# Most Recently Uploaded/Update Indiana

on Paleoindian materials from all across the Americas are continually being added to the PIDBA web site located at http://pidba.utk.edu. We encourag copy or electronic form. All data and contributors will be fully referenced

Figure 1. PIDBA Main Page at

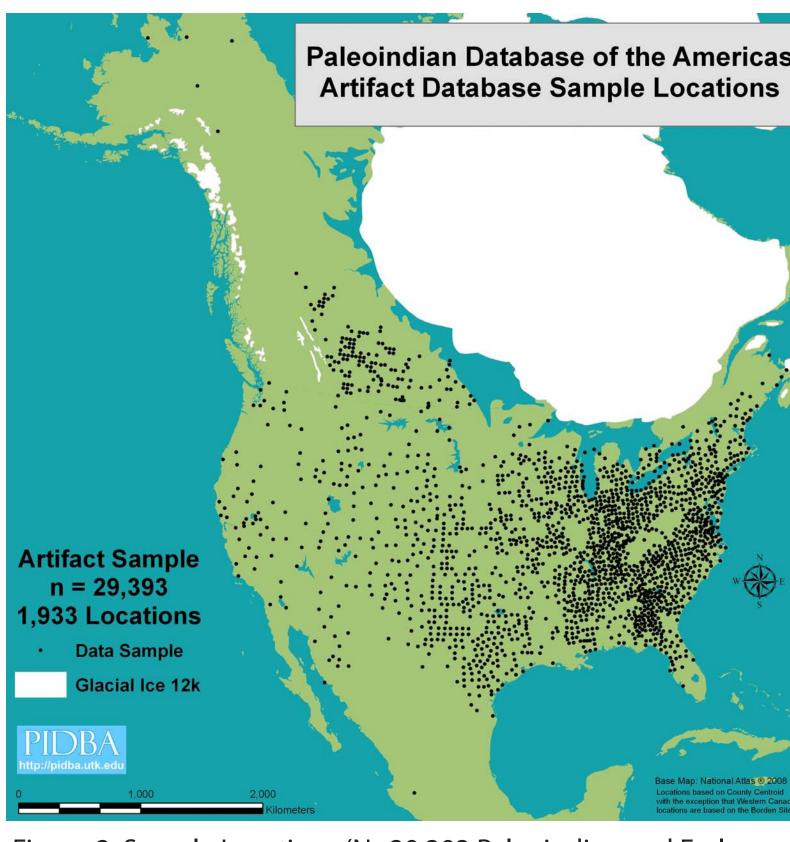


Figure 3. Images of almost 7000 artifacts are now posted on PIDBA. These examples are from the Society for Georgia Archaeology's Paleoindian **Projectile Point Recordation Project** courtesy of R. Jerald Ledbetter.

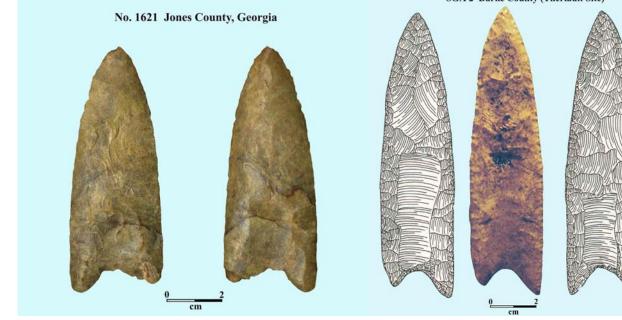


Table 1. Data Available on PIDBA

MAJOR POINT LOCATIONAL State or	DATABAS	E		SENSORES C	ARTIFACTS WITH ATTRIBUTE DATA POSTED
Province	SAMPLE	**	(VARIETIES)	* **	ONLINE*
Alaska	69	69	0	0	0
Alabama	1871	1147	724	398	1125
Arizona	135	101	34	0	22
Arkansas	155	112	43	97	647
California	301	301	0	0	14
Colorado	626	211	415	207	0
Connecticut	58	58	0	0	0
Deleware	48	42	6	22	51
Wash., DC	3	3	0	0	0
Florida	660	163	497	159	136
Georgia	1594	380	1214	345	1650
Idaho	34	12	22	0	30
Illinois	403	378	25	220	
Indiana	726	534	192	39	235
lowa	191	149	42	63	105
Kansas	104	70	34	67	12
Kentucky	363	267	96	5	
Louisiana	20	20	0	0	68
Maine	140	6	134	0	42
Maryland	94	91	3	19	32
Mass.	427	427	0	0	32
Michigan	192	167	25	26	26
Minnesota	61	41	20	0	48
Mississippi	1871	105	1766	81	1672
Missouri	412	297	115	4	121
Montana	64	23	41	0	60
Nebraska	144	85	59	82	0
Nevada	172	172	0	145	142
New Hamp.	12	10	2	0	0
New Jersey	262	262	0	0	0
New Mexico	1025	123	902	0	1053
New York	290	290	0	0	13
N. Carolina North	2524	448	2076	174	253
Dakota	20	9	11	8	0
Ohio	1108	1089	19	1	34
Oklahoma	240	108	132	108	83
Oregon	57	57	0	57	95
Pennsylvania	934	766	168	416	872
Rhode Island	4	4	0	0	0
S. Carolina South	5812	313	5499	214	469
Dakota	75	3	72	0	0
Tennessee	2737	667	2070	671	4376
Texas	1027	453	574	532	72
Utah	58	33	25	33	98
Vermont	33	33	0	0	33
Virginia	868	819	49	0	1008
Washington	36	36	0	0	0
West Virginia	28	28	0	1	0
Wisconsin Wyoming	332 240	321 44	11 196	189 43	240 0
CANADA ALB, BC, SAS, MAN Ontario	279 213	279 49	0 164	0	78 190
New				-81	
Brunswick	5	5	0	0	0
Nova Scotia	141	141	0	0	17
Pr. Ed. Island	25	25	0	0	0
Quebec	3	3	0	0	0
Saskatch. MEXICO	42	32	10	5	0
(Total)	25	25	0	0	0
TOTAL	29393	(11906)	(17487)	4431	15254

