



Illinois Soil Classifiers Association Newsletter

Summer-September 2022

Upcoming Events:

Fall Meeting Oct. 8

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Message from the President

Submitted by Elizabeth Miernicki

Dear ISCA member,

Summer weather in Illinois can go one of two ways: drought-like conditions or consistent rainfall. Maybe you are based near St. Louis where the area at the end of July received about 25% of their normal yearly rainfall amount in just 12 hours. On the U.S. Drought Monitor map, east central Illinois (my neck of the woods) shows the opposite – a consistent severe drought rating of D2. Both scenarios have their unique challenges. Rain can make it difficult to get into the field, and dry conditions will sometimes make you feel like you're sampling concrete. I hope none of you have experienced the latter lately! Maybe you have if you work in Cook county...

I don't know how it's already mid-September – the past couple of months have flown by. We're now entering the part of the year where local schools and organizations will be holding opportunities where ISCA members can volunteer their expertise. Volunteering to be a guest lecturer at a local community college or serving as a judge in an FFA Land-Use Career Development Event is a great way to interact with our communities and advertise ISCA as a valuable resource. I'm sure anything from a lecture on septic systems to a lab involving a soil pit would be welcomed. It's also a great opportunity to talk about career paths that involve soil science, something we know isn't always the first thing that comes to students' minds (or the second, third, fourth...). It's incredibly important for students to become aware of the 15-hour soil, or closely related, course requirement as early as possible. Hopefully this awareness will help students have a better understanding of how to shape their class schedule and how to select internships if they are serious about a career in soils. Let's not forget that this course requirement is one of the first steps for classifier certification and many other opportunities (like becoming a soil scientist with NRCS)!

With that said, I hope you consider volunteering, even if your schedule only allows for a day or two. Our organization does great outreach already, but it's always fun to explore new ways to get involved. If you have any outreach ideas, please send an email to the Council. We welcome any discussion; there are no bad ideas!

Please also make sure to put the Fall meeting on your calendars. The meeting will take place at the old ISU Farm (Normal, IL) on Saturday, October 8th starting at 10 AM. More details to come; we hope to see you there!

In the meantime, I hope you had a restful conclusion to your summer and a wonderful start to the Fall!

-Liz

ISCA 2022 Field Workshop & Fall Meeting

ISCA Members are encouraged to attend the
Saturday, October 8th Field Workshop and Fall
Meeting at the old Illinois State University Farm in
Normal, Illinois

It'll start at 10 AM. More details to come!



Soil Judging Regional Competition

Submitted by Liz Miernicki

The University of Illinois is hosting this year's Region 3 Collegiate Soils Contest in Champaign, IL.



Assistance with grading scorecards and monitoring pits is needed on **Thursday, October 20th** in Champaign County. If you can assist with the regional contest, please contact Scott Wiesbrook by email. Thank you.

Email: swiesbro@illinois.edu

ISCA Members Conduct Educational Activities at Local Venues

Submitted by Bill Kreznor

ISCA Members Brandon Mueller, CPSC and Bill Kreznor, CPSC of William R. Kreznor & Associates, Inc. (WRK&A) recently conducted a couple of post-COVID in-person activities relating to soils education.

Earth Day, Prairieview Education Center, Crystal Lake, 23 April 2022

WRK&A were invited to participate in the annual Earth Day event jointly sponsored by the Environmental Defenders of McHenry County and the McHenry County Conservation District (Figure 1). Our activity fit right in with the theme: "Soil - Can you dig it?" (Figure 1). We prepared a couple of 3"-diameter soil cores (a Mollisol and an Alfisol) to illustrate differences and similarities in soil types (Figure 2). The cores served as part of a larger display (Figure 3) featuring hands-on activities determining soil texture and soil color.

It was a warm sunny day and the event brought in a fairly large crowd. We saw about 30 visitors at the "Soil Station" (Figure 4). We were a bit remote from most of the other stations and activities, so it helped being located near the food truck.

