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Newsletter of the Archeological Society of Maryland, Inc.

www.marylandarcheology.org

Archeology from above: Lidar use in Maryland

By James J. Gibb

Consulting archeologist

Not a week passes when one archeologist or another reports dramatic new finds achieved through the use of lidar (light detection and ranging), a technique similar to radar, but employing light along part of the electromagnetic spectrum rather than sound.

Most of these finds are large-scale earthworks such as temple mounds, roadways and canal systems. Maryland has lots of roadways, some canals, but no temple mounds of note. Can we use lidar in Maryland archeology and, if so, how?

The short answer is that we do use lidar all the time. This is a brief primer on how all of us can use lidar in Maryland, absolutely free!

Lidar, a form of laser scanning, is widely used for creating topographic maps. Instruments mounted on aircraft emit pulses of energy and then record the speed and frequency of the energy that bounces off a wide range of targets, from clouds to forest canopies to ground surfaces.

Software processes the data using parameters selected by the operator. For instance, a forest ecologist may be interested not just in forest cover, but in the kinds of trees comprising that cover. The software can be instructed to ignore surfaces above the canopy (clouds) and below (ground surface) and to assign different values to different families of trees that reflect light energy differently, thereby creating a color-coded map.

If we are interested in topography — and, as archeologists, we are — we can filter out clouds and canopy and achieve a relatively unobstructed view of the surface.

There are different ways of looking at the results and I think Hillshade view is the best for archaeology. First, go to the website: https://geodata.md.gov/topoviewer/ This URL takes you to the MD iMap Topography Viewer. You'll see an image of the state with color shading that reveals the lowest elevation (green) to the highest (red) with intermediary elevations appearing as yellow.

Note the panel to the right of the map. Using the control box drop down menu under County Hillshade, select a county. The viewer zooms to the selected county which appears as a solid gray polygon.

Farther down in the right-hand panel you'll see a section labeled Tools. In it, there is a slide-bar called Elevation Layer Transparency. Slide it to the left to remove the gray. Now zoom into the part of the county in which you are interested, using the wheel on your mouse and the street names as a guide. Then slide the transparency bar back to the left. Continue zooming for greater detail.

If you zoomed to a point on the map where you know there is a seasonal, upland Late Archaic site and see

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Upcoming events

March 2: ASM quarterly board meeting, Heritage House, Ellicott City, 9-1. All welcome

March 21-4: Middle Atlantic Archaeological Conference meeting, Ocean City. www.maacmidatlanticarchaeology.org/conferences.htm

March 30: Workshop in Archeology. Crownsville. All day.

April 27: ASM Spring Symposium. Crownsville. All day.

October 5: ASM Annual Meeting, Veterans Park, Charles County. All day.

Volunteer opportunities

The following volunteer opportunities are open to CAT participants and other ASM members:

ASM Volunteer Lab, most Tuesdays: The lab in Crownsville. Contact Charlie Hall at charles.hall@maryland.gov or Louise Akerson at lakerson1@verizon.net Currently the lab is dealing with artifacts from Fells Point in Baltimore.

A volunteer opportunity is available at a 17 Century site in **Edgewater** in Anne Arundel County, on Mondays, Tuesdays and Fridays, with Jim Gibb jamesggibb@verizon.net and Laura Cripps lcripps@howardcc.edu under the auspices of the Smithsonian. There will be magnetometer training.

The Smithsonian Environmental Research Center seeks participants in its Citizen-Scientist Program in archeology and other environmental research programs in Edgewater. Field and lab work are conducted Wednesdays and on occasional Saturdays. Contact Jim Gibb at jamesggibb@verizon.net

Montgomery County for lab and field work volunteers, contact Heather Bouslag at 301 563 7530 or Heather.Bouslog@montgomeryparks.org

The Anne Arundel County Archaeology Program and the Lost Towns Project welcome volunteers in both field and lab at numerous sites. Weekdays only. Email volunteers@losttownsproject.org or call 410 222 1318.

Mount Calvert. Lab work and field work. 301 627 1286.

Jefferson Patterson Park invites volunteers to take part in its activities, including archeology, historical research and conservation. Contact Ed Chaney at ed.chaney@maryland.gov or 410 586 8554.

The Archaeological Institute of America provides an online listing of fieldwork opportunities worldwide. Call up www.archaeological.org/fieldwork to get started.

