The First Peoples of Tennessee:
The Early and Middle Paleoindian Periods (>13,450-12,000 cal BP)

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Introduction

The Early and Middle Paleoindian periods (>13,450-12,000 cal BP) encompass the time when the first people entered the Americas and the transition between the Pleistocene and Holocene epochs (Table 1). The early archaeological record of Tennessee is uniquely situated to explore questions that have both regional and national scale implications for these time periods. First, the density of artifacts in the Cumberland and Lower Tennessee River valleys and potential pre-Clovis dates at the Johnson site (40DV400) may prove invaluable for understanding the initial colonization of the Americans. The presence of two sites with remains of mastodons in association with artifacts may shed light on the role of humans in the demise of Pleistocene megafauna in the southeastern United States. Due to projects such as the Tennessee Fluted Point survey, the potential impact of the Younger Dryas climatic event can be addressed. Finally, Tennessee provides some positive examples of the importance of avocational archaeologists in furthering research.

Chronology

The Paleoindian era has been traditionally used to denote the Pleistocene-aged archaeological record in the Americas (Griffin 1967; Smith 1986; Steponaitis 1986; Anderson 2005). In other words, this period begins with the initial colonization of the Americas and ends with the onset of warmer conditions at the beginning of the Holocene. It is often subdivided into Early, Middle, and Late periods. Here, the Early Paleoindian is documented archaeologically by the presence of Clovis-type bifaces (Figure 2). These are large, parallel-sided lanceolate bifaces with slightly concave bases and single or multiple flutes that rarely extend more than a third of the body (Sellards 1952; Howard 1990; Justice 1987:17-21). Additionally, the Early Paleoindian period also encompasses the potential for pre-Clovis occupations in the Americas.

The Middle Paleoindian period (12,900 – 12,600 cal BP) is documented by much more regional variability in projectile point styles (Anderson and Faught 1998, 2000; Anderson 2001:155). In the western United States, Clovis bifaces are replaced by Folsom points, while in the eastern United States point types such as Redstone, Cumberland, Suwannee, and Gainey occur. In Tennessee, Cumberland bifaces are believed to immediately post-date Clovis (Figure 2). However, there is no site that underwrites this proposed sequence (Goodyear 1999:435, Anderson, et al. 1996:9-11). Cumberland bifaces are identified by their narrow, deeply fluted and slightly waisted appearance. Additionally, the bases are slightly concave and often have faint ears (Lewis 1954; Justice 1987:25-27).

The Quad and Beaver Lake point types follow Cumberland in the chronological sequence (Figure 2). Beaver Lake points are slightly waisted lanceolates with faint ears, slightly concave bases, and moderate basal thinning (Cambron and Hulse 1975; Justice

1987: 35-36). Quad points have distinct ears, a concave base, and pronounced basal thinning (Cambron and Hulse 1975; Justice 1987:35-36). The Late Paleoindian period is signaled by the appearance of the Dalton point type (Goodyear 1982:390; Chapter 5). This sequence is supported by excavations at Dust Cave in northwestern Alabama where Quad and Beaver Lake components were found stratigraphically below the Dalton components. (Sherwood, et al. 2004). Additionally, a heavily re-worked Cumberland biface was found in one of the basal components at Dust Cave. Whether this represents a discrete, Cumberland component or an artifact curated by subsequent inhabitants is unclear (Sherwood, et al. 2004:544).

History of Paleoindian Research in North America

The entry of humans into the Americas has been a contentious issue for almost the entire history of North American archaeology. The first major attempt to show that Native Americans have been in the Americas since the terminal Pleistocene occurred in the 1870s with the discovery of proposed Paleolithic artifacts in New Jersey (Abbott 1877), and elsewhere in the Americas (Abbot 1889; McGee 1888; Wright 1889). William Henry Holmes (1890, 1892) contested these claims by arguing that the artifacts were found in poor context and their crudeness was not adequate evidence for a claim of great antiquity. Alěs Hrdlička (1907, 1918) also took this same role in contesting the proposed antiquity of Pleistocene human remains.