SAMPLE Total number of reported Paleoindian and Early Archaic Projectile Points in the sample. CLOVIS Total number of reported Clovis Projectile

FLUTED Clovis Points and Untyped Fluted Points VARIETIES Total number of reported named point types and varieties excluding Clovis and Clovis Variant Forms \* Not all measured artifacts are in the locational sample. AR, MT NM totals include non-point data.

our colleagues to contribute to this ef fort by submitting information in hard

## The PIDBA Sample as of

29,393 projectile points from Can-Figure 2), together with attribute/ is the inclusion of images of artifacts, some 7000 of which have now been posted, providing an increasingly ron exploring variability in early assem blages. PIDBA also has on-line files of references, as well as links to other

Figure 2. Sample Locations (N=29,393 Paleoindian and Early Archaic projectile points)

## Distributional Evidence: Methods and Biases

The PIDBA dataset allows researchers to examine the distribution of artifacts at varying scales of resolution. Currently the locational data that is posted and available for mapping purposes is based on county, parish, or other political unit centroids in the United States, Mexico, and portions of Canada; in portions of western Canada, the centroids of Borden recording grid cells are also employed. While more specific locational data is available from some of the material that has been recorded, and a site database is currently under development, this information is not posted, primarily to ensure the locations remain secure. For the same reason, curation information is restricted to materials in public repositories; while the names of owners of material in private hands are recorded, they are not posted.

Distributional maps produced using PIDBA data can be used to suggest where past peoples were located on the landscape and in what incidence. Some areas were clearly favored, while others were apparently avoided. Complicating analyses, however, are problems of sample bias and representativeness, which is influenced by factors such as the extent of prior collection and recording activity, the extent of agricultural or other land clearing, and many other factors (Shott 2002, Buchanan 2003, Prasciunas 2008, Miller and Smallwood 2009). Thus, while fluted projectile point forms are widely reported, later Paleoindian and Early Archaic types are unevenly reported or ignored altogether. Gaps in coverage conforming to state outlines are the most obvious examples of this bias. It is hoped as more people contribute data these problems will diminish over time.

In the maps that follow, artifacts are plotted by specific types or groupings of types that are assumed to form broad, presumably contemporaneous horizons. Classic Clovis points typically have flat to weakly indented bases and fluting only part way up the blade. The Clovis horizon dated to about 13,000 cal yr BP is replaced during the early part of the Younger Dryas from ca. 12,800 to 12,500 cal yr BP by an apparent 'Full Fluted horizon' characterized by points with deeply indented bases and short to full flutes, of the Redstone, Gainey, Barnes, Cumberland, and Folsom types. These are thought to have been replaced, at least in the Southeast, by an Unfluted Lanceolate horizon of typically waisted forms, including the Beaver Lake, Quad, Suwannee, and Simpson types. Sometime later in the Younger Dryas, around or after ca. 12,500 to 12,000 cal yr BP, notched and beveled Dalton points become common over much of Eastern North America, with distinct subtypes or variants

occurring in specific areas.

## Paleoindians in North America: Evidence from PIDBA (Paleoindian Database of the Americas)

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The Paleoindian Database of the Americas (PIDBA), available on-line at http://pidba.utk.edu, provides locational data on nearly 30,000 projectile points, attribute data on over 15,000 artifacts, and image data on over 6,000 points from across North America. These samples document patterns of land and lithic raw material use, and the changes in numbers of artifacts over time may reflect demographic trends within the Paleoindian period. PIDBA grows through the contribution of primary data, and recent additions include radiometric and bibliographic databases, and updated distributional maps. Ongoing research is directed to adding images of artifacts, and compiling the attribute data into a single comprehensive database.

