

Spring 2011



THE  
GEOLOGICAL  
SOCIETY  
OF AMERICA

Newsletter of the  
Geoarchaeology Interest Group  
of the Society for American Archaeology

& the  
Archaeological Geology Division  
of the Geological Society of America

**A new look!**

You may notice a shift in format, as we've combined what were previously separate GIG/AGD Spring/Fall newsletters into a biannual newsletter for the geoarchaeology community. We felt that, given the readership overlap, this would be more useful!

We welcome comments, criticisms, and opinions. Please let us know what you think!

Newsletter editors,

Katie Adelsberger, [kadelsbe@knox.edu](mailto:kadelsbe@knox.edu)  
Cynthia Fadem, [fademcy@earlham.edu](mailto:fademcy@earlham.edu)

**ANNUAL MEETING**  
**GEOLOGICAL SOCIETY OF AMERICA**  
**Minneapolis, MN**  
**October 9-12, 2011**

Abstract submission is now open for the fall meeting of GSA. The deadline for submission is July 26<sup>th</sup>. The AGD has a number of co-sponsored sessions planned, so it's time to start thinking about where to submit those abstracts:

**T65. Paleoclimate, Terrestrial Ecosystems, and Human Evolution in Africa from the Pleistocene to the Present**  
*GSA Archaeological Geology Division; GSA Limnogeology Division*

Daniel J. Peppe, David L. Fox, Christian Tryon

This session examines linkages among Pleistocene to present paleoclimate, terrestrial ecosystems, and human evolution across Africa using marine, lacustrine, and terrestrial records. This includes approaches involving modern processes, diverse geological disciplines, archeology, paleoanthropology, and paleobiology.

**T66. Advances in Terrestrial Paleoclimatology and Paleocology: Geochemical Techniques and Examples Using Inorganic and Organic Molecules in Fossil Soils, Plants, Invertebrates, and Vertebrates**

*GSA Geobiology & Geomicrobiology Division; Paleontological Society; Geochemical Society; GSA Archaeological Geology Division*

Celina Suarez, Samuel Matson, Aisha Al-Suwaidi, Patrick Wheatley

A growing number of elemental, isotope, and molecular proxies are being used to understand terrestrial paleoecology and paleoclimatology. We encourage submissions that employ these tools for understanding ancient terrestrial ecosystems throughout earth's history.

**UPCOMING MEETINGS**

**77th ANNUAL MEETING**  
**SOCIETY FOR AMERICAN ARCHAEOLOGY**  
**Memphis, TN**  
**April 18-22, 2012**

It's not too early to start thinking about the next SAA annual meeting in Memphis!

The GIG hopes to sponsor sessions at the annual meeting, so please start thinking about potential sessions! Additional information on the meeting program will be provided as the meeting approaches.

**T71. The Genesis and Fate of Legacy Terrestrial Organic Carbon**

*GSA Quaternary Geology and Geomorphology Division; GSA Archaeological Geology Division; GSA Geology and Society Division; GSA Geobiology & Geomicrobiology Division*  
Jane Willenbring, Brandon McElroy

Sedimentary deposits amassed downstream and downslope of agricultural lands contain the bulk of pre-settlement soil carbon. These deposits are either an inert carbon sink or a remineralizable carbon source. This session explores this debate.

**T114. Measuring the True Shape of the Earth: Quantitative and Qualitative Applications of Terrestrial LiDAR**

*GSA Archaeological Geology Division; GSA Structural Geology and Tectonics Division; GSA Geoinformatics Division; GSA Quaternary Geology and Geomorphology Division; GSA Engineering Geology Division*

Ian P. Madin, Donald E. Luman

This session will focus on new efforts and approaches to extracting quantitative and qualitative geologic and environmental features from terrestrial LiDAR data.

**T130. Topics in Geoarchaeology: Reconstructions of Ancient Landscapes and Paleoenvironments**

*GSA Archaeological Geology Division; GSA Sedimentary Geology Division; GSA Quaternary Geology and Geomorphology Division; GSA Limnogeology Division*

Kathleen Nicoll, Laura Murphy

This session focuses on sediments analyses and reconstructions of landscapes and paleoenvironments in archaeological contexts. Papers related to applied science methodologies—including archaeological prospection, survey, excavation, lab analyses, stratigraphy, and cultural heritage management—are welcome.

