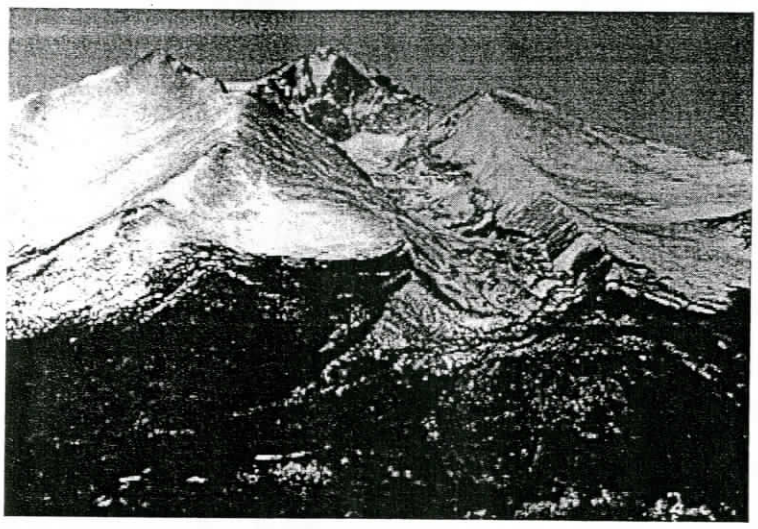
Kornfeld

SIXTH BIENNIAL ROCKY MOUNTAIN ANTHROPOLOGICAL CONFERENCE



Conference Chairpersons:

Bob Brunswig (Dept of Anthropology, University of Northern Colorado)
Bill Butler (Rocky Mountain National Park, National Park Service)

SEPTEMBER 18-20, 2003
ESTES PARK, COLORADO

GENERAL INFORMATION

Registration

All attendees and paper presenters at the conference must be registered. Many participants will have pre-registered and may pick up their information packet at the registration table in the Holiday Inn Foyer area. On-site registrations can be done on the following dates and times:

Thursday, September 18-5:00 to 7:30 PM
Friday, September 19-8:00 AM to 5:00 PM
Saturday, September 20-7:30 AM to 2:00 PM

On-site registration costs are $55 for non-students and $30 for students. The Estes Park Chamber of Commerce will have an information table near the registration table that provides a city map and materials on town restaurants and businesses for conference participants.

Exhibitors and Poster Papers

Book exhibitors and poster papers will be located in the main Foyer area near the registration table.

Thursday Pre-Conference Field Trip

A morning field trip to Trail Ridge locations and the Trail Ridge Game Drive will take place on Thursday, September 18. Participants are asked to meet at the entrance to the Holiday Inn conference motel at 8:00 AM. The bus will leave at 8:30 AM and return by 12:00 PM.

Thursday Athapaskan Material Culture Workshop

An Athapaskan Material Culture workshop will be held in the Holiday Inn Bighorn Room from 1:00 to 5:00 PM on Thursday, September 18.

Thursday's Welcome Reception

A welcome reception will be held on Thursday evening from 5:00 to 7:30 PM, immediately after the Athapaskan workshop. There will be a cash bar and hors d'oeuvres will be served.

Friday's Plenary Session

The conference's plenary session on Athapaskan archaeology and culture will be held throughout the day on Friday, September 19. The session will start at 9:00 AM with a brief introductory welcome followed by convocation by Mr. Clifford Duncan, of the Northern Ute Tribe.

Cancellation of Planned Friday Night Barbeque

The planned Friday night barbeque has been cancelled due to the scheduled restaurant

going out of business.

Saturday's Paper Sessions

The conference's thematic paper sessions will be held throughout the day on Saturday, September 20, beginning at 8:30 AM. The sessions will be held concurrently in three parallel time slots in Holiday Inn salons A, B, and C. Room designations for each session are noted in the following session abstract section. The last session is scheduled to end at 5:50 PM.

