



The Grapevine

Newsletter



Volume 7:10

For Cultural Resources Management

October 1997

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State News

North Dakota

Deep Root: Perserving our Sacred Heritage

North Dakota History Conference and Annual Meeting will be held November 6-8, 1997, at the North Dakota Heritage Center in Bismark, ND. For registration information, contact State Historical Society of North Dakota & Foundation, North Dakota Heritage Center, 612 East Boulevard Avenue, Bismark, ND 58505; 701-222-1966.

Utah

The Utah Professional Archaeological Council (UPAC) will hold its Fall meeting November 7 and 8, at the College of Eastern Utah Prehistoric Museum in Price, UT. For further information, contact Stan McDonald, UPAC president, Manti-LaSal National Forest, 599 W. Price River Drive, Price, UT 84501; 801-637-2817.

Vermont

The Vermont Archaeological Society

Welcome To Our Great Web Site!
<http://www.uvm.edu/~vhnet/hpres/org/vas/vas.html>

Explore Vermont Archaeological Society (VAS) activities, Publications, Archaeology in Vermont, Recom-

mended Resources (Books and other Media), Vermont Archaeology Week, and much, much more.

The VAS Web Site is generously hosted by the Vermont Heritage Network, Historic Preservation Program, and University of Vermont. VAS Web Site, heroically designed and maintained by David Quiroz, using some pages by Gabrielle Bourgerie and Chris Sheldon. Information provided by VAS, GEOARCH, Inc., and Vermont Division for Historic Preservation, and supervised under the direction of the VAS Education Committee. For more information call: 802-247-8127 or email: geoarch@sover.net

Kathleen E. Callum/ Robert A. Sloma
GEOARCH, Inc.
RR 2 Box 2429-1
Brandon VT 05733
TEL: 802-247-8127
FAX: 802-247-0107
email: geoarch@sover.net

(The Vermont Archaeological Society, Inc.
P.O. Box 663, Burlington, Vermont 05402-0663)

West Virginia

Funding for West Virginia's National Coal Heritage Area.

Eleven counties in West Virginia were designated in 1996 as a National Heritage Area (NHA), because the influence that coal mining has had on the culture of the state is easily seen

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Conference Calendar

October 24-25, 1997 - Constructing Identity: Between Architecture and Culture is a conference addressing political, social, and historical issues. For more information contact HAUS, 143 E. Sibley Hall, Ithaca, NY 14853.

October 24-26, 1997 - The Midwest Archaeological Conference and the **Ontario Archaeological Society** will be meeting jointly for an 1997 Symposium at the Novotel Hotel North York, Toronto, Ontario.

November 6-10, 1997 - Historic County Courthouses, is a national conference sponsored by the American Institute of Architects' Historic Resources Committee. Call the AIA information line at 800-242-3837 or 202-626-7457 for more information.

November 18-22, 1997 - The Plains Conference, co-sponsored by the Colorado State University and the Colorado State Historical Society, will meet in at the Clarion Harvesthouse Hotel in Boulder, CO.

January 7-11, 1998 - Society for Historical Archaeology Annual Meeting will be held at the Crowne Plaza Ravennia Hotel in Atlanta, GA. Contact the Society for Historical Archaeology, PO Box 30446, Tucson, AZ 85751-0446.

March 25-11, 1998 - the 63rd Annual Meeting of the Society for American Archaeology will be held in Seattle, WA. Contact: the Society for American Archaeology at 900 Second Street, N.E., #12, Washington, DC 20002-3557, telephone 202-789-8200; FAX 202-789-0284; or E-mail meetings@saa.org.

April 17-18, 1998 - Fleeting Identities: Perishable Material Culture in Archaeological Research, the Fifteenth Annual Center for Archaeological Investigations Visiting Scholar's Conference, will be held at Southern Illinois University-Carbondale. Deadlines for abstracts is December 31, 1997. For details see <http://www.siu.edu/~cai>, or contact Penelope Drooker, CAI, Faner 3479, Mailcode 4527, SIUC, Carbondale, IL 62901-4527; 618-453-5032; FAX 618-453-3253; E-mail pdrooker@siu.edu.

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Managing Editor: W. Kevin Pape
Newsletter Editor: E. Jeanne Harris
Copy Editor: Lora L. Anderson

Editorial address:

The Grapevine

1318 Main Street

Cincinnati, OH 45210

Telephone 513-287-7700

FAX 513-287-7703

E-mail: Ejharris@aol.com or

Gray_Pape@compuserve.com

Call For Papers

68th Annual Meeting of Pennsylvania Archaeology April 24-26, 1998 at the Holiday Inn, New Cumberland (Harrisburg area)

Meetings will include two open sessions and a symposium on Monongahela culture. To participate in the open sessions. Send abstracts to:

Noël Strattan
Bureau for Historic Preservation
Box 1026
Harrisburg, PA 17108-1026
717-772-4519.

