

Newsletter of the Indian Peaks Chapter of the Colorado Archaeological Society July, 2009

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**

- July 25 CAS Quarterly Meeting, Durango
- August 6-9Pecos Conference, Lake McPhee Campground near Dolores
- August 18-22 Oregon-California Trails Association Convention (OCTA), Loveland
- September 3 Executive Board Meeting, 7:30
- September 10 Presentation Meeting, Dr. Douglas Bamforth, Topic: Boulder Clovis Cache See the article on page 4.
- October 1 Executive Board Meeting, 7:30
- October 2-4 CAS Annual Meeting, Pueblo, details available later
- October 8 Presentation Meeting, Speaker and topic to be determined
- October 8-11 Ninth Biennial Rocky Mountain Anthropological Conference, Gunnison, See Page 4
- **October 9-12** Morey Stinson IPCAS Rock Art Trip near Moab, Utah
- October 9-12 Utah Rock Art Research Association symposium in Cedar City, UT
- October 14-17 Plains Anthropological Conference in Norman, OK
- October 14 PAAC Perishable Materials (session 1 of 7)
- October 21 PAAC Perishable Materials (session 2 of 7)
- October 28 PAAC Perishable Materials (session 3 of 7)
- November 4 PAAC Perishable Materials (session 4 of 7)
- **November 5** Executive Board Meeting, 7:30
- November 11PAAC Perishable Materials (session 5 of 7)November 12Presentation Meeting, Speaker and topic to be
- determined
- November 18 PAAC Perishable Materials (session 6 of 7)
- November 2 PAAC Perishable Materials (last session)
- **December 3** Executive Board Meeting, 7:30
- December 10 Christmas Party, Details to be determined
- January 6-9 2010 AIA and APA Joint Annual Meeting Anaheim Marriott Hotel, Orange County, CA

Inside This CALUMET Calendar of Events 1 2 Fall PAAC Classes North Park Project Photos 3 Drought/Monsoon Research Mega Droughts 5 Tree Ring Research 6 LUHNA Research 6 Monsoon and Culture 6 Minutes from May BOD 8 Board Members Needed 9 Officers/Board Members 10 Membership Application 10

PAAC Schedule: July–December 2009

July

August

28–30 Craig Prehistoric Lithics Description & Analysis

September

8	Fort Collins	Field and Lab Photography (session 1 of 5)
11–14	Pueblo	Basic Site Surveying Techniques
15	Fort Collins	Field and Lab Photography (continued, session 2)
		Prehistoric Lithics Description & Analysis
22, 29	Fort Collins	Field and Lab Photography (continued, sessions 3 & 4)

October

3	Pueblo	PAAC Board meeting
6	Fort Collins	Field and Lab Photography (end, session 5)
14	Boulder	Perishable Materials (session 1 of 7)
		Research Design & Report Writing
21	Boulder	Perishable Materials (continued, session 2)
22	D	
	Denver	Historical Archaeology (session 1 of 7)
		Historical Archaeology (session 1 of 7) Colorado Archaeology
23–25	Colorado Springs	Colorado Archaeology
23–25 28	Colorado Springs	

November

4	Boulder	Perishable Materials (continued, session 4)
		Historical Archaeology (continued, session 3)
6–9	Cortez	Prehistoric Ceramics Description & Analysis
11	Boulder	Perishable Materials (continued, session 5)
12	Denver	Historical Archaeology (continued, session 4)
13–16	Montrose	Perishable Materials
18	Boulder	Perishable Materials (continued, session 6)
		Historical Archaeology (continued, session 5)
	Alamosa	

	December		
*1-22	Denver	PAAC Laboratory Project	
2	Boulder	Perishable Materials (end, session 7)	
		Historical Archaeology (continued, session 6)	
		Prehistoric Lithics Description & Analysis	
10	Denver	Historical Archaeology (end, session 7)	
11–13	Durango	Rock Art Studies	

*Lab project occurs on intermittent dates at the Museum Support Center in east Denver; call or e-mail for information

This course will take place on Wednesday evenings, at the Foothills Nature Center on north Broadway in Boulder. Total cost for the class remains a \$22 – a true bargain in this economy! Please contact Dave Hawley, IPCAS PAAC Coordinator, to register for the class – at either 303-443-2332, or <u>dave_hawley@comcast.net</u>.

North Park Project Photo Glimpses



The field school, staff, and volunteers are enjoying dinner on the first evening of the project. The meal occurred at the Moose Creek Café in Walden.