Wide World of Wonder, Westwood Elementary School, Woodstock, 20 May 2022

This is one of our favorite events. We have an open invitation to participate each spring and have done so for the past 8 years, except 2020 and 2021 due to COVID. So, it was nice to return in 2022. Wide World of Wonder features anywhere from 15 to 20 activities presented by local individuals, groups, and businesses. Past activities have included a cheerleading camp, slot car racing, fishing, livestock (goats, ponies, etc.), pizza-making, drumline, model railroading, and folk dancing. Each student selects 4 activities and receives a timed ticket for each. The student presents the ticket to the station master (a teacher or parent) assigned to each activity station. Typically, there are 10 to 16 students, grades 1 through 5, at each activity. Each session lasts 40 minutes, about the limit of the attention span of most grade-schoolers.

write-up continues next page

ISCA Members Conduct Educational Activities at Local Venues

Submitted by Bill Kreznor

The key to enhance interest and juice up ticket demand in a soil activity is marketing. For example, our soils event was described during the ticket selection process as:

“Slugs and Bugs: The Creatures Below Our Feet

Wildcat scientists will learn about soil and how much life on earth depends upon it. What makes soils different? Then we’ll use a magnifying glass to search for and identify the creatures that call the soil home. Oh yeah, prepare to get dirty!”

We had a little problem getting 4 large groups at each of our soil sessions (Figure 5). We bring in buckets of different soils for the students to search: a forest soil, a schoolyard soil, and a farmland soil. The students are given pictures of common creatures to help them identify their discoveries (Figure 6). For each soil environment, we identify each creature and count their number to see which soil habitat provides the best pad for a pill bug or manse for a millipede. Oh yeah, we do get dirty (Figure 7).



Figure 1



Figure 7



Figure 3



Figure 2



Figure 4



Figure 5



Figure 6

How West Virginia and Illinois Are Connected

Submitted by Mark Bramstedt

In 1872 Yellowstone became the first national park in the U.S. By 1890 4 other parks had been named, including Sequoia and Yosemite. By the mid 20th century, many of the iconic parks were well established and the practice of designating national parks seemed to slow. However, the National Park Service has continued to add properties to their list of national parks, national monuments, national scenic rivers, and other national areas of significance. Among the more recently named national parks are the Gateway Arch in St. Louis (2018), Indiana Dunes (2019), and maybe the most recently named national park - New River Gorge National Park in West Virginia (December 27, 2020).

“Stand at any overlook in the New River Gorge and look into the canyon. These panoramas of the gorge are where it best presents itself, where it reveals the character of its natural sculpture and landscape. Notice the steep, V-shaped gorge walls and sandstone cliffs that characterize the area, with sides softened by lush Appalachian vegetation. The valley sides fall away steeply, between 900 and 1500 vertical feet. The river courses below, its roar diminished by distance.” (from NPS brochure)



View of the New River Gorge National Park from the Grandview Overlook Trail
- photo by Ruth Bramstedt

How West Virginia and Illinois Are Connected Cont.

The New River Gorge N.P. is located in rural southwest W. Virginia, about 90 miles SE from Charleston, and is primarily the land around the lower portion of the New River. The name New River is really an oxymoron. The New River isn't new - it may be the oldest river in the U.S. and one of the oldest rivers in the world. The name "New River" was a hold-over from early explorers and map-makers in the 1700s who recorded the river as a "new river", meaning a river that they hadn't seen before. Since it was so remote, access to the river was difficult, and little development occurred along the shores, the name was never changed. The New River flows through what is considered as the deepest gorge east of the Mississippi and is famous for whitewater rafting. It encompasses about 72,300 acres. Steep slopes and ravines, covered by dense forests of eastern hardwoods, line the river. Small towns are along the outskirts and the spectacular New River Gorge Bridge at 876 feet from the valley, crosses the river on U.S. Highway 19. The park includes established trails, overlooks, the historic steam-era railroad town of Thurmond, and interestingly, an active railroad that skirts along adjacent to the New River.