Saturday Night Banquet

The conference's Saturday night banquet will be held from 7:30 to 10:00 PM in the Holiday Inn's Salon E/F. Participants will have to purchase tickets no later than 12:00 PM on Saturday. The Banquet speakers' theme is the Lewis Clark Bicentennial. The speakers will be Mr. Gerard Baker, Superintendent of the National Park Service's Lewis and Clark Bicentennial Project and Dr. Ray Wood, University of Missouri.

The RMAC 2003 Conference Proceedings

An electronic proceedings volume of many of the conference's presentations will be published on Compact Disk (CD) in an easily readable Adobe .pdf file format. Purchase of the proceedings, expected out in early 2004, can be done registration for a low cost of $7.50.

ACKNOWLEDGEMENTS

The conference co-chairs would like to thank all those who made the Sixth Biennial Rocky Mountain Anthropological Conference possible. Of particular note are the co-sponsoring agency and institution, the University of Northern Colorado and Rocky Mountain National Park, students of the university's anthropology department, and all the session co-chairs who worked so hard to make the conference successful.

SIXTH BIENNIAL ROCKY MOUNTAIN ANTHROPOLOGICAL CONFERENCE PROGRAM

DAY	TIME	ACTIVITY	ACTIVITY	ACTIVITY
				Note: Book Sales and Paper Posters Will be in the main Holiday Inn Foyer Area
THURSDAY				
September 18	8:30-11:30 AM	Field Trip to Trail Ridge Game Drive and Forest Canyon/Gore Overlooks		Meet at Holiday Inn Entrance at 8:00 AM
	12:00 – 1:00 PM	LUNCH		
	1:00 – 5:00	Athapaskan Material Culture Workshop in Bighorn Room		
	5:00 – 7:30 PM	Registration and Welcome Reception (main Foyer)		
FRIDAY				
September 19	9:00 AM - 5:30 PM	Athapaskan Plenary Session-Salon A/B		
	9:00-9:10	Conference Welcome Convocation		
	9:10-9:30	Le Blanc		
	9:30-9:50	Greer/Hare		
	9:50-10:10	Hare/Greer		
	10:10-10:30	Ives/Rice		
	10:30-10:40	BREAK		
	10:40-11:00	Ives		
	11:00-11:20	Matson/Magne		
	11:40-12:00	Magne/Matson		
	12:00-1:10	LUNCH		
	1:10-	Frick/Welch		
	1:30-1:50	Walde		
	1:50-2:10	Reeves		
	2:10-2:30	Tveskov		
	2:30-2:50	Ormerod		
	2:50-3:10	Loendorf		
	3:10-3:20	BREAK		
	3:20-	Mitchell		

	3:40			
	3:40-4:00	Seymour		
	4:00-4:20	Torres		
	4:20-5:00	Wilcox		
	5:00-5:30	Discussant/Questions		
	5:30 – 6:00	General Meeting - Plan for Next Conference-Salon A/B		
	7:00-930	Open		
SATURDAY				
September 20		Salon A	Salon B	Salon C
		Current Research	Subsistence/ Seasonal	Ethnohistoric Research
	8:30 – 8:50	Fisher et al.	Benedict	Baker
	8:50 – 9:10	Miner	Creer/Van Dyke	Duncan
	9:10 – 9:30	Watkins et al.	Brunswig	Goss
	9:30 – 9:50	Stiger	Lux	Kight
	9:50 – 10:10	Foxworth	Rohe/Kvamme	Elinoff
	10:10 – 10:20	BREAK	Butler	BREAK
	10:20 – 10:40	Brunswig	BREAK	McBeth
			Advances in Tech Applications	
	10:40 – 11:00	Bender et al.	Doerner	Cowell
	11:10 – 11:30	Gilmore	Sullivan/Gilmore	Tratebas
	11:30 – 11:50	Lovata	Black et al.	Ellis
	11:50 – 12:10	Camp	Bentley/Linde	-------
	12:10 – 1:30	LUNCH	LUNCH	LUNCH
		House Pits Session	Advances Tech App (cont)	Uinta Mountains Archaeology
	1:30– 1:50	McClelland	Ferguson/Skinner	Johnson
	1:50 2:10	McKern	Flint-Lacey/Hughes	Loosle
	2:10– 2:30	Plastino	Hoefer/Andrews	Carson et al.
	2:30– 2:50	Smith	Wunderlich/Brunswig	Pitblado

