovered the exact location. Frassanito used the diabase boulders visible in Gardner’s photographs; in particular the large “split rock” with its distinctive markings to determine the location of Gardner’s photographed Confederate dead. The famous split rock diabase boulder lies on the southern edge of the Rose Woods at the Rose Farm. On July 2,1863 the Rose Woods was the epicenter of fighting as Union and Confederate troops struggled for control of the Peach Orchard, Wheat Field, Devils Den, and the southern end of the battlefield. The woods and field are now quiet and isolated; there are no markers or monuments at this location. It is somewhat eerie and unsettling to stand there at the rocks visible in Gardner’s views knowing the terrible cost of battle that resulted in the dead being strewn across the ground you now stand on. My photograph of the Rose Woods and split rock (closest to fence) was taken on a recent visit to Gettysburg. I chose not to include the views taken by Gardner, the reader can easily look these up on line. Mystery solved!
-Steve Lindberg

bulletin
NATIONAL ASSOCIATION OF GEOLOGY TEACHERS
EASTERN SECTION

FROM THE ARCHIVES

This edition of our "From The Archives" features the front page of the winter, 1988 eastern section Bulletin. The May meeting was held at West Chester University, Pennsylvania, and included a choice of **five** different Saturday field trips! The meeting was organized by eastern section member Sy Greenberg, Dept. of Geology and Astronomy at West Chester University. This was several years before I became a member; and I wonder how many of our current eastern section members attended this meeting? Cheers!

-Steve Lindberg, UPJ

WINTER 1988

* * * EASTERN SECTION ANNUAL MEETING

The 1988 Annual Meeting of our Section [illegible] Chester University, West Chester, PA (near [illegible] May 20 to Sunday, May 22.

On Friday May 20 there will be a numbe[illegible] will be on such subjects as Gemstones, Elec[illegible] Applications of Geologic Instruction, Weath[illegible] Sea Level, Geologic History of Pennsylvania, Glaciers in Norway, Teaching Unified Science, and others to be announced. In addition, there will be planetarium and observatory programs (weather permitting). On this Friday, there will be a 1/2 day field trip to examine the type locality of the Wissahickon Formation in Philadelphia. If there is enough interest, there will also be a poster session. In the evening, a rock and mineral swap and slide exchange is planned, as well as an observatory program (weather permitting).

On Saturday May 21, there will be five all day field trips. One trip will be to fossil collecting localities; another trip will be to mineral collecting localities; a third trip will study the Piedmont Geology in southeastern Pennsylvania; the fourth trip will study coastal geology, and a fifth trip will focus on landforms. On Saturday evening the annual banquet, presentation of awards and a speaker are scheduled.

On Sunday morning, May 22, the Section will hold its business meeting followed by a short field excursion that will end about noon.

The participants will have the choice of staying at very inexpensive college dormitories (but there will probably be no hot water) or in reasonably priced nearby motels. The dormitories would be very practical for students who are encouraged to attend this meeting.

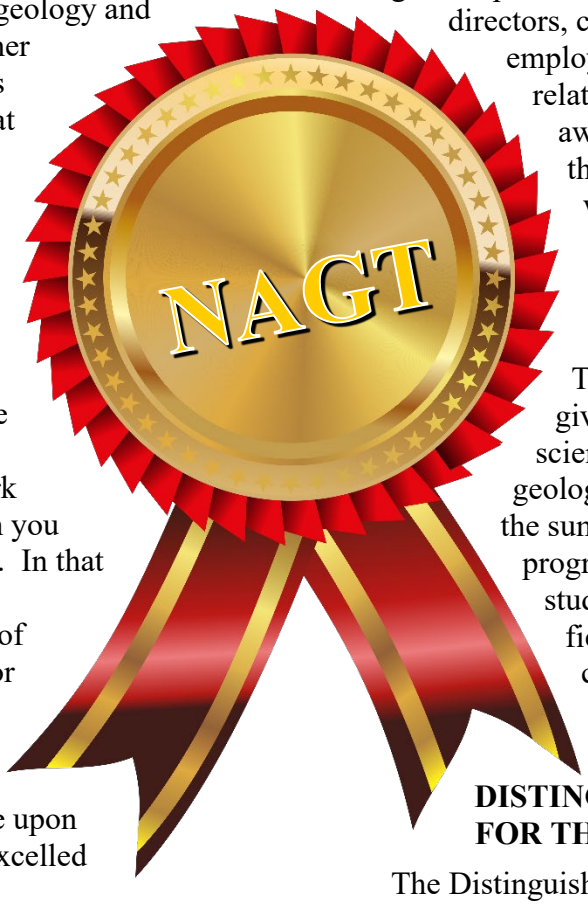
If you would like to present a talk or participate in a poster session, at this meeting, please contact Sy Greenberg, at the following address by the end of February 1988: Sy Greenberg, Dept. of Geology & Astronomy, West Chester Univ., West Chester, PA 19383, (w)215-436-2727 or (h)215-692-4864.

More definite details and specific registration information will be available in the Spring Bulletin.

Nominate your peers!