In May of this year, I had the pleasure to visit the New River Gorge NP and raft the Class V rapids of the New River. My wife and I had taken our granddaughter on vacation as a gift for graduating from 8th grade. We rented an AirB&B, right on the river, just outside the park on the south end near the Sandstone Visitor's Center. We had booked this trip several weeks before and blindly chose our lodging and booked a whitewater raft trip from the web. It turned out to be a wonderful location, with a deck that overlooked the river. What was a bit concerning however, was that recent rains had swollen the river to 12 feet above the level that it was the week prior to our arrival! It was big water, moving fast, and for novice whitewater Midwesterners, it looked very daunting and a bit dangerous. The Class III-IV rapids were all now Class V, the highest category that were legal for vendors to guide. After calling the guide company, Adventures on the Gorge, we were assured that each of our guides had more than 20 years experience and that we would (likely) not have any issues. After a bit of nervous discussion, we decided to do it. I'm so glad we did, because it was a blast! Fortunately, the three of us stayed in the raft and only one person in our group of about 45-50 in 6 rafts flipped into the rapids! (She was quickly pulled back into the raft). The trip normally is a 3.5 hour float, but because the water was so high and fast, our trip was about 1.5 hours. That was enough for us!

How West Virginia and Illinois Are Connected Cont.



In the back of the raft - Ruth, Mark & Marti Bramstedt with Mogul Mike, our guide.
Photo by "Adventures on the Gorge"

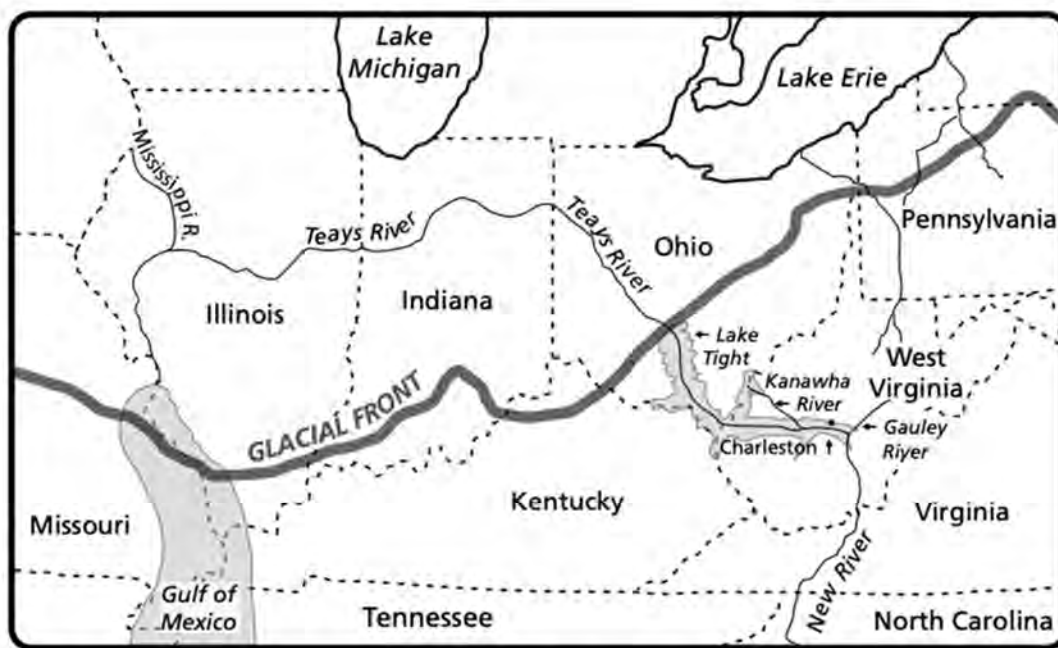
So how are West Virginia and Illinois connected? Well, a hint came on our drive to the New River NP. We passed near the towns of Teays and Teays Valley on US Rt. 35 near I-64 just inside West Virginia from southern Ohio. For many of us who have studied Illinois geomorphology, the name Teays Valley may ring a bell. Teays Valley was/is a bedrock valley in Illinois that was covered and buried during the Pleistocene glaciations. The Teays crosses through central Illinois and is the aquifer source for water for Champaign area and other central Illinois communities. The New River Gorge is likely the remnant of the ancestral Teays River! On one of our stops at a park visitors' center, I picked up a brochure "New River Geology: Ribbon Through Time" that explains this very well. The brochure is available on the web here:

<http://npshistory.com/brochures/neri/geology-2012.pdf> .The following are excerpts from that brochure:

How West Virginia and Illinois Are Connected Cont.

“Over 300 million years ago the African and North American plates collided, thrusting upward the Appalachian Mountains. Streams flowed down the western slopes of these huge mountains, collecting in low basins to form vast swamps. Plants lived and died in these swamps. Over millions of years the vegetation accumulated as layers of peat, along with additional layers of sand and other sediments.

This period of mountain building lasted as much as 170 million years. As this uplift came to an end, erosion of the landscape continued. Sediment covered the lowlands, its weight compressed the peat into coal, and other layers into sandstone, siltstone, and shale. Over time, the mountains fully eroded away and sediments filled the valleys; an almost level plain remained. The Teays was one of the rivers that meandered northward across this plain (see graphic below). Over time, sediment buried the ancient Appalachians, yet erosion continued and exposed the roots of the mountains again. Softer rock eroded away, while more resistant strata remained as ridges – what geologists call “rejuvenated fold belts.” The Appalachian Plateau uplifted now, so slowly that the Teays was able to cut through the emerging ridges at the same rate the land rose. The winding, V-shaped canyon of the gorge today shows the extent of the river’s force.



The route of the ancient Teays River and the most recent glacial front. Graphic based on a drawing by Harry Roberts.

How West Virginia and Illinois Are Connected Cont.

Around two million years ago the earth began a cold period of glaciation during the Pleistocene Epoch. A huge ice sheet advanced south from modern-day Canada, crushing and scouring everything in its path. The glacial sheet covered the lower Teays River. Near the edge of this sheet, glacial till (deposits of glacial debris, including clay and rocks) dammed a segment of the north-flowing Teays River in what is now Ohio. A large, fingered lake formed, Lake Tight, in what is now part of Ohio, Kentucky, and West Virginia (see graphic above). This lake eventually overflowed and formed new drainage channels. This event marked the start of the modern Ohio River Valley's formation; this also impacted the path of the Teays River. The climate began to warm again 25,000 years later. The ice began to melt and recede, but the Teays River could not resume its former course, for the glaciers had filled the path with debris. The lake drained and filled with sediment. The river still flowed north, but along a slightly altered path. The forceful water continued to deepen its channel. Today this river is known as the Kanawha River, located downstream of the New River.

Exposed bedrock is seen in the gorge today. These bedrock layers formed 320 to 330 million years ago in the geologic Mississippian and Pennsylvanian Periods, part of the Paleozoic Era. Rocks and the fossils they contain, tell part of the story of the gorge's geologic history. In the northern part of the gorge near Fayetteville, most of the bedrock exposed in the gorge and in the hills above were deposited in the Pennsylvanian Period. In the park's southern end near Hinton, most bedrock is Mississippian with Pennsylvanian rocks capping the highest hills outside of the gorge. The sediments that are now stone were originally deposited horizontally, but the mountain building process forced these layers to fold, forming a geologic feature immediately east of the gorge named the Mann Mountain Anticline. Much more recent sediments, which include impressive landslide deposits, can be found in the gorge. These tell the more recent history of the gorge over the past tens of thousands of years.

How West Virginia and Illinois Are Connected Cont.