All papers will be limited to 20 minutes in length. Abstracts of 150 words should be submitted by February 1, 1998.

If you are interested in participating in the Monongahela symposium, contact John Nass of California University of PA at 412-938-5726 for information on content and structure of the section.

1998 Mid-Atlantic Archaeological Conference April 3-5, 1998

The 1998 Mid-Atlantic Archaeological Conference will be held in Cape May, NJ. There will be general session on current research in prehistoric and historic archaeology as well as sessions concerning individual long-term projects and regional research issues and a seminar about the disparities between what students learn in school and what they need to know to work in the field. It would also be appropriate to have papers about New Jersey projects and about Atlantic coastal archaeology, both prehistoric and historic. Other suggestions for sessions and/or seminars are welcome.

Please send abstracts for proposed session and individual papers to the program chairs:

Meta Janowitz or Sharia Azizi
Louis Berger and Associates
100 Halstead Street
East Orange, NJ 07019
973-678-1960, ext 736 or 727
E-mail: mjanow@lba-crg.com;
sazizi@lba-crg.com
FAX: 978-678-3427

In addition, there will be pre-conference workshops including one

about conservation of artifacts in the field and in the lab and George Miller's ceramic workshop.

MAAC Guidelines: The Conference has adopted the following rules governing presentation: 1) an individual can present only one paper at the meeting; 2) persons with an unexcused absence from the previous year's meeting cannot present at this year's meeting; 3) all presenters must register for the meeting and must be members of MAAC, Inc. for 1998.

State News..

..continued from Page 1

in these counties. The area is rich in cultural resources and stories, making it a significant heritage area.

Unfortunately, this designation does not carry federal funding to preserve, manage, and maintain the NHA. Management of NHAs is a partnership between government agencies at all levels, business, nonprofit organizations, and private citizens and landowners. However, starting in October, the federal government will provide available grants, on a matching basis, for projects which will further the goals of the area's plan. To this end an ad-hoc group has been meeting on the state level to start the planning and grant process in order to secure a \$300,000 matching federal grant. This grant will be available for a wide range of projects from brick and mortar preservation to tourism planning to publications and interpretive endeavors.

Information taken from *Patterns*, Issue 16; a quarterly newsletter published by the West Virginia Division of Culture and History.

Historic County Courthouses November 6-10, 1997

A national conference sponsored by the
American Institute of Architects'
Historic Resources Committee.
Call the AIA information line at
800-242-3837 or 202-626-7457
for more information.

The National Preservation Institute Training For Preservation

The National Preservation Institute is a nonprofit organization which provides professional training for the management, development, and preservation of historic, cultural, and environmental resources. One and two-day seminars bring distinguished faculty to highlight state-of-the-art practice in important areas of historic preservation and cultural resource management. Seminars focus on enhancing the skills of professionals responsible for the preservation, protection, and interpretation of historic, archaeological, cultural, and environmental resources. Case studies and small group exercises focus on the information, technology, and skills which effective managers require in today's changing preservation environment.

Participants include managers of historic structures, landscapes, and other properties; preservation and land use planners; cultural resource coordinators for government agencies and public utility companies; community and Native American Tribal leaders, planning, design, engineering and public works professionals; contractors, public administrators, and environmental specialists faced with integrating cultural and natural resource management issues into a single planning process; and property owners subject to compliance with federal regulations related to the protection of historic, cultural, archaeological, and environmental resources.

For a copy of the Fall brochure, with a preview of the 1998 Course offerings, contact:

Jere Bibber
National Preservation Institute
PO Box 1702
Alexandria, VA 22313
703-765-0100
E-mail info@npi.org
Web page www.npi.org

Corporate Profile

Midwest Environmental Consultants, Inc.

Midwest Environmental Consultants, Inc., (MEC) is an environmental engineering firm authorized by the State of Ohio to offer engineering services. MEC's staff of Civil, Chemical, Geotechnical, and Environmental Engineers, Archaeologists, Architectural Historians, Biologists, Geologists, Environmental Scientists, and Industrial Hygienists are experienced and familiar with Federal, state, and local environmental regulations and have the necessary background and experience in relevant technical areas:

Environmental Permits/Studies;
Hazardous Materials/Hazardous Waste;
Site Investigations;
Underground Storage Tanks;
Waste Management Facilities;
Industrial Hygiene/Hazard Awareness
Wetlands Assessments/Delineation; and
Cultural Resources Studies.