UPAG/Howard County Recs and Parks invites volunteers interested in processing collections and conducting historical research to contact Kelly Palich at Kpalich@howardcountymd.gov or 410-313-0423.

CAT corner:

For information on the CAT program, contact Sarah Grady, at sarahgrady11@gmail.com

Metal-detecting workshop set for March 10

UPAG is hosting a Metal Detecting for Archeology Workshop on Saturday, March 10 from 10-3 at the Howard County Living Farm Heritage Museum across from the Howard County Fair Grounds. Registration is required. Lunch will be included and the session will meet requirements for CAT training. The charge is $ 10. Registration and pay are through Howard County Rec and Parks. Contact Kelly Palich at 410 313 0423.

Have you renewed your ASM membership yet?

If you haven't, now is the perfect time to do it. See the membership form on the ASM website.

Tut's tomb restoration is competed

By Mark Prigg

Condensed from the Daily Mail, January 23, 2019

The Tomb of Tutankhamen has fully reopened following a decade-long restoration project.

the Getty Conservation Institute, which carried out the conservation project, today revealed for the first time their work on one of the best-known archeological sites in the world.

Researchers painstakingly cleaned the huge wall art in the tomb - but decided to leave a series of strange mysterious 'dark spots' that were there in 1922 when archeologist Howard Carter first opened the tomb.

It was thought that brown spots — microbiological growths on the burial chamber's painted walls — might be growing. However, researchers analyzed historic photographs from the mid-1920s and found they showed no new growth of the spots.

To confirm this finding, DNA and chemical analysis were undertaken and confirmed the spots to be microbiological in origin but dead and thus no longer a threat. Because the spots have penetrated into the paint layer, they have not been removed since this would harm the wall paintings.

When the tomb was discovered the media frenzy that followed was unprecedented. Carter and his team took 10 years to clear the tomb of its treasure because of the multitude of objects found within it.

The latest project was put in place over fears the tomb was being damaged by the sheer number of tourists visiting.

While the objects Carter's team catalogued and stabilized were housed and secured, the tomb itself became a "must-see" attraction, open to the public and heavily visited by tourists from around the world.

The tomb still houses a handful of original objects, including the mummy of Tutankhamen (on display in an oxygen-free case), the quartzite sarcophagus with its granite lid on the floor beside it, the gilded wooden outermost coffin and the wall paintings of the burial chamber that depict Tut's life and death.

"Conservation and preservation is important for the future and for this heritage and this great civilization to live forever," said Zahi Hawass, Egyptologist and former minister of state for antiquities in Egypt, who also initiated the project with the GCI.

One of the biggest worries were the giant paintings on the tomb walls. Humidity and carbon dioxide generated by visitors promoted microbiological growth and can physically stress the wall paintings when the amount of water vapor in the air fluctuates.

Another problem in the tomb was physical damage to the wall paintings. This included scratches and abrasion in areas close to where visitors have access, and inadvertent damage likely caused by film crews with equipment operating in the chamber's tight spaces.

Dust carried by the shoes and clothing of the tomb's many visitors had also settled throughout, creating a gray veil on the uneven surfaces of the walls. This obscured the brightness of the paintings and increased the need for cleaning and the subsequent risk of additional paint loss.

In addition, high levels of humidity, excessive carbon dioxide, crowding, poor lighting and ventilation, lack of signage and other factors combined to create a poor experience for visitors to the tomb.

The project team found the wall paintings to be in relatively stable condition, apart from localized flaking and loss of paint that was caused by both inconsistencies in the materials used and their application, as well as damage caused by visitors.

The paintings were stabilized through dust removal and reduction of coatings from previous treatments, and condition monitoring was also established to better evaluate future changes.

The tomb was open for most of the project, and visitors were able to observe and ask questions as the conservators worked.