**T131. Are There Links between Springs and Archaeological Sites?**

*GSA Archaeological Geology Division; GSA Quaternary Geology and Geomorphology Division; GSA Limnogeology Division; GSA Hydrogeology Division; GSA Sedimentary Geology Division*

Gail M. Ashley, Vance T. Holliday

Groundwater is protected from evaporation and is likely a dependable source of freshwater for humans in dry lands or during dry periods in humid terrains. This session examines the possible links between archaeology and springs.

**T132. The History of Humans and the Hydrologic System: Exploring Relationships between Cultures, Climate, and Hydrology through Time**

*GSA Archaeological Geology Division; GSA Sedimentary Geology Division; GSA Quaternary Geology and Geomorphology Division; GSA Engineering Geology Division*

Gary Stinchcomb, Tim Messner

The focal points of this session are: (1) how modern/ancient cultures adapted land-use and subsistence strategies to cope with past climate and hydrologic changes and (2), how these adaptations may have affected the hydrologic system.

**T133. Tectonics and Civilization**

*GSA Archaeological Geology Division; GSA Structural Geology and Tectonics Division; GSA Quaternary Geology and Geomorphology Division; GSA Engineering Geology Division*

Floyd W. McCoy, Karl Wegmann

Culture, societies, and human endeavors all must survive tectonic activity and its consequences, and tectonics lays the ground rules. This session discusses this interaction, past and present, from all fields of geology and geophysics.

**T197. Seeing the True Shape of Earth: Quantitative and Qualitative Applications of Airborne Lidar**

*GSA Archaeological Geology Division; GSA Structural Geology and Tectonics Division; GSA Geoinformatics Division; GSA Quaternary Geology and Geomorphology Division; GSA Engineering Geology Division*

Ian P. Madin, D.E. Luman

This session will focus on new efforts and approaches to extract quantitative and qualitative geologic and environmental features from terrestrial and airborne LiDAR data.

**DEVELOPING INTERNATIONAL  
GEOARCHAEOLOGY**

**Knoxville, TN**

**September 20-24, 2011**

The University of Tennessee's Archaeological Research Laboratory and the Department of Anthropology will be hosting the 2011 Developing International Geoarchaeology (DIG) conference in Knoxville, Tennessee from September 20<sup>th</sup> to the 24<sup>th</sup>.

A field trip based workshop will be held from September 20 - 22nd and will explore the diverse geomorphology and archaeology of the Tennessee River Valley. The DIG general session will be held the 23rd and 24<sup>th</sup> of September.

DIG is a conference series dedicated to the promotion of international collegiality within the field of geoarchaeology and provides a venue for international researchers to present and discuss a broad range of geoarchaeological topics. The conference blends archaeological topics, such as land use practices, human-environment interactions, landscape reconstruction, site formation processes, and trade and exchange, with geoscience and environment-based topics, such as geomorphology, soil science, sedimentology, petrography, paleobotany, and archaeometry.

This year, DIG was awarded a Wenner-Gren Conference Grant to aid in travel costs for conference presenters

from non-Western countries. Limited funding may also be available for attendees from Europe and Canada. You must submit an expanded 500 word abstract for either a podium or poster presentation in order to be considered for travel funding. Priority will be given to participants from non-Western countries.

To submit an abstract or to find more information on the upcoming 2011 DIG conference, please visit the website at: <http://digknoxville.com>

Any questions can be sent to Calla McNamee at [callamcnamee@gmail.com](mailto:callamcnamee@gmail.com) or to Howard Cyr at [hcyr@utk.edu](mailto:hcyr@utk.edu).

## FUNDING OPPORTUNITIES

### ***DOUGLAS C. KELLOGG FUND FOR GEOARCHAEOLOGICAL RESEARCH***

The Douglas C. Kellogg Award provides support for thesis or dissertation research, with emphasis on the field and/or laboratory aspects of this research, for graduate students in the earth sciences and archaeology. Recipients of the Kellogg Award will be students who have an interest in achieving the M.S., M.A., or Ph.D. degree in earth sciences or archaeology; an interest in applying earth science methods to archaeological research; and an interest in a career in geoarchaeology. Initially the amount to be awarded on an annual basis was \$500. The amount of the award given to the recipient will increase as the fund grows and the amount of the annual interest increases.