MEC is affiliated with Mannik & Smith, Inc., a general civil engineering consulting firm that has been providing engineering services since 1955. The parent firm provides support service in surveying, structure design, drainage design, computer analysis, and automated drafting. With the strong association between the two firms, through ownership and location, MEC is able to efficiently provide a wide range of professional services to supplement those of its own specialized staff.

Job Announcements

Senior Curator Ketchikan, Alaska

Senior Curator of Programs for the City of Ketchikan Museum Department. Develops, implements and coordinates Programs Division goals, objectives and programs. Works closely with the Director and senior staff on department long range planning and program development. Bachelor's degree and two years of progressively responsible experience in Museum programming required. Must have demonstrated administrative experience and a high degree of verbal and written communication skills. Familiarity with budgeting and funding proposal development is preferred. Regular full time. May work evenings, weekends, holidays, and extended hours. \$2,877.28/month +

benefits. Application and complete job description available from: The City of Ketchikan, 334 Front Street, Ketchikan, AK 99901, or call Human Resources @ 501-225-3111. Closes October 13, 1997. EEO/AA

Preservation Historian

Cultural Heritage Research Services, Inc., (CHRS) of North Wales, Pennsylvania is currently accepting applications for the position of Preservation Historian. The historian will be responsible for researching and writing site-specific and general historical overviews as well as conducting research at agencies such as the Pennsylvania Historical and Museum Commission. The ideal applicant would be a skilled technical writer with training/experience in a range of primary and secondary historical research sources and techniques. Some knowledge of related

fields such as preservation law, archaeology, industrial history, social history, historic architecture, or land use planning would also be advantageous.

Salary is commensurate with experience. This is a full-time, permanent position requiring a moderate amount of travel and occasional overnight trips.

CHRS is a medium-sized historic preservation consulting firm specializing in the archaeological and historic structures components of the federal and state environmental impact assessment process. After a probationary period CHRS offers a full benefit package, including fully paid health care for employee and spouse. CHRS is an equal-opportunity employer.

Interested applicants contact:
Terrence W. Epperson, Ph.D.
Vice President
CHRS, Inc.
403 E. Walnut Street
North Wales, PA 19454

Draftsperson / Photographer

Cultural Resource Consulting Group (CRCG) is taking applications for a position which requires experience in Drafting and Photography. Archaeological, Historic Preservation, or closely related experience is important. Participating in archaeological fieldwork will be required. Responsibilities include drafting, some illustrating, and photography. Your skills will be applied in the field, lab, and office. Opportunities for HABS/HAER and surveying are also available. Experience in these areas is desired. Candidates without photography skills will be considered.

CRCG is an established cultural resource consulting firm. Our staff includes archaeologists, historians, architectural historians, and technical specialists. Our office is located in Highland Park, N.J., near New Brunswick and Rutgers University. We are ½ hour from NYC; 1 hour from Philadelphia; and 20 minutes from Princeton. We are one mile from major train lines. Benefits and salary commensurate with experience.

Send a resume and cover letter to:

CRCG
54 Woodbridge Ave.
Highland Park, NJ 08904

Corporate Subscribers

New

Midwest Environmental
Consultant, Inc.
1800 Indian Wood Circle
Maumee, OH 43537
419-891-1800
FAX 419-891-7290
Contact: William E. Rutter

Changes

AVD Archaeological Services, Inc.
(formerly BZ Engineering, Inc.)
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414-878-0510
FAX 414-878-0717
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Contact: Allen P. Van Dyke

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Tools of the Trade

Associate Editor - Tim King

Introduction

In recent years one of the most exciting "tools" added to the field of CRM is Geographic Information Systems (GIS). GIS technology enables researchers in a variety of fields to create visual databases which can be queried on an unlimited number of topics. In CRM this data can take the form of the location of dart points, roasting pits, and manos to Victorian homes, historic landscape features, and privies. Hutchinson and Daniel (1997) estimated that an incredible 80% of all data has a spatial component. The possibilities within CRM are astounding when one considers that nearly 100% of data we collect is spatial in nature.

Presently, GIS technology is increasing exponentially in environmental fields. Government agencies have begun to see the advantage of using GIS to incorporate years of unused and under utilized data on wetlands, wildlife population distribution, soil erosion, etc. Examples of such programs are the National Guard's NED (National Environmental Database), the Department of Defense program MEDP (Mojave Ecosystem Database Program), and NASA's CRSP (Commercial Remote Sensing Program). For more information on these programs visit their webpages listed after the article.