## Clovis and Untyped Fluted **Point Occurrence**

PIDBA originated in an effort to map the occur

berland, Barnes, etc., primarily in the Southeast and Great Plains. When Clovis and untyped 'fluted forms' are plotted (Figure 4), point concentrations and low density areas recognized in earlier studies seem to be holding up, but as more work occurs in a given area, new (lesser?) concentrations are also emerging, and fluted points are being found in areas where none were previously reported. A light scattering of fluted points appears to occur just about everywhere, in fact, although denser concentrations still appear to be restricted to areas around quarries, along or near major rivers, or at major ecotones. It is expected that as analysis proceeds, many of the 'fluted' points currently reported in the upper Midwest, Northeast, western Canada and Alaska, and possibly in California and the Great Basin, will prove to be post-Clovis in age. The distribution of points typed as 'Clovis' in current surveys is more restricted (Figure 5), although classification is very uneven. Few Clovis points have been typed as such in the northern part of the continent.

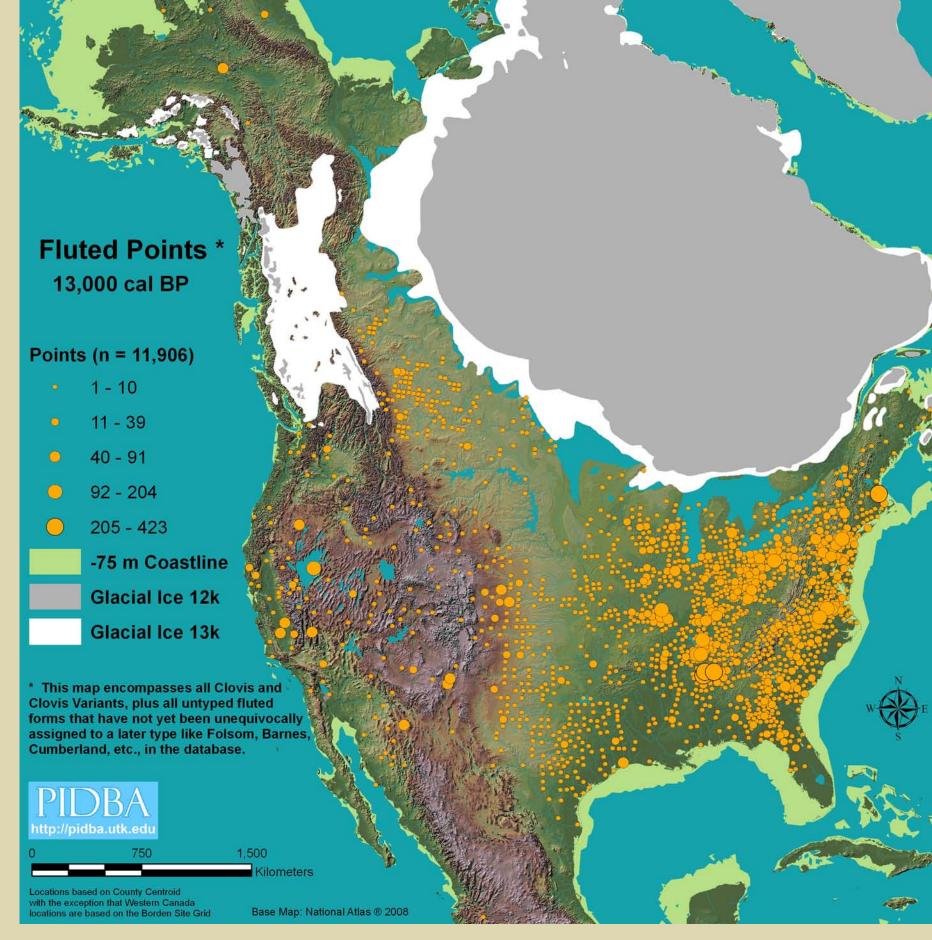


Figure 4. All reported Clovis and Clovis Variants, plus points designated as 'fluted' but not yet assigned to a specific type.

