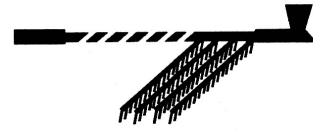


CALUMET



Newsletter of the Indian Peaks Chapter of the Colorado Archaeological Society
February, 2011

CALENDAR OF EVENTS

Presentation (lecture) meetings are held in the University of Colorado Museum, Dinosaur Room on the Second Thursday of most Months, at 7:00 PM. **The public is always welcome.**

Web Site: WWW.INDIANPEAKSARCHAEOLOGY.ORG

February 2-4 Colorado Preservation, Inc. "Saving Places" conference, Denver

SPEAKER CHANGE

February 10 **IPCAS Presentation Meeting**, 7PM. Lynda McNeil, Topic is "Evolution of Basketmaker Headdresses in Mesoamerica"

March 5 **Tour – CU Museum of Natural History**, 10AM.

Tour will include both the museum exhibits and behind the scenes information. Please RSVP your interest to indianpeaksarchaeology@gmail.com.
Tour is limited to 25 people.

March 10 **IPCAS Presentation Meeting**, 7PM. David T.

Williams, Masters Candidate, CU-Boulder.
David's topic is "Research on Lithic Assemblages within the Lower Rio Verde River Valley region of Oaxaca, Mexico".

March 24 **Archaeology Discussion Group**, 7:00PM. Meeting

Location: TBD, Topic: Peopling the Americas.
Read any book or article on the topic. Be prepared to share some topics from your reading.

March 24-27 Colorado Council of Professional Archaeologists and CAS joint meeting, La Junta

March 30 to April 3 Society for American Archaeology annual meeting, Sacramento, California

April 6 PAAC Class - Basic Site Surveying Techniques (session 1 of 8)

April 13 PAAC Class - Basic Site Surveying Techniques (continued, session 2)

April 14 **IPCAS Presentation Meeting**, 7PM, Dinosaur Room, Dr. Robert Brunswig. Topic is the Dearfield Project (there will be volunteer opportunities in June/July).

April 20, 27 PAAC Class - Basic Site Surveying Techniques (continued, sessions 3-4)

April 29 to May 1 Chimney Rock in the Chacoan World conference, Pagosa Springs

May 4, 11 PAAC Class - Basic Site Surveying Techniques (continued, session 5-6)

May 12 **IPCAS Presentation Meeting**, 7PM. Craig Lee, Topic: TBA.

May 14, 18 PAAC Class - Basic Site Surveying Techniques (sessions 7-8 end)

June 9 **1st Annual IPCAS Picnic Potluck Picnic**, Thursday, June 9 at 6:00PM at Betasso Preserve, Boulder County Open Space - Bring a dish to share.

October 15-16 CAS Annual Conference, Boulder (IPCAS is hosting)

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February Presentation Meeting

Our speaker for the February 10th meeting is Lynda McNeil. She is currently doing research on the evolution of Basketmaker headdresses with roots in the “corn culture” in Mesoamerica. She has been writing an article on the topic, her research is fresh, and she has presented the topic before. This should be an interesting meeting.

IPCAS Reading and Discussion Group

The next Discussion Group meeting will be held on Thursday, March 24 at 7PM and is open to all IPCAS members. The location is not determined at this time. The topic will be “Peopling the Americas”. Read any book or article on the topic and be prepared to share important or interesting information from your reading.

Volunteer Opportunity

Paul Alford, South Zone Archaeologist for Arapaho and Roosevelt National Forests and the Pawnee National Grassland, talked briefly at the January Presentation Meeting about opportunities for volunteers to perform site monitoring. He has a number of sites designated (with more coming) and requests a person or persons to visit a site once a year. During that visit, the volunteer would examine the site for changes from the prior year or, in the case of the first visit, changes from the information in the state files. The sites are subject to possible deterioration from water and wind erosion, human and animal traffic, or vandalism. Each volunteer will be given the Colorado site records, the National Forest Service information, and a binder to keep your work. The volunteer will take photographs each year and keep a file of them. It is requested that the photographs be taken from the same point and in the same direction each year. This is obviously a multi-year commitment similar to ones in which other IPCAS members are currently involved. Paul has three sites available for “adoption” at this time. They are:

- A mining site adjoining the 4th of July site,
- A ceramic site in Devil’s Thumb Valley,
- A lithic scatter and potential camp

If you are interested in helping Paul as a volunteer, contact him at (303) 541-2506 or pwalford@fs.fed.us

Are You a Nicknackitorian?