Archeology from above: Lidar use in Maryland

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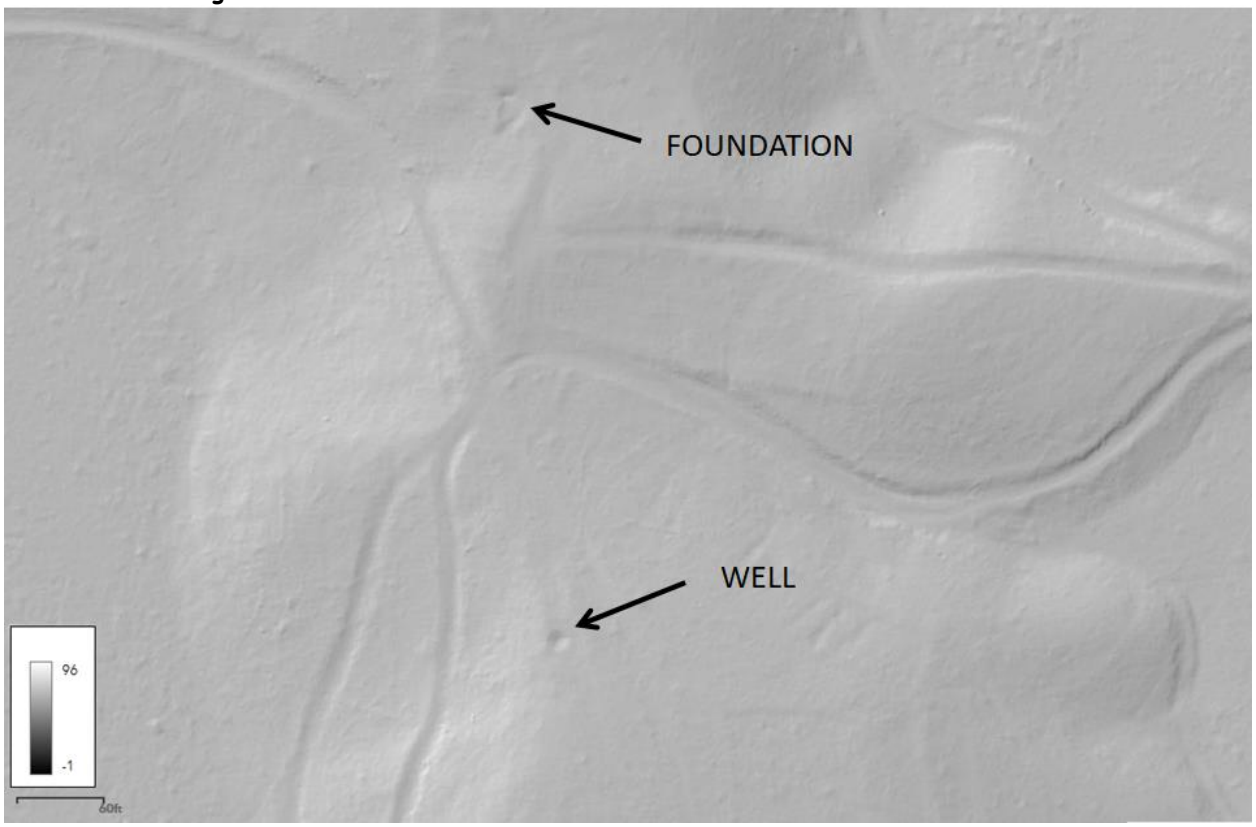


Hillshade view of a forested area revealing roads, a well, and a foundation.

nothing of note, that should not surprise. If, however, you look more closely, you might see terraces along nearby creeks on which these and other aboriginal sites might be found. Or, perhaps, you will see what appears to be a dam and, on closer inspection, a linear feature extending downstream of the apparent dam, representing a headrace from a mill.

I have spotted a feature that I suspected from the reports of others was a collapsed dug well. I checked it out in the field and it is. Regardless of what I see — or think I see — in these images, ground-truthing is essential.

Because I conduct investigations for property owners, that is easily accomplished and part of the contracted work: I have permission to enter the property. For public lands, access often is allowed, even encouraged, provided users observe the rules.

For properties for which we lack permission, we can still use lidar in conjunction with US Geological Survey topographic maps, historic plats, land records, aerial photography and other archival sources to determine what kinds of sites may be revealed.

Expanding the area under consideration, we can look for topographic patterns that suggest the possible presence of aboriginal sites, deeply buried landforms that may have archeological deposits and relict streambeds along which early sites might be found. Copper mining sites from the 18th and 19th Centuries are visible, as are standing structures and ruins.