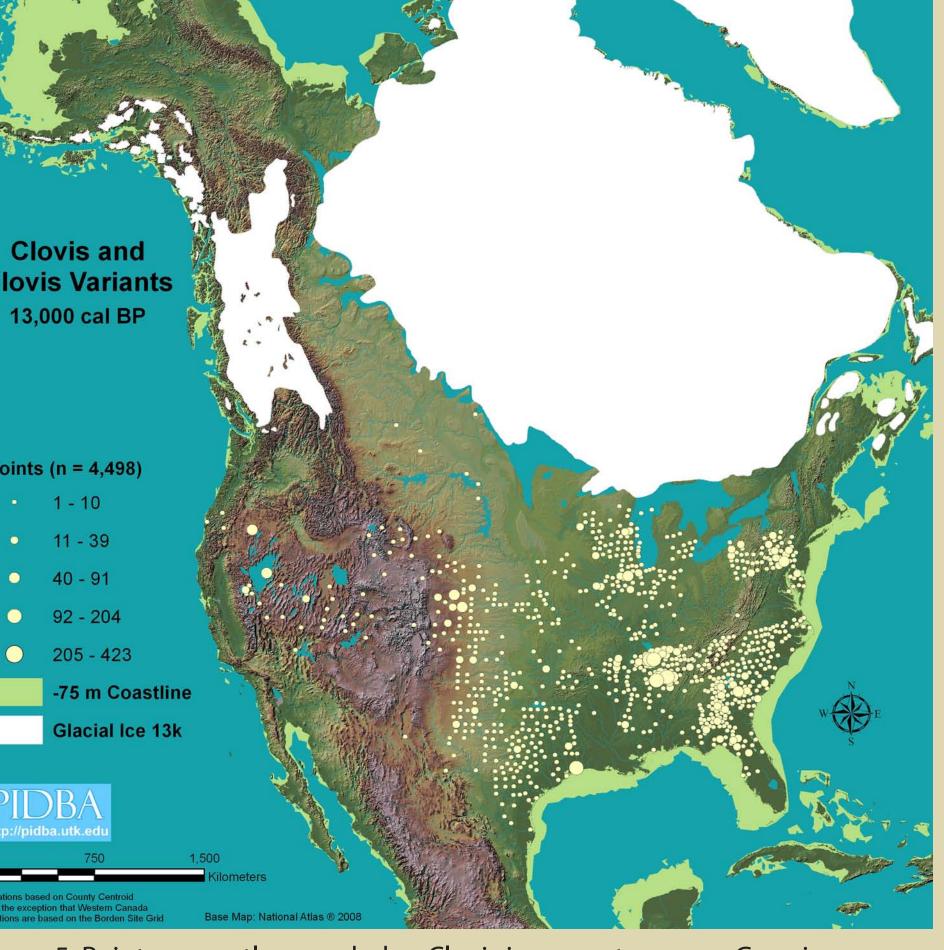


Figure 5. Points currently recorded as Clovis in current surveys. Gaps in coverage reflect areas where points are currently classified as 'fluted' in existing surveys or the database. Some points currently classified as Clovis may eventually be re-classified.

**Clovis Sample** 

y Raw Material Type

# 92 - 204 icial Ice 12k

Figure 6. Presumed Post-Clovis, initial Middle Paleoindian Projectile Point Types: Folsom, Redstone/Cumberland/Barnes/Holcombe/Vail, and Suwannee/ Simpson forms.

Middle PaleoIndian Sample

by Raw Material Type

## Post-Clovis Projectile **Point Distributions**

ferent Paleoindian point types using data in PID few types, such as Folsom, Suwannee-Simpson, with Redstone, Barnes, and other full fluted or deeply indented based forms, appear to comprise a post-Clovis horizon over much of Eastern North America, although major gaps in coverage remain to be filled in. Interestingly, in the Southeast, where Paleoindian points have been carefully examined and typed in nearly every state, these later forms are uncommon, and the Suwannee-Simpson forms may be local equivalents

No evidence for a clinal change from western Folsom to Eastern full fluted forms is indicated, although this observation must be evaluated statistically. The seemingly distinctive stylistic break may be related to increasing population isolation due to drift(?), or perhaps to groups whose subsistence or at least hunting/point-using adaptations were primarily directed to Plains/bison as opposed to Eastern Woodlands/white tailed deer, respectively. The Eastern forms also appear to have been resharpened more, suggesting use as both points and knives, while Folsom assemblages may have had distinct tool forms for cutting butchering activity.

## Evidence for a Post-Clovis Decline in Population?

Tallying the diagnostic projectile point sample from PIDBA suggests that, particularly in the Southeast, a significant decline occurs between Clovis and presumably immediate post-Clovis full fluted forms (Figure 10; see also Goodyear 2006:102). This may correspond to a similar decline in population, assuming the point types occurred for comparable periods of time, and were used in a similar fashion. In the western United States, in contrast, evi dence for a decrease in point incidence is minimal, although we do not yet know how long each point type was in use in the region.

The projectile point data suggest a population rebound occurred later in the Paleoindian era, at least in the lower Southeast (Figure 11). A steady pattern of increase is observed from the full fluted to unfluted and then to Dalton forms. The increase may be far more pronounced then indicated by the data available at present, since Dalton points are only systematically recorded in a very few states.

Radiocarbon dates from Southeastern Paleoindian and Early Archaic assemblages falling in the immediate post-Clovis era are uncommon (Figure 12). In a sample of 126 dates from the Southeast and adjoining areas compiled by the authors that fall between 9100 and 12800 BP (Siebert et al 2004), only a handful fall between 10,900 and 10,570 14C yr BP or between ca. 12,850 and 12,600 cal yr BP, and all of these are at the recent end of this range, between 10,570 and 10,710 14C yr BP. The number of dates available prior to this, however, is

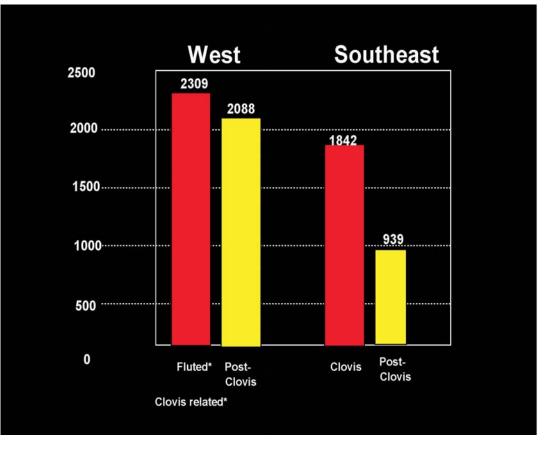


Figure 10. Incidence of Clovis and p sumed immediate post-Clovis 'full fluted forms in the southeastern and western United States in the PIDBA dataset.

