

The Buffalo Geological Society

Geoletter

January, 2025

Something to pick at from your President

Hello everyone,

This year's silent auction was yet again a successful night at the BGS club house. Thank you to everyone who helped out with set up/tear down, and to those who brought a dish to pass. There were many pieces in the auction and we all felt the new method of collecting payment was positive. January's meeting is looking to be a good one with Dr. Sullivan from Buffalo State being our speaker. Our New York State Earth Science Day event previously hosted on the weekend of Indigenous Peoples Day (Columbus Day weekend) is going to take place on Oct. 4th of 2025. We are going to hold this event at Tapestry Charter School on Great Arrow Drive in Buffalo, NY. Working with the school will allow us to have more exposure to the local community (Advertisement),



indoor space as well as outdoor if needed, and possible student involvement. The school is also in a more central location and cheaper than renting most locations. We are starting to plan this event, so if you know any companies or people interested in educating, displaying, or vending please email Ryan Frost at Buffaloryan.716@Gmail.com. If you become aware of any events or shows you feel others would find interesting please email our editor so we can have them added to the newsletter!

Happy Holidays, Happy New Year, safe travels,

Keith Rowe

Upcoming Trips

- A tentative bus trip in June 2025 is being organized, so please look for details.
- Craig P. our VP has contacted many of the other rock and mineral clubs in NYS. Due to the fact we are all under The Eastern Federation of Mineralogical and Lapidary Societies we are all covered by the same insurance. This means that most clubs have agreed to allow our club members to join in on trips. That being said if you hear about a trip another club is running let us know and we can add it in the newsletter!

******We will more than likely not have another field trip this year but watch the weather.**

Upcoming Speakers/Meetings (Meetings are the 1st Friday of each month Oct.- April)

*****Meetings will not be canceled based on Buffalo Public Schools closing, rather current weather or weather predictions for the area will cause cancellation of meetings/events. If we cancel due to weather we can still meet via ZOOM. Please watch emails, social media, the radio and local news stations for notifications.*

January 3rd, 2025: Dr. David Sullivan: From the Buffalo State Geology Department is speaking this month.



February 7th, 2025: Dr. Kevin Williams: Geomorphologist/Planetary Geologist



March 7th, 2025: Live Auction. Members are allowed to bring in up to 4 items for the auction. We will need runners so bring some young rockhounds and lots of money! More information in the upcoming newsletter.

April 4th, 2025: Michael McElwee is giving a presentation on what is being found at the Russell Farm. The Russell Farm is a private Herkimer Diamond mine that Michael has had the opportunity to be digging in. They have found all sorts of amazing specimens and Michael is going to not only be talking about the geological history of the area but also showing off some of the specimens he has collected at the mine in 2024.

May 2nd, 2025: BGS Banquet: Dr. Mckenzie will be joining us for a second time to talk to us about meteorites. Dr. Mckenzie not only has a wealth of knowledge on the subject but has an impressive collection of meteorites. Do you have a meteorite or think you have one? Well bring it along for some Q and A with Dr. Mckenzie.

***Please bring one item per-person for the gift raffle so that everyone leaves with a prize.

Past Trips and Events

December 6th, 2024

The December potluck and silent auction was another successful event hosted at our club house on Lee st in Buffalo, NY. We used a new process to collect and distribute money for items and it seemed to work well. We will be using this method going forward. One of the hot items was a large fluorite which had several bids on it. Thank you to everyone who helped out

and those who brought a dish to pass.



