USA

January 31-February 6, 2022—The Hawaii Grotto will be hosting Hawaii Cave Week. You know it’s gonna be cold where you are, so come bask in some Hawaiian lava caves, take part in removing invasive plant/tree species, and learn how to sketch a cave. The annual grotto meeting is scheduled for Saturday, February 5th, and will be held at Ka’u Cave Farm on Hawaii Island. Membership to the Hawaii Grotto is included with your NSS Membership. For more information, or if you would like to join the Hawaii Grotto, please email Kim Fedrick at kfdrck@gmail.com. You can also find us on Facebook.

June 13-17, 2022—NSS Convention in Rapid City, South Dakota. Visit nssconvention2022@gmail.com for more information.

June (week to be determined) 2023—NSS Convention in West Virginia, rescheduled from 2020.

INTERNATIONAL


Send items for the calendar to davebunnell@comcast.net at least 4 weeks before desired month of publication (e.g., by April 1 for the May issue).

Pearled Pebbles received a Merit Award in the 2021 NSS Photo Salon. Photo by Dave Bunnell.

Waiting for the Next Meal earned an Honorable Mention for Derik Holtmann in the 2021 NSS Photo Salon. The spider is believed to be a Cave Orb Weaver, located in a cave on the Jacks Fork River, Ozark National Scenic Riverways, Missouri. The photo was taken during a biology monitoring trip in 2019. Derik used a EF50mm f/2.5 Compact Macro on a Canon Rebel XSi and a corded flash to get the light coming from the side.
Desert Caving

Nevada
Into the Desert’s Deep: A Glimpse Inside the Discovery of King Solomon’s Cave

Adam Haydock

Arizona
A Cave with Two Names: The Discovery & Exploration of Kaibab Caverns / Trout Cave

Tom Gilliland

Society
Caving at the 2022 NSS Convention in the Black Hills, SD

Kelly Mathis, Jeb Casey, and the Paha Sapa Grotto

Humor
Al Explains How Caves Change

Ergor Rubreck
The days are long. Walls made of solid geologic history block the cooling relief from wind that I had earlier in the day. At times, I crawl into a dusty hole embedded with cactus needles and a strong scent of ammonia that goes into an immediate end. My eyes continue to sting from a blend of salty residue, dry sage, and a diminishing sense of optimism.

The shadows of a setting sun cast a sign of my inevitable fate into nightfall. Tired legs remind me of the hours past as a stomach-roar tears through my core from a sweltering rotten afternoon lunch. I start to hear the local talent howling as I could see them in the distance strategizing their nightly agenda.

I am still holding on to the last bits of hope and daylight that got me thinking “Just a little bit further, just a little bit...,” I would say to myself. I double down on my aspirations of a new cave discovery that might exist and that could very well be just beyond the reach of my eye. Stones become marbles as the angle of the slope increases. Ridgewalking in Nevada is a niche in itself.

I tighten my grip around trekking pole handles as the wind from the desert’s setting sun whip around the corner as I locked eyes onto a palette of dusk color and the following darkness, and it was at this point that I realized I was gazing into what will potentially become a discovery that would change what we know about southwest caves and cave exploration.

Radiant heat blows through rocks like broken air conditioning on a summer ride through Death Valley. Air movement is a hallmark sign of something more than another hole with a swift deadend. I immediately entered the calming and comfortable warmth of this room and made sure I could get back out.

From plummeting outside temps and a disappearing golden hue cast over the desert terrain to standing amidst a room of complete darkness, I stood up to view the passage that continued down a corridor. Helmet on, and a slow click to my light, I slowly step down the walking passage—alone. Carefully, I step deeper into the earth and notice the temperature rising. I remember the mindful awareness I had back at the entrance in relation to where I was inside the cave. Nobody knew where I was and if anything were to happen, well—I just might be added as another artifact to this cave for another generation to find, 1500 years from now.

Continuing down, I scanned to the left, and noticed one formation in the middle of this leveled-out room. I thought to myself, “aww that’s cute,” one lonely stalagmite in the middle of this walking passage. I gazed at the stalagmite but my curiosity was drawn to the right. I noticed amber and opaque “spike-like” protrusions. At first, it looked like some type of fancy glob of dirty molasses. The closer I got to this blob, I noticed the resemblance to stalactites. “Huh, formations that are laying side by side that appear to have fallen from the ceiling?” I batted my eyelids a few times as I got even closer to them and I realized that these formations were not stalactites, but dirty opaque crystals. They were hexagonal in shape, translucent, long, and six inches to over a couple feet in length. “These look like large selenite crystals!” Confusion started to intrude. My excitement was no longer contained within the realm of a typical cave discovery. I stood back up and looked left. It was at this point, I noticed a wooden stick in the wall. This stick was stuck in a crack in the wall hanging on a downward angle around 15 degrees or so. I walked up to the stick and looked at it closely. I was thinking to myself “people must know about this cave” but upon closer inspection, the stick was burned at the end and small bits of charcoal covered the ground below. “This must be a torch!” Enthralled and slightly confused, I began to realize that I am not the first human to enter this cave and whoever was in here before me was probably not from this century.

I look forward and down. Immediately, I see another opaque blob of sorts, but this anomaly was a lot more revealing than the previous sighting. A large crystal-like figure that had a smooth curvature to its side. I got close to it and the crystal is around 6 feet in length! The crystal appeared to be one...
solid crystal with embedded lines and had a geometrical, hexagonal shape. Other crystals appeared to be fused together into this large main crystal, which also had hexagonal shapes to them. I can only imagine that this crystal is a larger version of what I was looking at above, which I conclude unscientifically to be selenite. These larger crystals appear to be over 6 feet in length! The torch was nearly above this crystal and the crystal had a rounded off feature that would allow someone to sit into this crystal like a crystal throne. I began to imagine whoever brought this torch into this cave could have been sitting on this crystal. I wondered to myself, what could they have been talking about? What were they doing inside this cave? What was the significance of these crystals to them? Mesmerized and excited that so far, I found selenite swords (some potentially the largest in the United States), a torch that could potentially be over 1000 years old, and larger crystal formations within this single corridor. I anticipate what I might see as I look further into the cave. It was at that very moment, a very dense and eerie realization came across me that what I have seen is only the beginning of the cave. 

“What the hell is this!” was my first reaction as compounding confusion colored my vision. My eyes glanced over a slightly larger and downward slanting room full of hollowed out tube-like formations on top of broken platforms. The closer I stepped, I was near small selenite crystals that protruded from the ground. As careful as I was with every step, I continued forward following a path that would not destroy any of the crystals and which led me into what could become a unique in-cave discovery and one of the most unique discoveries I have made. Hollowed out hexagon tubes that look like a casting. Some of them were up to 3 feet in length. These tubes protrude on angles and in upright positions. At that time, I could not imagine what these hollowed out tubes were or why they were even here. The resemblance of large tube worms found at the bottom of the Pacific Ocean implied a symbolic statement for the depth and increasing pressure that this discovery is becoming.

