

Inferences from Distributional Studies of Prehistoric Artifacts
in the Coastal Plain of South Carolina

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The intent of this paper is to shed some light on what has long been a relatively unknown area archeologically within the Southeast--the coastal plain of South Carolina. In particular I'd like to discuss the distribution of prehistoric ceramics in light of the available data from this area. In addition to seeking to determine and demonstrate distributional patterning within prehistoric coastal ceramics, I have the additional goal of elucidating associations between these ceramic complexes and various environmental factors present within the coastal plain.¹

Unlike her neighboring states of North Carolina and Georgia, South Carolina has, until recently, been largely ignored archeologically. Thus, while the work of Coe (1964), Haag (1956), and South (1959, 1960) has done much to reveal the outlines of the prehistoric occupation of coastal North Carolina and in Georgia the WPA related activity of Caldwell, McCann, Waring, and others throughout the state and particularly along the Savannah (as recounted by Waring 1968a) led to an early general awareness of the archeological resources of that state, South Carolina has remained for the most part an unknown. At various meetings of this conference, for example, when the distributions of ceramic assemblages in the region were discussed, the South Carolina area was either ignored (Kneberg 1962; Fairbanks 1962) or else mentioned, usually by Waring (in Sears 1966: 2; Waring 1968b), in passing. Thus many people had a vague or intuitive idea of what was supposed to be present, but there were few examples of hard data to verify these opinions.

This condition has persisted almost to the present day. Thus, recent investigations along the Savannah River at Groton Plantation by Stoltman (1974) and Peterson (1971a) and Milanich's general statement on the southeastern Deptford culture (1971) have all pointed out the lack of data for most of the South Carolina area. In terms of distributional studies, Waddell's work in the early 1960's (1963; 1965) delimiting the range of Thom's Creek and Awendaw pottery and Ferguson's recent work on the distribution of South Appalachian Mississippian mound sites (1971; n.d.) form the only available data encompassing the entire South Carolina coastal plain.

In the present study the ceramic artifacts from a total of 203 sites in the coastal plain were examined. The pottery from

¹I would like at this time to personally thank Stanley South, Albert Goodyear, and Gordon Brown for their advice and assistance in this project. In particular I would especially like to thank Leland G. Ferguson, whose advice, guidance, and encouragement in a very real sense made this study possible.

each site was analyzed for the incidence of attributes encompassing paste characteristics and method of surface treatment. The artifacts from all of these sites as well as descriptions of each site are available in the files and collections of the Institute of Archeology at the University of South Carolina and the Charleston Museum. In particular, collections were utilized only if the precise location of the site was available.

