Stone had to be acquired from outcrops and quarries more than 50 miles to the west in the Uwharrie National Forest during the Archaic period, suggesting a strong and persistent link between the Sandhills and the Carolina slate belt where numerous metavolcanic quarries have been documented. Beyond this simple assertion however, there is much to learn.

Differential selection of metavolcanic sources may reflect technological choices. As a result, our goal was to develop a practical measure by which artifacts can be connected to source areas, if not individual quarries. In particular, we hope to refine our approach towards characterizing metavolcanics. In particular, we hope to develop a practical measure by which artifacts can be connected to source areas, if not individual quarries. In particular, we hope to develop a practical measure by which artifacts can be connected to source areas, if not individual quarries.

Examples of metavolcanic projectile points from Fort Bragg. From top to bottom:

Fort Bragg projectile points, aphyric (i.e., non-porphyritic) stone dominates biface collections from the Early through Paleoindian levels. Basic methods of this initial phase are outlined here. Ultimately, knowledge gained from this study will assist the development of a practical measure by which artifacts can be connected to source areas, if not individual quarries.

Application of sophisticated geochemical techniques has given us for the first time a real understanding of the variability of the stone, including the petrographic variety of stone, the source region of stone, and the trace element chemistry of stone. These techniques include Leptograph, Instrument Neutron Activation Analysis, and Samarium/Neodymium isotope analysis.

An intensive search of the state site files has been undertaken to document and map all known prehistoric quarries in the state. The vast majority of these fall within the section of a geologic map of North Carolina. The Uwharries/Asheboro (Uwharries 2), Chatham County (Chatham 1-3), Durham County, Person County, and Cape Fear River systems, the defining elements for this area are the xeric sandy soils and the longleaf pine forest. Over the last 12,000 years, these soils have been dominated by the pine forest with variable scrub oak.

Source regions within the Uwharries and perhaps to individual quarries can be discriminated using Neodymium isotopes. This diagram graphically depicts the isotopic ratios of quarry samples used in our analysis. Radioactive isotope 147 Samarium divided by a stable reference isotope 144 Neodymium is used in our analysis. Since the slope produced by the suite of quarry samples depicted here reflect the integrated effects of geologic events in the source rock for these samples prior to their emplacement in the Piedmont, we hope to refine our approach towards characterizing metavolcanics. In particular, we hope to develop a practical measure by which artifacts can be connected to source areas, if not individual quarries.

This diagram shows just the Uwharrie 1 quarry samples plotted for Neodymium isotopic composition of all quarry samples, categorized according to quarry group (Miller 2002). Results of this initial phase of work, though preliminary, suggest the possibility of further understanding the variability of stone, including the petrographic variety of stone, the source region of stone, and the trace element chemistry of stone.

RESULTS

Further work is underway to explore the results of this research. Additional sources need to be studied. Compared to the 21 samples from Uwharrie I, all but 1 of the other samples have "have".

Fort Bragg has been conducted (see above). Daniel and Butler (1996) identify two types of phenocrysts (quartz and plagioclase) as significant indicators of variation among quarries in the southern Uwharries region. Among Fort Bragg projectile points classified as aphyric could be one of several varieties of volcanic rock recognized by archaeologists, including quartz and potentially multiple kinds of metavolcanic stone.

The sites at Fort Bragg were identified during archaeological excavations in a study for the U.S. Army Corps of Engineers. Fort Bragg is located at Fort Bragg, North Carolina and is a logistical support area of the North Carolina National Guard. The Army has been conducting archaeological research at Fort Bragg since the 2000s. This research includes projects like the North Carolina National Guard Archaeological Survey and the North Carolina National Guard Archaeological Research and Site Management Program. These projects have resulted in the identification and documentation of many archaeological sites at Fort Bragg.

The Uwharrie National Forest is a national forest located in North Carolina. It was established in 1908 and covers an area of 217,875 acres (88,030 hectares). The forest is managed by the U.S. Forest Service and is one of the largest national forests in the southeastern United States. The forest is known for its rich history, diverse wildlife, and hiking trails. The Uwharrie National Forest is located in North Carolina and includes the towns of Wendell and Louisburg. It is home to a variety of trees and wildlife, including oak, maple, and pine trees, and a variety of birds and mammals. The forest is managed by the U.S. Forest Service and is open to the public for recreational activities such as hiking, camping, and wildlife viewing.

The Carolina Sandhills are a region located in the central and southern parts of North Carolina. The region is characterized by sandy soils and scrubby vegetation. It is a transition zone between the Coastal Plain and the Piedmont, and it is home to a variety of plants and animals. The Carolina Sandhills are known for their unique ecology and are managed by the U.S. Forest Service. The region includes the Uwharrie National Forest, which is one of the largest national forests in the southeastern United States. The forest is known for its rich history, diverse wildlife, and hiking trails. The Uwharrie National Forest is located in North Carolina and includes the towns of Wendell and Louisburg. It is home to a variety of trees and wildlife, including oak, maple, and pine trees, and a variety of birds and mammals. The forest is managed by the U.S. Forest Service and is open to the public for recreational activities such as hiking, camping, and wildlife viewing.

The North Carolina slate belt is a region located in the central and northern parts of North Carolina. It is a region of metamorphic rocks, including slate and schist, that has been formed by the transformation of sedimentary rocks. The region is known for its unique geology and is managed by the U.S. Forest Service. The North Carolina slate belt includes the Uwharrie National Forest, which is one of the largest national forests in the southeastern United States. The forest is known for its rich history, diverse wildlife, and hiking trails. The Uwharrie National Forest is located in North Carolina and includes the towns of Wendell and Louisburg. It is home to a variety of trees and wildlife, including oak, maple, and pine trees, and a variety of birds and mammals. The forest is managed by the U.S. Forest Service and is open to the public for recreational activities such as hiking, camping, and wildlife viewing.

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