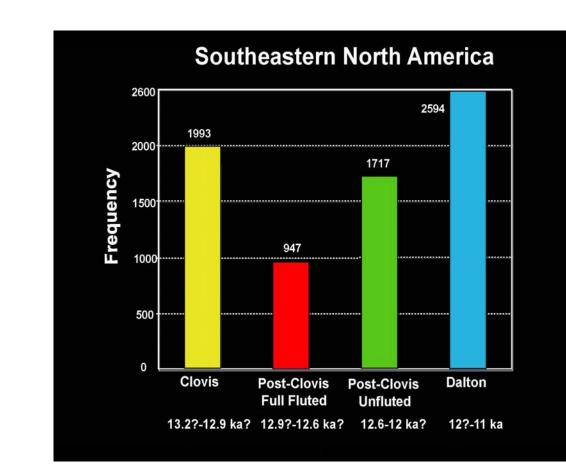
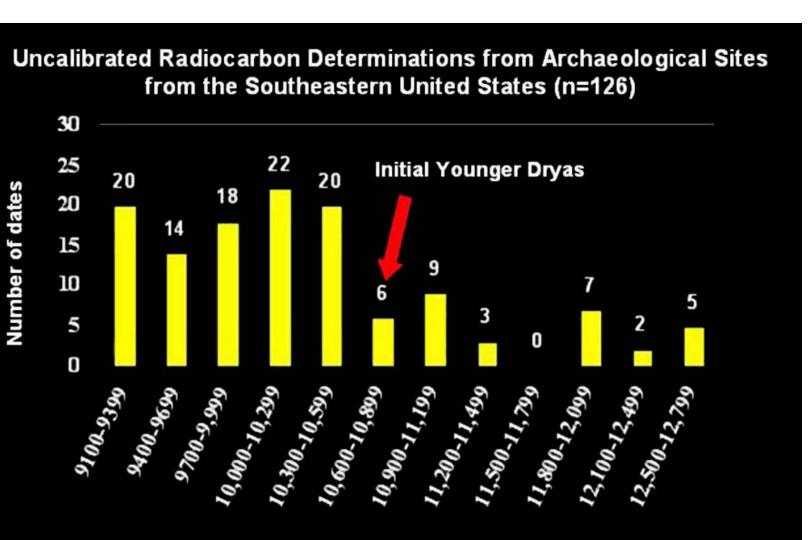


Figure 11. Possible population or settlement trends in the Southeastern United States indicated by numbers of projectile points in the PIDBA dataset.



archaeological sites are decidedly uncommon prior to

10,600 rcbp, and hint at a drop during the initial Younger Dryas

Figure 12. Radio-carbon dates from

## Directions for the Future ing. We enter data from recording sheets submitted by erences. Details on how to submit information are found

Figure 13. Incidence of Dalton points in current recording projects in the lower Southeast. Gaps in coverage reflect areas where data is not currently being systematically recorded, or is only minimally recorded.

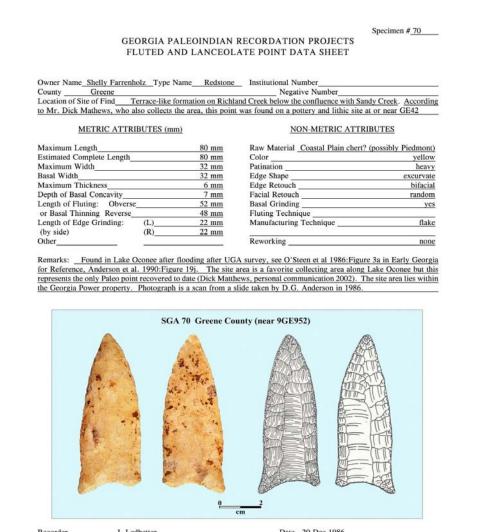


Figure 14. Examples of artifact data recording from Georgia. Over 1600 such forms have been produced in the past 23 years. Images courtesy of R. Jerald Ledbetter.