A *nicknackitorian* is a collector or dealer in all manner of curiosities, such as Egyptian mummies, Indian implements, antique shields, helmets, and so forth. Source: London Annual Register, 1802.



Spring 2011 PAAC Class Sponsored by IPCAS (Boulder)

The **Spring 2011 Indian Peaks, Colorado Archeology Society (IPCAS) Program for Avocational Archaeological Certification (PAAC)** class will be *Basic Site Surveying Techniques*, which covers the history of archaeological survey, site identification, formation processes, survey methods, recording procedures, basic equipment usage, reading USGS topographic maps, goals and problems of archaeological survey, curation of archaeological remains, and necessity for final reports. Also part of the course is a field trip to identify and record a site. PAAC classes are open to everyone, not just IPCAS members.

See the class outline at: <http://coloradohistory-oahp.org/programareas/paac/classinfo/surveytech.htm>

Class dates and Times: Wednesdays 6:00 to 9:00 pm: April 6, 13, 20, 27; May 4, 11, 14 (Field Trip), 18 (total of 7 evening classes + Field Trip).

Location: 29th Street Community Room in Boulder. Room faces 29th Street and is reached by taking the elevator or stairs in front of Borders Bookstore to the top (3rd) floor and then walking north about 50 feet along the walkway that parallels 29th Street – the conference room is on the right. Parking is free, both street and underground parking lot (and the elevator – south end of the parking lot, near the Borders location - may be accessed from the underground parking lot).

Instructor: Kevin Black, Assistant State Archaeologist (a dynamic presenter)

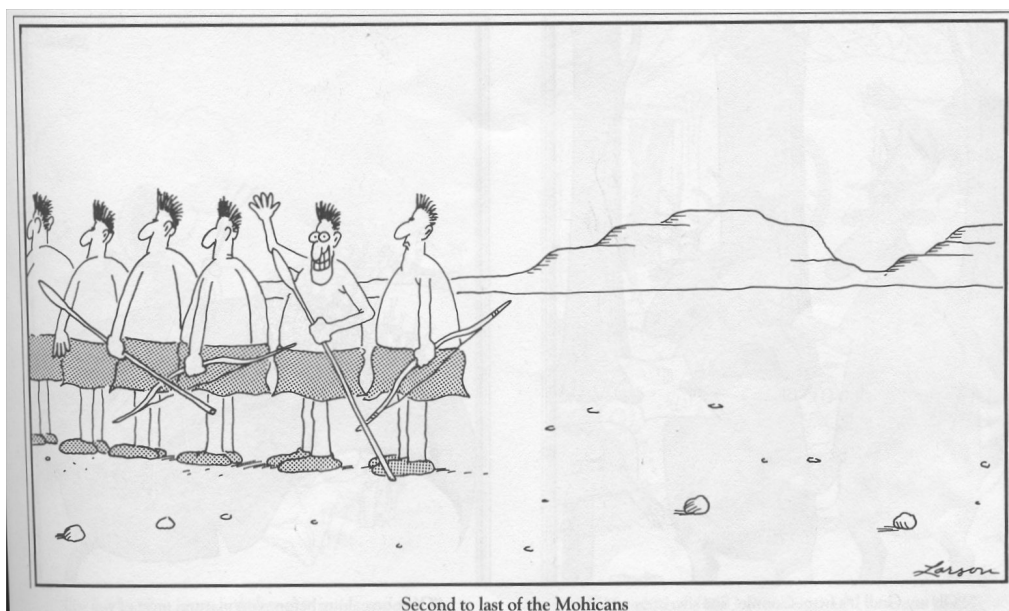
Class Size: Minimum 10, maximum 40

To register: To guarantee a slot, send two checks - one for \$12 payable to *CHS*, and one for \$13 payable to *IPCAS*, to Dave Hawley, IPCAS PAAC Coordinator, 1516 Lodge Court, Boulder, CO 80303. Cost includes all materials. Include name, address, and, for receipt confirmation and coordination, email address.