The 2011 Award was presented at the 76th Annual Meeting of the SAA to Teresa Wriston, University of Nevada-Reno, for her geoarchaeological work in Zimbabwe.

The 2012 award deadline will occur in the late fall.

**Contact:** Dr. Tristram R. Kidder, Department of Anthropology, Washington University, One Brookings Dr., St. Louis, MO, 63130 E-mail: [trkidder@wustl.edu](mailto:trkidder@wustl.edu).

### ***CLAUDE ALBRITTON FUND FOR ARCHAEOLOGICAL GEOLOGY***

Under the auspices of the Archaeological Geology Division, family, friends and close associates of Claude C. Albritton, Jr. created a memorial fund in his honor at the GSA Foundation. Initially, the fund was set up with a gift of several thousand dollars. Members of the GSA Archaeological Geology Division, GSA members, and

those who knew Claude Albritton are asked to consider contributing to this fund.

The Albritton Fund provides an annual research grant of up to \$650 for graduate students in the earth sciences and archaeology, and such students are encouraged to apply. Recipients of these awards will have (1) an interest in achieving a master's or Ph.D. degree in earth sciences or archaeology; (2) an interest in applying earth science methods to archaeological research; and (3) an interest in a career in teaching and academic research. Awards will be given in support of thesis or dissertation research, with emphasis on the field and/or laboratory parts of this research.

More information, including application guidelines and forms, can be found at <http://rock.geosociety.org/arch/>. For further inquiries, contact Awards Committee Chair Rolfe Mandel at [mandel@ku.edu](mailto:mandel@ku.edu). To contribute to the Albritton Fund, send your gift to the GSA Foundation, indicating that the gift should go toward this award.

The deadline for submission of applications was **March 15, 2011**.

### ***RICHARD HAY STUDENT TRAVEL AWARD***

The Archaeological Geology Division offers an annual travel grant of up to \$650 to help a high school, undergraduate, or graduate student present a paper in the Division's technical sessions at the GSA's annual meeting. The Richard Hay Student Travel Award is competitive and will be awarded based on an evaluation of the scientific merit of the research topic and the clarity of an expanded abstract for the paper prepared by the student and submitted to the Division's Awards Committee.

More information, including application guidelines and forms, can be found at <http://rock.geosociety.org/arch/>. For further inquiries, contact Awards Committee Chair Rolfe Mandel at [mandel@ku.edu](mailto:mandel@ku.edu). To contribute to the Hay Award, send your gift to the GSA Foundation, designating the gift for the Archaeological Geology Division Fund.

The deadline for submission of applications is **September 20, 2011**.

## AWARDS

### ***RIP RAPP AWARD*** **NOMINEES SOLICITED**

The Archaeological Geology Division would like to encourage nominations for its annual Rip Rapp Archaeological Geology Award. The award is given for outstanding contributions to the interdisciplinary field of archaeological geology; nominees need not be members of the GSA or citizens of the United States. Nominations should incorporate:

- a biographical sketch of the nominee, including date and place of birth; present office or title and affiliation; education and degrees; and honors and awards
- a statement of major events and outstanding achievements in the nominee's career
- a selected bibliography of the nominee's publications.

To make nominations or for more information, contact Awards Committee Chair Awards Committee Chair Rolfe Mandel at [mandel@ku.edu](mailto:mandel@ku.edu). For additional details, please consult the Division website at <http://rock.geosociety.org/arch/>.

The deadline for receipt of nominations was **February 15, 2011**.

### ***FRYXELL AWARD FOR INTERDISCIPLINARY RESEARCH***

The Fryxell Award is presented by the SAS (see below) in recognition for interdisciplinary excellence of a scientist who need not be an archaeologist, but whose research has contributed significantly to American archaeology. The award is made possible through the generosity of the family of the late Roald Fryxell, a geologist whose career exemplified the crucial role of multidisciplinary cooperation in archaeology. Nominees are evaluated on the breadth and depth of their research and its impact on American archaeology, the nominee's role in increasing awareness of interdisciplinary studies in archaeology, and the nominee's public and professional service to the community. The award cycles through zoological sciences, botanical sciences, earth sciences, physical sciences, and general interdisciplinary studies. The award consists of an engraved medal, a certificate, an award citation read by the SAA president during the annual business meeting, and a half-day symposium at the Annual Meeting held in honor of the awardee.