After some realistic gasps and choice words of profane enthusiasm, I immediately left the cave. Actually, It was more along the lines of a fast mall walk exit to the entrance. It was almost like I was not ready to find what I had seen. How would I explain this in words and how serious could this be taken without a herd of humans stomping through this cave? This life occurrence was slightly transforming my physiology as I emerged back into the world we know. A burst of cold night sky air hit my skin as I realized where I was. I am at the entrance of a new significant cave discovery.

My hike back to the car was a bombardment of interview questions with myself as I was embodied with pure amazement. Yet I felt an immediate urgency to act upon the beginning of a cave project that I knew from the very beginning, was limited on time. I am not a scientist, geologist, or an archeologist. I am a caver and I want to do everything I can to document and protect this cave while allowing access for science accompanied by cavers to inspire exploration.

I prepared for an immediate return trip with more supplies and a project process. I wanted to get this cave surveyed and photo-documented quickly before organizations and groups would move upon the imminent political intervention that could encapsulate this cave like past cave discoveries. What am I going to call this cave? A place that holds significant ancient history, geologic treasure,
and significance deserves the name King Solomon’s cave.

Developing a team became my priority and a team of people that I believed would be trustworthy, anchored in integrity, professional, and experienced in specific cave-related skill sets. I was so excited to tell my friends that I have been working with in Nevada cave exploration. I wanted to see their faces light up when they got to step into this incredible place. I am also far from having a complete body of knowledge in geology, so this cave needed someone who understands geology.

I returned to the cave the following day with the initial team with experience in survey and archeology so we could start the survey of King Solomon’s cave. I was on-station setting tape and viewing what angles I would capture in photos and I noticed a protrusion in the corner that did not quite fit with the rest of the rocks on the ground. This was rather circular and seemingly too perfect to be made naturally. Upon closer inspection by two of us, we discovered that it was quite unnatural and appeared to have groove-like scales that I have seen on pottery shards in other desert regions. This is a fully intact pot! It was quite large and had weaving still around the pot. Yet another blast of confusion accompanied by the heaviness that could and would come of the cave’s future. Another piece of a differ-
ent pot was discovered that only had the top half remaining. Yucca rope and straight sticks that were bent at the ends were found behind a boulder.

We worked our way down past the Organ Room, with its hollowed tube-like formations that I will explain later, and discovered that a “path” was already made by the presumed visitors before us in early America. This path was cut right through a corner section of the tube formations which was quite delicate to crawl over on hands and knees. Every time someone would pass through this area, we were continuing to damage the already broken beaten path. Thankfully, the damage was contained within the confines of the trail.

Continuing down, the passage narrows up a bit and becomes a downclimb to a standing platform. At first glance the floors had an opaque, amberlike orange color. There was a separation from a stone ground to this translucent color with fins and talons that hung below the contact point. Once
past this, the floor became smooth and had small concave sections with gravel filled in. A bit more walking and we came to a rounded off ledge that appeared to continue down even further. It did not occur to us until we had been walking on it for a few minutes, what we might be walking on. It was quite different from the walls and ceiling, but it did not quite add up. We found a break to climb down and discovered stalactites and a column to be mindful of as we worked our way down this canyon-like passage. The temperature continued to rise as we continued deeper into the cave.

Once in this small canyon passage the world around us changed into what we call the Land of Fire and Ice due to the crystal formations that resemble ice and the heat. We realized that we were not even walking on stone but on the top of a translucent crystal floor! The walls around us resembled an ice cube but more of a milky bluish color. There were cracks within this crystal that had white flaky crystals protruding outwards.

Continuing down we peered inside and noticed a more polished version of what we were looking at and it was soon apparent that we were surrounded by large crystals! At the time of this writing, we called these anomalies “Crystal Glaciers.” They appeared to be somewhat rounded off and polished in some sections. In other sections, they were a bit more opaque. We were surrounded by a translucent, opaque, milky-blue mass of crystal. One was measured to 60 feet in length by 20 feet high! Beyond the Land of Fire and Ice, the passage opened back up into an exceptionally large borehole passage for Nevada. Bats continued to fly in groups down and up the passage as we continued to proceed further down into the cave. We continued to scramble around breakdown boulders that continued to head down into the lower level of the cave.

We noticed some side passages going down that would need to be surveyed and noticed some formations on the ceiling and under the corners of the ceiling as we continued to head downward. Large helictites were found in a section of the cave with formations along the way. We were walking on large breakdown boulders the size of cars and as we continued lower and deeper we went into a sloping void of mystery and ancient geology. I looked further down, and we had reached an apparent bottom. There were rooms heading left and right that appeared to continue down. I turned my head to start back up the passage and noticed a very decorated room full of columns and formations. It was beautiful and we only glanced at that formation room thinking that the possibilities of continuing passage and amazing formations remain to chance and for our future visits. We headed back up and ended up bypassing our exit and continued to walk up a crystal floor covered in dirt and guano. We realized that we did not walk up this crystal walkway when we came down and ended up finding what we call “The Crystal Highway.” You are able to go around this crystal in a passage we call “Under The Boardwalk” and inside the crystal called the “Crystal Charger Corner.” There is a break in this area where the breakdown opens a passage down into the Tanzanite Terrace. This is where the Chandeliers have formed under another large crystal.

Within my understanding of American cave discoveries, very few (if any) caves have been recorded or documented to have massive crystals, a potentially new formation, chandeliers, large borehole, archeology, and beautiful formation rooms all inside one cave within the United States. Only a few caves around the world appear to have similar characteristics, I am not familiar with any cave among these attributes on a global scale.

Nevada caves can be quite short, decorated, and warm. They usually do not have the depth and distance seen in caves in TAG,
Mexico, or many other karst regions within the United States.

Continued scientific exploration is in effect following legal procedures for further scientific analysis. It has always been at my request that King Solomon’s cave would be gated with a mediation trustee and access granted to scientific study, accompanied by qualified cave personnel. These documents have already been prepared and a presentation with the land management agency is on schedule. I do not want to see this cave forgotten, closed permanently to all human beings, or become a gated cave with a key that is “lost” and/or becomes a political battlefield.

I do want to see it protected, preserved, cared for, respected, and to be a place of inspiration for scientists and aspirant cavers to research and enjoy. I want to see our organizational ideals come to an agreement that King Solomon’s cave is a cherished treasure for people and that continuing study and research within the depths of King Solomon’s cave can occur without conflict.