The first unequivocal evidence for humans in the North America during the Pleistocene occurred in 1927 with the discovery of a projectile point embedded in the ribs of an extinct species of bison (*Bison antiquus*). The site, as well as the diagnostic

projectile point type, was named after the nearby town of Folsom, New Mexico (Meltzer 2006:3-6). The earliest evidence for people in the Americas was again extended with the discovery of artifacts below the Folsom component at Blackwater Draw, New Mexico. Like the Folsom discovery, the diagnostic projectile point type was named after the nearest town, which was Clovis, New Mexico (Boldurian and Cotter 1999). Many more sites containing diagnostic Clovis artifacts were subsequently discovered throughout North America with no artifacts found below them. This gave rise to the "Clovis-first" model, which argues that people entered North America through an ice-free corridor between the Laurentide and Cordilleran glaciers circa 13,450 calendar years ago (Haynes 1964, 2005).

History of Paleoindian Research in Tennessee

In Tennessee and adjacent states, particularly northern Alabama, there has been a long history of research into the earliest inhabitants of the region. More importantly, there has also been awareness from at least the 1950s that this research had continental-scale implications. For example, Soday (1954a, 1954b) immediate recognized the Quad site, a major archaeological locality on the Tennessee River in northern Alabama, as potentially contemporaneous with the Clovis and Folsom sites. He also related his discovery to early sites in the eastern United States such as Bull Brook, Shoop, and Williamson. While subsequent work by James Cambron and David Hulse (1960) focused mostly on identifying the composition of the Paleoindian assemblage, they also maintained an interest in site function and its implications for regional settlement patterning.

The Nuckolls site (40HS200), located adjacent to the Tennessee River in Humphreys County, was discovered in 1951 and subsequently examined by Lewis and Kneberg (1958). While they found that the site was deflated, they were still able to acquire a large collection of surface collected artifacts including Clovis, Cumberland, and Dalton bifaces in addition to several Early Archaic types. From their work, they argued that the early artifacts found at Nuckolls were probably contemporary with those found at the Quad site. This assertion has been substantiated by both reexaminations of the artifacts collected by Lewis and Kneberg (Ellerbusch 2004a, 2004b) and by subsequent work at the site itself (Norton and Broster 1992). Despite their focus on the Tennessee River Valley, Kneberg and Lewis acknowledged the importance of examining this subject from a continental scale as they included a synthesis of Paleoindian research in their edited volume of selected papers from the *Tennessee Archaeologist* (Agogino 1962). The person they invited to write this synthesis, George Agogino, later led excavations at Blackwater Draw and founded the department of anthropology at Eastern New Mexico University (Agogino and Rovner 1969).

In 1949, radiocarbon dating was developed and sparked a revolution in archaeology (Arnold and Libby 1949). One area of research where this technique had a dramatic impact was on the Paleoindian period research. However, the effects of radiocarbon dating were not immediately felt in the southeastern United States (Anderson, et al. 1996, Goodyear 1999). As a result, the initial estimates for when the people first arrived in Tennessee were extremely inaccurate. For example, Lewis (1953:38-40) placed the beginning of the Paleoindian period at around 7,000 years ago. However, researchers addressed this problem by extrapolating dates from other regions,

particularly the southwestern United States. Soday (1954) used early attempts that dated the Folsom culture to around 10,000 years ago to argue that the artifacts from the Quad Site must be of similar age. Lewis and Kneberg (1954:205) used the radiocarbon dates Graham Cave in Missouri to assign a date to the "Dalton-Meserve" artifacts from the Nuckolls site. Agogino (1962: 447) stated, "Thirty-five years ago most of us were convinced that the Paleo-Indian was less than five thousand years old. The Folsom discovery doubled this estimated time, and later Sandia, Clovis, and Hell Gap excavations extended the span of time man has lived in the New World even further." While early material from Sandia Cave has been shown to be problematic (Haynes and Agogino 1986), radiocarbon dating pushed the age for Clovis, Folsom, Quad/Beaver Lake, Dalton, and other Paleoindian cultures beyond 10,000 years old (Waters and Stafford 2007; Sherwood, et al. 2004, Goodyear 1982).