The updated PIDBA site also contains an extensive downloadable bibliography (currently over 2,600 entries) broadly concerned with the Paleoindian period in the Americas. In addition to site reports and assemblage analyses, related references include studies of Late Pleistocene and Early Holocene floral and faunal resources, paleoclimate, lithic outcrops and chemical sourcing of materials, material culture and technology, chronology, geoarchaeology mobility and landscapes, and general hunter-gatherer studies. While the focus is currently on sites and studies in Canada and the lower 48 states, we plan to eventually

incorporate as many relevant references as possible from

other aspects of PIDBA, we encourage contributions and

Alaska and Central and South America as well. As with all

will happily include any reference that can be obtained in

information on over 2,350 Paleoindian and Early Archaic

ing the PIDBA and PISD data in concert will allow for the

examination of Paleoindian land use on multiple levels,

through site and artifact distributions - and cross com-

parisons will also provide a means for identifying over- or

under-represented regions or cultural complexes in each

sites throughout Canada and the lower 48 states. Us-

We are also actively cataloging published radiocarbon dates older than 5,000C 14C yr BP. To date, we have recorded ~700 samples from across North America.

printed form.

While our efforts to date have been directed to Clovis and immediate post-Clovis projectile point forms, we are expanding the scope of PIDBA to include other artifact categories, and later Paleoindian and Early Archaic point forms. As our samples increase, patterning in the distribution of Dalton and other forms over the region will come to light that will help us better understand life during these periods (Figure 13).

2006 Recognition of the Redstone Fluted Point in the South Carolina Paleoindian Point Data Base. Current Research in the

Ledbetter, R. Jerald, David G. Anderson, and Scott C. Meeks

Miller, D. Shane, and Ashlev M. Smallwood

Archaeology, Atlanta, Georgia, 26 April 2009.

2008 Recording Paleoindian Projectile Points in Georgia. Current

2009 Paleoindian Settlement in the American Southeast: A GIS-

presented at the annual Meeting of the Society for American

2007 Paleoindian Settlement in the Southeastern United States:

2004 The Earliest Americans (Paleoindian) Theme Study for the

2008 Clovis First? An Analysis of Space, Time, and Technology.

Eastern United States. National Historic Landmarks Survey, National

Insights from Examining Regional Databases. Current Research in

The development of PIDBA has been a cooperative effort between many people, and we thank all those who have participated to date. We welcome and encourage data contributions, as well as references to published information and links to relevant web sites. We are particularly looking for colleagues in Latin America to help compile data from that region. Special thanks to Angel Miller for helping us fit everything on this poster.

Goodvear, Albert C.

Pleistocene 23:100-103.

O'Donoughue, Jason

the Pleistocene 23:126-129.

Seibert, Erika K. Martin (editor)

Park Service, Washington D.C.

Prasciunas, Mary M.

## References Cited

Anderson, David G. 1990 A North American Paleoindian Projectile Point Database. Current Research in the Pleistocene 7:67–69.

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1990 Paleoindian Period Archaeology of Georgia. Georgia Archae Research in the Pleistocene 25:89-91. logical Research Design Paper 6. University of Georgia Laboratory of Archaeology Series Report 28. Athens. based Approach to Identify Potential Aggregation Loci. Paper

Anderson, D. G., and M. K. Faught 1998 The Distribution of Fluted Paleoindian Projectile Points: Update 1998. Archaeology of Eastern North America 26:163-188.

Anderson, D. G., and M. K. Faught 2000 Paleoindian Artefact Distributions: Evidence and Implication Antiquity 74:507-513.

Anderson, David G., D. Shane Miller, Stephen J. Yerka, and Michael K. Faught 2005 Paleoindian Database of the Americas: Update 2005, Curre Research in the Pleistocene 22:91-92.

Buchanan, Briggs 2003 The Effects of Sample Bias on Paleoindian Fluted Point Recovery in the United States. North American Archaeologis 24(4):311-338.

Unpublished PhD dissertation, Department of Anthropology, University of Wyoming, Laramie, Wyoming. Faught, M. K., D. G. Anderson, and A. Gisiger 1994 North American Paleoindian Database: An Update, Current Research in the Pleistocene 11:32–35.

Shott, Michael J. 2002 Sample Bias in the Distribution and Abundance of Midwestern Fluted Bifaces, Midcontinental Journal of Archaeology Gillam, J. Christopher David G. Anderson, Stephen J. Yerka, and

2006 Estimating Pleistocene Shorelines and Land Elevations for Waters, Michael R., and Thomas W. Stafford, Jr. North America. Current Research in the Pleistocene 23:185-187. 2007 Redefining the Age of Clovis: Implications for the Peopling of the Americas. Science 315:1122-1126.

## Evidence for Range Extent and Possible **Contraction Over Time?**

In the lower Southeast the Paleoindian points have been carefully evaluated in the region east of the Mississippi River and south of Kentucky and Virginia (Figure 7). Clovis points are found over much of the region, with a high incidence in the Tennessee and Cumberland drainages and along the Atlantic seaboard, and far fewer in the Gulf coastal Plain.

Lithic raw materials were used over areas up to several hundred kilometers in extent when Clovis points were being manufactured (Figure 8). In contrast, raw material occurrence appears to be more geographically restricted on presumably immediate post-Clovis (Figure 9). A contraction in group ranges may have been occurring, or perhaps in the area over which regular interaction occurred. This pattern is matched in the much more geographically restricted occurrence of post-Clovis projectile point forms like the Cumberland or Suwannee-Simpson types which, unlike Clovis, are found in greatest incidence within areas no more than a few hundred kilometers in extent.