The camp. During the first week of the project, it rained (hard) two days, accompanied by severe winds. The tents were protected by a slight rise (from where the photograph is taken) and are well anchored. The camp is placed on a very scenic spot about a half-mile from the excavation/survey area. The two large tents in the middle of the photograph serve as the food/cooking/storage area and the "chat room" for social activities. Portable toilets are down the hill slightly (and downwind definitely) on the far side of the hill from the photographer. It is a convenient camp - close to the work and only a few miles from Walden.

Here are some of the artifacts that were found during the first week of operation.



A large tool excavated by Jamie Jordan, Brianne Bostrom, and Mikayla Quigley in a unit on the north end of the site.



The distal end (tip) of a projectile point.



Kelsey Burd, Dave Hawley, and Nate Clifford are screening material from a unit on the south end of the site. In the background are the site supply tent and the computer lab.



A very small but pretty projectile point tip found by Katy Skibbe.



Remains of a projectile point.



A fragment of a metate.



A mano fragment.

Colorado River Streamflow History Reveals Megadrought Before 1490

ScienceDaily (May 18, 2007) — An epic drought during the mid-1100s dwarfs any drought previously documented for a region that includes areas of Arizona, Colorado, New Mexico, Utah and Wyoming. The six-decade-long drought was remarkable for the absence of very wet years. At the core of the drought was a period of 25 years in which Colorado River flow averaged 15 percent below normal.

The new tree-ring-based reconstruction documents the year-by-year natural variability of streamflows in the upper Colorado River basin back to A. D. 762, said the tree-ring scientists from The University of Arizona in Tucson who led the research team. The work extends the continuous tree-ring record of upper Colorado streamflows back seven centuries earlier than previous reconstructions.

"The biggest drought we find in the entire record was in the mid-1100s," said team leader David M. Meko, an associate research professor at UA's Laboratory of Tree-Ring Research. "I was surprised that the drought was as deep and as long as it was. Colorado River flow was below normal for 13 consecutive years in one interval of the megadrought, which spanned 1118 to 1179. Meko contrasted that with the last 100 years, during which tree-ring reconstructed flows for the upper basin show a maximum of five consecutive years of below-normal flows.

The Colorado supplies water for cities and agriculture in seven western states in the U.S. and two states in northwestern Mexico. Los Angeles, Las Vegas, Denver, Phoenix, Tucson and Albuquerque are among the many cities dependent on Colorado River water. The Intergovernmental Panel on Climate Change predicted in a recent report that the southwestern U.S. will become hotter and drier as the climate warms. Co-author Connie A. Woodhouse said, "We have natural variability that includes this time in the 1100s. If we have warming it will exacerbate these kinds of droughts." The newly documented droughts "could be an analogue for what we could expect in a warmer world," said Woodhouse, a UA associate professor of geography and regional development and dendrochronology.

Meko, who was asked by the California Department of Water Resources to pursue the research, said understanding more about natural variability in the Colorado is important to the region's water managers. "Water managers rely on wet years to refill reservoirs," he said. The team's research article, "Medieval drought in the upper Colorado River Basin," is scheduled to be published online in the American Geophysical Union's journal Geophysical Research Letters on May 24.

Meko and Woodhouse's co-authors are Christopher A. Baisan, a UA senior research specialist; Troy Knight, a UA graduate student; Jeffrey J. Lukas, of the University of Colorado at Boulder; Malcolm K. Hughes, a UA Regents' Professor of dendrochronology; and Matthew W. Salzer, a UA research associate. The California Department of Water Resources, the U.S. Geological Survey and the U.S. Bureau of Reclamation funded the work.

Just about a year ago, Woodhouse and Meko and colleagues published a continuous tree-ring record for the upper Colorado River Basin that went back to 1490, the longest record for the area until now. Other paleoclimatic research had suggested that epic droughts occurred in much of the western U.S. during the Medieval Climate Anomaly of about 900 to 1300, a time when some parts of the world were warmer than now. In addition, tree-ring data from a large network of sites showed that the areal extent of drought in western North America peaked prior to 1400.

Meko, Woodhouse and their colleagues wanted to take a closer look at what happened in the upper Colorado River basin during that time. For the record back to 1490, the scientists took cores from old, living trees and looked at the rings' tell-tale pattern of thick and thin that indicates wet years and dry years. Extending the record further required an underutilized technique, the analysis of logs, stumps and standing dead trees, known as remnant wood. Baisan said, "Everyone was surprised that we could do this."