November 1st, 2024: Scott McKenzie

The Friday Nov 1st, 2024 meeting featuring guest speaker Scott McKenzie on Dinosaur Secrets was extremely insightful into the world of dinosaurs and what we know or don't know about them. Dr. McKenzie's ability to speak about the scientific evidence and current body of knowledge surrounding dinosaurs allowed for the entire audience to stay engaged. A common theme of the talk was that the horns of dinosaurs and other animals are up to 33% larger than what is seen in fossilized remains. This is because the root or base is preserved while the keratin sheath does not. Multiple dinosaurs were discussed including T. Rex, Allosaurus, Spinosaurus, Triceratops, Ankylosaurus, and Sauropods. One striking point of the night was when Dr. McKenzie brought up the fact that every T. Rex skull found has asymmetrical ear holes and small boney horn bases near the eye socket. Two T. Rex skeletons can be seen in the Carnegie Museum of Natural History in Pittsburgh, Pennsylvania with these features. In the present day Owls have asymmetrical ear holes that they use to pinpoint the source of sound at night. It begs the question "Did T. Rex hunt at night with teeth over 15 inches long (Root included)?" Dr. McKenzie mentioned he would be interested in visiting us again to speak about Meteorites. Thank you very much Dr. McKenzie for your time and for sharing so much with us!



Continuing Education

The Continuing Education Program is going to meet Nov. 27th, 2024 at 8:35am in the Sweethome Masonic Lodge. Breakfast will be served around 9am and will consist of pancakes, various jams, and a meat. Please contact Vice President Craig for more information The Continuing Education Program aims to continue shared learning and connection within the BGS. Various topics are discussed at each meeting.

Events and Upcoming Shows

- **Buffalo Gem and Mineral show Mar. 15/16, 2025**
 - Volunteers needed so mark your calendars now!!!!
 - Contact Jerry Bastedo (716-864-2701) for more information.
- **Buffalo Geological Society Banquet**
 - May 2, 2025
 - Classics Five Restaurant-Terrace Room 2425 Niagara Falls Blvd. Amherst, NY
 - 6pm Cash Bar
 - Payment of \$25.00 per person due by April 25, 2025

*****Sign up/payment form is found at the end of this newsletter.

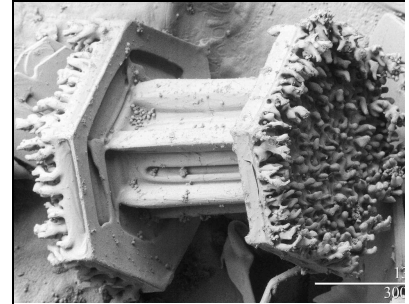


- **Silent Auction**
 - June 6th, 2025
 - 100 Lee st. Buffalo, NY
 - Very special club items will be auctioned off
 - Details to follow in the future newsletters, similar to December's meeting
- **BGS Earth Science Day Event**
 - Oct. 4th, 2025
 - 65 Great Arrow Street Buffalo, NY 14216 (Tapestry Charter School)
 - Vendors and set up TBD
 - Please reach out to Ryan Frost (Buffaloryan.716@gmail.com) if you are interested in attending as a vendor or have an idea for one. This is an educational event that will allow some vending of geologic goods.

Rock Spotlight

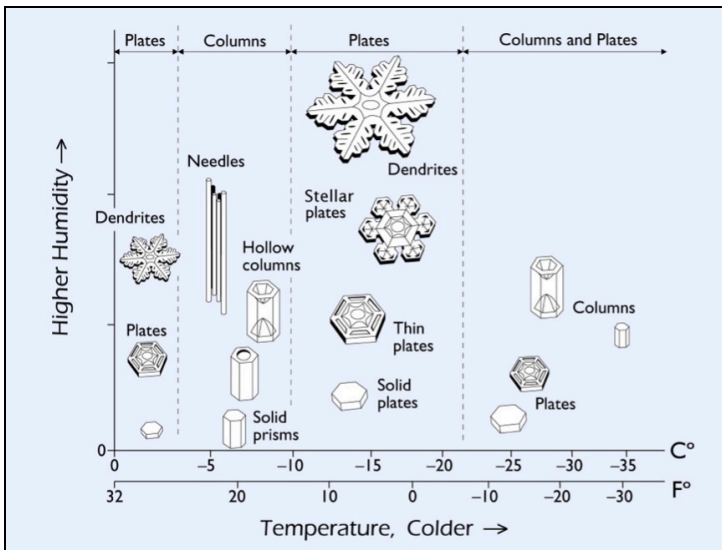
ICE, ICE BABY!!! This month we are going to take a look at ice, a rarely thought of mineral. Ice as we all know is solid H₂O however how much do you really know? Did you know the Buffalo Museum of Science has the world's largest snowflake (Ice crystal) collection in the world? Did you know that ice is formed and is affected by many of the same processes that form other types of minerals and rocks? Know anything about the connection between snowflakes and meteorites? Well we are going to explore all of this and more!