Dragoo (1965, 1973) published an article on his survey and analysis of artifacts from the Wells Creek Crater site (40Sw73) in Stewart County, Tennessee. The site is located on the central uplift of an ancient crater just over a mile away from the Cumberland River. The artifacts were recovered from surface surveys and no buried deposits were discovered. Almost all of the artifacts were from the Paleoindian period including Clovis bifaces. In the tradition of Soday, Cambron and Hulse, and Lewis and Kneberg, he attempted to place the numerous Paleoindian-aged artifacts into a regional and continental culture-historical framework. However, unlike his predecessors in the region, Dragoo did not begin this process by comparing the assemblage at Wells Creek to other proposed early assemblages in the region. Instead, he immediately drew comparisons with the Clovis and Folsom types from the western United States as well as

sites from the northeastern United States such Debert, Bull Brook, and Williamson. Dragoo (1973:47) stated, "Although early Clovis points vary some in size and in individual configuration, I can find no significant difference between those found in the West or East in basic typology or technology." He also noted that Paleoindian points in the eastern half of the United States are more numerous and claimed "The number of fluted points found in either Alabama or Tennessee probably has been greater than the number for the entire West, and several other Eastern States have been almost as productive" (Dragoo 1973:47). This pattern has been substantiated by more recent surveys of Paleoindian projectile points (Anderson 1996; Anderson and Faught 1998, 2000).

Starting in 1988, John Broster and Mark Norton began arguably the most productive period in Paleoindian research in Tennessee. From this time to the present, they have expanded the Paleoindian projectile point surveys started by Morse, et al. (1964) and Guthe (1966a, 1966b, 1966c, 1983) and have located numerous Paleoindian sites, mostly in the Lower Tennessee River and Cumberland River Valleys. Additionally, they have made the results of the project available to the public as part of the Paleoindian Database of the Americas (PIDBA) project.[1] Like their predecessors in the region, Broster and Norton not only focused on placing the fluted point traditions of the Tennessee into a regional and continental culture-historical framework, they have also worked to address questions of site function, settlement-subsistence patterning, and regional modeling (Broster and Norton 1996).

Clovis vs. Pre-Clovis and the Archaeological Record of Tennessee

[1] The Tennessee Fluted Point Survey is available at http://pidba.utk.edu/tennessee.htm.

In any discussion of the Paleoindian period the first major issue, and often the most contentious, concerns the colonization of the western hemisphere. On one side is the now classic Clovis-first model described previously (Haynes 1964, 1969, 2005). On the other side are those that propose there are sites that predate this scenario. These sites include Meadowcroft Rock Shelter in Pennsylvania (Adavasio 1999, 2005) and Monte Verde in Chile (Dillehay 1989, 1997). Two prominent pre-Clovis sites in the southeastern United States are Topper in South Carolina (Goodyear 2005) and Cactus Hill in Virginia (McAvoy and McAvoy 1997). The archaeological record of Tennessee may prove critical regardless of what side of the debate one chooses.

For the Clovis-first proponents, there are two primary hypotheses for the peopling of North America. The first is the "wave of advance" model (Mosimann and Martin 1975), which has people expanding across the continent irrespective of regional topography. Specifically, the goal of this model was to show that it would be possible for humans to rapidly colonize North America while at the same time hunting large, mammalian megafauna to extinction. A contemporary update of this view is the "high technology forager" model, which argues that Paleoindians had a highly formalized and versatile tool kit that allowed them to overcome environmental incongruities (Kelly and Todd 1988). This, coupled with high-residential mobility, is often cited as an explanation for why diagnostic Clovis bifaces are found across North and Central America.

While the high-technology forager model appears to work well west of the Mississippi River, the archaeological record of the Tennessee and Cumberland River Valleys suggest an alternative explanation. In these areas, and several others in the eastern United States, fluted bifaces are found in much higher numbers and in much more

clustered spatial patterns than their western counterparts (Figure 3). Anderson (1990, 1995, 1996, Anderson and Faught 1998, 2000) used these observations to argue that Paleoindians in the eastern United States were more place-oriented and quickly settled into desirable areas. Anderson and Gillam (2000, 2001) argued groups expanded to other areas in a leap-frog like pattern. Further examination of the settlement-subsistence patterns in areas like the Tennessee and Cumberland River valleys could prove pivotal for understanding how hunter-gatherers at presumably low population densities were able to colonize the Americas in such a relatively small amount of time.