Our team had comprehensive and complete transparency to all project documents as we prepared for a presentation with our local land management office.

Right: Jamie with selenite swords, in contrast to the hollow casts seen elsewhere in the cave
Some members of the team were quite prolific within the caving community. Our collective agreement was to present the cave to the land management agency together, have a process in place to gate the cave, provide scientific access, and present a comprehensive cave management plan to the land agency, that was all within the finishing stages of development. Unfortunately, information about King Solomon’s cave was released early to the land management agency. We now understand that this release of information was presented in a way that caused agitation and concern within the agency itself. Until recently, they did not know we had a project plan in place or a means to protect the cave. This lack of discernment with the flow of information to the land management agency resulted in a breach of trust within our group which damaged a lot of relationships. After nearly two years, trust is still recovering and work is continuing to occur in order to repair the relationships with each other and the land management agency.

Now to be fair, everyone had the good intention and resolve to protect, conserve, preserve, and maintain restricted access. We all took action that we thought was necessary to protect this cave but inherently put people in difficult situations. In my opinion mistakes were made, I will be one to admit that I made a few mistakes along the way as well. The most upsetting and depressing part was to see a discovery I made and eager to share, resulting in broken friendships. I know members of our team who studied hard for years, practiced specialized cave activities, and a few even received PHDs. We all have been driven to cave exploration for such a long time and our end result was broken friendships, anger, frustration, sadness, feelings of betrayal, and for me, an episode of great depression. In the end, I am not mad at anyone, I do not have any grudges, or hold anything against anyone whatsoever. The result is that a gate on the cave, mending relations with the land agency, and scientific access is on schedule.

Fortunately, we have learned from these lessons and now are moving forward to secure scientific access accompanied by cavers, following high standards inside the cave and allowing science to continue.

Recently, we were able to develop a team of scientists and cavers to accompany the land management in the next chapter of scientific research for the cave. This was a huge step forward and we were so happy to see the outcome. The gate is secure and artifacts have been delivered to The Las Vegas Museum of Natural History for display.

Future articles about Nevada caving, including scientific analysis of King Solomon’s cave will be coming, this is only the begin-
ning. It also must be known that King Solomon’s is not the only discovery. Since the discovery of King Solomon’s, I have made a number of additional cave discoveries. Today, there are enough horizontal and vertical caves to fill a recreational caver’s weekend and a project cavers sketch book for a long time all throughout Nevada. Some of these more recent cave discoveries, I have let the caving community realize and some I have only told a few people about. That said, there are a couple of these caves that are very significant and rival King Solomon’s cave. There is also one cave that I do not think I will ever release to the world. I am not sure when I will release those caves to the world, yet. For now, I am doing my part in keeping the west wild.

I want to acknowledge the team of people who were involved with The King Solomon’s project. The team is organized by last name: Jason Ballensky, Tamara Ballensky, Bill Christy, Ron Davis, David Harris, Adam Haydock, Matthew Lachniet, Barbara Luke, Neil Marchington, Randy Paylor, Jessica Preston, Laura Sangaila, Kyle Voyles
This grouping of photos from the 2021 Photo Salon follows a theme of cave passage shots. Above, *Swirly Pahoehoe* by Dave Bunnell earned a Merit Award and was taken in a Hawaiian lava tube. Below, *Stooping to New Horizons*, also by Dave, earned an Honorable Mention.
Here are two Merit Award winners from Nikki Fox in West Virginia caves. The upper was titled *Sinking Creek Stream Room* and the lower photo, *The Shale Contact*, from Windy Mouth Cave, highlighted in the January 2021 *NSS News*. 
A Cave with Two Names: The Discovery & Exploration of Kaibab Caverns / Trout Cave

Tom Gilleland, with photos by Larry Zimmer

It all started with a meeting between me and now-retired Forest Service Cave Specialist Jerry Trout. Jerry asked if I knew of a sinkhole with a small hole going off of it, located on the Mogollon Rim of central Arizona. Since I manage the database for the Arizona Cave Survey, I plotted the location and noted that it was an undocumented lead. I added the point to my GPS as “TROUT” and we discussed getting together to go check this lead. After five years of being unable to coordinate our schedules, I asked Jerry if I could get a few cavers together to take a closer look at the lead, and then tell him what we found. He agreed, so I contacted some of my caving friends and we chose a weekend to camp near the site.

On June 20th, 2009 Bruce Lynn, Larry Zimmer, Mark Pansing, Bob Goforth, and I stood at the top of a small sinkhole in the Ponderosa Pines of the Coconino Forest. A week earlier Larry had driven out to the site to see what it looked like, and noted that the sinkhole had a small cave entrance just behind a large boulder. More importantly, he noticed a small amount of air issuing from the hole. The first order of business was to move this large boulder to get into the cave. Rigging a come-along to an adjacent pine tree made short work in moving our first obstacle. Next, we rigged a rope and Larry rappelled into the muddy hole. He quickly informed us that the drop went down about 25 feet, and was the head of a short canyon big enough for all five of us to fit into. Disappointingly, the canyon ended abruptly after only 40 feet, with a pair of Corynorhinus Townsendii (Townsend’s Long Eared Bats) quietly roosting on the ceiling.

Well, it seemed that all we had found was just another little cave that was so common in the local Kaibab limestone. The geology of this area mostly consists of basalt caprock overlying Kaibab Limestone of Permian age. The dozens of caves that we have previously visited in this specific limestone layer normally consist of shallow, single room caves. But, there was something a bit odd about this site, the canyon configuration of the passage. The canyon

Lots of easy walking passage!
reminded me of the classic Kentucky canyon passageways that I surveyed so many years ago with CRF at Mammoth Cave. In fact, I distinctly remembered visiting such a canyon passage with Roger Brucker many years ago, and him saying, “Follow the water to find more cave.” Following his advice, I found the lowest point on the floor and suggested we should dig for more passage there. Pulling out my shovel, I started clearing dirt and ran right into another large boulder. After a time and lots of work, we were able to get a section of webbing around the boulder and the five of us muscled our next obstacle out of the hole. Our team was rewarded with a small crack, but with an enormous amount of air whistling out of the hole.