In the southern reaches of the National River, rock layers of the Mississippian Period can be found. These layers are made up mostly of non-marine shale, but include some relatively thin marine shale and limestone beds; this shale is highly erodible, more easily worn away – geologically speaking. While some sandstone is also present, it is not well cemented or glued together and is thinly layered or bedded. Here in the park's southern end, the gorge walls are less steep and in some places present a more pastoral view of the gorge with rolling hills and grassy bottom lands. A drive along River Road between Hinton and Sandstone Falls offers a good example of the rich bottom lands along the river's edge. Thinly bedded shales and coals found throughout the park hold many plant fossils, though it is not permitted to dig or collect such fossils in the park. One noteworthy exposure in the park is Sandstone Falls, a dramatic 25 foot drop in the river created of Stony Gap Sandstone at the base of the Hinton Formation of the Mauch Chunk Group.

The exposed rock layers found in the park's northern end are Early Pennsylvanian in age and are correlated with the Pottsville Group of northern West Virginia, which includes the Pocahontas, New River, and Kanawha formations (see the geologic rock layer column in Figure 1). Some of the most sought after bituminous coal on the planet was found in this area. Coal beds of the New River Formation are generally referred to as "the New River coals," and include the Sewell and Fire Creek seams. These seams or layers averaged three feet thick.

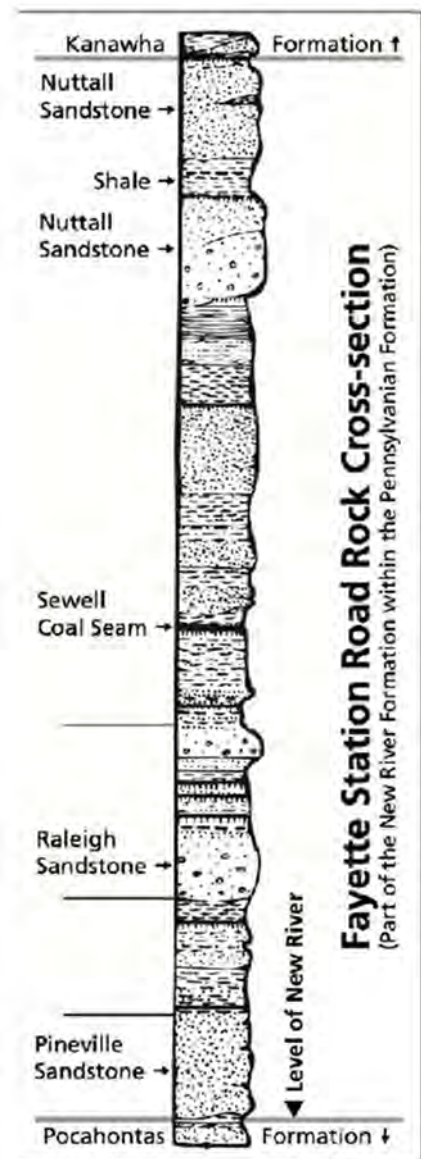


Figure 1: Rock layers of the New River Gorge at Lansing, West Virginia.

How West Virginia and Illinois Are Connected Cont.

The most prominent rock layers of the Pennsylvanian Period are sandstone, layers highly resistant to weather and erosion because of its high quartz content. Some of this sandstone formed vertical and near vertical cliffs that are prominent throughout the gorge. One of these units, the Upper Nuttall sandstone is especially popular with rock climbers today. The gorge's resistant sandstone was also used in building construction and as a source of silica (in the case of the Lower Nuttall sandstone) during the area's industrial boom years from the late 1800s to the 1950s. The stone outcrops at Grandview are composed of Raleigh Sandstone. Plant fossils can be found in the shale layers above and below the coal beds. "

If you get the chance, plan a trip to New River Gorge National Park. It's only a day's drive from Illinois, the woodlands are beautiful, and the scenes are breath-taking. Take a chance and book a whitewater raft trip to see New River up-close and personal. Knowing that the New River Gorge shares ancestral geologic history with Illinois, it makes one wonder if this is what Illinois would look like had the glaciers not come?!