The archaeological record of Tennessee may also be significant for those who argue for a pre-Clovis presence in the Americas. The Johnson Site, (40DV400) is located at the confluence of the Cumberland River and one of its tributaries in Nashville, Tennessee (Figure 4). It contains a sequence of artifacts from the Paleoindian and Early Archaic periods (Broster, et al. 1991, Broster and Barker 1992, Barker and Broster 1996). Perhaps just as important is that charcoal-laden deposits were found in association with these artifacts, which allowed for radiocarbon dating. The lowest stratum (stratum IV) was located between six and eight meters below ground surface and contained a fluted preform base. In 1990, a piece of charred wood and several additional carbon samples were recovered from this stratum. They were submitted to the University of Texas radiocarbon lab, which returned a date of 11,700 ± 980 radiocarbon years (Broster, et al. 1991: 8; Barker and Broster 1996:103). While the mean date is technically a pre-Clovis date, the large standard deviation overlaps with the age-range of securely dated Clovis sites. Even more problematic is that several additional samples were sent to the radiocarbon lab at the University of Arizona where they dated to 9,050 ± 85 and 9,555 ±

90. While there is a possibility that this deposit could represent a proto-Clovis occupation in central Tennessee, just as likely an answer is that the dates are inaccurate. The simple solution to this problem would be to collect more samples to re-date the deposit. However, this task is complicated by the location of the site, which is being actively eroded by the Cumberland River and may be entirely destroyed.

A second site adjacent to the Cumberland River may yet provide an additional chance to acquire secure dates for the Paleoindian period in Tennessee. In 2005, archaeological investigations were conducted in advance of construction of two large ponds at the Wedemeier site (40DV9) to discern if any Mississippian period burials were present (Broster, et al. 2006). While no features were found in the initial survey, personnel from the Tennessee Division of Archaeology continued to monitor the site. While examining intact profiles and dirt piles, they discovered stratified deposits in eight spatially discrete concentrations. These deposits contained Clovis, Cumberland, Beaver Lake, and Dalton bifaces as well as blades, blade cores, and spurred end-scrapers. An Early Archaic component was present as well. They were able to extract charcoal from both the Clovis and Early Archaic occupation surfaces, which will provide much needed additions to the relatively meager sample of radiocarbon dates for the Paleoindian period in Tennessee.

Paleoindian Subsistence

The state of Tennessee has produced an innumerable quantity of Paleoindian artifacts, yet very little is known about the economy or subsistence practices of their manufacturers. In past decades, there had been a general consensus among the archaeological community that North America's initial occupants were nomadic big-

game hunters who wandered the landscape following the now extinct megafauna of the Pleistocene. While over a dozen well-documented kill sites principally located west of the Mississippi River clearly indicate that Paleoindians utilized these animals (Fiedel and Haynes 2004), the paradigm of specialized big-game hunters has begun to change in recent years. For example, sites such as Shawnee-Minisink in Pennsylvania (Dent 2007) and Dust Cave in Alabama (Walker, et al. 2001; Walker 2007; Hollenbach 2007), indicate that the earliest occupants of eastern North America practiced a much more generalized foraging strategy than previously thought. Unfortunately, there is little direct evidence of Paleoindian subsistence patterns available from Tennessee archaeological sites. However, Breitberg and Broster (1994) showed that the Highland Rim and Nashville Basin physiographic provinces contain not only the highest concentration of Clovis and Cumberland points, but also mastodon remains as well. Additionally, two sites in Tennessee have produced more direct evidence of human and mastodon association.