(Nominate yourself!)

by Christopher Roemmele
West Chester University



Greetings to all educators of geology and earth science. I am Christopher Roemmele, your new Awards Chair for NAGTES. I teach at West Chester University in West Chester, Pennsylvania, and taught high school/middle school earth science for 15 years in New Jersey. I know how hard we all work as teachers and getting a proverbial pat on the back and thank you is nicely motivating. Perhaps you work with or know someone whom you feel deserves this recognition. In that case, I strongly urge you to nominate this person for one of our Eastern Section awards, or one of the National NAGT awards. The Eastern Section meeting is a wonderful time to heap praise upon those individuals who have excelled in the work and promoted geoscience education.

Information about all our Eastern Section awards can be found on our section website. Please note the deadline is being/has been changed to February 1! So start thinking and get those forms filled out now! Completed nomination forms should be sent to me at croemmele@wcupa.edu. However, you must place your nomination via the online forms found on the National NAGT web site at http://nagt.org/nagt/programs/oest.html

Here is a list of our awards. Perhaps there is one with your (or a colleague's) name on it!

OUTSTANDING EARTH SCIENCE TEACHER

The OEST Awards program was adopted by NAGT in 1971. Its purpose to honor pre-college teachers of earth science, their excellence and commitment to teaching and teaching earth science

DIGMAN AWARD FOR EXCELLENCE IN GEOSCIENCE EDUCATION

The Digman Award is designed to recognize an individual who works to bring geoscience to the general public. We look for individuals who are not teachers, but work in a capacity that educates the general public in areas of the geosciences. Museum directors, curators and assistants, state survey employees, mine and quarry public relations people would all qualify for this award. The nomination information for this award is also on our section website.

JAMES O'CONNOR MEMORIAL FIELD CAMP SCHOLARSHIP

The James O'Connor scholarship is given to a college geology or earth science major who is attending a geologic field camp course (typically over the summer) as part of their college degree program. The $500 scholarship assists the student in covering the expenses of their field camp. Nominate a student currently enrolled in your geology program. Nomination information appears on the section website.

DISTINGUISHED SERVICE AWARD FOR THE EASTERN SECTION

The Distinguished Service Award is given to a member of the Eastern Section (still actively teaching or retired) who has, over the years, contributed to the growth and activities of the Eastern Section. This person should have a history of continued service to the Eastern Section. Nomination information appears on our website.

JOHN MOSS AWARD FOR OUTSTANDING COLLEGE TEACHING

The John Moss award is reserved for instructors and professors who, at the college level, model and promote outstanding teaching in the geosciences. Nomination information appears on section website.

NAGT
Teacher Education Division

Nominations for NAGT Teacher Education Division (TED) Earth Science Teacher Leader Award

NAGT's Teacher Education Division (TED) has developed ten criteria to encourage and support K-12 educators to move from the role of teacher to that of teacher leader. This competitive annual award honors teachers who satisfy at least seven of the ten leadership criteria and recognizes them as Earth Science Teacher Leaders. Each qualified nominee will receive a certificate of recognition but only one nominee per year will earn the award. This nomination form supports a two-step process:

First, the candidate is nominated by a colleague, administrator, or other person with knowledge of the candidate's qualifications using the form below. Self-nominations are allowed.

Second, the Earth Science Teacher Leader Award Committee will review entries and may request more supporting information from the nominee during the scoring period.

Selection of the awardee is made in the late spring-early summer. Acknowledgement of awardee(s) will be made in the autumn of each award year by the selection committee and TED's Executive Committee.

This year, the National Association of Geoscience Teachers (NAGT) Teacher Education Division (TED) is pleased to recognize Wichita Falls, Texas teacher Bryce Henderson as an exemplary K-12 Earth Sciences teacher leader and as the inaugural recipient of the TED's Earth Science Teacher Leader Award. Bryce has distinguished himself as an outstanding Earth Sciences educator through service to the professional community, distinction in the classroom, and dedication to the advancement of geosciences pedagogy.

Bryce has spent his career using his passion for teaching to help others discover a love of learning. As a leader at Wichita Falls ISD, he works to empower others to make an impact on the world beyond the classroom. While his focus is on teaching, he also specializes in curriculum development and works closely with the OnRamps program at the University of Texas at Austin to serve over 41,000 Geoscience students in 195 districts across the state. Bryce is committed to improving the art of teaching and focuses his action research efforts on closing STEM achievement gaps while increasing representation in the field of geoscience.

The National Association of Geoscience Teachers works to raise the quality of and emphasis on teaching geosciences at all levels. We count among our members K-12 teachers and college/university faculty as well as educators working with the public through outlets such as museums and science centers. NAGT seeks to: foster improvement in Earth sciences education at all levels of formal and informal instruction, emphasize the cultural significance of Earth sciences, and disseminate knowledge to the public. NAGT's Teacher Education Division provides practical guidance to Earth sciences teachers and their educators. More information regarding the Earth Science Teacher Leader Award is available on the website. Nominations are due by March 31, 2024.

Field photo: Ice crystal casts in mud. What's the preservation potential of such a structure?