Cancellations: Once registered, the PAAC statewide policy is not to allow refunds unless the course is cancelled, but in lieu of a refund, the full handout packet for that course is mailed. Please note that the handout packets for most PAAC courses are quite voluminous.

Questions: Contact Dave at 303-443-2332 or dave_hawley@comcast.net.

For other information about PAAC classes and the PAAC program, go to Colorado's PAAC home page <http://coloradohistory-oahp.org/programareas/paac/paacindex.htm>



ALICE HAMILTON SCHOLARSHIP FUND

2011 Scholarships will be awarded by the Colorado Archaeological Society in memory of Alice Hamilton, who was a member of C.A.S. and avid supporter of Archaeology.

These competitive awards range from \$200 up to \$750 each. Awards are based on the merits of the application, rather than financial need.

REQUIREMENTS

A. Applicant must be majoring in Anthropology or cross-discipline field, with emphasis in Archaeology.

Applicant must be attending an accredited college or university in Colorado, and carrying at least a half-time course load.

1. Include a completed cover sheet with your application materials. The cover sheet is available from the CAS website at www.coloradoarchaeology.org
2. Tell how you plan to use the money, including a proposed budget of your expenses. This award may be used for research projects, lab fees, field school, tuition, books, etc. *** There will be significant weighting in favor of study, projects, etc. in Colorado, the southwestern US and the Rocky Mountain area, and secondarily, in the Western Hemisphere. Other areas will be considered, based on the strength of the application. ***
3. Provide a resume of your archaeological accomplishments (study and experience).
4. Include two (2) written references from current instructors or professionals in Anthropology/ Archaeology. These should be sent directly to us, by email (greatly preferred) or U. S. Mail. *Your application will not be complete without these. They are a major part of our evaluation of your application.*

Applications and references may be submitted by e-mail (greatly preferred) or by U.S. Mail.

All materials must be emailed or postmarked on or before March 15, 2011

Mail to: *Alice Hamilton Scholarship Fund
Colorado Archaeological Society
c/o Philip Williams
7230 Fleetwood Ct., Colorado Springs, CO 80919*

E-mail: ahsfc@hotmail.com

A confirmation of materials received will be sent to you via email.

6. **Awards will be determined on March 26, 2011. Applicants will be notified by early April.**

2011 Information for Alice Hamilton Scholarship Applicants

Email submissions are much preferred over mailed applications. Mailed applications must be scanned for distribution to the reviewers. Scanning is a time-consuming process which can introduce formatting and other errors, which may be to your detriment.

This is a competitive scholarship, and not all applicants receive awards. Our award range is \$200 to \$750. The amount awarded depends on our evaluation of the application, including the letters of reference. As a strong rule of thumb, Undergraduate awards are toward the low end, while Graduate awards are toward the high end. Because of limited funds and large numbers of highly qualified applicants, we have not been able to award the maximum of \$750 to awardees for several years, although this may change in the future.

What we will fund and what we won't

We fund direct outlays (or estimates of them) for an archaeological need. Direct outlays can include gas (but not "government mileage reimbursement rates"), other purchased transportation expenses (bus, train, plane, taxi), meals/groceries, campground fees, motel/hotel where appropriate, lab fees, durable lab equipment, repro cost, and other out-of-pocket expenses, including books and tuition. We do not fund personal clothing, camping equipment or cameras. For undergraduates, a common expense is that of going to field school. We do not fund wages for you or your recruited workers (lean on your classmates). We do not make up for earnings you miss by doing archaeology instead of working for pay. In your budget, give specific dollar amounts for specific needs, rather than merely saying "I need \$750."

**** New in 2011, There will be significant weighting in favor of study, projects, etc. in Colorado, the southwestern US and the Rocky Mountain area, and secondarily, in the Western Hemisphere. Other areas will be considered, based on the strength of the application. ****

If you are a graduating within the next six months, please include your plans for the fall.