Disregarding early speculation, there was no clear evidence for human-megafauna interaction in Tennessee until discovery of Coats-Hines site (40Wm31) in 1994 (Breitburg, et al. 1996; Breitburg and Broster 1995; Corgan and Breitburg 1996). Located along Spencer Creek in Williamson County, this site produced the remains of a juvenile male mastodon, in association with 34 stone artifacts (Figure 5). The tool assemblage was consistent with Clovis lithic technology and included 24 resharpened flakes, a prismatic blade, bifacial knife fragment, two gravers, two uniface side scrapers and two scrapers/cores (Breitburg, et al. 1996). Stone tool cut marks on the spinous process of a thoracic vertebrae provided further evidence of human interaction. In addition to the

mastodon, horse, deer, muskrat, frog, turkey, turtle, and canid (probable domestic dog) remains were also recovered. Unfortunately, direct dating of the site has been problematic due to a lack of bone collagen in the mastodon bones. A date of 27,050 ± 200 BP was obtained from materials below the remains and a date of 6530 ± 70 BP was obtained from soil associated with one of the mastodon molars (Breitburg, et al. 1996). Also, a date of 12,030 +/- 40 was obtained from material underneath the first rib. While the inconsistent dates may indicate a substantial degree of bioturbation or contaminants, the remains were recovered from a late-Pleistocene stratum and the stone tools suggest an Early Paleoindian association.

Based upon the relatively undisturbed geologic context, associated stone tools, cut marks, worked bone, and the presence of a probable domestic dog, Breitburg, et al. (1996) suggested that the Coats-Hines site represents a clear human-mastodon association in Tennessee. As such, the site is significant not only in that it is the first to provide evidence for such an association in Tennessee, but also because it is one of the few localities east of the Mississippi River to have a demonstrated relationship between human artifacts and megafauna remains.

The Trull Site (40PY276), located along a small tributary of the Tennessee River, in Perry County, provides additional evidence of human-megafauna interaction in Tennessee (Norton, et al. 1998). During the mid-1990s a local resident discovered a mastodon tooth and tusk fragment. Additional surface exploration of the site produced a second mastodon tooth approximately 25 meters downstream. Although no formal stone tools were recovered at the site, several “blade-like flakes” were found in the immediate vicinity (Norton, et al. 1998). The interpretation of human association with the remains is

based primarily upon the tusk fragment, which exhibits signs of cultural modification. The tusk is just over 25 centimeters in length and has a battered proximal end that may have served as a flintknapping billet. While the artifact was found in an alluvial setting, it does not display any modifications characteristic of stream action (Norton, et al. 1998). Furthermore, careful examination of the site environment gave no indication of long-term disturbance and suggested that the remains were only recently exposed and moved by alluvial action.

Impact of the Younger Dryas

While the Clovis populations were able to expand into most of North America during a time when global temperatures were rapidly rising, subsequent populations faced a rapid return to glacial-like conditions known as the Younger Dryas (Alley and Clark 1999). During this time, climate in North America became significantly cooler in a relatively short amount of time, perhaps as quickly as a few years or decades. Coeval with this rapid climatic reversal is the extinction of many species of Pleistocene megafauna, such as mammoths and mastodons (Anderson 2001:155; Fiedel and Haynes 2004:124-126). Currently, there is a debate concerning the catalyst for the Younger Drays. The standard position is that a pulse of glacial melt water entered the North Atlantic and shut down the Gulf Stream. A recent and much more controversial scenario put forth by Firestone, et al. (2007) claims that an extra-terrestrial impact over the Laurentide ice sheet may be responsible for both deglaciation and the demise of Pleistocene megafauna.

There have been several attempts to correlate archaeological phenomena with theYounger Dryas. Anderson (1996, 2001) argued that during this time the Clovis culture fragmented into more spatially restricted variants such as Cumberland, Gainey, and Suwannee. Goodyear (2006; Goodyear and Miller 2007) compared the number of Clovis points to Middle Paleoindian Redstone points in the Atlantic Coastal Plain and found a four-fold decrease. This decrease was cited as evidence of a possible demographic collapse and reorganization during the Younger Dryas. Anderson, et al. (2007) found a similar decrease in the Paleoindian projectile point totals across North America.