At this point the work area could only accommodate a few diggers, so Mark, Bruce, and I continued working on widening the crack. Five hours later we were worn out and decided to go to the surface to eat and rest. Enter dig team two: Larry and Bob. With fresh energy and the strong wind blowing in their face, they continued digging out the dirt and rocks around the crack. Then as he was off to do, Bob thought outside the box and pushed the dirt into the hole where it quickly broke through into more cave passage. Bob and Larry then crawled and stooped through another 30 feet, emerging into virgin walking canyon passage going both upstream and downstream. Excellent, we had a cave! Bob and Larry then headed back up to share the news. Bruce, Mark and I had collapsed into our camp chairs, and were sitting around a campfire eating backpacker meals when Larry and Bob emerged and told us they had broken through into big cave. “Yea, right,” we said, as they had only been digging less than an hour and were now into walking cave? Once we realized that they were not kidding, we all decided to head to bed and start fresh in the morning exploring this virgin cave.

Now as a disclaimer, I’m an ardent supporter of “Survey as you go,” but Bob has a strong “scooping” gene variation which resulted in a negotiated compromise. We would scoop some passage in the morning, and survey it the next day. Our group of five cavers then scooped about 1,000 feet of virgin canyon passage on the downstream section of the cave, and then called it a night. As promised, the next morning we surveyed that section of cave. Most of the passage was classic narrow canyon, except at the end we discovered some boxwork formations adorned with flowstone and mini-columns.

Back at home following this initial trip I called Jerry Trout and informed him of our discovery. He was quite excited and suggested that we gate the cave quickly before local non-cavers found the entrance. The sinkhole where the cave is situated is only about 100 feet from a fairly active ATV trail. Jerry then began preparation of the proper Forest Service paperwork and
procedures for us to gate the cave as soon as possible. At that point we needed to decide on a name for the cave, so the five cavers who dug it open discussed a few options and decided on calling it “Trout Cave,” mostly because that was what we had been calling it for the past five years. The other big issue was whether we would survey this significant cave with only our discovery group, or share the cave project with other regional cavers. One of our team felt that we should keep the discovery secret from the caving community, and explore and map the cave ourselves. I argued that we should share the discovery with other regional cavers, so that they too could share in the excitement of exploring and surveying virgin passage. Our team spends most of our caving time looking for and digging into new caves. Because of this we get to experience virgin cave quite frequently. Note that we have to check about 50 dead-end leads in order to find one average cave, and around 200 leads to find a significant cave like Trout Cave. In the end, we decided to share the cave. Our little group would be team leaders for all trips, and we would invite 5-10 other cavers to help out on each trip. This method seemed to produce a great deal of goodwill within the Arizona caving community, and enabled 32 cavers the opportunity to survey virgin cave.

The next step was to install a gate on the cave. Fortunately, I own a company that builds bat gates for abandoned mines and caves (www.mingates.com), so we quickly built and installed an entry gate. Concurrently, we worked with Jerry Trout (past National Cave Specialist) and Polly Haessig (Coconino Forest Geologist) to manage this unique speleological resource. Work continued over multiple weekends surveying the downstream section of the cave, which ultimately ended in a small room that floods to the ceiling only in rare large snowmelt events. Overall, the cave is fairly dry except during the spring snowmelt that seep into the middle sections, making them quite muddy. The water from the final downstream room flows through an impassable breakdown pile of boulders for about 200 feet horizontal and about 50 feet vertically to a surface resurgence at the head of a normally dry creekbed.

Once the downstream section was complete, our survey teams worked upstream by leap-frogging each surveyed section. The first survey started with some low crawls that quickly intersected easy walking passage, and ended in an extremely decorated room. An excellent example of a crinoid stem fossil was discovered on the wall further down the walking passage. As we continued upstream, the cave became larger and contained even more formations. Access was easy on the gravel floor, and made great protection for the 1,000 feet of heavily decorated walls and ceilings.

Work also continued with management coordination with the Coconino Forest, where the cave resides. Our team gave tours of the cave to Forest Biologists, Geologists, Archaeologists, and the Forest Supervisor. An issue came up at this point when the Forest Supervisor informed us that the official cave name had to be changed since it could not be named after a living Forest Service Employee. Our discovery team decided on the new name of “Kaibab Caverns” after the rock formation where the cave is formed.

The next 500-foot section of upstream passage began with a large breakdown room that transitioned into belly crawls below fragile soda straws. Traversing this section requires a team of cavers where one directs the others how to crawl and not impact the low-hanging formations. Once through this section the cave changes into a series of muddy tubes. If you visit the cave soon after the spring snowmelt this section is extremely muddy and slippery, whereas the cave dries throughout the rest of the year making it a much easier traverse.

Walking canyon passage continues throughout the rest of the cave, except at the very end sections, where the cave transitions into low belly crawls. Most of these final passages were devoid of speleothems, and when we conducted surface radio locations we measured that our antennae depths were around 70 feet deep. The final crawls were pushed over two more survey trips, but only yielded another 100 feet of cave. At this point we declared the survey complete. After 12 years and 32 trips the survey totaled 9,012.1 feet of horizontal cave, with 136.7 feet of vertical relief.
Sadly, one of the discoverers of Kaibab Caverns, Bob Goforth, was diagnosed with cancer near one of out later trips. About a month before he passed away Bob and I were hiking up a New Mexico mountain and planning a trip to one of our new cave discoveries. We were discussing the naming of “Kaibab Caverns”, and Bob said that it would always be “Trout Cave” to him. All I know is that our next major cave discovery will be called “Goforth Cave”. In fact, we already have a new cave that we dug open and it is blowing a bunch of air, and after a bit more digging maybe it will get its new name.

A scalable PDF version of the cave map can be downloaded at:

www.undergroundconservancy.org/maps/Kaibab.pdf

Cave Discoverers

Tom Gilleland, Larry Zimmer, Bob Goforth, Mark Pansing, Bruce Lynn, & Jerry Trout.

Caver Project Members


Arizona Borehole Name Witheld earned an Honorable Mention for Dave Bunnell in the 2021 NSS Photo Salon. Notwithstanding the tongue in cheek titling that pays tribute to a long-running tradition of cave conservation in Arizona, the location of this cave is no secret at all. It can be visited at Tonto Natural Bridge State Park near Payson, Arizona. Visitors arrive at the top and short hikes lead to the entrances down in the canyon. After rains, a waterfall sometimes forms at the entrance pictured and images of this can readily be found with a Google search. This photo was taken entirely with natural light but shot in RAW format to pull out more detail in the darker areas. Some front light comes from the other entrance to this 400-foot-long cave.
The cave you see on one cave trip is NOT the cave you see on the next cave trip to the “same” cave. In other words, caves change, and generally cavers are unaware of this interesting phenomenon. Many cavers believe the cave is eternal, enduring age after age. But the breakdown you see today is NOT the same breakdown you see tomorrow or next year. Artificial Intelligence (AI) explains how this is the surprising reality.