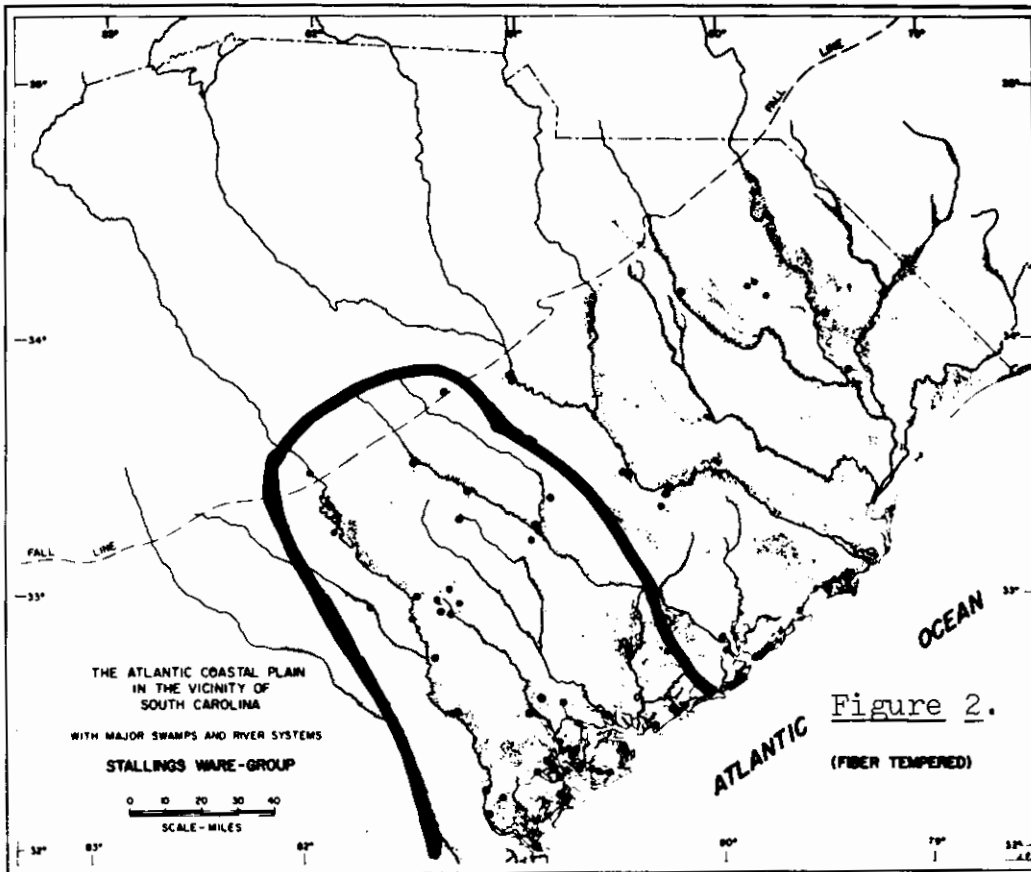
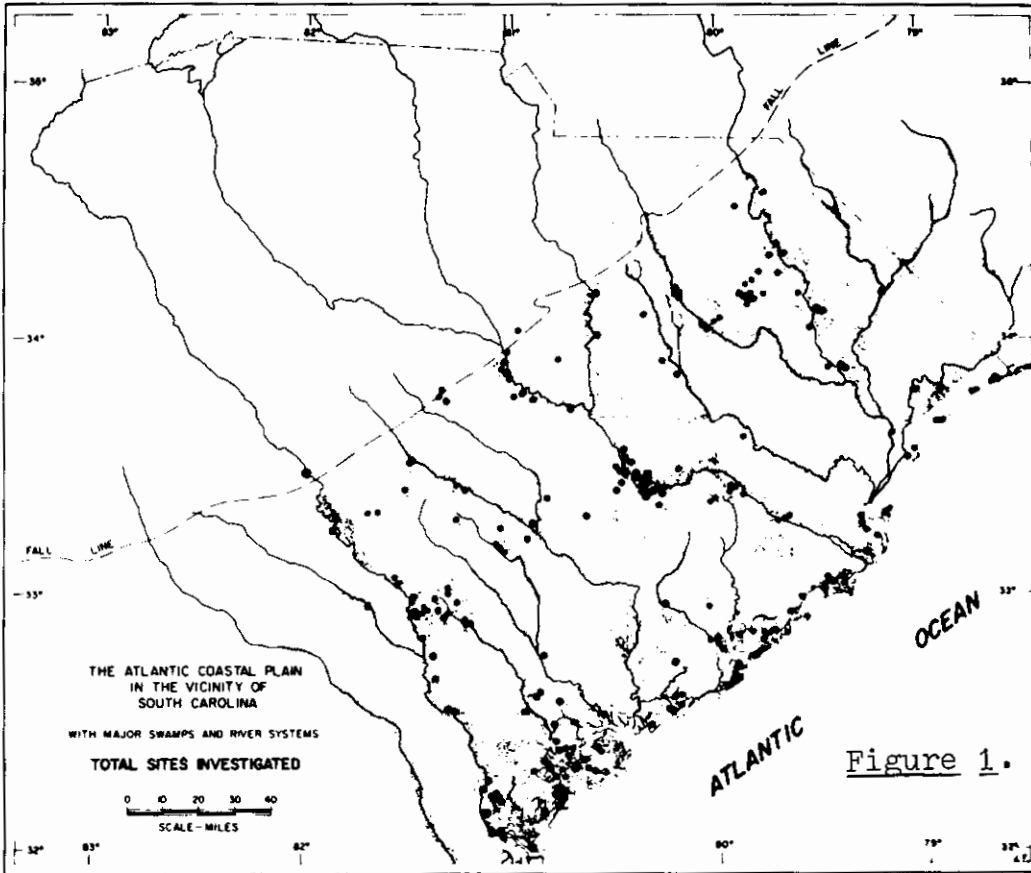
On the map in Figure 1, dots represent sites whose ceramic assemblages were investigated; included are sites reported by independent researchers whose data were examined for degree of congruity with the data generated by this investigation. In particular, the published work of Phelps (1968), Stoltman (1974), Peterson (1971a, 1971b), and Waring (Williams 1968), as it related to the Savannah River area; Ferguson's work on the South Appalachian Mississippian (1971); and South's work in coastal North Carolina (1960) were utilized.

The artifact samples examined in the preparation of this study were gathered in a variety of ways over a period of 50 years by collectors with widely varying degrees of motivation and training in archeological sampling and recovery techniques. The probability of a high level of inherent bias in the sample must be therefore considered. Comparison of the data with the published material mentioned above has had encouraging results, however, suggesting that its validity is fairly good.

Analysis of the data was accomplished by a breakdown of the coastal plain into several sectors in an attempt to relate observed distributions with environmental variables such as river drainages or soil and forest covers. For purposes of efficient communication, the data have, where possible, been incorporated into South's taxonomic framework for coastal pottery which was presented at the 1973 meeting of the SEAC (South 1973). This taxonomic framework is hierarchical in nature and proceeds from established type descriptions at one end of the classificatory spectrum through ascending orders of integration utilizing ware, ware-group, and ware-group evolution levels of inclusiveness. Thus, for purposes of communication and investigation, it is more convenient to talk of "Stalling's ware-group" material when referring to local fiber-tempered ceramics rather than attempt to enumerate all the types or variants.