The key to using lidar, as in the use of any archeological tool, is to complement it with whatever other tools

might be available to achieve the best possible view and to minimize the ill-effects of overly confidant deduction and unconstrained fantasy. Nothing surpasses human eyes for categorically identifying archeological sites and promising landforms, but for inaccessible areas, lidar is a very nice tool.

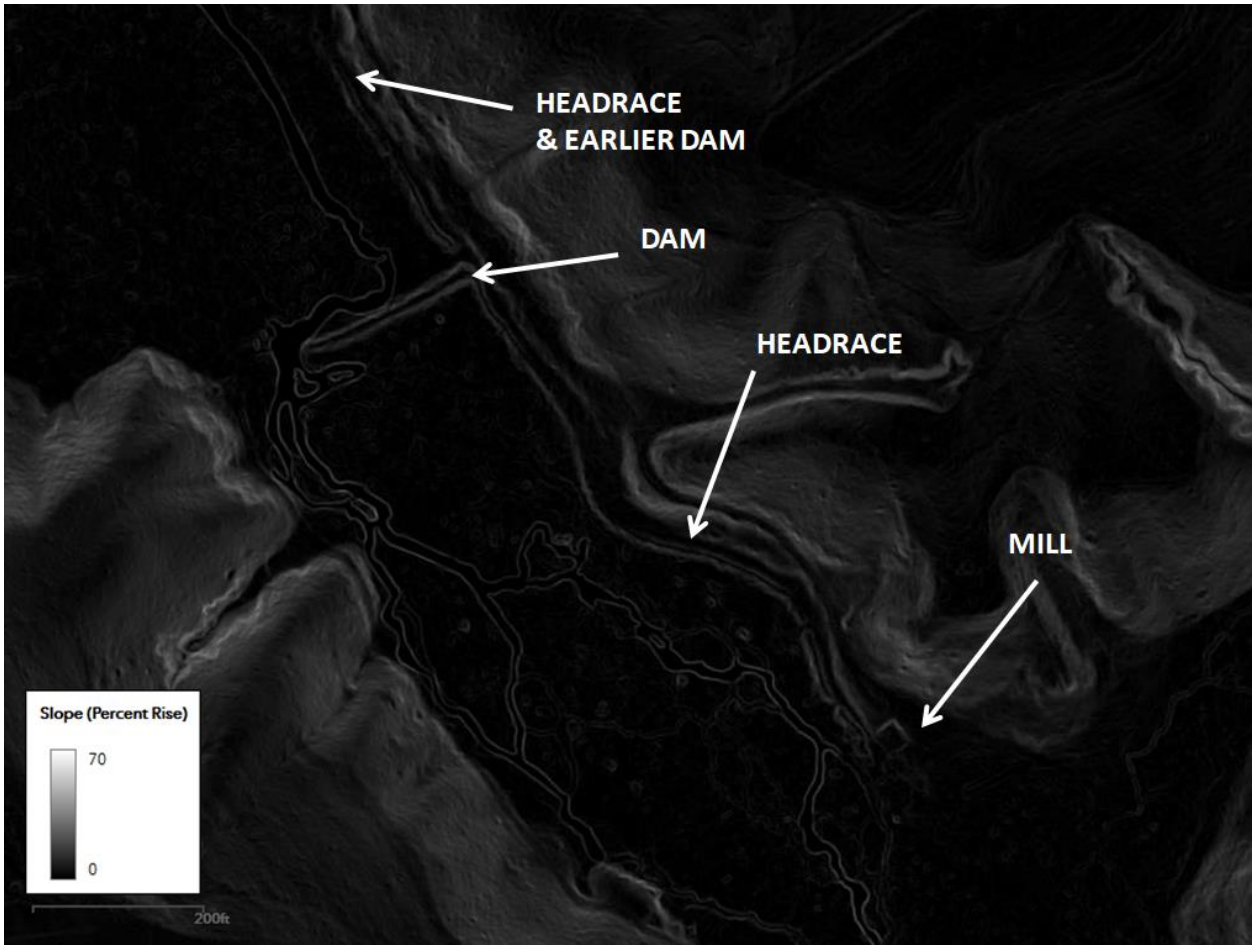
With the iMap Topography Viewer, try the County Slope technique (its images look eerily like xrays) and the Aspect and Shaded Relief tools (I don't find them as useful). After turning those off (you can only manage one at a time) try the Base Maps and Overlays, particularly the Topographic function which provides a view similar to that of a USGS topographic map, but with good detail on extant structures. Just keep working the zoom wheel on your mouse, getting up close for detailed views, then zooming out to better understand the topographic and hydrologic contexts.