Describe the nature, scope, and significance of the nominee's contributions to American archaeology.

- Curriculum vitae.
- Support letters from other scholars are helpful. Four to six are suggested.

The deadline for receipt of nominations was **February 4, 2011**

**Contact:** C. Margaret Scarry, Research Labs of Archaeology, CB 3120, University of North Carolina at Chapel Hill, Chapel Hill, NC 27599-3120, p: (919) 962-3841, fax: (919) 962-1613, email: [scarry@email.unc.edu](mailto:scarry@email.unc.edu)

### ***R.E. TAYLOR STUDENT POSTER AWARD***

The SAS (see below) gives out awards for outstanding student posters in the realm of archaeometry. These awards are typically given at the Annual Meeting of the [Society for American Archaeology](#) and the [International Symposium on Archaeometry](#). A call for applications is issued on the SAS website ([www.socarchsci.org](http://www.socarchsci.org)), over SASnet and other listservs prior to conference dates. Students must submit an application in order to be considered for this award.

## OF NOTE

### ***SOCIETY FOR ARCHAEOLOGICAL SCIENCES***

The Society for Archaeological Sciences (S.A.S.) was founded to establish a forum for communication among scholars applying methods from the physical sciences to archaeology and to aid the broader archaeological community in assessing the potentials and problems of those methods. Base membership (including subscription to the SAS Bulletin) is \$20. For membership inquiries, please contact Rob Sternberg, Department of Earth and Environment, Franklin & Marshall College, Lancaster, PA 17604-3003 USA. Phone: (717) 291-4134 Fax: (717) 291-4186 or email: [<Rob.Sternberg@FandM.edu>](mailto:Rob.Sternberg@FandM.edu)

### ***THE ARCHAEOLOGY CHANNEL***

The nonprofit streaming-media Web site, **The Archaeology Channel** ([/www.archaeologychannel.org/](http://www.archaeologychannel.org/)) is consistently updated with new video programs. Visit the website for information on how to become involved through membership.

**GEOARCHAEOLOGY:  
AN INTERNATIONAL JOURNAL**

*Geoarchaeology* is an interdisciplinary journal published six times per year that presents the results of original research at the methodological and theoretical interface between archaeology and the geosciences. It remains the premier peer-reviewed publication emphasizing our discipline. *Geoarchaeology* celebrated its 25th anniversary in 2010, and as part of the journal's commemorative festivities, a Virtual Issue of the 25 top-rated and most influential papers from the journal's back catalog was compiled. Another virtual issue consisting of past articles was also recently assembled by Co-Editor Jamie Woodward titled *Geoarchaeological Research in Egypt and the Nile Valley*. Both virtual issues are currently accessible on-line at the journal's website ([http://onlinelibrary.wiley.com/journal/10.1002/\(ISSN\)1520-6548](http://onlinelibrary.wiley.com/journal/10.1002/(ISSN)1520-6548)). All virtual issue articles are free for downloading.

You are invited to submit your research to *Geoarchaeology*. Manuscripts should examine the interrelationship between archaeology and the various disciplines within Quaternary science and the Earth Sciences more generally, including, for example: geology, geography, geomorphology, pedology, climatology, oceanography, geochemistry, geochronology, and geophysics. We also welcome papers that deal with the biological record of past human activity through the analysis of faunal and botanical remains and palaeoecological reconstructions that shed light on past human-environment interactions. The journal also welcomes manuscripts concerning the examination and geological context of human fossil remains as well as papers that employ analytical techniques to advance understanding of the composition and origin or material culture such as, for example, ceramics, metals, lithics, building stones, plasters, and cements. Manuscripts reporting on research conducted in Africa, Australia, and South America are especially encouraged.

Manuscript submission and review is fully electronic and processed through Manuscript Central, a web-based program for managing documents in the peer-review process. For more information, go to the "For Authors" link at the journal's website or contact Co-Editor Gary Huckleberry at [ghuck@email.arizona.edu](mailto:ghuck@email.arizona.edu).