The following article is an example how GIS can be used within an archaeological context. The project used not only GIS software but satellite imagery to find patterns in the archaeological landscape. Kurt A. Menke received a B.S. in Anthropology from the University of New Mexico and is currently working on a M.A. from University's Geography Department, specializing in geographic information technologies. He has worked as a contract archaeologist in New Mexico for the Office of Contract Archaeology (UNM), Western Cultural Resource Management, and Centennial Archaeology Inc. Kurt can be reached via e-mail at Kmenke@unm.edu

Using GIS and Remote Sensing to Analyze the Prehistoric Pebble-Mulched Fields at San Marcos Pueblo, New Mexico

By Kurt A. Menke

Protohistoric southwestern Pueblo societies used a variety of techniques to deliver water to their crops. Among these techniques were dry farming, seepage plots, water table fields, slope wash parcels, akchin fields, floodplain farming, terracing, and irrigation. Recently, field investigations have identified linear border fields and pebble-mulched plots in the Rio Chama, Rio Ojo Caliente, and Galisteo Basin regions (Lightfoot 1994). We will focus on the pueblo of San Marcos (LA 98), located on the western side of the Galisteo Basin just south of Santa Fe, New Mexico. The aim of the project was to study the nature of these fields and their identification by means of field reconnaissance remote sensing techniques and their analysis using a GIS database.

Ninety-six pebble-mulched fields have been located in the San Marcos region. Although agricultural crops have not grown in these fields for centuries, the water conserving pebble mulch, measuring 5 to 15 cm in depth, is still in place allowing for their identification. These plots vary in size from 4 x 8 m to 30 x 105 m and are commonly found on southeast facing slopes. The pebble mulch not only permits water retention but the pebbles themselves act as solar collectors warming the underlying soils. Therefore, diurnal soil temperatures are moderated in that the hot summer day temperatures are lowered and the cooler evening temperatures

are raised (Lightfoot and Eddy 1995). This causes the growing season to be extended earlier into the spring and later into the fall.

By incorporating this assumption into a GIS environment it may be possible to see some sort of pattern evolve in the placement of the fields. A database was designed with several layers in a rectangular region large enough to encompass the majority of the 96 identified pebble-mulched fields. The room blocks and agricultural fields of San Marcos Pueblo were digitized from a site map prepared by Richard Lang at a scale of 1:1,000. The topography, local roads, and streams were digitized from the Picture Rock, New Mexico 7.5' USGS topographic map. From the topography layer a digital elevation model (DEM) can be created. With the DEM it would be possible to identify the slope and aspect of each field. Soil data was digitized from plates 71 and 78 of the Soil Survey of the Santa Fe Area, New Mexico (Folks 1975). A Thermal Infrared Multispectral Scanner (TIMS) image of San Marcos Pueblo with five-meter resolution was also obtained (Eddy et.al. 1996). This image was to be processed using ER Mapper and incorporated into the database as a raster layer.

Based on the solar collection properties of pebble-mulched fields, Thermal Infrared Multispectral Scanner (TIMS) imagery should capture the heat radiating off the fields. The

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sensor was mounted on a Lear Jet, flying at an altitude of 6600 feet. Processing the image using ER Mapper, a unique spectral signature representing pebble-mulched fields should be identifiable. Five-meter resolution should be adequate for most fields so that only the smallest might be missed. However, Lewis and Clark one-meter hyperspectral data will soon be available. This procedure could be repeated at other Pueblos in the Rio Chama, Rio Ojo Caliente, and Galisteo Basin regions and the results could be contrasted against the expected patterns.

Attribute data also would aid the search for patterning in the fields. Fragments of ceramic pots that were used to irrigate the fields have been found in and around the fields. These fragments have been dated and show a correlation with a time period that the fields were farmed. It may not be possible to identify a time period for each individual field, however, once the fields and locations of the ceramic fragments are in place, it should be possible to date the fields within a common time period by encompassing all the fields within a given distance of the fragments into the same group.

A final piece of attribute data that concerns the fields is the location of the fields to the nearest source of water. This would show how the individual field was irrigated and the distance the water had to be carried to it, or whether it was in a flood plain, seepage plot, akchin field, slope wash parcel, or water table field.

This project was started for an advanced GIS course at the University of New Mexico with three other graduate students in the Department of Geography; Dr. Timothy Baugh, Kathryn Crane, and Randy Rath. Unfortunately it never reached its full potential due to severe computer system problems (viruses and hackers) throughout the semester.