And then, for a bit of extra information, click on a spot of interest. In the right-hand panel you will see the location expressed in latitude and longitude, elevation, slope and aspect (orientation of the landform expressed in degrees of azimuth).

For CAT candidates filling out site forms, this is a great way to fill in some of those blanks on the form and impress the states site registrar.

When through with the locational data, select the "X" in the upper right-hand corner of the panel to turn it off and return to the layer control boxes for the different views.

The iMap Topography Viewer is one of a growing suite of free, online resources that we can use to inform fieldwork and to better understand the larger spatial contexts of what we find. We'll explore some of these in future issues of ASM Ink.



Hillshade view revealing principal features of a grist mill, including evidence of an earlier dam.

Wall of 1617 Jamestown church found buried

By Jane Hammond

Condensed from the (Newport News, Va.) Daily Press, January 25, 2019

Jamestown archeologists have uncovered the western wall of the church that held the first meeting of representative government in North America nearly 400 years ago.

With the discovery, which lay hidden beneath a 5-inch layer of concrete, brick and dirt, the archeologists know with certainly the full footprint of the 1617 wooden church, the first of several built on the site.

It matches the 20-by-50-foot layout described in historical documents, said David Givens, director of archeology for Jamestown Rediscovery, Friday.

"Never been dug, fully intact, right under the concrete. We freaked out. … We pulled it up and we were like what is this brick just sitting here?" Givens said.

The discovery comes after a two-year dig of the footprint of the site that has held four different sanctuaries: one in 1617, one in the 1640s, another in the 1680s and the present-day Memorial Church erected in 1907 after the first large dig of the site.

The eastern, southern and northern wall foundations — layers of brick and cobblestone — were exposed during that excavation, which wrapped up late last year.

The western wall was found underneath the church tower, the dig of which began this month. Last week, archeologists first saw a structure there using ground-penetrating radar. They could see a wall-like structure, but weren't exactly sure what it was.

They first had to chip, drill and jackhammer through the concrete above to get to the top brick layer. Measurements from the eastern edge of the church to the new wall confirmed it was the proper 50 feet across, in keeping with the original plans.

It's a discovery over three decades in the making for architectural historian Carl Lounsbury, who worked for years at Colonial Williamsburg.

"I've waited a long time to see this kind of stuff," Lounsbury said. "It's very exciting to see this, the west wall of the 1617 church is intact inside the tower of the late-17th Century tower of the brick church. …

"To have this here and to not have been obliterated over the many, many years when it was exposed, or the (Association for the Preservation of Virginia Antiquities) was here digging in the beginning of the 20th Century, is miraculous."

The wall sits on the other side of what would have been the original 1607 fort wall. It also is a larger footprint than the 1640s church that later replaced it, implying that the congregation might have gotten smaller by the time the second church was built, Lounsbury said.

Some lighter areas in the soil show where trenches would have been dug to help construct the 1617 wall and the walls of the tower, which has not yet been definitively dated.

It's in those trenches where the dirt may yield new clues as to how and when things were built. "Someone might have dropped a nice piece of evidence here that can tell you dating," such as tools, pieces of pottery or artifacts of everyday life, Lounsbury said,

Givens said they expect to wrap up excavations in March in preparation for reopening the church in April. It will serve as a museum exhibit to the original site, down to the wood and brick flooring that archeological evidence suggests once covered the ground.

A glass-covered portion of the floor will allow visitors to peek down at the original foundations.

Work in the church and tower coincide with the 400th anniversary of the first meeting of the General Assembly on the site. It's one of several milestones — the arrival of the first Africans on American soil, the recruitment of English women to the colony — being commemorated across the state this year. That anniversary also will be celebrated in July when the present-day General Assembly plans to cram into its original home.

Old fiction plagues W. Virginia petroglyphs

By David Sibray,

Condensed from the West Virginia Explorer, January 22, 2019

Archeologists in West Virginia say stories that propose a non-native origin for prehistoric landmarks in the Mountain State ignore facts and dishonor Native Americans. A member of the Council for West Virginia Archaeology stressed the problem in an open letter to *Appalachian Magazine* this month after the magazine published an article that proposed prehistoric works in Wyoming County were of European origin.