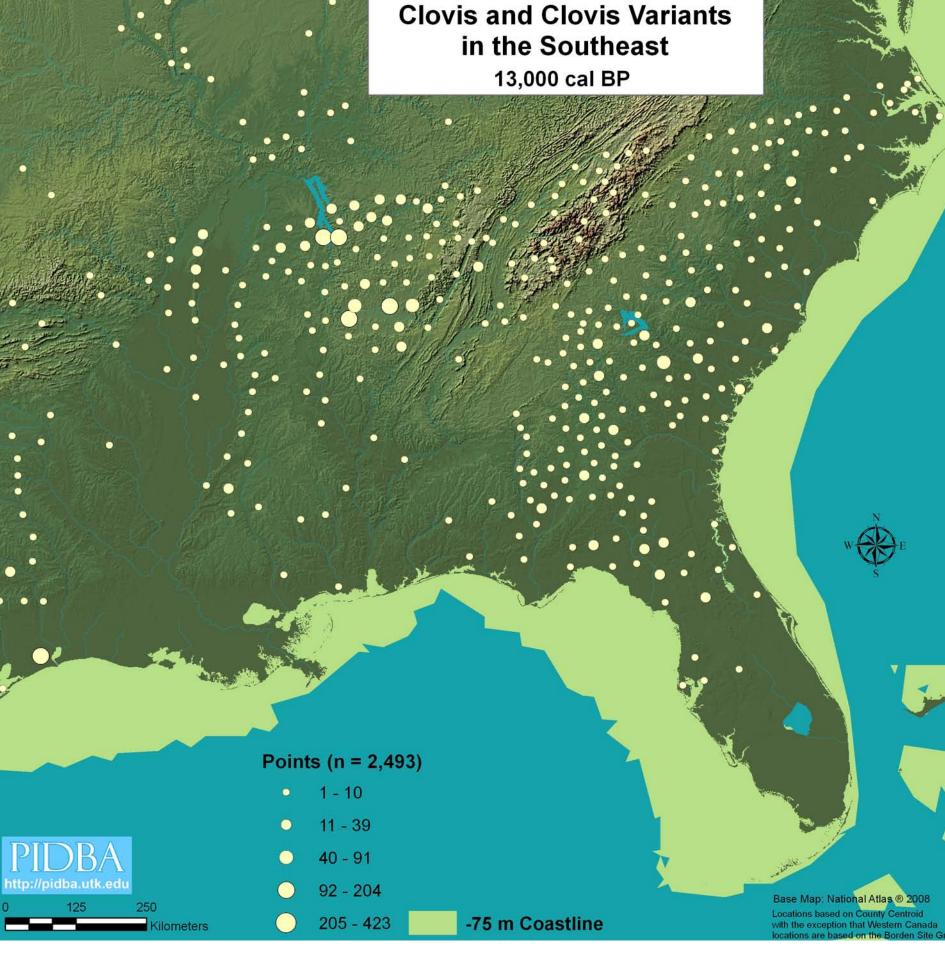
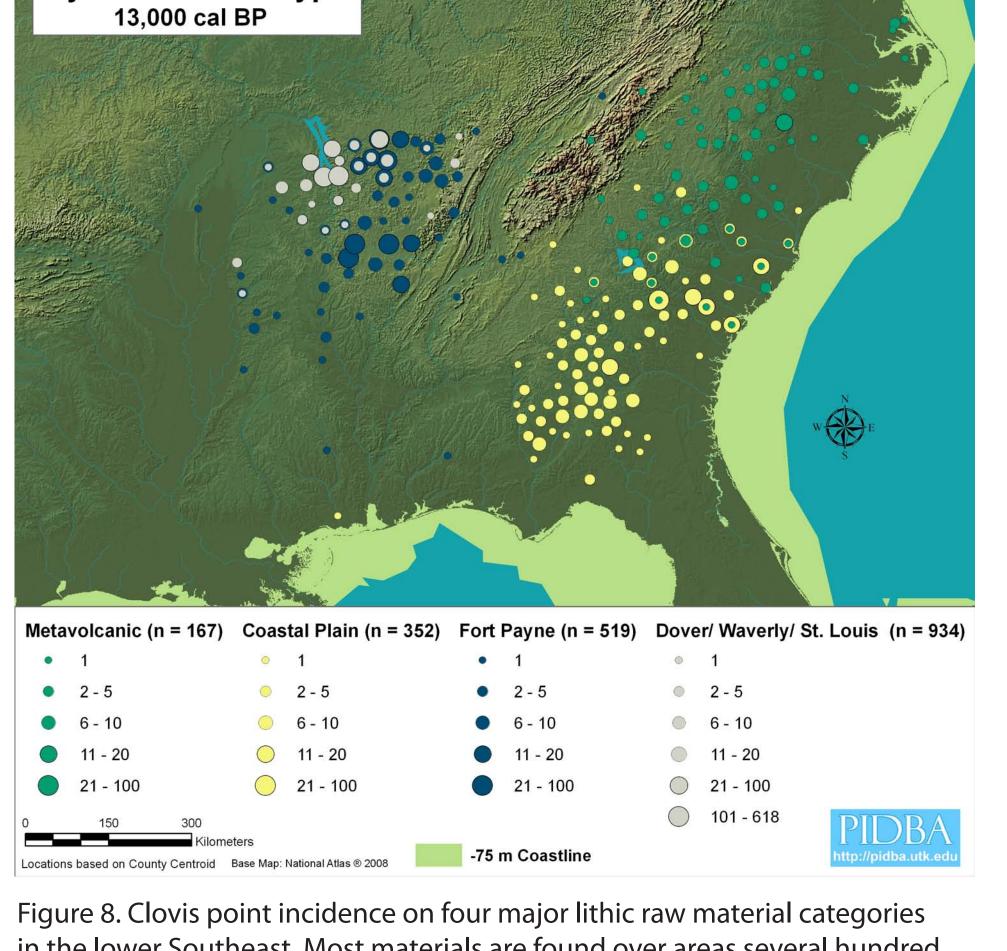