**CONTENTS OF RECENT ISSUES**

**Volume 26 Issue 2 (March/April 2011)**

Research Articles

Reconstructing landscape and vegetation through multiple proxy indicators: A geoarchaeological examination of the St. Louis site, Saskatchewan, Canada (pages 165-188). *Howard Cyr, Calla McNamee, Leslie Amudson and Andrea Freeman.*

Strontium isotopic evidence for prehistoric transport of grayware ceramic materials in the eastern Grand Canyon region, USA (pages 189-218). *Sidney W. Carter, Bettina Wiegand, Gail A. Mahood, Francis O. Dudas, Joseph L. Wooden, Alan P. Sullivan III and Samuel A. Bowring.*

Geoarchaeology of the Nehalem spit: Redistribution of beeswax galleon wreck debris by Cascadia earthquake and tsunami (~A.D. 1700), Oregon, USA (pages 219-244). *Curt D. Peterson, Scott S. Williams, Kenneth M. Cruikshank and John R. Dubè.*

Sino-Kharosthi and Sino-Brahmi coins from the silk road of western China identified with stylistic and mineralogical evidence (pages 245-268). *Jiann-Neng Fang, Bing-Sheng Yu, Cheng-Hong Chen, David Teh-Yu Wang and Li-Ping Tan.*

The effects of surface weathering on the geochemical analysis of archaeological lithic samples using non-destructive polarized energy dispersive XRF (pages 269-291). *Gilles Gauthier and Adrian L. Burke.*

Microstructures of phosphatic porcelain from sintering to vitrification: Evidence from sherds excavated in Charleston, South Carolina (pages 292-313). *J. Victor Owen, Robert Hunter, Rod Jellicoe and Martha Zierden.*

**Volume 26 Issue 1 (January/February 2011)**

Research Articles

The Berelekh quest: A review of forty years of research in the mammoth graveyard in northeast Siberia (pages 5-32). *Vladimir V. Pitulko.*

Coastal margin evolution and postulated "basin-shipyard" area at ancient Locri-Epizephiri, Calabria, Italy (pages 33-60). *Maria Pia Bernasconi and Jean-Daniel Stanley*

Radiocarbon ages for coatings on cupules ground in quartzite bedrock at Rhino Cave in the Kalahari Desert of Botswana, and their paleoclimatic significance (p 61-82). *George A. Brook, L. Bruce Railsback, Alec C. Campbell, Lawrence H. Robbins, Michael L. Murphy, Greg Hodgins and Joseph McHugh*

Paleoenvironments and site formation processes at the Neolithic lakeside settlement of Dispilio, Kastoria, Northern Greece (p 83-117) *Panagiotis Karkanias, Kosmas Pavlopoulos, Katerina Kouli, Maria Ntinou, Georgia Tsartsidou, Yorgos Facorellis and Theodora Tsourou.*

Depositional and Paleoenvironmental setting of the Bizat Ruhama early Pleistocene archaeological assemblages, Northern Negev, Israel: A microstratigraphic perspective (p 118-141) *Carolina Mallol, Dorcas VanNieuwenhuyse and Yossi Zaidner*

Records of land use and medieval settlement history in Vuonninen, Dvina Karelia, Northwest Russia (p 142-163) *Teija Alenius, Matti Saarnisto, Jussi-Pekka Taavitsainen and Juha-Pekka Lunkka*

## FEATURED RESEARCH

### Geoarcheology of the Glass Site, Georgia

*Donald Thieme*

Department of Physics, Astronomy, and Geosciences  
Valdosta State University

Donald worked last June and July with Dennis Blanton of the Fernbank Museum of Natural History on the Glass Site (9TF145), a Spanish contact site on a high terrace overlooking the Ocmulgee River. Dennis was joined by a field school from Georgia State University under the direction of Dr. Jeffrey Glover. Field work involved coring a relict oxbow lake directly adjacent to the site (Figure 1), and sampling recent sediment in several cores. Researchers obtained a basal date of  $580 \pm 20$  BP, only slightly earlier than the initial cultural component at the site (Figure 2).