Here is my subjective and objective evidence: 1. Caves I have visited several times over a span of years seem different to me. Have I forgotten what I saw in the past, or has the cave really changed? The cave has really changed and my memory is as good as the next caver. 2. A few times I have been stopped by a breakdown. Try as I may, I have not found my way through the rocks. Then some other caver at a later time finds a way through the breakdown and finds a wonderful passage continuing onward. Was it just that I was not a thorough enough caver or has the cave really changed? The cave has changed and my memory is as good as the next caver. 3. Cave Research Foundation teams have resurveyed many passages in Mammoth Cave. They tell you they resurvey “to improve accuracy.” But the fact is no resurveys have identical lengths you they resurvey “to improve accuracy.” But the fact is no resurveys have identical lengths of the original surveys! This is because the cave changes.

It was not until I became a proficient AI expert that I understood exactly what was happening. I read the Wikipedia article on AI several times until I fully understood how Artificial Intelligence works on caves and how AI explains how caves change. For example, in Mammoth cave one finds junctions, canyons, tubes, shafts, breakdowns, fills, speleothems, and speleogens, to name a few of many configuration variables.

The 415 mile length of Mammoth Cave is 2,191,200 feet, and since the average survey shot in Mammoth Cave is 31.51 feet (calculated from 69,561,905 shots in the total survey database), it follows that the combinatorial matrix of variables approaches infinity. In the deep learning mode the Propagation Function produces a feedforward recurrent network. Applying a Markov chain analysis we may calculate the adaptive learning rate creating a stochastic cerebellar model that may be weighted since all of the cave is underground. The varying gradient problem is subsumed by the generative adversarial network. Unfortunately that network lacks robustness so we apply the Jacobi method to account for the multi-timelines.

In other words, breakdowns change on a shorter timeline than passage cross-sections or junctions. But it all changes. I have developed the Rubreck Coefficient to calculate from the Jacobi product to duplicate the exact differential measurements from observed cave features. The mean square validity of my time-differential method lets us create a table of change values for the entire cave matrix.

You may say, “Ergor, of what practical use is this Rubreck Speleo-AI process?”

If you think deeply about it, it will serve you well on every cave trip! For instance, if you tell some young caver the crawlway is

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Welcome to the Black Hills!

Greetings Cavers! I’m Kelly Mathis, the Cave Trip Coordinator for the 2022 NSS Convention hosted in Rapid City, SD. The Black Hills is an amazing caving area and boasts nearly 400 miles of mapped cave passage, including two of the longest caves in the world and 10 caves over a mile long. I’m not going to go into details of specific trips offered in individual caves in this article, but I want you to know that we plan to have a good variety of trips available to you when you visit. Caving options...we’ve got ‘em! A driving tour with several stops to see small caves. Yep! A six-hour hands and knees crawl. Sure! A paved walking tour route. Absolutely! Scrambling over breakdown with a big drop below, kind of wishing you were on rope? We can arrange that. We’ve got you covered for a wide variety of distance, duration, and terrain in the best caves of the Hills. We will have both self-led and guided trips available daily, and caves of all ages and abilities will find something to do if they choose to get underground while they are here. If you’re new to caving in the Black Hills, one thing you’ll find is that you’re better off investing in good knee pads than loading the car full of rope. Also, you can definitely leave those wetsuits at home, as most caves are generally dry with only a little bit of mud and temps are close to 50 degrees. Keep reading for descriptions of some of the caves available for caving at convention. We look forward to showing off and sharing our magnificent karst resources with you so grab those cave packs and put fresh batteries in your lights; we’ll see you in June!

Black Hills Caving

One thing that surprises every visiting caver is what we wear in our caves – good knee pads and elbow pads are a must (does not apply to Juan Laden). On trips where you will be moving most of the time, traveling a ways to a particular destination in the cave, tightis with shorts and a poly-pro t-shirt are adequate. If you are on a trip that will be traveling slower, stopping frequently to look at things, we still do not recommend a cave suit for any of our caves. It works well to have a lightweight long sleeve shirt to wear over the top. If you have questions about gear for a specific cave you’d like to see, please feel free to contact us. Lastly, the Black Hills is a White Nose Syndrome positive area. Decon practices should be followed when bringing any gear from other locations. While we do not have space to go into specific details about WNS protocols for all caves here, information will be available soon on the convention website. Decon supplies will be available for use at convention.

Our Local NSS Preserves

The Black Hills is home to two NSS preserves; The Dahm Springs Preserve and the Mammoth Crystal Cave Preserve. Both are accessible in a short driving distance from the convention venue. Each of these pieces of property are host to beautiful limestone canyons with multiple caves. Scheduled trips for convention attendees will be available to the largest two caves at each preserve, Brooks Cave and Bethlehem Cave, respectively. In addition, visitation to the smaller caves at the Dahm Springs preserve, as well as some beautiful scenic views, can be enjoyed at both locations with a more open availability.

Jewel Cave

Jewel Cave is currently the third longest cave in the world and of course, a major attraction for cavers. Jewel Cave offers, arguably, the most remote and difficult to reach passages and some of the best exploration opportunities in North America. These major expeditions, of course, are not available as convention trips, but some interesting trips will be available. Jewel Cave is a National Monument and we are working with the National Park Service to offer a limited number of convention trips. Information on trips into Jewel will be released as we approach convention. Public guided tours with a park ranger will be available daily as well, with a limited offering of the ranger guided Wild Cave Tour which gives participants a view of the rare Hydromagnesite Balloons. Those who wish to give the Wild Cave Tour a shot must fit through “the block”; a concrete block simulating the tightest passage on the tour which is about 8 ½” high by 20” wide.

Wind Cave

Wind Cave National Park is home of the Black Hills 2nd longest cave, Wind Cave of course, which is best known for its delicate and plentiful boxwork. Wind Cave has numerous other speleothems throughout the cave. Wind Cave is a three-dimensional maze of body bruising passages that is both mentally and physically challenging. The Park Service offers three different lengths of ranger-guided tours for your family’s enjoyment. There are plenty of above ground things to do at the park including hiking on its network of trails and sightseeing bison, elk, prairie dogs and coyote.

Stagebarn Cave

Stagebarn Cave offers a one-of-a-kind caving experience compared to other caverns in the Black Hills and was once a premier show cave of the Hills. At over 10 miles long, it’s South Dakota’s third longest cave and harbors numerous pools, formations, and other wonders. The passages contain a variety of characteristics that include a mid-level bedding plane maze network intermixed with lower-level “Halls,” which encompass most of the cave’s walking passageways. Stagebarn’s physical nature makes exploration discoveries all that more rewarding. Enjoy Stagebarn with a solid set of navigation skills, a plump set of knee pads, some grit, and a willingness to explore.