Your responsibilities, should you be awarded a scholarship

- By 1 October send the Committee an email giving a brief expenditure report. This should be an informal report, perhaps only one paragraph in length.
- We ask on the Cover Sheet if you are willing to share your experiences and results (if applicable) with the Colorado Archaeological Society. Sharing what you're learning is an essential part of your professional life, especially to those that have provided your funding. The format and scope of your report is of course dependent on your project. For an undergraduate attending field school, a short article for the local CAS chapter newsletter or the statewide *CAS Surveyor* is perfectly acceptable. For graduate-level field or laboratory research, a presentation to a chapter or at the CAS Annual Meeting may be appropriate, as may be an article in the CAS journal, *Southwestern Lore*.

These two responsibilities are considered by the Committee to be serious obligations. Failure to fulfill them will be taken into consideration should you make application in subsequent years.

We look forward to receiving your application.



Colorado Archaeological Society, Inc.

ALICE HAMILTON SCHOLARSHIP FUND

Application Submission Cover Sheet

(to be completed by Applicant)

Full Name:	
Mailing Address:	
Phone (Day):	Phone (Evening):
E-mail:	
College/University:	Department:

Letters of Reference: 1. _____ (name)
 2. _____ (name)

Education Level: Undergrad Masters Candidate PhD Candidate

Scholarship Use: Field School Thesis Fieldwork Lab Analysis/Tests Other

I AM I AM NOT -- willing to share my experiences and/or project results with a local CAS chapter (typically a short newsletter article, poster or presentation)

This form may be downloaded from www.coloradoarchaeology.org Follow the Alice Hamilton link. On the form, Select All, Copy, then Paste into a Word document for editing and email submission of your application. Also available from the same website are some guidelines for the applicant.

Ancient Artifacts Revealed as Northern Ice Patches Melt

ScienceDaily (Apr. 26, 2010) — High in the Mackenzie Mountains, scientists are finding a treasure trove of ancient hunting tools being revealed as warming temperatures melt patches of ice that have been in place for thousands of years.

Tom Andrews, an archaeologist with the Prince of Wales Northern Heritage Centre in Yellowknife and lead researcher on the International Polar Year Ice Patch Study, is amazed at the implements being discovered by researchers.

"We're just like children opening Christmas presents. I kind of pinch myself," says Andrews. Ice patches are accumulations of annual snow that, until recently, remained frozen all year. For millennia, caribou seeking relief from summer heat and insects have made their way to ice patches where they bed down until cooler temperatures prevail. Hunters noticed caribou were, in effect, marooned on these ice islands and took advantage.

"I'm never surprised at the brilliance of ancient hunters anymore. I feel stupid that we didn't find this sooner," says Andrews.

Ice patch archeology is a recent phenomenon that began in Yukon. In 1997, sheep hunters discovered a 4,300-year-old dart shaft in caribou dung that had become exposed as the ice receded. Scientists who investigated the site found layers of caribou dung buried between annual deposits of ice. They also discovered a repository of well-preserved artifacts.

Andrews first became aware of the importance of ice patches when word about the Yukon find started leaking out. "We began wondering if we had the same phenomenon here."

In 2000, he cobbled together funds to buy satellite imagery of specific areas in the Mackenzie Mountains and began to examine ice patches in the region. Five years later, he had raised enough to support a four-hour helicopter ride to investigate two ice patches. The trip proved fruitful.

"Low and behold, we found a willow bow." That discovery led to a successful application for federal International Polar Year funds which have allowed an interdisciplinary team of researchers to explore eight ice patches for four years.

The results have been extraordinary. Andrews and his team have found 2400-year-old spear throwing tools, a 1000-year-old ground squirrel snare, and bows and arrows dating back 850 years. Biologists involved in the project are examining dung for plant remains, insect parts, pollen and caribou parasites. Others are studying DNA evidence to track the lineage and migration patterns of caribou. Andrews also works closely with the Shutaot'ine or Mountain Dene, drawing on their guiding experience and traditional knowledge.

"The implements are truly amazing. There are wooden arrows and dart shafts so fine you can't believe someone sat down with a stone and made them."