The December 2018 article titled "*Could the Celts Have Explored Appalachia Long Before Columbus?*" disregards research and "has problematic 'imperialist, or even racist, undertones," council spokeswoman Charity Moore wrote.

"We understand that your magazine aims to entertain readers; however, we urge you to remember that speculative fiction is just that — fiction," she wrote.

Speculation that Europeans might have created the Luther Elkins Petroglyph, a series of carvings in a cliff at Lynco was proposed in the 1980s by Robert Pyle, who was not a professional archeologist. Pyle advised that the carvings, or petroglyphs, were inscribed by Irish monks in an ancient alphabet known as ogham.

Archeologists, however, have documented that the petroglyphs and most other earthworks, such as mounds and stone walls, were created by indigenous peoples, who inhabited the region until the mid-16th Century.

Both the council and the West Virginia Archaeological Society reprimanded the magazine and published a series of corrections in the 1980s, though Pyle's propositions occasionally resurface.

"It is disappointing to see these same ideas re-emerging decades later," Moore wrote.

The importance of restudying artifacts

By Brad Lepper

Condensed from the Columbus Dispatch, December 18, 2018

It's fun when people bring in interesting objects they found in their garden and want to know more about them. They often think they've found an arrowhead, though more often than not it's actually a spear point. The bow and arrow didn't come to Ohio until after A.D. 400, and true arrowheads are generally small.

Projectile points changed over time, so archeologists are able to determine how old various points are based on their shapes. But sometimes even archeologists disagree about whether particular points belong to one cultural period or another.

A recent case in point is a re-analysis of flaked stone projectiles from the Mixter site in Erie County, Ohio. Originally studied by Orrin Shane at Kent State University in the 1960s, the collection includes a large number of points and, according to Shane, they range in age from the Late Paleoindian to the Late Woodland periods, from 10,000 B.C. to A.D. 1000.

The artifacts from the Mixter site is housed at Kent State University. Metin Eren, a current professor at Kent, along with Richard Haythorn, a former student of Eren's who is now attending grad school at the University of Tulsa, and Briggs Buchanan, a professor at the University of Tulsa, together decided to re-examine the collection to see if they could gain new insights into how ancient American Indian cultures used the Mixter site over time. They reported their results in a recent issue of the journal Lithic Technology.

When they compared their results with Shane's study, they found several differences. First, they found different kinds of points than Shane reported. For example, Shane thought the earliest points at Mixter were Late Paleoindian points, but Haythorn, Buchanan, and Eren identified two Early Paleoindian Clovis points.

Second, the number of point types also varied. For example, Shane reported 11 Hopewell points, whereas Haythorn, Buchanan, and Eren identified only one.

Haythorn, Buchanan, and Eren offered a number of possible reasons for the differences between the two studies, such as changes in how archeologists define particular types of spear points. Regardless of the reasons behind the differences, however, they say that their study demonstrates the need for archeological collections to be stored in museums where independent scholars can re-study the artifacts to confirm or refute the results of previous studies.

Chapter News

In addition to the listed chapters, ASM has chapters at Hood College and the Community College of Baltimore County and a club at Huntingtown High School in Calvert County, run by Jeff Cunningham; visit its website, http://hhsarchaeology.weebly.com/

Anne Arundel

Anne Arundel Chapter will be meeting at the Schmidt Center at SERC, the second Tuesday of each month, 7 to 9 p.m. Parking in front of the venue. For information, contact Jim Gibb at JamesGGibb@verizon.net

Central Chapter

Meets the third Friday every other month at the Natural History Society of Maryland at 6908 Belair Road in Baltimore. Business meeting begins at 7, talk at 7:30. For information contact centralchapterasm @yahoo.com or stephenisrael2701@comcast.net or 410-945-5514. Or www.facebook.com/asmcentralchapter or http://asmcentralchapter.weebly.com or Twitter @asmcentral

March 15: History of pottery, potters and firebrick makers of Baltimore, Harford, and Cecil Counties in Maryland researched by James R. Kotersk.

May 17: Armand Lione will talk on "The Anacostan Natives of Washington, DC - A Rich History That's Been Left Untold."