Other field projects have involved shallow geophysics. There is a prominent monument in this cemetery and a large area has been set aside because it has been rumored to contain African American graves. The graves which we have discovered so far probably represent federal soldiers who contracted tuberculosis and were interred there in the 1860's. Student Jason Giddens used a Malå 250 MHz GPR system to collect data on a  $0.5 \times 0.5$  m grid from an area of  $400 \text{ m}^2$  within the cemetery (Figure 3).

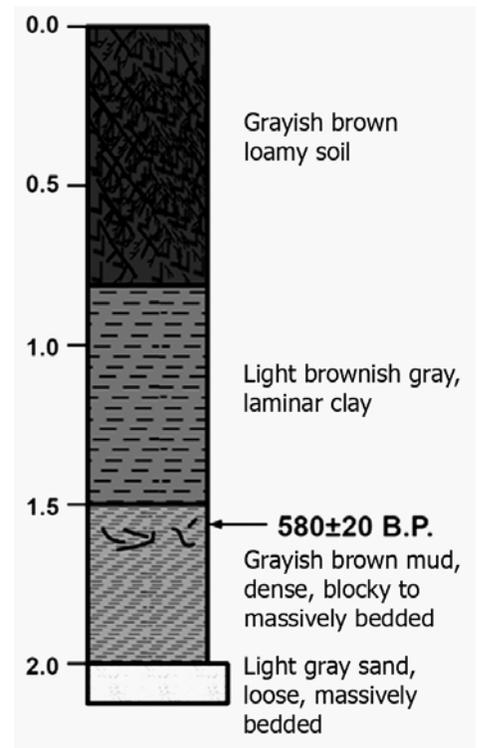


Figure 2. Profile from the relict oxbow lake along Lampkin Branch



Figure 1. A student cores a terrace adjacent to the relict oxbow lake using a Giddings Rig owned by Valdosta State University



Figure 3. Student Jason Giddens works to identify unmarked African American graves at Sunset Hill Cemetery adjacent to the VSU campus

## FEATURED RESOURCE

### Computers and Geoarchaeology: MEGA Jordan

The Getty Conservation Institute has launched a web-based GIS database for the country of Jordan, to serve as a centralized spatial data source for the Department of Antiquities (DoA). The Middle Eastern Geodatabase for Antiquities for Jordan, or MEGA Jordan, will be bilingual in Arabic and English and will serve as an important resource for Middle Eastern researchers as well as for the DoA's efforts to monitor and preserve archaeological sites. Although this resource is still being populated with archaeological data from active research groups, the interface is already available online at <http://www.megajordan.org>.