Andrews is currently in a race against time. His IPY funds have run out and he is keenly aware that each summer, the patches continue to melt. In fact, two of the eight original patches have already disappeared.

"We realize that the ice patches are continuing to melt and we have an ethical obligation to collect these artifacts as they are exposed," says Andrews. If left on the ground, exposed artifacts would be trampled by caribou or dissolved by the acidic soils. "In a year or two the artifacts would be gone."

Mass Extinction: Why Did Half of North America's Large Mammals Disappear 40,000 to 10,000 Years Ago?

ScienceDaily (Nov. 27, 2009) — Years of scientific debate over the extinction of ancient species in North America have yielded many theories. However, new findings from J. Tyler Faith, GW Ph.D. candidate in the hominid paleobiology doctoral program, and Todd Surovell, associate professor of anthropology at the University of Wyoming, reveal that a mass extinction occurred in a geological instant. During the late Pleistocene, 40,000 to 10,000 years ago, North America lost over 50 percent of its large mammal species. These species include mammoths, mastodons, giant ground sloths, among many others. In total, 35 different genera (groups of species) disappeared, all of different habitat preferences and feeding habits.

What event or factor could cause such a mass extinction? The many hypotheses that have been developed over the years include: abrupt change in climate, the result of comet impact, human overkill and disease. Some researchers believe that it may be a combination of these factors, one of them, or none.

A particular issue that has also contributed to this debate focuses on the chronology of extinctions. The existing fossil record is incomplete, making it more difficult to tell whether or not the extinctions occurred in a gradual process, or took place as a synchronous event. In addition, it was previously unclear whether species are missing from the terminal Pleistocene because they had already gone extinct or because they simply have not been found yet. However, new findings from Faith indicate that the extinction is best characterized as a sudden event that took place between 13.8 and 11.4 thousand years ago. Faith's findings support the idea that this mass extinction was due to human overkill, comet impact or other rapid events rather than a slow attrition.

"The massive extinction coincides precisely with human arrival on the continent, abrupt climate change, and a possible extraterrestrial impact event" said Faith. "It remains possible that any one of these or all, contributed to the sudden extinctions. We now have a better understanding of when the extinctions took place and the next step is to figure out why."

Ancient Human Teeth: Stress Early in Development Shortens Life Span

ScienceDaily (Feb. 5, 2010) — Ancient human teeth are telling secrets that may relate to modern-day health: Some stressful events that occurred early in development are linked to shorter life spans. "Prehistoric remains are providing strong, physical evidence that people who acquired tooth enamel defects while in the womb or early childhood tended to die earlier, even if they survived to adulthood," says Emory University anthropologist George Armelagos. Armelagos led a systematic review of defects in teeth enamel and early mortality recently published in *Evolutionary Anthropology*. The paper is the first summary of prehistoric evidence for the Barker hypothesis -- the idea that many adult diseases originate during fetal development and early childhood.

"Teeth are like a snapshot into the past," Armelagos says. "Since the chronology of enamel development is well known, it's possible to determine the age at which a physiological disruption occurred. The evidence is there, and it's indisputable." The Barker hypothesis is named after epidemiologist David Barker, who during the 1980s began studying links between early infant health and later adult health. The theory, also known as the Developmental Origins of Health and Disease Hypothesis (DOHaD), has expanded into wide acceptance.

As one of the founders of the field of bioarcheology, Armelagos studies skeletal remains to understand how diet and disease affected populations. Tooth enamel can give a particularly telling portrait of physiological events, since the enamel is secreted in a regular, ring-like fashion, starting from the second trimester of fetal development. Disruptions in the formation of the enamel, which can be caused by disease, poor diet or psychological stress, show up as grooves on the tooth surface.

Armelagos and other bioarcheologists have noted the connection between dental enamel and early mortality for years. For the *Evolutionary Biology* paper, Armelagos led a review of the evidence from eight published studies, applying the lens of the Barker hypothesis to remains dating back as far as 1 million years.