Woodhouse said, "It's so arid that wood can remain on the landscape for hundreds of years. The outside of

some of our remnants date to 1200, meaning the tree died 800 years ago." The scientists took pencil-thin cores from the living trees and cross-sections of the remnant wood from 11 different sites. The researchers then pieced together the long-term record by matching up the patterns from the cores to those from the cross-sections.

Baisan said, "This is part of ongoing work to try to understand the climate system that creates these patterns. You need the basic data about what happened before you can ask questions such as 'Why were there 60 years of low-flow on the Colorado"" The team's next step is collecting additional samples from the study sites and adding additional study sites in the upper Colorado River basin.

Adapted from materials provided by <u>University of Arizona</u>, via <u>EurekAlert!</u>, a service of AAAS.

University of Arizona Laboratory of Tree-Ring Research

Located at The University of Arizona in Tucson, Arizona, the LTRR was the first laboratory of its kind anywhere in the world, first established in 1937 by the father of dendrochronology, A.E. Douglass. Today, it serves as one of the premier tree-ring research facilities with nearly 90 personnel investigating nearly all topics in dendrochronology. <u>http://www.ltrr.arizona.edu/</u>

Their Web Home Page states, "Current research efforts are directed toward the quantification of tree-ring parameters, the establishment of new tree-ring chronologies throughout the world, the use of tree rings in the study of forest ecosystems, the reconstruction of paleohydrologic and paleoclimatic variables, and the documentation and development of prehistoric chronological controls."

LUHNA Project Southwestern United States

LUHNA (Land Use History of North America) is an ambitious project in which the Laboratory of Tree-Ring Research (with Dr. Thomas W. Swetnam) is involved. The goal of LUHNA is to document the history of land use in various sectors of the United States to provide "clues from the past about our future environment." Dendroecological analyses will play a major role in this project, especially for characterizing changes in the landscape due to wildfires. <u>http://biology.usgs.gov/luhna/</u>

Tree Rings Unravel Influence Of Monsoons On Culture

In the days before railroads and highways filled in local food gaps, the arrival of timely monsoonal rains could have meant the difference between feast and famine for entire villages in America's Southwest. Now researchers can begin to unravel the tale of the monsoon's influence on earlier cultures -- and help us understand monsoonal cycles that influence our own culture -- thanks to a breakthrough at the University of Arizona's Laboratory of Tree-Ring Research. A pilot study by LTRR research specialists David Meko and Christopher Baisan on Arizona's San Pedro watershed indicates tree ring analysis can successfully pinpoint years when the monsoon failed to bring its summer rains to the Southwest.

"It's a pretty striking pattern," explained Meko, who specializes in dendrochronology and hydrology. Dendrochronologists use the annual growth rings of trees to create timelines that can span thousands of years in order to date ancient ruins, answer ecological questions, and reveal climate details otherwise lost to the modern world.

"In this study, we're looking at the ability of a tree-ring network to identify a poor monsoon. And it does that pretty well, from what the results show," Meko said. In fact, all but one of the 14 "dry summers" pinpointed using their technique reflected the instrumental record (1868-1992). They considered a

summer dry if average rainfall for July and August fell below 124 mm (about 5 inches), based upon instrumental records drawn from 39 stations in their region of study, the San Pedro River Basin in southeastern Arizona. Their extrapolation back into 1791 using their tree-ring record picks up another 14 dry summers, including a three-year run of poor summer rains starting in 1822.

The success of this pilot study has encouraged Meko and Baisan to expand their findings. They are constructing a timeline for the Southwest that will show previous episodes of particularly wet summers as well as dry ones. In addition, they are working with other researchers to develop monsoonal tree-ring chronologies for sites in New Mexico and Mexico.

Although their five sites on the San Pedro watershed seem to provide a good representation of the monsoon's overall variability in the southwestern United States, the monsoonal rains that reach Tucson actually represent only the northern tip of a system that stretches deep into Mexico. By knowing more about the patterns of rainfall throughout the monsoon region, scientists hope to better understand this mysterious weather pattern that defines the ecology of the Southwest. Few rainfall gauge records in the southwestern United States go back more than 110 years, Meko noted, while researchers feel lucky when they find even a few decades of such instrumental records near their sites in Mexico.

"This will give us an idea of mechanism behind the monsoon," Meko said. "And anything that helps us understand the mechanism of the monsoon can help us predict future occurrences." Previous attempts to link tree-ring growth to monsoonal rains have been relatively unsuccessful. But Meko and Baisan adopted an approach that differs from earlier efforts in several ways.