Reeds Cave

Reeds Cave, privately owned, is the 5th longest cave in South Dakota, and has been a local grotto mainstay since the 1960s. At just over 5 miles in length, this cave offers many different types of trips for nearly every skill and interest level. Scheduled trips into Reeds are being planned both the weekend before and after convention. The opportunity may also present itself for some mid-week fun at this great cave. So, check with the trip coordinator about visiting Reeds.

North Cave

Do you like digging? We have the cave for you! North Cave is the local Grotto’s most exciting dig project. In cooperation with the Forest Service, cavers have been digging in North Cave for years. North Cave, although not part of the Jewel Cave system, has barometric airflow that indicates a cave of the same size as Jewel. Some of the most exciting moments in North Cave history include a caver pulling a rock from the floor at the bottom of the dig to be met with a hissing sound and a mini volcano of
dirt erupting for several seconds before the sediment and rocks settling, sealing off the air again. We welcome help with this exciting project at convention or beyond! Due to the presence of excessive rat droppings, we require a cartridge respirator in this cave. The Grotto has a limited number to loan.

Pinnacles Expressway in Jewel Cave

The short entrance drop into Davenport Cave

Center column, two views of Bethlehem Cave. The top image shows some crystal coated boxwork, and below it, some sharp crystals.

Spar-covered squeeze in Davenport Cave

Ropework is uncommon in Black Hills caves, but is needed on occasion such as at Wild Goose Dome in Reed's Cave

Crystal-coated boulder in Reed's Cave

Kelly Mathis, your Convention Cave Trip Coordinator, in the Stratosphere in Jewel Cave (Marc Ohms photo)
I think I just wrote my longest report title ever! The past year has been historic and 2022 promises equal importance. There is a lot to report from the International Union of Speleology (UIS)! This is my annual message to the 57 member countries of the UIS. As I’ve written before, together, we are all the UIS, united for the advancement of speleology. The successes of 2021 and those coming in 2022 and beyond are because of your efforts to “Explore, Understand, Protect,” the theme of our ongoing International Year of Caves and Karst.

The UIS was invited by the UNESCO Director-General to celebrate the International Year of Caves and Karst at UNESCO. Until then, speleology has never had a chance to meet directly with a globally international governmental organization and to teach its leaders face-to-face about the importance of caves and karst. For decades, cavers struggled to get their local, regional, and national leaders to protect caves and karst. For decades, cave scientists struggled for respect in the scientific community. The worst of those times are now behind us. Together, we have made great progress, which led us to UNESCO. The celebration there marks not only a great achievement for speleology, but a new beginning. (To watch the celebration at UNESCO, go to https://www.youtube.com/watch?v=6-yIDypPJfQ&t=2181s.)

We should all be proud of that incredible event and use it to inspire our work, especially for the International Year. More importantly, we must see that celebration as an opportunity to advance speleology in ways not possible until now. The UIS is continuing to meet with UNESCO staff and representatives to build on the celebration and the goals of the International Year. Like with the International Year, the UIS Bureau cannot succeed alone in teaching governmental and other leaders. We need everyone to participate.

By supporting each other, we can continue doing great things. More importantly, we need to aspire and reach for greater things. Cave and karst science is now respected globally. We must use that respect, and the credibility that UNESCO gave us through their invitation, to seek meetings at higher government levels for better protection and management. We must use that respect and credibility to request more funding for research and exploration of caves. By showing this international respect to the news media, we can get more publicity and use them to help us teach the public about the value of caves and karst.

International Year of Caves and Karst: What is Coming in 2022
As we start the second year of the International Year of Caves and Karst (extended because of COVID), I call on every speleologist to double their efforts in reaching and teaching the world about these fabulous places we hold dear because we are the people who understand how truly special they are. I ask all of you to plan more events and activities and reach out to bigger audiences and higher people in your societies and governments. Proudly tell them that UNESCO invited us to celebrate caves and karst with them because caves and karst are important, sensitive to damage, and need protection. Make it clear that you are not alone and that the international community supports the theme of the International Year: Explore, Understand, Protect.

As you organize events for 2022, please remember and do three things:

- **Announce them on the International Year website**: www.iyck2021.org. Go to “Events” and then “Announcements.” Send them in the simple format you see to the website manager’s address listed near the top of the page. No event is too small or local. Every event is important!

- **Make the events hybrid**. While the COVID pandemic is tragic, it was good for the International Year in some ways. Lectures and programs that normally would have been heard by only a few people in person have been watched live and recorded by thousands globally, making our outreach much greater. Not every physical event can be hybrid, but please include virtual access to your events whenever possible.

- **Post your event results on the International Year website**. The event results are the same as the announcements, except “For more information” is replaced by “Event report,” which can be links to videos, websites, new media, or a short, written summary of how many people attended and what was accomplished. Sending this event report may be the most important thing you can do. At the end of 2022, the UIS will compile all the results into one document to record what happened during the International Year. Our hope is that everyone will use that document to prove the international importance and support for caves and karst to develop more funding for exploration, research, and management, and to create better laws for protection when 2022 has passed.

I am not promising that you will see instant results and support from your work on the International Year of Caves and Karst.
I am promising that if we continue working together, around the world, that the increase in knowledge and appreciation for caves and karst will grow until we see clear and positive results everywhere. Remember that a rising tide lifts all boats. In some places such success may only come after many years, but it will come and be made easier as the truth of our work surrounds and fills all nations.

18th International Congress of Speleology: A Must-Do Event!

Every four years the UIS organizes the world’s most important event for caves, the International Congress of Speleology. The next one is planned for 24-31 July 2022 in Savoie - Mont Blanc, France (https://uis2021.speleos.fr/). Because of the pandemic, this 18th Congress was delayed one year but we have high hopes that it will be best ever. Why?

- Spectacularly beautiful location.
- Many trips to fantastic and diverse caves in the region.
- Excellent facilities in which to meet.
- 20 symposia on all speleological topics!
- Over 500 abstracts submitted. The most for any congress!!
- Celebration of the International Year of Caves and Karst!!!

The 18th International Congress will be the major event for the International Year. In addition to the regular events of a congress, more and special events are planned to celebrate the International Year. The events are not only fun, but important for our progress to better “Explore, Understand, Protect” our caves and karst.

We are inviting dignitaries from governments and influential organizations to join us in Savoie -Mont Blanc. This is where you will help make both the International Year and Congress a success. Your enthusiastic presence and reports on exploration, research, and other activities will prove to all the value of caves and karst. The dignitaries and leaders will leave the congress knowing they must support our work and provide better funding for studies and laws for protection.

Of course, we all have some uncertainty about COVID. The Congress Organizing Committee is working to make the Congress as safe as possible and to include as many people as possible, but they may be limited by government rules that can change quickly as the virus changes. They appreciate your patience and understanding of these difficult circumstances.