One study of a group of Australopithecines from the South African Pleistocene showed a nearly 12-year decrease in mean life expectancy associated with early enamel defects. In another striking example, remains from Dickson Mounds, Illinois, showed that individuals with teeth marked by early life stress lived 15.4 years less than those without the defects. "During prehistory, the stresses of infectious disease, poor nutrition and psychological trauma were likely extreme. The teeth show the impact," Armelagos says.

Until now, teeth have not been analyzed using the Barker hypothesis, which has mainly been supported by a correlation between birth weight in modern-day, high-income populations and ailments like diabetes and heart disease. "The prehistoric data suggests that this type of dental evidence could be applied in modern populations, to give new insights into the scope of the Barker hypothesis," Armelagos says. "Bioarcheology is yielding lessons that are still relevant today in the many parts of the world in which infectious diseases and under-nutrition are major killers."

Clovis Mammoth Hunters: Out With a Whimper or a Bang?

ScienceDaily (Apr. 12, 2010) — A team of researchers from the University of Arizona has revisited evidence pointing to a cataclysmic event thought by many scientists to have wiped out the North American megafauna -- such as mammoths, saber tooth cats, giant ground sloths and Dire wolves -- along with the Clovis hunter-gatherer culture some 13,000 years ago. The team obtained their findings following an unusual, multidisciplinary approach and published them in the *Proceedings of the National Academy of Sciences* (PNAS).

"The idea of an extraterrestrial impact driving the Pleistocene extinction event has recently caused a stir in the scientific community," said C. Vance Haynes, a professor emeritus at UA's School of Anthropology and the department of geosciences, who is the study's lead author. "We systematically revisited the evidence for an impact scenario and discovered it just does not hold up."

Haynes has dedicated his scientific career to the study of the Clovis people -- the first well-defined culture in the New World -- and discovered many sites with evidence of their presence in Arizona. One of the most prominent and most studied of those sites is the Murray Springs Clovis site in southeastern Arizona, where archaeologists and anthropologists have unearthed hundreds of artifacts such as arrowheads, spear points and stone tools. The site includes the remains of a Clovis hunters' camp close to a mammoth and a bison kill site, allowing the researchers to reconstruct the daily life of the Clovis culture to a certain extent.

When the last ice age came to an end approximately 13,000 years ago and the glaciers covering a large portion of the North American continent began melting and retreating toward the north, a sudden cooling period known as the "Big Freeze" or, more scientifically, the Younger Dryas, reversed the warming process and caused glaciers to expand again. Even though this cooling period lasted only for 1,300 years, a blink of an eye in geologic timeframes, it witnessed the disappearance of an entire fauna of large mammals. The big question, according to Haynes, is "Why did those animals go extinct in a very short geological timeframe?"

"When you go out and look at the sediments deposited during that time, you see this black layer we call the Black Mat. It contains the fossilized remains of a massive algae bloom, indicating a short period of water table rise and cool climate that kept the moisture in the soil. Below the Black Mat, you find all kinds of fossils from mammoths, bison, mastodons, Dire wolves and so forth, but when you look right above it -- nothing." Scientists have suggested several scenarios to account for the rapid Pleistocene extinction event. Some ascribe it to the rapid shift toward a cooler and dryer during the "Big Freeze," causing widespread droughts.

Haynes disagrees. "We find evidence of big changes in climate throughout the geologic record that were not associated with widespread extinctions."

Others have blamed the demise of the North American megafauna on pathogens brought onto the North American continent by animals from the Old World crossing the Bering Strait. "The disease hypothesis does not hold up well in the light of natural selection and evolution," Haynes said, "because some individuals would have been immune to the pathogens and survived." The two attempts to account for the mass extinction event prevailing at

this point include humans and celestial bodies. Many deem it possible that humans such as the Clovis culture hunted the Pleistocene mammals to extinction, proposed by UA Professor Emeritus Paul S. Martin.

Alternatively, it is thought that a comet or asteroid slammed into the glaciers covering the Great Lakes area, unleashing firestorms that consumed large portions of vegetation. In addition, the dust and molten rock kicked up high into the atmosphere during the impact could have shrouded the Earth in a nuclear winter-like blanket of airborne dust, blocking sunlight and causing temperatures to plummet. In the present study, Haynes and his coworkers set out to put the evidence for an impact scenario to the test: Unusually high concentrations of spherical magnetic particles in the soil samples taken at the Murray Springs Clovis site had been interpreted as indication of an extraterrestrial source.