First of all, the researchers selected and cored trees fitting a very specific profile: low-elevation pines and Douglas firs known from previous research to have an abundance of "false rings." Second, they honed in on the rings produced during the first century or two of each tree's life, and measured two separate sections of each of these rings. Finally, they used statistical maneuvers to reduce the influence of the previous growth, making summer growth -- or lack of it -- more distinctive.

Many dendrochronologists find false rings a nuisance because their darker color mimics the latewood marking the end of a year's growth. But Baisan had established in a previous project that they could pinpoint the exact year of each ring's formation, whether it contained a false ring or not. As a result, the researchers could view the false rings as a record of the growth slowdown that occurs during the bone-dry late springs typical of the Southwest. Then they could interpret the flush of renewed growth after the false rings as a likely response to summer rainfall.

"These trees are most sensitive to the early monsoon," Meko said. "It's been so dry in the spring before the rains start up that they are primed to respond to whatever happens." Because the dendrochronologists were able to visually divide each tree-ring measurement into two separate parts, Meko was able to set up an equation to remove the impact of early ring growth on late ring width. This reduced confusion that could result, for instance, when vigorous spring growth carried the trees through the rest of the year, making summer growth look normal despite a poor monsoon.

The LTRR researchers weeded out another potential source of confusion by focusing their analysis on what Meko called the "relatively young" portion of the tree: the first 100 to 200 years of their lives. Baisan had previously found the late ring size differences in the Doug firs tended to fade away as the trees reached 200 years or more in age.

"The age of the tree is important because the older trees lose their response," Baisan said. "When they're young, they have false rings typically every year."

The *International Journal of Climatology* (Volume 21, pages 697-708) has a paper describing this pilot study that was published online on April 19, 2001, 04-Oct-2001 at http://www3.interscience.wiley.com/cgi-bin/home?CRETRY=1&SRETRY=0

IPCAS Executive Board Meeting – May 7, 2009 – 7:30PM – 9:15PM

Attendees: Kris Holien, Tom Cree, Cheryl Damon, Joanne Turner, Dave Hawley

Secretary's Report (Hawley): As published in April Calumet. Accepted unanimously.

Treasurer's Report (McComb):

Beginning balance 4/1/09 - \$2670.95; Ending balance 4/30/09 - \$2857.32 Memberships: new 0; renewal 3 Donation: \$20 to Alice Hamilton Scholarship Fund \$230 CAS Grant received IRS 990-N filed for IPCAS

President's Report (Holien):

- <u>Speaker at the IPCAS 5/14/09 Program</u>: Dr. Fred Sellet will present; Dr. Bob Brunswig is unavailable.
- <u>Funding in Support of the 5/14/09 Meeting</u>: Allocation of the CAS Grant: gift card \$50, room rental \$60, and refreshments \$120. Assignments on what to bring to the meeting were agreed. Information on the meeting was sent to the *CAS Surveyor*, Boulder *Daily Camera*, *Calumet* & IPCAS web site, City of Boulder web site, the Office of Archeology and Historic Preservation (OAHP) web site, and *The Hale Herald*.
- <u>The Colorado Archeological Society (CAS) Quarterly Meeting</u>: Was held in Alamosa on April 4 in conjunction with the Colorado Council of Professional Archeologists (CCPA) Annual Meeting. Meeting highlights are cited on page 2 of the *CAS Surveyor*. The next Quarterly Meeting will be in Durango on 7/25/09 (Kris will be unable to attend, so IPCAS needs a representative).
- <u>Frequency of Board Meetings</u>: Feedback from attending Board members was that holding fewer Board meetings, and continuing to exchange emails, was desirable because of busy schedules.
- <u>CAS Confidentiality Policy</u>: Kris sent Board members a clarification on this policy.
- <u>PAAC Volunteer List</u>: Kris will inform Kevin Black of several name deletions.
- <u>Community / Education Outreach</u>: CAS will be supporting an effort to provide support to the Boy Scouts of America (BSA), Denver Area Council, to foster better understanding of the need to prevent vandalism at archeological sites, and also to support earning of the Archeology Merit Badge during BSA summer camp periods.
- <u>Next Board Meeting</u>: To be held on Thursday, August 6, 2009 location TBA

Old Business:

- <u>Survey Opportunity</u>: Pete Gleichman will lead an Upper Rock Creek survey/Boulder County Parks/Open Space/Volunteer Opportunity survey in late May to mid-June (5-7 field days planned, with 3 to 4 persons per day). The area to be covered is approximately 200 acres. Tom Cree will have a sign-up sheet available at the 5/14/09 meeting.
- <u>CU Museum Room Reservations</u>: Cheryl Damon has reserved the Dinosaur Room through May 2010 except for December 2009 and April 2010.