The occurrence of Stalling's ware-group material as a minority ware along the South Carolina coast was noted by Waring (1968c: 255), and South (1960: 55, 64) has reported a few isolated sherds from coastal North Carolina. Outside of the Savannah River area its inland distribution has remained unknown, although Griffin (1945: 467) reported one sherd of this material in his discussion of ceramics from the Thom's Creek site.

In the present sample (Figure 2), Stalling's ware-group material was noted along the coast to just beyond Charleston Harbor and inland along all the major river drainages. Moving northeastward from the Savannah River, the Edisto is the last drainage with a high incidence of this material; along the Santee and PeeDee rivers fiber-tempered pottery occurs with very low



frequency. If we can accept the non-statistically random procedures with which these materials were collected, then this decrease in occurrence on the total number of sites in any drainage or coastal area as one moves north has been further corroborated statistically. The distribution on sites in the geographic areas investigated was first checked by the Chi-square test and found to have a significant nonrandom distribution. Using Spearman's formula for rank correlation, this decrease in incidence as one moved northeast from the Savannah was found to have a .90 correlation (Table 1).

Based on the present sample, I would hypothesize the following distribution of this ware group in coastal South Carolina--the area delimited in Figure 2 represents the area where Stalling's material seems to occur both in large quantities on individual sites and on large numbers of sites.

TABLE 1

STALLING'S FIBER - TEMPERED POTTERY : STATISTICAL ANALYSIS

OF DISTRIBUTION

<u>DATA:</u> Geographic Sector*	# Sites with Stalling's/Total # sites investigated	%
PeeDee River drainage(inland)	7/38	18.4
Santee River drainage(inland)	9/46	19.6
Edisto/Salkahatchie drainage (inland)	7/17	41.2
Savannah River drainage (inland)	15/39	38.5
Santee River-N.C. Border (coastal)	0/10	0.0
St. Helena Sound- Santee River (coastal)	6/26	23.1
Savannah River- St. Helena Sound (coastal)	16/27	59.3

