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Re-Examining Early Archaic Settlement along the Middle Savannah River
By J. Christopher Gillam

As the earliest cultural period of the modern Holocene environment, Early Archaic lifeways (ca. 8,000-10,000 years B.P.) are of special interest to archaeologists. The adaptations and organization of these early hunter-gatherers have inspired a wide body of research. Throughout the Southeast, models of Early Archaic settlement have been proposed with limited statistical testing of environmental context (e.g., Anderson and Hanson 1988; Goodyear et al. 1979). Therefore, the validity of such models is called into question. Only by examining the environmental characteristics of artifact occurrences can we be certain of the nature of organizational complexity in the region.

The Anderson and Hanson (1988) model of Early Archaic settlement in the Savannah River Valley is often cited in the archaeological literature of the Southeast. It was inspired by Binford's (1980) models of forager and collector land use patterns amongst hunter-gatherers. Described as a “biocultural” model, the Savannah River example was based upon a generalized perception of the region's environmental diversity. It is proposed that winter would be the time of greatest “resource unpredictability,” resulting in base camps in the vicinity of the Savannah River Site (SRS) locality. These base camps would be associated with secondary “logistic” camps along the upland tributaries (Anderson and Hanson 1988; Hanson 1988). Due to the broad assumptions about the environment and associated biological diversity, there may be problems with the existing model. No statistical tests were performed to examine the relationship of sites to their environment. This is a first step in evaluating many assumptions of the model related to the environment.

The environmental characteristics of two artifact type occurrences have been chosen for study. These artifacts include Kirk corner-notched bifaces and formal unifaces, primarily consisting of teardrop-shaped endscrapers. This study includes 88 sites on the SRS containing artifacts dating to the period (Table 1). These sites contain a total of 91 Kirk bifaces and 189 unifaces.

The differences in environmental context of the artifact occurrences were examined using the multivariate analysis of variance (MANOVA) and univariate analysis of variance (ANOVA) techniques. The MANOVA tests the hypothesis that the means of the artifact occurrences are equal to one another for all environmental variables (Bray and Maxwell 1985). If the environmental characteristics of the artifact occurrences are the same, then the artifacts were used at every location of human activity. This would equate to a generalized forager adaptation to local resources (Binford 1980). Conversely, if differences in the environmental means occur, then bifaces and unifaces were used differently at locations of more specific activity. Under this circumstance, a collector strategy is indi-

<table>
<thead>
<tr>
<th>Summary Statistics</th>
<th>Kirk-only Sites</th>
<th>Uniface-only Sites</th>
<th>Joint Occurrences</th>
</tr>
</thead>
<tbody>
<tr>
<td>n (sites)</td>
<td>39</td>
<td>39</td>
<td>10</td>
</tr>
<tr>
<td>Mean (artifacts)</td>
<td>3,289</td>
<td>3,791</td>
<td>58,918</td>
</tr>
<tr>
<td>Minimum</td>
<td>2</td>
<td>1</td>
<td>983</td>
</tr>
<tr>
<td>Maximum</td>
<td>77,880</td>
<td>112,926</td>
<td>393,025</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>12,722</td>
<td>17,583</td>
<td>119,497</td>
</tr>
<tr>
<td>&lt;100 Total Artifacts</td>
<td>11 (28%)</td>
<td>15 (39%)</td>
<td>0</td>
</tr>
</tbody>
</table>

Table 1. Summary statistics for sites included in the sample. (Note: The number of artifacts reflects multiple components, not the frequency of Early Archaic materials alone).

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The ANOVA tests the hypothesis that the means of the artifact occurrences are equal to one another for each environmental variable (Iverson and Norpoth 1987). These individual variables included elevation, slope, distance to nearest stream, distance to nearest bay, and distance to the Savannah River floodplain. These tests give specific information regarding differences in the distribution of the artifacts, permitting the development of a model of Early Archaic land use.

It is demonstrated by the analyses that the collector model is appropriate for this locality. Overall, the uniface-containing sites are significantly different in their distribution than sites having Kirk bifaces (Table 2). Unifaces occur in closer association with the Savannah River and at lower elevations than the Kirk sites, suggesting their occurrence correlates to habitations or base-camp sites (Table 3). Conversely, Kirk bifaces occur closer to upland Carolina bays than unifaces, likely corresponding to temporary hunting loci or extraction sites. These results enable the development of a more refined model of Early Archaic settlement along the Middle Savannah River (Figure 1). Whereas, the MANOVA tests generally support the Anderson-Landscape and remain representative of extraction activities hypothesized by Anderson and Hanson. Thus, Hanson’s clean line marking the transition from foraging to logistical zones simply needs to be warped a bit to fit the archaeological record.

This pattern of base camps extending into the uplands along Upper Three Runs Creek is likely due to its proximity to neighboring localities. Following the headwaters of Upper Three Runs and Tinker Creek would provide a simple route for seasonal migration, interaction, and exchange with neighboring bands along the Salkehatchie and Edisto Rivers. Similarly, the Allendale chert quarries are a short distance away and are easily reached by following Lower Three Runs Creek from the uplands or the terrace formations overlooking the Savannah River floodplain. Additional flora and fauna are also available in the nearby Piedmont, approximately 25 kilometers upstream along the Savannah River.
Figure 1. A revised model of Early Archaic settlement along the Middle Savannah River.

References Cited


