North Carolina Archaeological Society

Newsletter

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# 2015 Active Summer Excavations

Interested in visiting an active archaeological excavation this summer? Check out these active projects being conducted across the state!

## Field Day at the Berry site, Morganton, NC

The Berry site is a large Native American town that was occupied from about A.D. 1400-1600. Archaeologists have identified the site as the town of Joara, which was visited by the Hernando de Soto expedition in 1540 and the Juan Pardo expedition in 1567. In 1566, Captain Juan Pardo and his army departed Santa Elena (on modern-day Parris Island, South Carolina) to claim the interior of southeastern North America for Spain. Pardo built Fort San Juan at the native town of Joara in 1567, making it the earliest European settlement in the interior of what is now the United States. Spanish soldiers lived at Fort San Juan from January 1567 until about the spring of 1568. In June, relations between the Spaniards and the native peoples of Joara ended tumultuously, and the fort was burned and destroyed.

Archaeological fieldwork is conducted annually at the Berry site in Morganton, NC. The Exploring Joara Foundation partners with researchers at the Berry site to offer summer camps and other educational opportunities to the public. The annual Berry site Field Day is scheduled for June 20th, 10:00 a.m. – 2:00 p.m. This is the only open house day for the Berry site. The event is free; however, suggested donations of $5 help support the archaeological research on-going at the site. For more information, contact: (828) 413-2660 or visit exploringjoara.org.

## UNC Excavations at the Wall site, Hillsborough, NC

UNC's 2015 summer field school in North American archaeology will excavate the Wall site on the Eno River in Hillsborough, North Carolina. This Wall site represents a Native American fortified town that was occupied during the sixteenth and early seventeenth centuries by ancestors of the Shakori and Eno tribes. Extensive excavations over seven field seasons have revealed several circular alignments of postholes were houses once stood, evidence for multiple defensive palisades surrounding the village, and dense deposits of refuse within a thick midden at the northern edge of the site. The 2015 field school excavations will add to this growing body of archaeological evidence about the Wall site and, in particular, will investigate an area along the northern edge of the village where, in 2002, unexpected evidence was found for a seventeenth-century, early historic-period occupation.

The project will run from May 13 through June 12, and we plan to excavate, weather permitting, each day (Monday-Friday except Memorial Day) between 8 am and 4 pm. NCAS members wishing to visit the site should contact Steve Davis (rpsdavis@unc.edu).

## William Peace University Excavations at Fort Caswell, Oak Island, NC

The 2015 William Peace University Archaeological Field School will be held at Fort Caswell, a brick-and-mortar fortification located on the eastern end of Oak Island and constructed in the 1830s as part of the Third System program. Fort Caswell boasted several unique design features among the 48 Third System fortifications: a four foot thick masonry escarpment with no embrasures for casemated cannons, three sally ports, a cross-shaped citadel in the center of the parade ground, three pairs of caponiers, as well as wet and dry moats. This allowed the fort to function as a seacoast defensive fort, and to provide capability to withstand land-based sieges from Oak Island or nearby islands. Our goals this year are specifically designed to better define and interpret the Citadel (barracks), the caponiers, the fort's cistern and water system, as well as the wet and dry moats. We also hope to recover more artifacts to help provide a better material portrait of soldiers' lives from the American Civil War through World War I. A field lab will be operated on site to help process any such artifacts recovered.

Excavations will generally be conducted Monday through Friday from May 18 to June 12. Visitors and volunteers for the field or lab are welcome with at least one day advanced notice. For more information on the 2015 William Peace Archaeological Field School, contact co-directors Vincent H. Melomo, Ph.D. (vmelomo@peace.edu, 919-349-9874) or Thomas E. Beaman, Jr., RPA (tbeamanjr@aol.com, 252-236-8529).

# Call for NCAS Officer and Board Nominations

The NCAS is currently seeking nominations for several positions within the Society, including two at-large board members and Vice President. To make a nomination or to express interest in a position, please contact Eric Deetz (jedeetz@ccrtarboro.com) or David

Cranford (cranford@unc.edu).

# Archaeology in the Digital Age:

## 3D Modeling and Structure-from-Motion Photogrammetry

3D modeling is quickly becoming an important tool for archaeologists and can be utilized at multiple scales- from individual artifacts to entire landscapes. There are many ways to create 3D models, but many are expensive and require specialized equipment. One of the most promising is a low-cost and precise method called Structure-from-Motion (SfM) photogrammetry. The SfM software works by matching features within multiple overlapping and off-set digital photographs to calculate the topography of objects or terrains. The resulting model can be used to print 3D reproductions or construct high-resolution Digital Elevation Models (DEMs) which can then be integrated into GIS mapping programs. Check out a few of the recent 3D models of excavations from UNC Chapel Hill's campus over the last few years! http://3dig.web.unc.edu/projects/

# 2015 Lithics Conference
# Modeling Prehistoric Behavior Through Lithic Studies: A North Carolina Example

## Lawrence E. Abbott and John J. Mintz, NCOSA

Some 16 years after archaeologists gathered at Randolph Community College in Asheboro, North Carolina to discuss the use of stone by Prehistoric Native North Carolinians they reconvened for a day of discussion to revisit old theories and paradigms and to discuss and discover new ones.