One Sample Chi-square Test

$$X^2 = 21 \quad df = 6 \quad p < .01$$

Spearman's Formula for Rank Correlation

$$r = .89 \quad p < .01$$

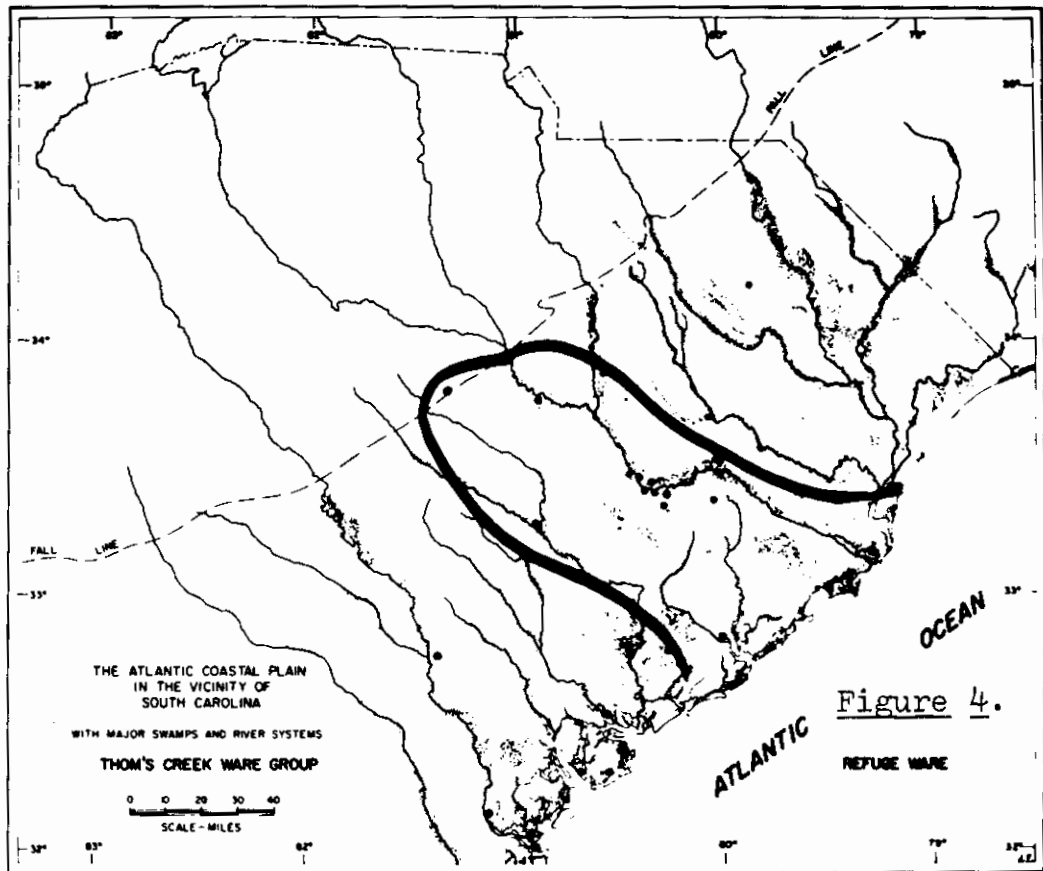
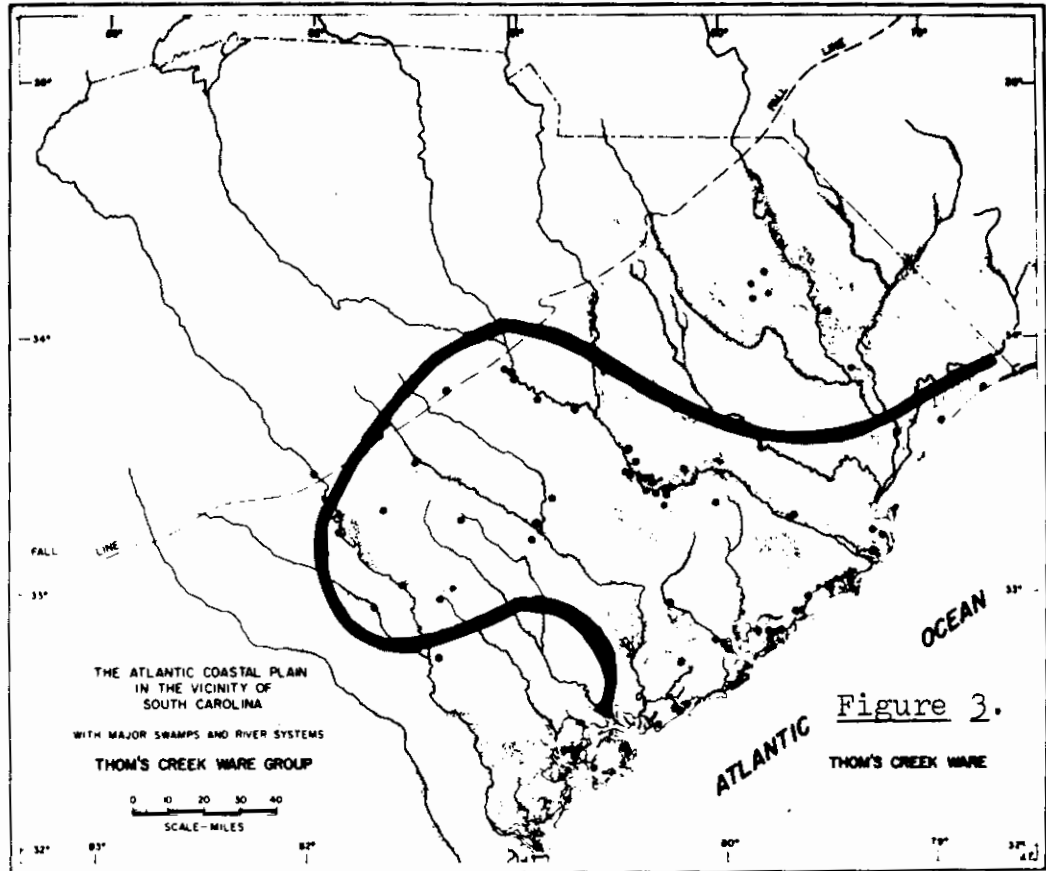
* "Coastal" geographic sectors refer to those areas from the seacoast to 10 miles inland, "Inland" sectors are those from ten miles inland to the fall line.

Thom's Creek ware is generally regarded as representative of the earliest sand-tempered ceramics along the Savannah River, overlying and probably later than Stalling's material in that area (Phelps 1968: 29; Stoltman 1974: 236). The type, Thom's Creek Punctate (Waddell 1963), was chosen as a convenient and unambiguous diagnostic for establishing the distribution of this ware (Figure 3). This choice was made because of the difficulties apparent in selecting and separating Deptford, Refuge, and Thom's Creek material, particularly simple stamped and plain types. This is a problem that both Waring (1968d: 200) and Peterson (1971a: 143-148) have noted in their work with these ceramics.

Thom's Creek punctated pottery occurred on over 40% of sites investigated along the Santee and Edisto rivers and on about 50% of the sites in the corresponding coastal sector in the Charleston County area. As one moved either north or south of this area, the incidence and frequency of this type decreased markedly. Along the Savannah River, for example, the type was found on only 10% of the sites investigated with a frequency of less than 1% of the total assemblage investigated. The work of Stoltman on Groton Plantation (1974: 209) and South in coastal North Carolina (1960: 65) have yielded similar distributional and frequency data to that recovered in this study and allow me to hypothesize that the Santee and Edisto River region form the primary center of occurrence for this ware.

The relationship of Thom's Creek ware to the fiber-tempered Stalling's ware-group material has been a matter of professional interest for a number of years particularly as more and more radiocarbon dates accumulate suggesting a long degree of overlap in the temporal ranges of each taxon. Although Thom's Creek and Stalling's ceramics would appear from this study to have different centers of popularity, in inland South Carolina away from the Savannah River 74% of the sites where fiber-tempered pottery occurs also have Thom's Creek material. In the region of the Edisto River, both inland and along the coast, a large number of sites were observed in this study with both wares present, and it is probable that work in this area would help resolve this question of relationship. Along the coast, Waddell (1963; 1965; n.d.), Hemmings (1970), Sutherland (1973; 1974), Michie (1973), and Trinkley (1974) have recently been working on this problem.