The Tennessee Fluted Point Survey presents a slightly different pattern.. When the number of points is standardized by time, rather than finding a post-Clovis decline, there is an increase in the number of Clovis points relative to Cumberland (Figure 6). After Cumberland, there is a significant decline in the number of Quad and Beaver Lake points. Following Quad and Beaver Lake the numbers of points rebound with the spread of Dalton points across the state. This pattern is also consistent with the temporal distribution of Paleoindian sites and artifacts in North Alabama (Meeks 2001). Additionally, the transition from the Early to Late Paleoindian periods included the increased use of caves and rockshelters (Walthall 1998) and an increased diversity in floral, faunal, and lithic raw material resources (Walker 2007; Hollenbach 2007, Jones 2007).

Professional/Avocational Interaction

The last point of discussion concerns the role that avocational archaeologists have played in Paleoindian and Early Archaic Period research in Tennessee. A good starting

point is the work of James Cameron and David Hulse. These two individuals were responsible for locating and recording dozens of Paleoindian sites in northern Alabama and central Tennessee beginning in the 1950s. Additionally, these two individuals often published their findings, where they were more than aware of their regional and national significance. Both of their collections, which include detailed records on artifacts from all time periods, are currently held in the McClung Museum at the University of Tennessee and are available for study (Pike, et al. 2006).

Another instance where avocational archaeologists have provided a substantial contribution is in the creation of Tennessee Fluted Point Survey. While several states maintain active Paleoindian artifact databases, Tennessee has one of the longest running and most comprehensive. Beginning with Morse, et al.'s (1964) survey of Paleoindian points in Smith County, over 4,300 bifaces from the Early Paleoindian and Early Archaic periods have been recorded. As stated previously, the two individuals most responsible for maintaining the fluted point survey for the past twenty years are John Broster and Mark Norton of the Tennessee Division of Archaeology. Both claim that almost all of the points they have recorded were found in private collections. Projects such as this form the foundation of the Paleoindian Database of the Americas project (http://pidba.utk.edu), which has compiled metric and locational information on over 27,000 bifaces from across North and South America.

The third area where the avocational/professional relationship has been beneficial is in the location of sites that may contain buried, Paleoindian and Early Archaic age deposits. Famous early sites from around the country, such as Blackwater Draw (Boldurian and Cotter 1999), Folsom (Melzter 2006), Gault (Collins 2002), and Topper

(Goodyear 2003, 2005), were first located by avocational archaeologists who then contacted members of the professional community. In Tennessee, the most spectacular example of this exchange is the Carson-Conn-Short site (40BN190) in Benton County (Broster and Norton 1993, 1996). Three avocational archaeologists, Harlan "Kitt" Carson, Gary Conn, and Hal Short, located several dense lithic scatters along the Tennessee River and contacted John Broster and Mark Norton (Figure 7). Upon examining the site in 1992, Broster and Norton noted eight localities containing Paleoindian artifacts that were being actively eroded by the river. Additionally, site contained both Clovis and Cumberland bifaces with little evidence for subsequent occupations. One locality (Area A) was selected for subsurface testing where Broster and Norton found two distinct strata between 30 and 55 centimeters below ground surface. This discovery makes for one of the few instances of buried Paleoindian deposits in the entire southeastern United States (Goodyear 1999). As a sign of gratitude for informing them of this extremely important discovery, Broster and Norton named the site after the three people that found it.

To tie these three examples together, avocational archaeologists were among the first to note the presence and importance of the early archaeological record in the Tennessee River Valley. Second, the fluted point inventories that comprise the Paleoindian Database of the Americas, as well as the models and research generated by it, were made possible by the access professionals have to private collections. Finally, the few archaeological sites that contain buried Paleoindian deposits were not found by professionals, but by avocationals equally as interested in the past. Consequently, the history of Paleoindian and Early Archaic period in Tennessee would not be complete

without acknowledging the role that the interested public has played in advancing research.

Conclusion

In summary, the archaeology of Tennessee has the potential to explore many continental and regional scale questions. The dense numbers of Paleoindian bifaces, as well as the presence of a potentially pre-Clovis date at the Johnson site, have implications for the colonization of the Americas. The Coates-Hinds and Trull sites are rare megafaunal kill sites east of the Mississippi River, and may help to us to understand the nature of Paleoindian subsistence and the demise of Pleistocene megafauna. The emergence of more regionalized projectile point variants after the Clovis culture, as well as the decrease in the numbers of points recovered in fluted point surveys may be related to the Younger Dryas cooling event. Finally, a significant amount of the research on these issues was made possible by the cooperation between professionals and avocationals.