Ice can form in many patterns and shapes depending on its environment of formation but maybe more interestingly ice has the ability to tell a story of long term and even short term weather. Ice is most often seen forming hexagonal crystal shapes under most conditions. This shape can be seen most easily when ice forms thin plates or columns. These plates or columns most often form in the atmosphere and are a type of Snowflake, they can also combine to form capped columns. A major difference between plates and columns is the crystals axis that experiences the majority of crystal growth. Furthermore these snowflakes can then come in contact with water vapor or liquid water molecules which can form a rim on the snowflake (Image to the right). Of the 2000 plus types of snowflakes known the most well known and most common are the dendrites but it's important to note that this snowflake often starts its journey as a plate. Plates, columns, needles and dendrites are some



Rim on a capped column snowflake

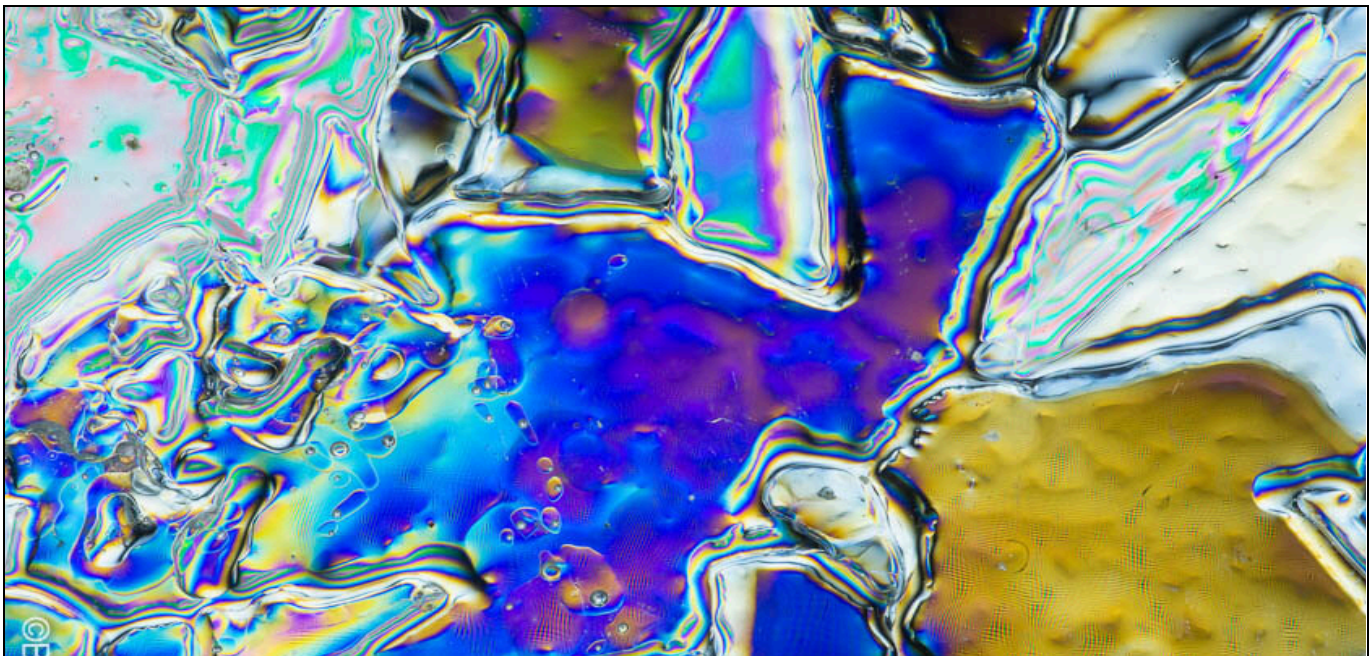
of the most common ice crystals you will see falling from the sky. Dendrites are formed from plate snowflakes that change as they fall due to temperature changes in the atmosphere. It's important to understand that these changes or overall appearances are a direct result of