Refuge ceramics are generally regarded along the Savannah River as a temporally intermediate ware between Stalling's and Deptford ceramics (Waring 1968d: 208). The type, Refuge Dentate Stamped (Waring 1968d: 200; Peterson 1971: 126-127) was chosen as a diagnostic indicator. The present study suggested a low incidence of this ware along the Savannah (Figure 4) which may reflect a position of dentate stamping as a minority type within the series, a position in fact suggested by the data of Waring (1968d: 198-200) and Peterson (1971a: 127, 163). I feel that this probably also reflects a distributional factor, as dentate stamping was observed at a number of sites in central South Carolina.



Given the data at hand, I would suggest a hypothetical center of popularity for this ware along the Santee River. Of particular interest, in the sample inspected, was the clear association of the ware with Thom's Creek and Deptford ceramics. Of the 13 sites in this study in central South Carolina with Refuge ware present, all also had Thom's Creek material, and 11 of the 13 sites were associated with Deptford ceramics. Sears and Waring have both suggested an evolutionary sequence operating within these assemblages (Sears 1966: 2, 20); while I feel that it is premature to draw any conclusions, I would nevertheless state that the data are suggestive.

Deptford linear check stamped pottery (Caldwell and Waring 1939) was chosen as a diagnostic indicator for distributional studies of this ware. The type had a marked incidence on sites along the Edisto and Santee rivers (Figure 5), while in areas to the north and south in the coastal plain a sharp decrease both in incidence and frequency was observed. Along the coast, this material is reported almost exclusively from incidental finds, and large sites with the ware present were noted only at the mouths of two extensive drainages, the Savannah and the Santee. Inland, Deptford sites were recorded along all of the drainages suggesting an adaptation to the rich resources of this area.

The term, Cape Fear ware-group, has been proposed by South (1960: 38-41; 1973) to encompass all ceramics characterized by a sandy or non-tempered paste with cord, fabric, or net impressions found in the coastal plain of South Carolina. This study indicates that Cape Fear ceramics are found throughout the coastal plain (Figure 6). Inspection of the data led to the discovery of a marked patterning in the distribution of the fabric marked ceramics. As one proceeds south from the North Carolina area, both on the coast and inland, the frequency and incidence of fabric marked pottery steadily drops until along the Savannah it is virtually nonexistent.

Using data from surveys by South (1959: 231) and Haag (1956) from northern North Carolina, coupled with South's data from southern coastal North Carolina (1960: 65), and the data of this survey, the pattern was even more pronounced. Over the ten discrete geographic areas investigated, using Spearman's formula for rank correlation, a negative .95 correlation between incidence of fabric marked pottery and location south of the Virginia-North Carolina border was observed (Table 2).

In 1939, Caldwell and Waring defined the type, Wilmington Heavy Cord-marked to refer to a sherd or sand-tempered ware that they observed along the Georgia coast and at the mouth of the Savannah at Wilmington Island. Generally regarded as a hallmark of an intrusion from the north (Waring 1968b: 221; Caldwell 1958: 33-34), the ware is particularly characterized by the use of ground-up sherds or particles of fired clay as a tempering agent in many of the specimens observed.

In 1960, South, working in southern coastal North Carolina and northern South Carolina, observed and described a sherd-tempered ware characterized by cord and fabric surface treatment

TABLE 2

CAPE FEAR FABRIC MARKED POTTERY : STATISTICAL ANALYSIS
OF DISTRIBUTION

DATA: Geographic Sector*	# Sites Cape Fear fabric/Total # of sites investigated	%
Roanoke Rapids, N.C. (South 1959)	24/24	100
Northern coastal N.C. (Haag 1956)	66/75	88
Southern coastal N.C. (South 1960)	59/81	73
Santee River- N.C. Border (coastal)	8/10	80
PeeDee drainage (inland)	18/38	47
Santee drainage (inland)	27/46	59
St. Helena Sound- Santee River (coastal)	8/26	31
Edisto-Salkahatchie drainage (inland)	7/17	41
Savannah River- St. Helena Sound (coastal)	4/27	15
Savannah drainage (inland)	8/39	20