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Table 1. Paleoindian Period Chronology.

Figure 1. Major Paleoindian Sites in Tennessee.
Figure 2. Clovis, Cumberland, Quad, and Beaver Lake Bifaces.
Figure 3. Distribution of Paleoindian Bifaces in North America.
Figure 4. The Johnson Site (40DV9).
Figure 5. The Coates-Hinds Site (40Wm31).
Figure 6. Temporal Distribution of Point Types from the Tennessee Fluted Point Survey. (Image courtesy of Scott C. Meeks)
Figure 7. The Carson-Conn-Short Site (40BN190).

Table 1. Paleoindian Period Chronology for Tennessee.

Calender B.P.	Period	Culture Complex
>13,450 - 12, 900	Early	Clovis
12,900 - 12,600	Middle	Cumberland
12,600 - 12,000		Quad/Beaver Lake
12,000 - 11,400	Late	Dalton

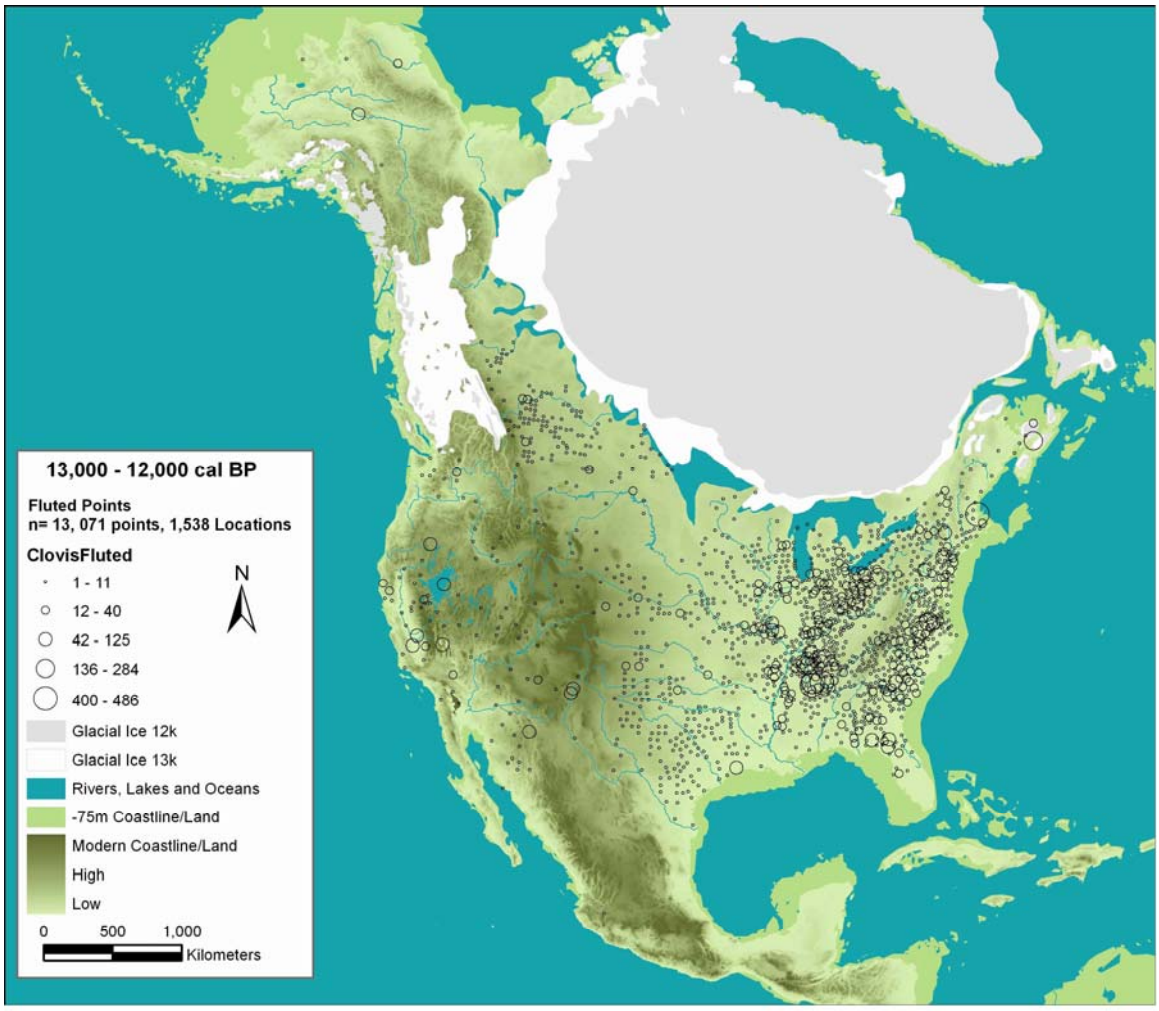

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Figure 3

Figure 4

Figure 5

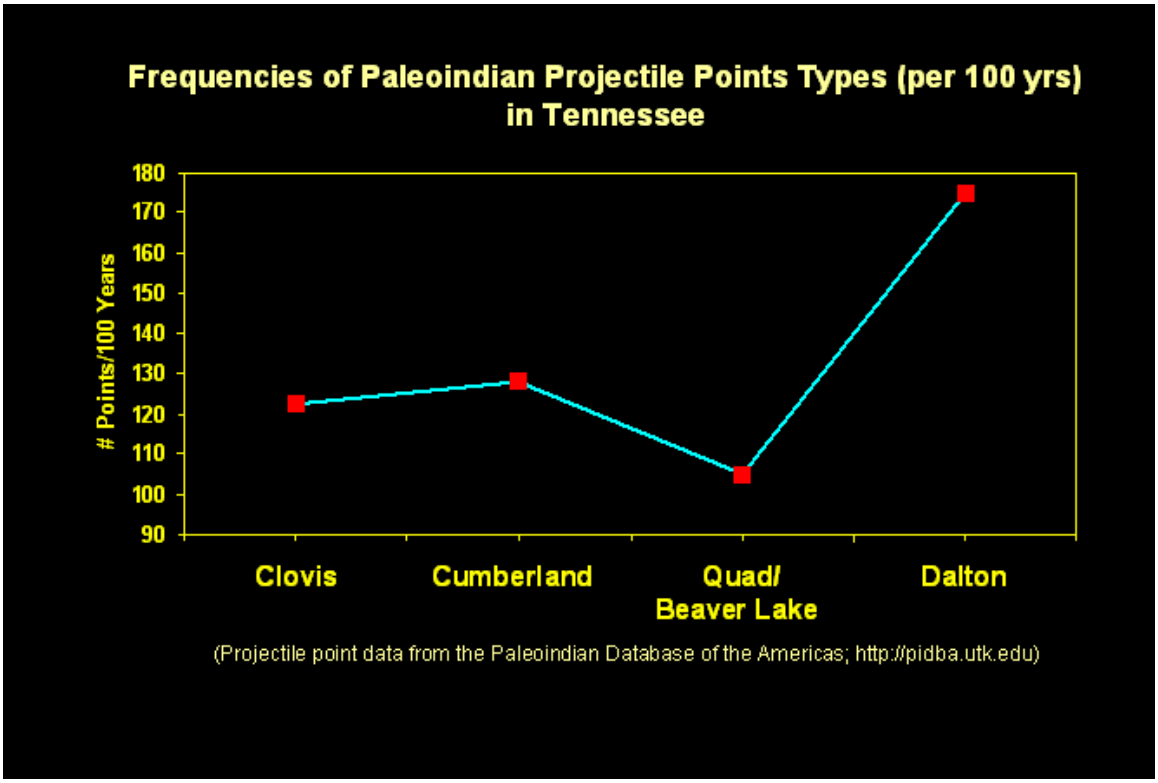
Frequencies of Paleoindian Projectile Points Types (per 100 yrs) in Tennessee
Points/100 Years
180
170
160
150
140
130
120
110
100
90
Clovis
Cumberland
Quad/ Beaver Lake
Dalton
(Projectile point data from the Paleoindian Database of the Americas; http://pidba.utk.edu)

Figure 6

Figure 7