The NC Office of State Archaeology (OSA) and the National Forests in North Carolina (USFS) sponsored a conference held on April 25 in the William Ross Conference Center at the Nature Research Center, NC Museum of Natural Sciences, in Raleigh. The purpose of this conference was to increase communication among archaeologists and geologists involved in lithic studies (the study of prehistoric stone tool production and use) across the state and to integrate research efforts at a multi-disciplinary level. A number of individuals with a broad range of experience in the practical aspects of conducting research on lithic assemblages in North Carolina convened to discuss several topics related to the discipline. These topics included: the development of research designs and field methods, classification schemes and raw material identification, data interpretation and synthesis, collections and resource management.

The conference consisted of a one-day set of presentations, demonstrations, and posters that addressed the specific topics listed above. Posters prepared by the OSA and North Carolina Geological Survey (NCGS) highlighted information gained from the recently acquired Oshnock Collection; an approximate 36,000 item collection of stone tools (Paleo-Mississippian) from provenienced sites generally located in the southern piedmont region of North Carolina. This collection is presently housed at the North Carolina Office of State Archaeology Research Center in Raleigh.

Of particular interest was a presentation by Heather D. Hanna and Philip J. Bradley of the NCGS discussing the results of certain of their detailed geologic mapping projects within the Orange and Chatham county portions of the Carolina terrane, (often referred to as the Carolina Slate Belt). During these field investigations fine-grained volcanogenic rock is frequently encountered and an impromptu "best attempt" at identification is often made. The resulting field observations, ground truthed with geochemical analysis when possible, have led to informal logic-trees for initial field identifications. This informal guide summarizes the field geologist's thought processes (logic-trees) to identify fresh rock material. As one would imagine this type of methodological approach was of great interest to the archaeologists attending the conference.

The conference culminated with a keynote address by Dr. I. Randolph Daniel, Professor of Anthropology at East Carolina University. The conference was interactive with much open discussion and the mutual exchange of ideas and information related to lithic studies. Although the proceedings are expected to be published in the near future, the presentation abstracts of the speakers and poster information are included below to facilitate the incorporation of this new data into future research projects.

*An Update on the Geologic Understanding of the Carolina and other Volcanic Terranes and a Brief Review of Rock Type Variability on the Terrane to Local Scale,* Phil Bradley, North Carolina Geological Survey;

Abstract: Over a dozen geologic researchers from various organizations have conducted geologic investigations in the "Carolina Slate belt" and similar areas ("Eastern Slate belt and Kings Mountain belt") since the 1999 Uwharries Lithics Conference. There have been significant changes in the understanding of the geologic provenance and history of the areas as well as major changes to standard nomenclature to describe the areas. Currently "belt" terminology has been completely abandoned in geologic publications in favor of terrane terminology. Terranes group rocks of similar age, geologic history, and association and are the predominant

classification in most geologic literature today. In the last decade and a half, advances in geochemical analyses and interpretation as well as age dating have facilitated rapid advancements in the understanding of the rocks of central North Carolina.

Many detailed geologic maps published by the USGS and NC Geological Survey are available for areas within the Carolina, Kings Mountain, and Spring Hope terranes (formally Eastern Slate belt). These maps display the various rock types and units present in an area and hint to the volcanic past that formed the rocks. Modern-day and ancient volcanic areas are chaotic and are underlain by multiple rock types ranging from mafic to felsic lavas and plutonic rocks, tuff (ash) deposits, and a myriad of sedimentary rocks derived from the erosion of the volcanic rocks. Rock units may vary depending on distance from the volcanic source, whether deposited in water or on land, and degree of hydrothermal alteration. The identification of rock types in ancient volcanic deposits can be further complicated due to metamorphism and deformation.

Topics to be presented include: 1) a brief overview of the state of the geologic understanding of the ancient volcanic terranes of North Carolina; 2) general information on the deposition of volcanic deposits and associated sedimentary rocks on volcanic island arcs; 3) general information on nature of variability of rock types encountered on a site; and 4) resources on how to obtain geologic maps and data for North Carolina.

*Material Lithic Raw Differentiation Techniques: Demonstration of an Initial Guide to Visual Identification*

Heather D. Hanna and Philip J. Bradley, North Carolina Geological Survey;

Abstract: The NC Geological Survey conducts detailed geologic mapping within the Orange and Chatham county portions of the Carolina terrane, and often examines rock material from the Uwharries area. Fine-grained volcanogenic rock is frequently encountered during routine field mapping and an impromptu "best attempt" at identification must be made. The resulting field observations, ground truthed with geochemical analysis when possible, have led to informal logic-trees for initial field identifications. This informal guide summarizes the field geologist's thought processes (logic-trees) to identify fresh rock material. Samples of raw materials from the Carolina terrane will be on hand for identification using the guide, and it is the authors' hope that archeologists will provide feedback for improvement.