Figure 7. Clovis point incidence in the lower Southeast. Fluted points have not been typed in Virginia and much of Kentucky, and little data has been collected from Louisiana. Few points are reported in the Gulf Coastal Plain and southern Appalachians, while dense concentrations occur on the eastern Seaboard and along the Tennessee and Cumberland drainages.



in the lower Southeast. Most materials are found over areas several hundred kilometers in extent.

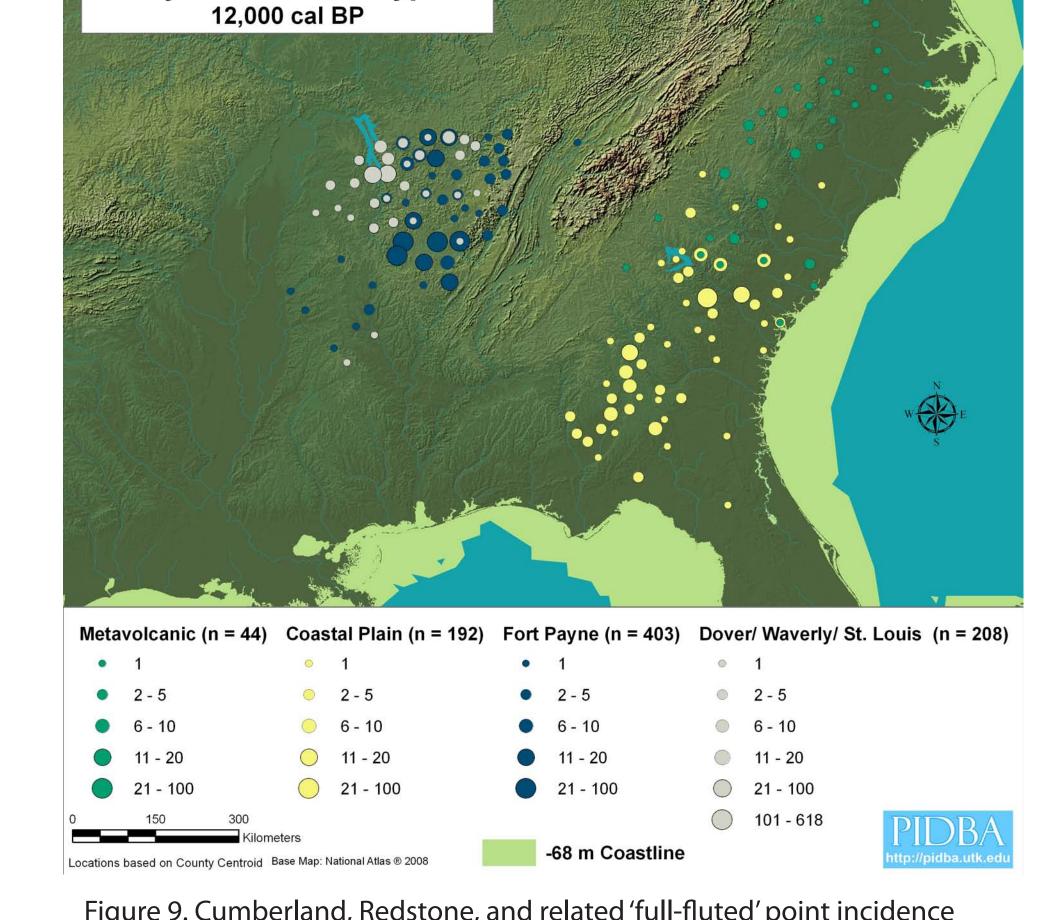


Figure 9. Cumberland, Redstone, and related 'full-fluted' point incidence on four major lithic raw material categories in the lower Southeast. Most materials occur over areas that are smaller than those observed during preceding Clovis times.