Another hint in this direction was a spike in the Black Mat's iridium content -- an element rarely encountered on Earth but quite abundant in meteorites. In addition, the occurrence of nanodiamonds had been suggested as evidence of an extraterrestrial origin. Finally, a supposedly abundant charcoal content in the soil samples had been cited as evidence of widespread wildfires ravaging the land in the aftermath of the impact. To ensure their samples were comparable, Haynes collected at the same locations in the Black Mat layer as the team proposing the impact scenario: "I sampled where they sampled and at the same times they sampled."

Using highly sensitive and sophisticated analytical methods, Haynes' coworkers at the department of geosciences and UA's Lunar and Planetary Lab then analyzed their samples for the evidence that had been presented in support of the impact scenario. The team did find abundant magnetic spherules. But where did they come from? Was a meteorite the only possible source? "Researchers have only begun to study those magnetic spherules recently, so we still don't know much about them," Haynes said. "What we do know is that they occur in exhaust from vehicles and power plants."

To determine whether the magnetic spherules found at Murray Springs could be of terrestrial origin, Haynes followed a tip from UA Geosciences Professor Anthony Jull, who suggested taking a sample of dirt from the rooftop of his house and examining it under the microscope. Haynes remembers looking at the soil samples on a microscope slide, and "sure enough, there they were -- among all the dust and grains and grit, they appeared like tiny, shiny ball bearings."

"We did confirm the other authors' findings that the magnetic spherules are concentrated in the samples at the Clovis site, but when you study the topography on which the sediments were laid down, you immediately see why: Rainwater washed them down into a river bed, where they accumulated over time. Since this is where the samples with the increased spherule content came from, we were not surprised to find more of the spherules there. The samples we took from the slopes do not have higher than normal concentrations of spherules."

What about the charcoal indicating vegetation burning? "The only places we found charcoal were the campsites of the Clovis people, where they build their fires."

But where could the nanodiamonds come from? Again, Haynes' colleague, Anthony Jull, had the answer. A common ingredient of cosmic dust, nanodiamonds are constantly raining down onto the earth's surface, rendering them unsuitable as unequivocal evidence of an extraterrestrial impact.

"Something happened 13,000 years ago that we do not understand," said Haynes. "What we can say, though, is that all of the evidence put forth in support of the impact scenario can be sufficiently explained by earthly causes such as climate change, overhunting or a combination of both." Does this mean the results obtained by Haynes and his coworkers rule out the possibility of a cosmic event? "No, it doesn't," Haynes said. "It just doesn't make it very likely."

The co-authors of the study are: Jennifer Boerner (formerly at the UA's department of geosciences), Kenneth Domanik, Dante Lauretta and Julia Goreva from UA's Lunar and Planetary Laboratory in the department of planetary sciences and Jesse Ballenger in UA's School of Anthropology

Ancient Comet Devastated the Clovis People?

(PhysOrg.com) -- New research challenges the controversial theory that the impact of an ancient comet devastated the Clovis people, one of the earliest known cultures to inhabit North America.

Writing in the October issue of [Current Anthropology](#), archaeologists David Meltzer, Southern Methodist University, and Vance Holliday, University of Arizona, argue that there is nothing in the archaeological record to suggest an abrupt collapse of Clovis populations.

"Whether or not the proposed extraterrestrial impact occurred is a matter for empirical testing in the geological record," the researchers write. "In so far as concerns the archaeological record, an extraterrestrial impact is an unnecessary solution for an archaeological problem that does not exist."

Comet theory devised to explain apparent disappearance

The comet theory first emerged in 2007 when a team of scientists announced evidence of a large [extraterrestrial](#) impact that occurred about 12,900 years ago. The impact was said to have caused a sudden cooling of the North American climate, killing off mammoths and other [megafauna](#). It could also explain the apparent disappearance of the Clovis people, whose characteristic spear points vanish from the archaeological record shortly after the supposed impact. The findings are reported in the article "[The 12.9-ka ET Impact Hypothesis and North American Paleoindians](#)."