Note: this guide covers identification of fresh rock material. Although weathered surfaces may convey some information, a fresh surface is usually necessary for lithic identification beyond general "metavolcanic" and/or "metasedimentary" labels. Therefore, the destruction of the artifact may be necessary for proper identification.

*Patterns of Adaptive Behavior in the Uwharrie Mountains Region: Developing Archaeological Research along a 22-Mile-Long Corridor in Stanly and Montgomery Counties*

Shane C. Petersen, NCDOT

Abstract: Since 2006, the North Carolina Department of Transportation has conducted archaeological investigations along NC 24/27 from NC 740 in Stanly County to east of the Little River in Montgomery County using consistent methodological standards. These investigations resulted in a fall-coverage examination of over 1300 acres, the identification of 120 archaeological resources, and plans for more detailed multidisciplinary investigations at seven of those sites. Using the 1999 Uwharrie Lithics Conference as a rough regional research agenda, a binary approach has been designed to investigate adaptive behavioral patterning in the archaeological record of the region. The first part of this approach is the creation of an interpretive framework for pre-Columbian settlement systems in the Uwharries region. The second part consists of the targeted investigations at significant sites along the study corridor, that will also serve as data recovery/mitigation efforts. This process has already begun with the initial creation of a GIS database of archaeological resources in the region for examining relationships between assemblages and micro-environments. Additionally, excavations at the first site, 31Mg1910, have been completed and data analysis is underway. This project is presented, not only as an opportunity for greater perspective on prehistoric human ecology in the Uwharries, but also as an example of the potential for the marriage of archaeological research design and cultural resource legislation compliance.

*Lithic Debitage Attribute Analysis and Classification: A Few Examples*

Danny Gregory and Shawn Patch, New South Associates, Inc.

Abstract: In this presentation we discuss New South Associates' approach to lithic debitage analysis using consistent and well-defined attributes. We present results from several case studies, including data recoveries, that are statistically valid and replicable. We also provide an overview of how and why we adopted this system and its overall benefits.

*Integrating Lithic Analysis into Research at Town Creek*, Tony Boudreaux, Associate Professor Department of Anthropology, East Carolina University

Abstract: Town Creek (31Mg2 and Mg3) is one of the most extensively investigated sites in North Carolina. Decades of fieldwork there have produced an extraordinary archaeological collection. Most of the materials in this collection date to an intensive Mississippian occupation (ca. AD 1200-1400) when Town Creek was a civic-ceremonial center, but other materials indicate the presence of occupations from the Paleoindian through Contact periods. Although stone tools and debitage comprise a significant portion of the Town Creek collection, they represent some of the site's most under-studied artifacts. This paper presents a brief overview of the lithics from Town Creek and the results of their limited analysis. This paper then discusses possible avenues for future research and the potential for integrating the results of lithic analysis with those from existing datasets.

*An Interagency Partnership for a Consistent Approach to Managing Cultural Resources: National Forests in North Carolina and the North Carolina Office of State Archaeology*; John J. Mintz, North Carolina Office of State Archaeology Joel Hardison, Zone Archaeologist, Uwharrie National Forest Rodney Snedeker, Forest Scott Shumate, Blue Ridge Archaeological Consultants

Abstract: The Uwharrie National Forest is a 51,000 acre enclave situated within the South-Central Piedmont Physiographic region of North Carolina. This area has long been realized as evincing sustained and involved prehistoric occupation. Nowhere is this more evident than in the myriad of easily exploitable lithic raw materials contained within. This paper will discuss several avenues that are currently being used to manage this diverse and complex region.

**Poster Information**:

*The Oshnock Collection*, Sam Franklin, et. al., NC-OSA

Three cartographic productions of The Oshnock Sites and their distribution through Chatham, Franklin, Harnett, Johnston and Wake Counties. The maps display general distribution, temporal affiliation, and artifact productivity, and highlight how they relate to elevation and soils.

Lawrence Abbott (NC OSA) and Kathleen Farrell (NC Geological Survey): *The Oshnock Collection: A Geological Context.* This poster presented and discussed the distribution of sites contained in the Oshnock Collection as it relates to the surrounding geological setting. Particular attention was given to the distribution of Paleoindian sites represented in the collection. Most of these sites were found to be located on long, well-drained ridgetops overlooking major watercourses. This pattern suggests that Paleoindian groups used these landforms to traverse the landscape during a yearly cycle of movement from the Piedmont to the Coastal Plain and back.

# Save-the-Date!

**Join us in Cherokee, NC for our exciting Fall Society Meeting! (Please note that this date is still tentative. Final Meeting details will be included in the next Newsletter.) When: September, Friday 25th and Saturday 26th for a bus tour of surrounding sites. Where: Cherokee, NC**



**NCAS Newsletter**
**Publication Schedule**

All NCAS members are encouraged to submit articles and news items to Dee Nelms, Associate Editor, for inclusion in the *Newsletter*. Please use the following cut-off dates as guides for your submissions:

**Winter Issue – January 31** **Summer Issue – July 31**
**Spring Issue – April 30** **Fall Issue – October 31**

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