conditions in the atmosphere (See diagram to the left). As well as capturing a snapshot of weather patterns, snowflakes also carry tiny pieces of the atmosphere down with them. They do this because as water vapor condenses/deposition occurs it needs something to condense on, we call this a condensation nuclei. This condensation nuclei or CN can range from an aerosol, to a dust particle to even another water molecule. This means that tiny meteorites suspended in the atmosphere have a chance to make it to the surface of Earth as a CN. Try to find your own by collecting fresh snowfall. Let the snow melt in a clean

container, allow the water to evaporate, then using a strong magnet collect whatever

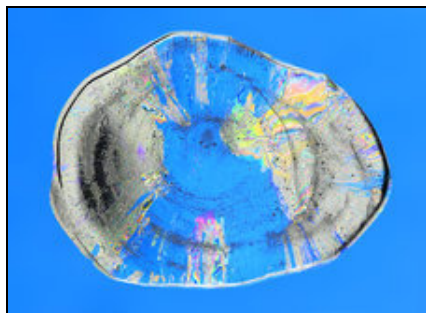
magnetic dust or small particles you can find. These magnetic sediments may be meteorites that became condensation nuclei and then fell to Earth. If you don't find any possible meteorites it's always a good lesson on why you might not want to eat snow, even if it's not yellow! But what happens once a snowflake hits the surface? While it could melt, it would also mean the end of the article. So let's not go there. Snowflakes that don't melt can do a few different things. If they stay exposed to the Sun they may have individual water molecules turn to gas (Sublimation) which would change the appearance of the snowflake creating an upper layer Cryoscientists call Surface Hoar. This is that crusty layer of snow that forms after snowfall has ended and a sunny day or two has passed. A bottom layer with similar characteristics can form called the Depth Hoar. But what if our snowflake gets buried by blowing or falling snow? Well that snowflake will become part of a layer, eventually creating a sedimentary rock. Each layer typically shows either different snowfall events or depths where the temperature/pressure is changing the crystals. As a layer becomes buried it compacts and the ice crystals become closer and closer similar to how quartzite forms. These compacted layers can create ice crystals that are faceted or even bent. Some layers flow or bend like those on the bottom of glaciers. This can all be seen by caving (Digging) a hole into a snowbank or into layers of snow with a shovel. So, what about ice forming in ponds, lakes or any body of freshwater? You know, a non-solid surface. Ice can form on lakes due to snow falling but ice in freshwater can also form by spontaneous nucleation which results in the entire surface being covered or partially covered in one single ice crystal. This happens in very still temperature situations where the ice grows from one single spot uninterrupted. Often this ice is very clear and will not show as much under polarized light. Ice that forms from freezing water at very cold temperatures forms so fast that it traps bubbles from the body of water. These layers directly correlate to temperature conditions in the atmosphere. This trapped air or methane can tell us about the ecology of the body of water at the time the ice formed. Methane bubbles are typically bigger than air bubbles trapped in ice and rounder. If the temperatures get cold enough and the water molecules come in contact with particles like dust, ice may form from induced nucleation. This is where the water molecule crystalizes onto a foreign molecule, creating extremely unique structures seen under polarized light (See image below).