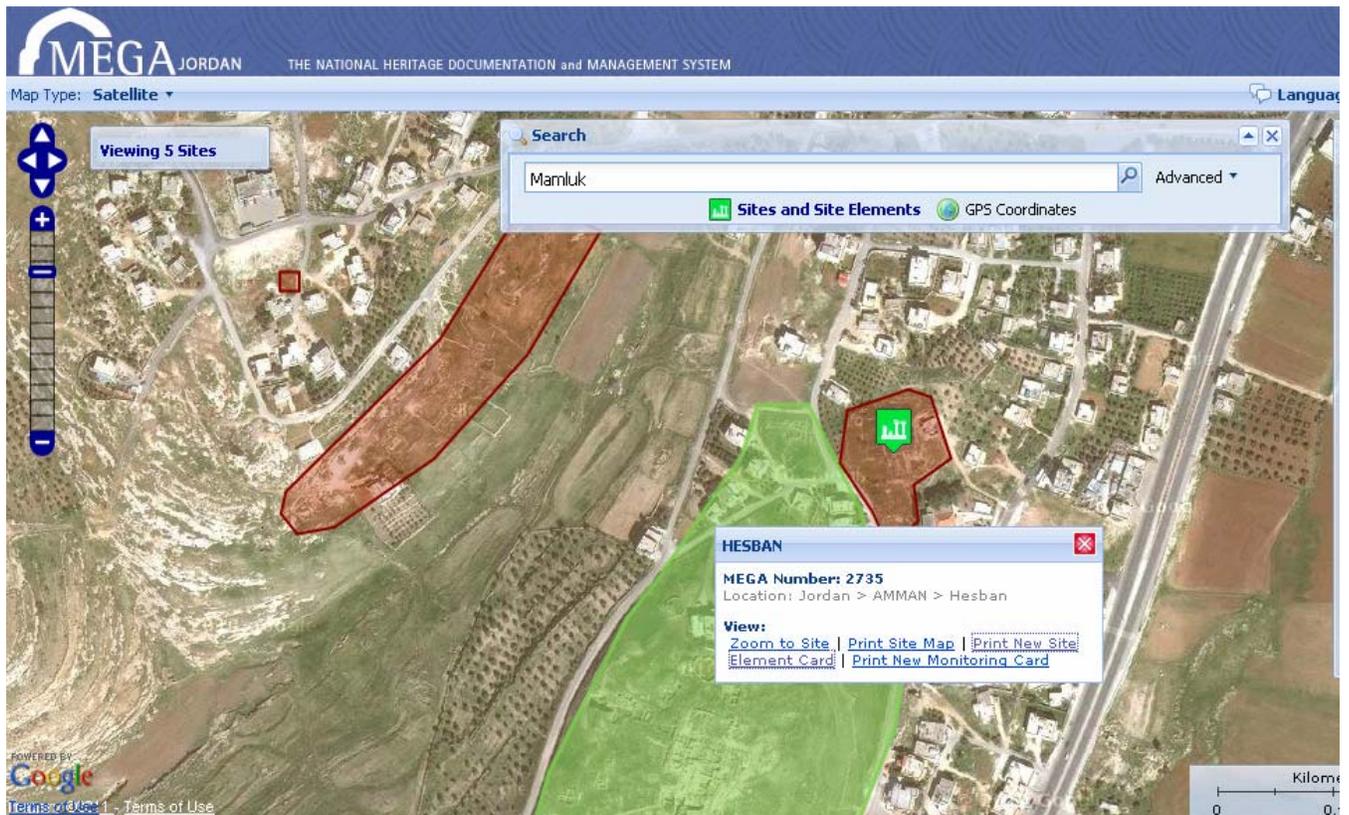


Figure 1. MEGA Jordan search interface and results for Mamluk at Hesban.

## WORKSHOPS, SCHOOLS, & SHORT COURSES

No information is currently available, but please update us on student opportunities for the next newsletter cycle!

## FROM THE NEWSLETTER EDITORS

As always, we welcome featured research, and news from the membership, as well as ideas and suggestions for making the newsletter a more valuable resource. Please send any and all information and ideas to us at [kadelsbe@knox.edu](mailto:kadelsbe@knox.edu) and [fademcy@earlham.edu](mailto:fademcy@earlham.edu). We wish everyone an excellent summer field season!

- Katie Adelsberger & Cynthia Fadem

## DOUGLAS C. KELLOGG FUND FOR GEOARCHAEOLOGICAL RESEARCH

Under the auspices of the SAA Geoarchaeology Interest Group, family, friends and close associates of Douglas C. Kellogg formed a memorial fund in his honor. The fund provides support of thesis or dissertation research, with emphasis on the field and/or laboratory parts of this research, for graduate students in the earth sciences and archaeology. Recipients of this award will be students who have (1) an interest in achieving an M.S., M.A., or Ph.D. degree in earth sciences or archaeology; (2) an interest in applying earth science methods to archaeological research; and (3) an interest in a career in geoarchaeology.

Money donated to the Douglas C. Kellogg Fund will not be used for the annual award. Instead, the interest generated each year will be awarded on an annual basis to the recipient. Initially, a minimum of \$500 will be awarded; the amount of the award will increase as the fund grows and the amount of annual interest increases. The first Douglas C. Kellogg Award was made in Spring, 2003.

**Please make a contribution to the Douglas C. Kellogg Fund for Geoarchaeological Research. A contribution form is below.**

Students interested in submitting a research proposal should contact Dr. Tristram R. Kidder, Douglass C. Kellogg Fund, Department of Anthropology, Washington University, One Brookings Drive, St. Louis, MO, 63130; email: [trkidder@washu.edu](mailto:trkidder@washu.edu).

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### DONATION TO THE SAA DOUGLAS C. KELLOGG FUND FOR GEOARCHAEOLOGICAL RESEARCH

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Checks should be made out to "Society for American Archaeology". SAA will send you a receipt for tax purposes.

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