When the Congress date is near and there is more certainty, specific information on any Congress restrictions will be posted as it becomes available. Until then, here are three things to know and do so your trip to France will be safe, possible, and pleasant:

- **Get vaccinated.** If you are not vaccinated, you may not be allowed into France. Also, check the French Ministry of Foreign Affairs website (below) to verify that your vaccine is accepted in France.
- **Get a QR code on your vaccination document.** Many tourist sites, restaurants, and other businesses in France require a *passe sanitaire* (health pass) for entry. This is easy to do through information at https://www.diplomatie.gouv.fr/en/coming-to-france/coronavirus-advice-for-foreign-nationals-in-france/ applying-for-a-covid-certificate-if-you-were-vaccinated-abroad-procedure-for/, but only if your vaccination document has a QR code. If it does not have a QR code, ask the health organization in your country how to add a QR code to your vaccination document.

Assuming we make good progress with the pandemic, I urge you to please come to the International Congress. The deadline for early registration prices is 27 March 2022. Enjoy the excellent caves, fabulous food, and exquisite scenery of southeast France. Come to the Congress to meet old friends and make many new friends. And come to the Congress so that the impact of the International Year shines a bright light for speleology far into the future.

For more information about the UIS, visit www.uis-speleo.org. Under “Publications” you will find the UIS Bulletin which has our latest news.

![The UIS Bureau and guests at UNESCO Headquarters following the historic meeting on 13 September 2021. Photo by Satoshi Goto.](image-url)
known cave photo duo for decades, based in the south of France. As the book shows, the caves in this region are exceptional and Philippe’s photos will likely encourage you to visit this outstanding region. As luck would have it, the International Congress of Speleology is based north of this region this coming July and its possible some of these caves will be in the offerings for pre or post camps.

The material is drawn from extensive travel so in addition to France one will find photos from Australia, Belgium, Brazil (probably the most after France), Cuba, Czech Republic, Great Britain, Hungary, Iran, Italy, Japan, Laos, Lebanon, Malaysia, New Zealand, Romania, Slovenia, Spain, Switzerland, Turkey, and the USA. The latter include shots from Arizona, Colorado, Hawaiian lava tubes, Kentucky, New Mexico, Puerto Rico, TAG, and Vermont.

The book begins with an introduction by George Veni which portrays it as part of the celebration of the International Year of Caving, and further words by Jean-Marie Chauvet and Kevin Downey. The book is then organized into 8 thematic groupings of photos, such as entrances, water passage, formation groupings, formation closeups, fauna, and non-limestone caves such as lava tubes and especially, the amazing salt caves in Spain and Iran.

I can say unreservedly that this is the most impressive single book on caves among the hundreds I’ve seen. It’s the sort of book you can leave out for your non-cave friends to browse through to show them what you find so appealing about the underground. Speleobooks has a few on hand but once they run out, it will likely be least expensive to purchase an autographed copy from Philippe during the Congress and save on the high shipping costs to the USA.

You can view many of Philippe’s cave and surface landscape photos on his website at https://www.philippe-crochet.com/

Dave Bunnell
Doug Medville, Rob McFarland and Ken Headrick spent a day surveying claystone caves on the South Shale Ridge in Mesa County, Colorado. The trio surveyed two claystone caverns, *Wellpad Gully Cave* and *South Shale Ridge Crystal Cavern*. While both caves were relatively short, South Shale offered spacious passages and gypsum formations, both of which are rare for the area. Several other pseudo-karst features are present in the area and Doug plans to return to document these formations.

**The Carbide Dump**

*Blue Ridge Grotto*

December 2021, Vol. 56, Number 11

Dave Socky and several other cavers joined forces to push the Covid Creek breakout in *The Great Savannah Cave System*. Dave’s team oversaw surveying the new passage, while Nick Socky and his group aid climbed the 40-foot waterfall dome located on the last trip. Large canyon passage was located atop the dome that eventually terminated in another 40-foot dome with an excellent lead visible at the top. Overall, 756 feet of mostly large canyon passage was added to the survey and a new aid lead was generated.

**The Carbide Flash**

*Paha Sapa Grotto*

December 2021, Vol. 45, Number 1

After having been neglected since 2012, a confluence of events resulted in cavers revisiting exploration in The Lakes section of *Wind Cave* beginning in late 2019. Since then, eight trips to this area have yielded nearly a mile of new passage and the discovery of Impress Maxima, a beautiful 4.5 by 3 foot large helictite formation.

Dale Jacobson spearheaded an effort with Brit Keith to dig out an old lead in the Bighorn Mountain’s *Tongue River Cave* that Dale remembered from the early 1970s. Beginning in 2019 Dale, Keith and whoever else they could recruit for the day began excavating a sand crawl that the duo theorized connected to upstream passages. Following a light breeze they dug several hundred feet through clay and sand, eventually accessing a multilevel section of cave that offers relief from the bellycrawling tunnels. The duo hope by continuing to follow the wind even greater passages will be discovered.

**Rushmore Cave** and **Mystic Cave** were resurveyed within the past year, both exceeding over one mile of mapped passage. The two caves lie very near to one another, but are quite different in character with the latter being mostly tight squeezes and the former a well-decorate tourist cave.

**The Potomac Caver**

*Potomac Speleological Club*

July-August 2021, Vol. 64, Number 4

A group of five cavers entered *Shoveleater Cave* to pursue leads in the TARDIS section of the cave. Splitting into two teams an aid lead and a technical dig were the main objectives for the weekend camp trip. As per usual the dig lead had great air but will require return visits, while the aiding lead yielded a breakdown crawl that has not been fully explored.

Tommy Cleckner, Eric Pelkey and Rick Royer surveyed a highly decorated canyon in *Memorial Day Cave*, collecting 420 feet of virgin survey. Confined to mostly crawling through the tight passage, the trio found themselves face to face with an abundance of gypsum snowballs and cave cotton, formations which are rare to absent in the rest of Memorial Day Cave.

**Sag Rag**

*Shasta Area Grotto*

Sept.-October 2021, Vol. 40, Number 5

Marc Heins and Bill and Judy Brockel surveyed *Three Strikes Cave* and *Nautilus Cave* in Siskiyou County, California. Both caves are relatively short lava tubes, with neither cave surpassing 200 feet.

Typical passage in Tongue River Cave, Wyoming
Hub Seward

NSS 5434

Hub Seward passed suddenly but peacefully at home on November 15, 2021 after a courageous battle with Parkinson’s disease, with his wife Peggy at his side.