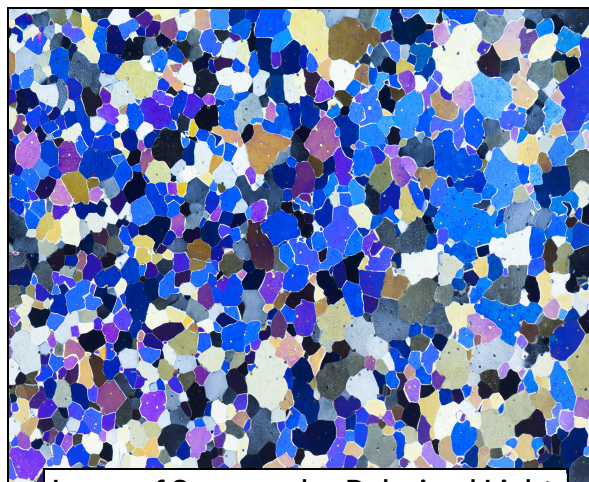
To see ice under polarized light buy polarizing filters and melt ice creating a thin piece, place the ice between or onto the film. If the ice is thin enough and you have the film backlit you will see the pattern of ice crystals in beautiful colors! This is only some of the unique story behind the mineral known as ice.

Sources:

- ❖ NASA.gov
- ❖ History of Winter Program
- ❖ Dr. Anthony J. Gow (Cryoscientist)



Thin Section of an Icicle



Layer of Snow under Polarized Light

****Each month we will showcase something different from the rock, mineral and fossil world. If you have a suggest please email Ryan Frost at Buffaloryan.716@gmail.com

Financial Update

- New members: 0
- Note from the Treasurer: Accounts are balanced.

History of the BGS

The society was originally formed on February 2nd, 1930 as the Geological Section of the Buffalo Society of Natural Sciences. Dr. Irving G. Reimann, Curator of Geology at the Buffalo Museum of Science was the first president. Its purpose is to bring people together the enjoy learning, studying, collecting, and sharing in a family atmosphere this common interest of geological sciences and related fields. These fields range from mineralogy and paleontology to lapidary and beyond. This is accomplished by annual shows, meetings, swaps, banquets, field trips, continuing education groups, and many more monthly programs that end or begin with a social hour. **Regular meetings occur October through April on the first Friday of every month. Meetings start at 7:30pm and are free/open to the public.** Membership starts at \$15.00 for individuals and \$20.00 for families. We meet at 100 Lee street in Buffalo, NY 14210 in the Heritage Discovery Center. Meetings will not be canceled based on Buffalo Public Schools closing, rather current weather or weather predictions for the area will cause cancellation of meetings/events. If we cancel due to weather we can still meet via ZOOM. Please watch emails, social media, the radio and local news stations for notifications. The BGS is a non for profit organization 501c3 affiliate of the Buffalo Society of Natural Sciences, Inc and the American Federation of Mineralogical Societies.

Club Officers

- **President:**
 - Keith Rowe.....716-860-1689
- **Vice President/EFMSL Delegate/Inventory Control**
 - Craig Posmantur.....716-834-8935
- **Treasurer:**
 - Chris Boyd.....716-291-1865
- **Secretary:**
 - Zeena Pawlicki.....716-536-1969
- **Show Chairmen:**
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- **Membership Chairman**
 - Jeanne Phillips.....716-838-5786
- **Field trip Chairmen:**
 - Jerry Bastedo.....716-864-2701
 - Don Lapham III.....716-438-3794
 - Joe Sullivan.....716-823-8371
- **Directors**
 - Jerry Bastedo.....716-864-2701
 - Marcia Binda.....716-863-0020
 - William Broad.....716-632-8355
 - Don Lapham III.....716-438-3794
 - Paul Leuchner.....716-704-0546
 - Deb Pirson.....716-773-6078
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 - Laretta Parmalee.....716-603-4700
- **Hospitality**
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- **Webmaster:**
 - Lucy LaPlaca.....716-667-3115

***For contact information please see our website <https://www.bgsny.org/>