Charles County

Meetings are held at 7 p.m. on the second Thursday (September–May) in the community room of the LaPlata Police Department. Contact President Carol Cowherd at ccasm2010@gmail.com. Website *ccarchsoc.blogspot.com* and Facebook *@ccasm2010*

February 14: Jim Gibb, "."Distinguishing Pig from Cow: Bones for the Archaeologist

March 14: Patricia Samford on Colonial ceramics

April 11: Liza Gijanto,

Mid-Potomac

The chapter meets the third Thursday of the month at 7:30 p.m. at Needwood Mansion in Derwood. Dinner at a local restaurant at 5:30 p.m. Contact Don Housley at donhou704@earthlink.net or 301-424-8526. Chapter website: http://www.asmmidpotomac.org Email: asmmidpotomac@gmail.com Facebook: www.facebook.com/pages/Mid-Potomac- Archaeology/182856471768

February 21: Don Housley, chapter president, will speak on the history and archeology at the Civil War camps and blockhouses at Muddy Branch.

March 21: Chapter members John and Dotty Foellmer, will speak about their visit to Josiah Henson's Dawn settlement in Canada

April 18: Ralph Buglass, chapter member and local historian, will speak on "The Off-the-Beaten-Path Sites in Montgomery County."

Monocacy

The chapter meets in the C. Burr Artz Library in Frederick the second Wednesday of the month at 7 p.m. For more information, visit the chapter's web page at digfrederick.com or call 301-378-0212. The chapter does not meet in July or August. If Frederick County schools close early or are closed all day because of inclement weather, the presentation will be rescheduled.

February 13: Jerry Warner of SHA will present "Discoveries along the National Road, Archaeological investigations at Four Historic Sites in Howard County."

Northern Chesapeake

Members and guests assemble at 6:30 for light refreshments. A business meeting at 7 is followed by the presentation at 7:30. Contact Dan Coates at 410- 273-9619 or dancoates@comcast.net Website: http://sites.google.com/site/northernchesapeake

Tuesday, February 12: Working at Megiddo. Mike Tritsch. Harford Jewish Center, Havre de Grace .

Wednesday, March 13: Subject/Speaker TBA. Historical Society of Cecil County, Elkton.

Friday, April 26: Subject/Speaker TBA. Edgewood Hall, Harford Community College, Bel Air.

Sunday, May 19: Annual Picnic Meeting. Historic Site TBA.

St. Mary's County

Meetings are the third Monday of the month at 6:30 p.m. at the Joseph D. Carter State Office Building in the Russell Conference Room, Leonardtown. For information contact Chris Coogan at Clcoogan@smcm.edu

Upper Patuxent

Meets the second Monday at 7 p.m. at 9944 Route 108 in Ellicott City. Labs are the second and fourth Saturdays. On Facebook, www.facebook.com/pages/Upper-Patuxent-Archaeology-Group/464236446964358 or www.upperpatuxentarchaeology.com or try uparchaeologygroup@gmail.com

February 11: Help catalog some artifacts and plan our next year's schedule of speakers.

Western Maryland

Programs are the fourth Friday of the month, at 7:30 p.m. in the LaVale Library, unless noted. Contact Roy Brown, 301-724-7769. Email: wmdasm@yahoo.com Website: http://sites.google.com/site/wmdasm

February 22: Dave Frederick on the 2018 excavations at Ashby's Fort by Stephen McBride in search of the fort's Northeast Bastion.

March 22: Jonathan Flood of Frostburg State University on excavations he and his students conducted at a 1950 circa abandoned house in the coal company town of Kempton.

The Archeological Society of Maryland Inc. is a statewide nonprofit organization devoted to the study and conservation of Maryland archeology.

ASM members receive the monthly newsletter, ASM Ink; the biannual journal, MARYLAND ARCHEOLOGY, reduced admission to ASM events and a 10-percent discount on items sold by the Society. Contact Membership Secretary Ethan Bean, 609 N. Paca Street, Apt. 3, Baltimore, MD 21201 for membership rates. For publication sales, not including newsletter or Journal, contact Dan Coates at ASM Publications, 716 Country Club Rd.,

Havre de Grace, MD 21078-2104 or 410-273-9619 or dancoates@comcast.net

Submissions. Please send to Myron Beckenstein, 6817 Pineway, University Park, MD. 20782, 301-864-5289 or myronbeck@verizon.net