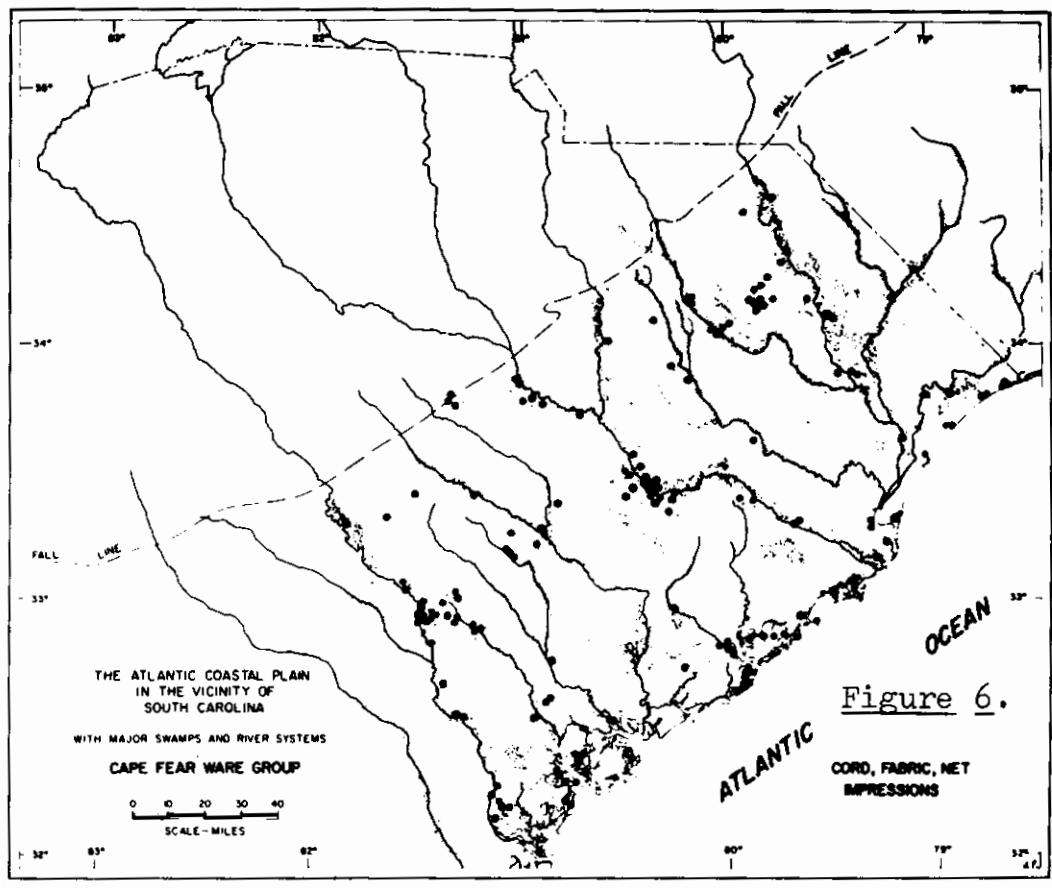
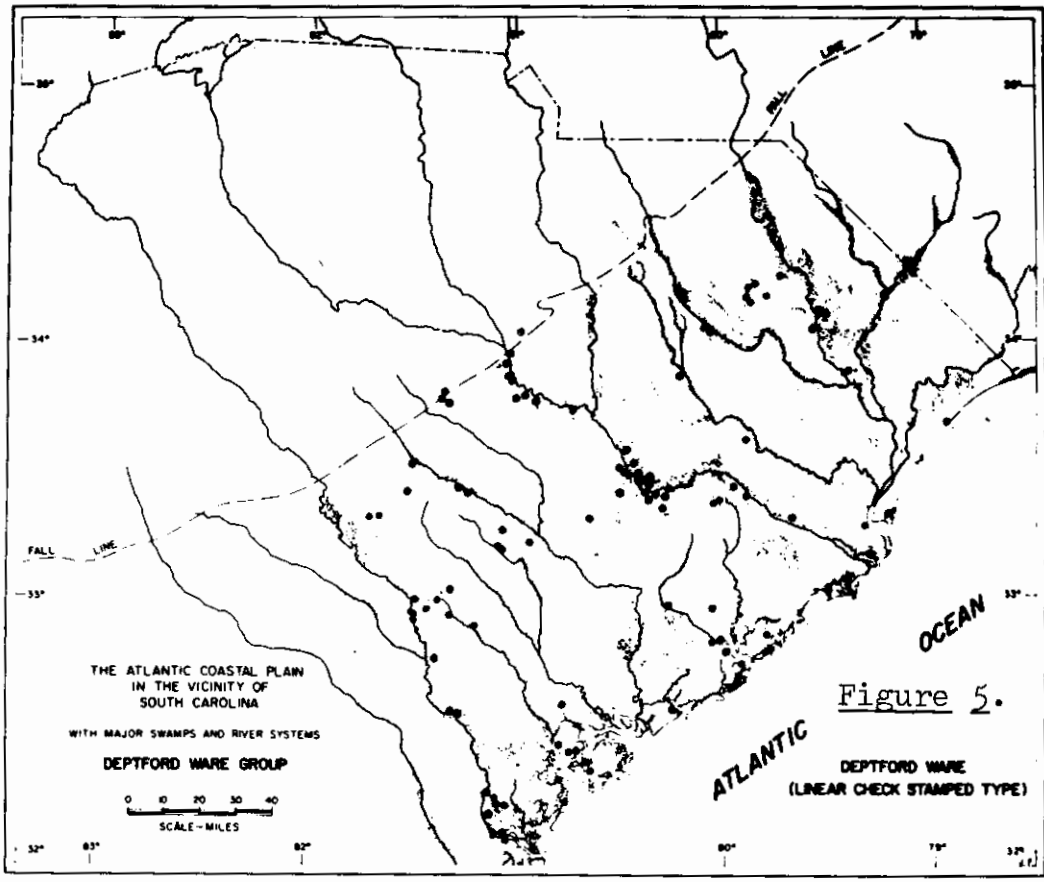
Spearman's Formula for Rank Correlation

$$r = -.95 \quad p < .01$$

* Geographic sectors are arranged from northernmost to southernmost in this table.

that he classified as Hanover (1960: 36-38). At that time, South and Waring communicated and decided to utilize separate terminology since the ceramics of the intervening distance were unknown (South, personal communication).