Hub was attracted to the Outing Club and outdoor activities of/like caving, rock climbing, and canoeing. Lured back after a three year break, Hub resumed education at Newark College of Engineering (NCE). NCE had a computer arrive shortly before Hub. Soon he was experimenting, making it more efficient, and as a sophomore became a teaching assistant in the new computer center to both students and faculty. As one of three undergraduates who developed a faster FORTRAN process later adopted by several engineering colleges, Hub graduated with a BSEE in 1965 and a Master of Science in Engineering Mathematics in 1967.

Hub additionally founded the Outing Club at NCE and continued rock climbing, caving, winter mountaineering, backpacking, and canoeing with the Intercolligate Association (IOCA). School vacations and long weekends were spent somewhere between West Virginia and Maine enjoying one or more of these activities. Instructor and leader with the MIT Advanced Rock Climbing Committee, the National Speleological Society, (where he just received a 60 year membership award) and the Adirondack Winter Mountaineering School. Summers during college years included mountaineering trips to Wyoming, California, and Washington State. Other interests included the Japanese Board Game of GO (Wei-Qui or Baduk), travel to many historic sites and recreational areas, whittling, and square dancing.

Hub met Peggy (Mack), a nursing student at Alfred University, during college Outing Club activities. In 1969 they were married and soon moved to Milford, New Hampshire. Together they became involved in local outdoor activities as caretakers for Anne Jackson Girl Scout Camp and assistant Cadette troop leaders….Hub further served the Milford Conservation Commission for over 30 years as member or chairman. He enjoyed hiking and constructing trails and the Commission recently honored him with a plaque …

In the 1980s Hub became curious about the Hot Air Balloons that were flying on weekends He advanced from watching to crew chief to pilot and owner of the Lime Ricky Balloon. Hub was a member of the Granite State Balloon Association, AOPA, and the Balloon Federation of America. Hub was active with the Milford Historical Society, Jaycees, and the Lions Club where he was presented the Melvin Jones Fellowship (MJF). Hub and Peggy were further recognized as Milford’s Citizens of the Year in 2020.

In retirement Hub enjoyed traveling the country with family and friends, visiting all but 2 US states; listening to country music, attending concerts and discovering new restaurants. Hub was intrigued by family genealogy, questing for letterboxes, and collecting wooden puzzles…

Hub was a gentle, quiet man who believed that by listening, not talking, you learned. When he did talk it was often profound and certainly witty. Rest in peace Hub, We love you.

Roland Vinyard

Donald Ball

Donald Bruce Ball of Louisville, Kentucky, passed away peacefully on December 7, 2021, at the age of 74. Don was a highly respected Archaeologist, M.A., R.P.A., and U.S. Army Veteran. Born in Nashville, Tennessee, he spent the majority of his life in Louisville, Kentucky.

Don graduated in 1970 from Middle Tennessee State University, Murfreesboro, TN with a B.S. degree, and obtained an M.A. from the University of Tennessee, Knoxville, in 1977. He entered the U.S. Army on June 18, 1970, serving in Berlin, Germany, with A Company, 2nd Battalion, 6th U.S. Infantry, a unit of the Berlin Brigade. He was discharged from active service 21 December 1971 having obtained the rank of Sergeant (E-5). He was the recipient of the National Defense Service Medal, the Army of Occupation Medal and the Good Conduct Medal. His Honorable discharge was effective June 1, 1976.

Don’s professional career was spent as an Archaeologist at the U.S. Army Corp of Engineers, Louisville District, Environmental Analysis Branch, Planning Division. Don continued his work in archaeology with research interests focused on: Prehistoric archaeology of the Southeastern U.S.; history of archaeology research in the southeastern U.S.; 19th Century rural historic and industrial archaeology and firearms technology; and more. He edited and wrote numerous articles for the The Millstone, the journal of the Kentucky Old Mill Association. Don had considerable interest in the history of caves, and while not an NSS member, wrote 27 articles for the Journal of Spelean History. In his field, he authored and co-authored 467 Publications. He has another 35 plus publications in-press or submitted for professional review.

Don is survived by his beloved Marcia Hemming of over 20 years; his sister, Mary Jane Knight; his son, Donovan Ball and grandchildren Anna and Sophie.

A graveside service with Military Honors was held on December 18 at Shady Grove Cemetery, 779 Deberry Rd., Morrison, TN.

By Dan Turner with additions by Gary O’Dell

2022 - 23 Fellowships

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https://caveconservancyfoundation.org/
Telephone: 804-798-4893
cavecv@aol.com

Cave Conservancy Foundation
NSS December 4th 2021 Board Meeting

At the December 4th BOG meeting, the directors appointed Kristine Ebrey (58439RL FE) as the next president of the NSS. Kristine will assume her role at the closing of the March 19, 2022 board meeting. Kristine has been serving as the NSS Secretary/Treasurer for the last three years. Previously, she has served as a director of the society and also the chair of the directorate. She brings many years of leadership experience to the office.

The board also selected John “Rocco” Stembel (25837RL FE) as the next Secretary/Treasurer of the society. Rocco is a small business owner and has many years of experience in business operations and accounting. The NSS is in good hands with Kristine and Rocco and I wish them well.

The board also passed a number of motions to clean up our bylaws. The board also created the Research Advisory Committee and the Cave Management Research Committee to help the Society reach its goal of being a leader in cave and karst research. The board also passed an outline for writing a preserve management plan, approved the charter of the NSS Vertical Training Commission, and amended the convention surplus designated fund.

The board also approved an agreement with Gary Storrick on the disposition of his vertical equipment collection. This non-binding agreement is to accept the donation of Dr. Storrick’s vertical equipment collection along with funds to maintain and add to the collection upon his demise.

The next NSS board meeting will be held at 9AM on March 19, 2002 in Huntsville, Alabama and will be the first “in person” board meeting held since the March 2020 board meeting in South Dakota. However, a surge in Covid may require the meeting to be held remotely. Please check the web page as the meeting approaches.

Membership

Our membership numbers have continued to slowly climb over the last year. This growth is in spite of the pandemic, the inability to hold the NSS Convention in July, as well as regional events and many grotto meetings, etc. At the end of December 2021, membership stood at 7,811 members. Over 2021, we added 608 more members with the highest assigned NSS number of 71,425.

Geary Schindel

Amazon Smile for the NSS

In the last quarter of 2021, AmazonSmile made a charitable donation to the National Speleological Society, in the amount of $412.14 as a result of qualifying purchases made by members and other customers who have selected the NSS as their chosen charity. The NSS has received $6,297.59 (as of November 2021).

If you wish to participate in the program, you simply have to place your orders through smile.amazon.com and in your account settings, select National Speleological Society as your chosen charity (among many possibilities). Your costs are not affected and 0.5% goes to the charity.
Desert Caving Issue