As evidence for the rapid Clovis depopulation, comet theorists point out that very few Clovis archaeological sites show evidence of human occupation after the Clovis. At the few sites that do, Clovis and post-Clovis artifacts are separated by archaeologically sterile layers of sediments, indicating a time gap between the civilizations. In fact, comet theorists argue, there seems to be a dead zone in the human [archaeological record](#) in North America beginning with the [comet impact](#) and lasting about 500 years.

Evidence at Clovis sites doesn't support a disaster scenario

But Meltzer, a professor in the SMU Department of Anthropology, and Holliday dispute those claims. They argue that a lack of later human occupation at Clovis sites is no reason to assume a population collapse. "Single-occupation Paleoindian sites — Clovis or post-Clovis — are the norm," Holliday said.

That's because many Paleoindian sites are hunting kill sites, and it would be highly unlikely for kills to be made repeatedly in the exact same spot. "Those of us who do our research in the archaeology of this time period," Meltzer says, "would actually be surprised if these sites were occupied repeatedly." "So there is nothing surprising about a Clovis occupation with no other Paleoindian zone above it, and it is no reason to infer a disaster," Holliday said.

No evidence of post-comet gap in radiocarbon dating

In addition, Holliday and Meltzer compiled radiocarbon dates of 44 archaeological sites from across the U.S. and found no evidence of a post-comet gap. "Chronological gaps appear in the sequence only if one ignores standard deviations (a statistically inappropriate procedure), and doing so creates gaps not just around (12,900 years ago), but also at many later points in time," they write.

Sterile layers separating occupation zones at some sites are easily explained by shifting settlement patterns and local geological processes, the researchers say. The separation should not be taken as evidence of an actual time gap between Clovis and post-Clovis cultures.

Disappearance more likely a cultural choice

Holliday and Meltzer believe that the disappearance of Clovis spear points is more likely the result of a cultural choice rather than a population collapse. "There is no compelling data to indicate that North American Paleoindians had to cope with or were affected by a catastrophe, extraterrestrial or otherwise, in the terminal Pleistocene," they conclude.

2010 IPCAS Officers, Board Members, and major functions

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MEMBERSHIP APPLICATION - INDIAN PEAKS CHAPTER
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<u>Quarterly new member enrollment</u>	<u>Individual</u>	<u>Family</u>	<u>Student</u>
January-March	\$28.50	\$33.00	\$14.25
April-June	\$21.50	\$24.75	\$10.75
July-September	\$14.25	\$16.50	\$7.25
October-December	\$7.25	\$8.25	\$3.75
<input type="checkbox"/> New	<input type="checkbox"/> Renewal	Tax-Exempt Donation <input type="checkbox"/> \$10, <input type="checkbox"/> \$25, <input type="checkbox"/> \$50, Other _____	
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Please make check payable to: Indian Peaks Chapter, CAS. Mail to: PO Box 18301, Boulder, Colorado 80308-1301

I(We) give CAS permission to :

- Yes No disclose phone numbers to other CAS members
 Yes No publish name/contact information in chapter directory
 Yes No publish name in newsletter (which may be sent to other chapters, published on the internet, etc.)

CODE OF ETHICS

As a member of the Colorado Archaeological Society, I pledge: To uphold state and federal antiquities laws. To support policies and educational programs designed to protect our cultural heritage and our state's antiquities. To encourage protection and discourage exploitation of archaeological resources. To encourage the study and recording of Colorado's archaeology and cultural history. To take an active part by participating in field and laboratory work for the purpose of developing new and significant information about the past. To respect the property rights of landowners. To assist whenever possible in locating, mapping and recording archaeological sites within Colorado, using State Site Survey forms. To respect the dignity of peoples whose cultural histories and spiritual practices are the subject of any investigation. To support only scientifically conducted activities and never participate in conduct involving dishonesty, deceit or misrepresentation about archaeological matters. To report vandalism. To remember that cultural resources are non-renewable and do not belong to you or me, but are ours to respect, to study and to enjoy.

Signature: _____ Signature: _____

CALUMET

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 P.O. Box 18301
 Boulder, CO 80308-1301