As can be seen (Figure 7), the data indicate that [sherd-tempered ware occurs more or less continuously along the coast from Georgia to North Carolina.] Interestingly enough, the same

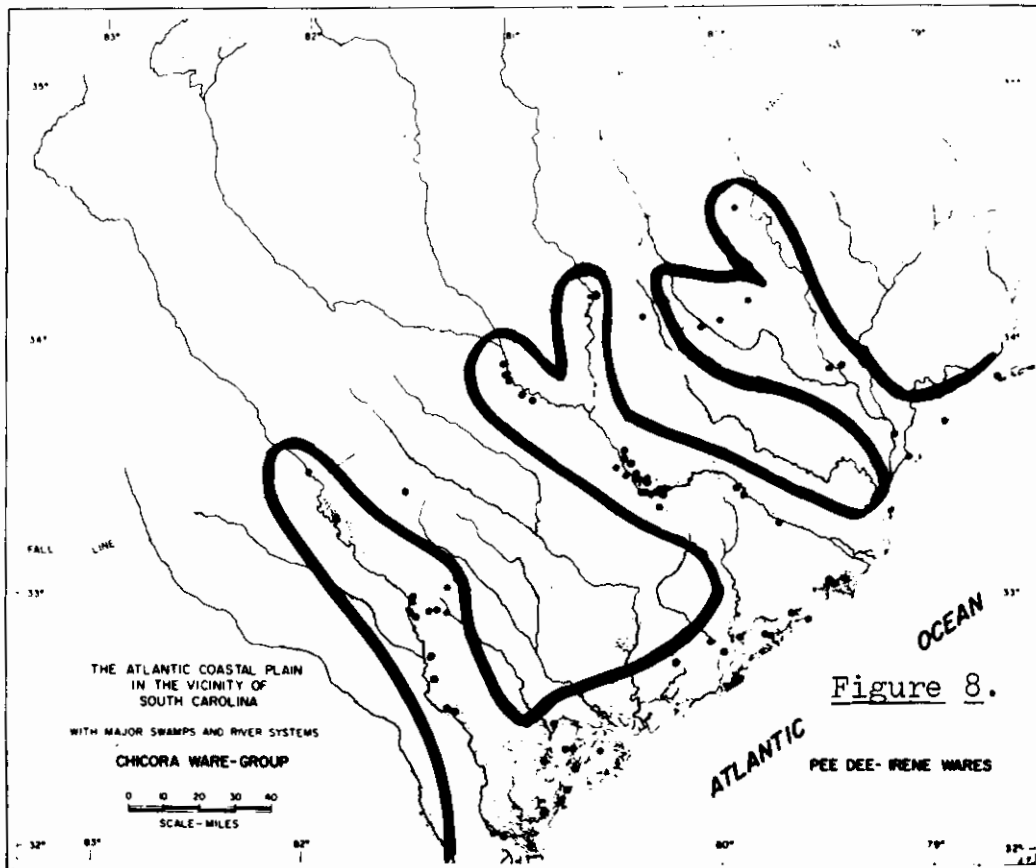
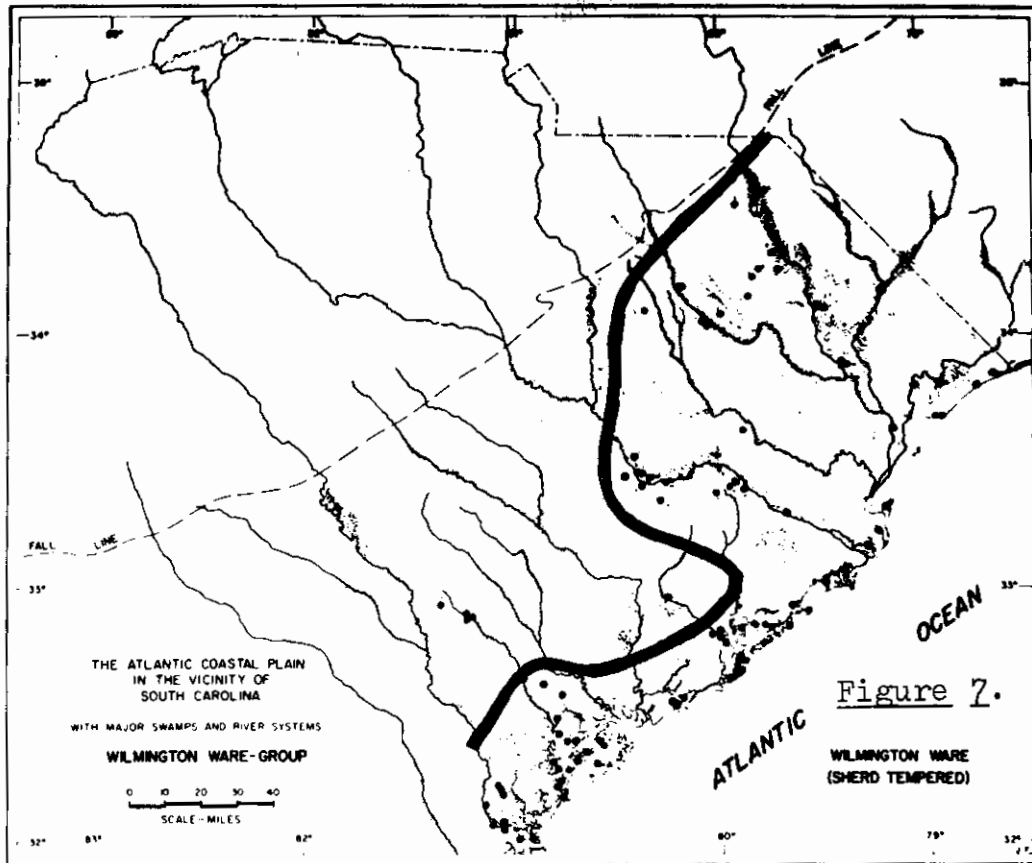