New River Gorge Bridge, National Park Service (at much lower water!)

What's Wrong With This Picture?

Submitted by Mark Bramstedt

This past January, while driving home from a few weeks in Florida, my wife and I stopped at a Cracker Barrel restaurant in Tennessee. If you have ever been in a Cracker Barrel restaurant, you may remember that there are antiques, old signs and old pictures mounted on the walls. When I was checking out the antiques I noticed this old auger mounted near my table. After I took the picture with my iPhone, I realized that there are at least four things “wrong” about this.



The first thing “wrong” is - that I have an auger similar to this (without the wooden handle) and I still use it when there’s a rock in my way that stops my soil probe.

The second thing “wrong” is - that not only am I using antique equipment, then I must also be an antique!

The third thing “wrong” is - the framed advertisement below the auger. In my mapping days, I always felt that I was carrying a lightning attractor when I was carrying my soil probe on days of threatening weather.

And finally: The fourth thing wrong is - “Why am I eating in a Cracker Barrel?”

www.illinoissoils.org

BUSINESS NAME

ISCA Newsletter Staff

89 Kings Highway
Dover, DE, 19901

Phone: 302-739-9326

Email:

Newsletter@illinoissoils.org

Submissions

This is **YOUR** newsletter. If you wish to submit material, here are some preferences.

- Send information by the last week of the month before the newsletter is scheduled to be published.
- Digital copy in Microsoft Word
- Use as little formatting (indents, bullets, charts) as possible. This increases the work to get it into Publisher. It can be done, but increases work load for the committee.

The Newsletter Committee reserves the right to make edits/corrections deemed appropriate

Publication Schedule

- Winter (February)
- Spring (May)
- Summer (August)
- Fall (November)



The Illinois Soil Classifiers Association is an organization promoting the wise use of the soil resource. ISCA is made up of professional soil classifiers in public service, private industry, and education and includes students and others interested in preserving soil. A soil classifier maps, describes and interprets soils according to a national system of soil classification. ISCA was established in 1975 and is affiliated with the American Registry of Certified Professionals in Agronomy, Crops, and Soils.

ISCA on Facebook

For those of you who want to keep in touch with ISCA members and others interested in soils in Illinois, join our group on Facebook. Search Facebook for "Illinois Soil Classifiers Association" and become a friend of ISCA. Anyone may post messages, announcements, pictures or events that may be of interest to our membership. This is a great venue for posting meetings of other associations or organizations who use soil information. This is also a great place to post pictures of recent projects, interesting soils, or maybe something unrelated to soils, but of general interest to the membership. If you don't have a Facebook account, it is easy to set up. Just go to www.facebook.com and follow the instructions. Unfortunately, the Facebook site is restricted on some government computers, so many of you will need to do this at home. Contact webmaster@illinoissoils.org if you have any difficulty in accessing the ISCA Group or if you have any questions or comments.



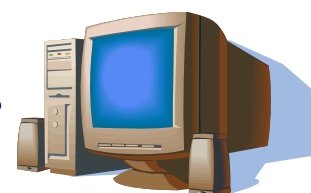
ISCA Newsletter Committee is looking for pictures of its members, past or present, to include in future newsletters.

Submissions can be sent electronically or hard copy to the staff address, see above and left. Please include a narrative for the caption! If hard copies are sent please indicate, if they are to be returned otherwise photographs will be retained in an archive photos file.

www.illinoissoils.org

New, exciting links have been added to the "announcements" page on our website. Be sure to bookmark this page. Its an excellent resource to keep you informed on the latest soils issues.

Better yet... make it your home page!



Visit the ISCA website to see the color version of this newsletter

www.illinoissoils.org/news

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Change of Address Form

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*Mail to: Scott Wiesbrook, ISCA Secretary, 1816 S. Oak St., IL 61820