References:

Eddy, Frank W., Dale R. Lightfoot, Eden A. Walker, Layne L. Wright, and Dolores Torres. "Air Photographic Mapping of San Marcos Pueblo." *Journal of Field Archaeology*, 1996: v23, n(1): p1-13.

Folks, James J. *Soil Survey of Santa Fe Area, New Mexico; Santa Fe County and Parts of Rio Arriba County*. U.S. Department of Agriculture, Soil Conservation Service, U. S. Forest Service, and Bureau of Indian Affairs. Washington D.C., 1975.

Lightfoot, Dale R. and Frank W. Eddy. "The Construction and Configuration of Anasazi Pebble-Mulch Gardens in the Northern Rio Grande." *American Antiquity*, 1995: 60(3):459-470.

Lightfoot, D.R. "Morphology and Ecology of Lithic Mulch Agriculture." *Geographical Review*, 1994: 84:172-185.

Lightfoot, D.R. *The Prehistoric Pebble-Mulched Fields of the Galisteo Anasazi, Agricultural Innovation and Adaptation to Environment*. Unpublished thesis submitted to the Department of Geography, University of Colorado, 1990.

Introduction

Hutchinson, Scott and Larry Daniel. *Inside ArcView GIS*. 2nd ed. Onword Press; Santa Fe, NM.

Related Webpages:

National Environmental Database <http://www.nr.usu.edu/ned/nedhome.html>

Mojave Ecosystem Database Program <http://mojave.army.mil/>

Commercial Remote Sensing Program <http://www.crsp.ssc.nasa.gov/PROGRAM.HTM>

ESRI (makers of ArcView and ArcINFO) @ <http://www.esri.com/>

Announcements

Kathleen Schamel Joins NRCS's Cultural Resource Team

On September 1, 1997, Kathleen Schamel joined national NRCS's Cultural Resources Team as a cultural resource specialist. The Ecological Sciences Division is pleased to welcome her aboard. During her six month tenure, Ms Schamel will work primarily on training initiatives to fulfill previous agreements with the Department of Defense-Navy. In addition, she will assist NRCS's Federal Preservation Officer, Michael Kaczor, with other special projects such as expanding the Cultural Resources Web page to provide NRCS offices with the latest in technology information.

Prior to joining NRCS, Ms. Schamel served as the Senior Vice President of CEHP Incorporated, a small business providing conservation, environmental, and historic preservation services. She also has worked as a division director for Foresight Science and Technology, a museum specialist at the Smithsonian Institution, and as an independent researcher and contractor. Ms Schamel holds a masters degree in anthropology from The George Washington University. She is a frequent speaker and author on archaeological site protection, cultural resources legislation, and public education.

Kathleen can be reached by E-mail at Kathleen.Schamel@usda.gov or at phone 202-720-0304.



Eric Voigt will be joining the staff of Louis Berger Associates, Richmond, VA, in the capacity of Principal Investigator on November 3, 1997.



Randy Primm, Senior Vice President of R.C. Goodwin & Associates, Inc., died in New Orleans, September 28, 1997. Mr. Primm is survived by his wife Paula and son Skylar.

The Grapevine Subscription Information

Corporate Rates:

\$30.00 Each corporate subscription is entitled to be included in the newsletter's quarterly corporate listing for one year. This corporate listing, giving address, phone number, and contact person, will be printed at the back of these issues. New corporate subscriptions will be listed each month.

Additional Office Rate:

\$10.00 Corporate subscribers with more than one office can have the newsletter sent directly to regional or branch offices for \$10.00 per additional office.

Individual Rates:

\$20.00 An individual subscription includes one free monthly classified ad per year (request for information, special services, job announcement, or position wanted).

Academic/Governmental Rates:

\$15.00 This newsletter is designed for private sector contractors. However, our colleagues from academic and governmental sectors are welcome to subscribe and to contribute information.

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Internet News

Society of Professional Archaeologist (SOPA)'s Web Site

Visit SOPA's Web site at: <http://www.smu.edu/~anthrop/sopa.html>. It has been updated with new officers and other information. Field School Certification application are now available on the web. If you run a field school and have not applied for Field School Certification, just print out the web page, fill in the form, include the appropriate fees, and mail it in.

Southeastern Archaeological Conference Web Page

A test version of the SEAC web page is now available for viewing. The address is: www.uark.edu/campus-resources/archinfo/seac/

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Michael Polk
Sagebrush Archaeological Consultants
3670 Quincy Avenue, Suite 203
Ogden, UT 84403