pattern of distribution for fabric marked pottery occurs with this ware as does with Cape Fear sand-tempered ware--as one moves south the incidence and frequency of fabric drops markedly. Inspection of sherd-tempered assemblages from sites along the South Carolina coast has revealed the relationship of Hanover to Wilmington ware. [Material from the Savannah River area called Wilmington is generally thicker, sandier, and somewhat more poorly made than material to the north. The variation is slight, however, and can be detected only in assemblages from the northern and southern areas and not from the individual sherds; within these assemblages individual sherd-tempered sherds may be readily substituted in assemblages over the area.]

[Along and to the north of the Santee River, sherd-tempered ware is found inland and is characterized by a far higher incidence of fabric marked pottery than the coastal area to the south. Of particular interest is the almost complete lack of sherd-tempered material inland in the coastal plain south of the Santee River. This lack of sherd-tempered cord and fabric ware compared with the presence of Cape Fear sand-tempered cord and fabric ware for the same area strongly suggests a temporal or cultural basis for the observed dichotomy.] I would suggest for convenience that sherd-tempered material recovered in the South Carolina area can be best referred to under the heading of South's "Wilmington ware-group"(1973). Such a heading avoids the confusion involved in dealing with sherd and sand-tempered wares with the same surface finish (cord or fabric marking) but with somewhat different geographic ranges when paste is also examined. Thus, strict utilization of the original Wilmington type description, for example, with its emphasis on both sherd and sand tempering, can lead to possibly erroneous conclusions. The use of "Cape Fear" and "Wilmington" ware-group terminology provides for a finer taxonomic breakdown and classification of the observed data.

The term Chicora has been suggested by South (1973) as a convenient taxonomic category for the complicated stamped South Appalachian Mississippian ceramics that occur in the South Carolina area. Chicora ceramics were found along the coast and inland along the rivers in the coastal plain to the fall line, but they occur primarily along major river systems that drain the Piedmont and only rarely along rivers originating in the coastal plain (Figure 8). These major river systems, as well as being excellent lines of communication, are also potentially highly favorable to agricultural food production if one accepts Murphy and Hudson's hypothesis (1968) that intensive agriculture in the Southeast at this period may be related to regular flooding of the rivers allowing for periodic soil enrichment. Those rivers which have large numbers of sites with South Appalachian Mississippian ceramics present also have extensive Piedmont drainage networks capable of picking up a considerable sediment load that would be partially dropped in the reduced gradient of the coastal plain.

Ferguson, in a paper presented at the SAA meetings in Norman, Oklahoma in 1971, discussed the distribution of South



Appalachian Mississippian sites in the Atlantic coastal plain and, at that time, offered an explanation based on the nature and richness of the local soils for the rather novel appearance of sites of this period below the fall line in this part of the Southeast (n.d.: 5-7). His thesis developed from the observation that forest maps indicate that the relative homogeneity of the forest pattern in the coastal plain of north Florida and in Georgia is markedly disturbed in South Carolina (U.S.G.S. 1969) which could be explained by soil richness and variability. The coastal plain of South Carolina is thus seen as characterized by relatively rich soils and, it may also be noted, by extensive bottomland hardwood swamps (U.S. Army Corps of Engineers 1972: 9). This combination of factors produces a rich biotope quite probably perfectly capable of supporting, on a year round basis, the extensive inland settlements that appear to be reflected in the distributions of ceramics in this area from the earliest periods (Ferguson, personal communication)

In conclusion, from the ceramic distributions presented it would appear that coastal South Carolina, particularly in the region of the Santee River, formed a relatively intensive occupational center during the late prehistoric period. The occurrence of extensive bottomland hardwood swamps and a diverse forest and soil cover are suggested as factors behind this richness in cultural material (as elaborated by Ferguson 1971; n.d.). Furthermore, the interaction between areas to the north and southeast of the South Carolina coastal plain may be seen reflected in the data.

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