New Business:

- Summer Activities:
 - June 16-23, 2009, Kevin Black will lead a PAAC Summer Training Survey at Antelope Gulch near Salida.
 - June 23 July 16, 2009, with one exception excluding weekends Dr. Bob Brunswig will lead the North Park Excavation Field Season Volunteer Opportunity.

- <u>Fall Activities</u>:
 - Speakers Scorecard: Dr. Bamforth will present on the Boulder Clovis Cache during the IPCAS 9/10/09 meeting.
 - Need presenters for the 10/8/09 and 11/12/09 IPCAS meetings. Several possible speakers were discussed, and Kris will pursue booking them.
 - The CAS Annual Meeting is scheduled for 10/2/09 thru 10/4/09 in Pueblo. Dr. Steve Lekson will be the banquet speaker.
 - The IPCAS Fall PAAC class will be Perishable Materials. Dave Hawley will bring a sign-up sheet to the 5/14/09 meeting. Tom Cree will include the announcement in the July 2009 *Calumet*. The Board requested that Dave research how IPCAS can access complete course materials for the 13 PAAC classes offered by CAS.
 - Morey Stinson is planning a Rock Art Field Trip from 10/9/09 thru 10/12/09 to Moab, Utah. We may want to slip our 10/8/09 IPCAS meeting a week to avoid a conflict with this trip.
 - Possible field trip to the Lindenmeier Folsom Site. Kris will query Jason LaBelle about sponsoring such a trip.
 - Christmas party location the church we used last year (St. Andrew Presbyterian Church) has been reserved.
- <u>Fall 2010 CAS Annual Meeting</u>: IPCAS might be selected to host this Annual Meeting. The decision is expected at the July 2009 CAS Quarterly Meeting. If IPCAS is selected, many volunteers will be needed.
- <u>Officers and Board Members for 2010</u>: Need to start planning Tom Cree will include an article in the July *Calumet*.

Officers and Board Members Needed

November is the month of elections at IPCAS. The club members can be an officer or a representative on the board of directors. Most officers began as directors (to learn how the board and officers operate) and then moved into an officer position. Please consider becoming a board member. Contact Tom Cree if you are interested.



2009 IF	PCAS Officers, Board	Members, and	major functions			
President	Kris Holien	(970) 586-8982	kjholien@aol.com			
Vice-President	Open					
Treasurer	Katherine McComb	(303) 666-7448	kmccomb@comcast.net			
Secretary	Dave Hawley	(303) 443-2332	dave_hawley@comcast.net			
Professional Advisor	Dr. Robert Brunswig	(970) 351-2138	robert.brunswig@unco.edu			
Professional Advisor	Pete Gleichman	(303) 459-0856	pjgleichman@yahoo.com			
PAAC Coordinator	Dave Hawley	(303) 443-2332	dave_hawley@comcast.net			
CAS Representative	Kris Holien	(970) 586-8982	kjholien@aol.com			
Internet Manager	Cyndi Cree	(310) 663-0656	c_cree@hotmail.com			
Archivist/Librarian	Kris Holien	(970) 586-8982	kjholien@aol.com			
Calumet Editor	Tom Cree	(303) 776-7004	tomcree@earthlink.net			
Board Member	Rick Pitre	(303) 673-0272	rpitre9@yahoo.com			
Board Member	Joanne Turner	(303) 494-7638	joanne.turner@colorado.edu cheryl_damon@msn.com			
Board Member	Cheryl Damon	(303) 678-8076	<u>cheryl_damon@msn.com</u>			
Г	MEMBERSHIP APPLICATION	- INDIAN PEAKS CH				
Individual \$28.50	/ Year Family Renewal \$10,\$25,\$50, Other _	\$33 / Year	Student \$14.25 / Year			
New	Renewal					
Tax-Exempt Donation	\$10, \$25, \$50, Other _					
NAME	TELEPHONE	Ε()				
	E-MAIL					
	STATE					
	ble to: Indian Peaks Chapter, CAS					
Mail to: PO Box 1830	1, Boulder, CO 80308-1301					
I(We) give CAS permis	sion to :					
Yes No disc	close phone numbers to other C	AS members				
Yes No pub	blish name/contact information in	n chapter directory				
Yes No pub	lish name in newsletter (which	may be sent to other	chapters, published on the internet, etc.)			
	DE 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						
			ological 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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