	2:50–3:10	BREAK	BREAK	Loosle/Johnson
	3:10–3:30	Murray/Pastor	MacMillan/Kornfeld	Gardner
	3:30-3:40	Andrews/et al.	Karpinski	BREAK
	3:30–3:50	Pool/Miller	Mrzlack	Knoll
	3:50–4:10	Stiger	Walker	Goff
	4:10–4:40	Round Table Discussion	End of Session	Loosle/Knoll
	4:30–4:50			Johnson
	4:50-5:10			Stertz
	5:10-5:30			Eberlein/Jensen
	5:30-5:50			Merkley/Bailey
	7:30-10:30	BANQUET Cash Bar Starts at 6:30 PM	HOLIDAY INN SALONS E/F	

RMAC 2003 Presentation Titles and Authors (listed by Session)

Plenary Session: Athapaskan Migration in Western North America

Le Blanc. *Athapaskan Archaeology: the View From the Northern Yukon* (abstract on page 9 below).

Greer and Hare. *Precontact Athapaskan Material Culture, A Southern Yukon Perspective* (abstract on page 9 below).

Hare, Greer and Gotthardt. *A Technological Turning Point - Southern Yukon Archaeology 1,200 Years Ago* (abstract on page 9 below).

Ives and Rice. *The Apachean Departure from the Subarctic: I. Linguistic and Human Biological Evidence* (abstract on page 9-10 below).

Ives. *The Apachean Departure from the Subarctic: II: Archaeological Evidence* (abstract on page 10below).

Matson and Magne. *Identifying Athapaskans at Eagle Lake, British Columbia* (abstract on page 10 below).

Magne and Matson. *A New Look at the Intermontane Model of Athapaskan Migration* (abstract on page 10-11 below).

Frick and Welch. *An Intermontane Migration of Athapaskans From Canada to the Southwest* (abstract on page 11 below).

Walde. *Points Are Not People: Avonlea and Athabaskan Migrations* (abstract on page 11 below).

Reeves. *Ancestral Plains Apachean Eastern Slope Migrations from the Western Boreal Forest to the Greater Yellowstone* (abstract on page 11 below).

Tveskov. *Household, Landscape, and Persistent Places: The Pacific Coast Athapaskans* (abstract on page 12 below).

Ormerod. *Comparison of Northern and Apachean Lithic Assemblages* (abstract on page 12 below).

Loendorf. *Rock Art and Southward Moving Athapascans* (abstract on page 12 below).

Mitchell. *Rio Grande Tradition Rock Art of the Upper Arkansas River Basin, Southeastern Colorado* (abstract on page 12 below).

Seymour. *Before the Spanish Chronicles: Early Apache in the Southern Southwest* (abstract on page 12 below).

Torres. *First Contact: Modeling Migrations and Navajo Ethnogenesis* (abstract on page 13 below).

Wilcox. *Restructuring Puebloan Macroeconomies: The Ramifications of Athapaskan Entry to the Southern Plains and the North American Southwest* (abstract on page 13 below).

Advances in Technological Applications: Ancient Environments and Materials Analysis

Doerner. *Paleoenvironmental Interpretations of Holocene Records from Rocky Mountain National Park* (abstract on page 13 below).

Sullivan and Gilmore. *Prehistoric Population Change and Environment in Western Colorado* (abstract on page 13-14 below).

Black, Kalasz, and Fraikor. *The Colorado Petrified Wood Sourcing Project* (abstract on page 14 below).

Bentley and Linde. *Source Analysis of Chance Gulch Lithics* (abstract on page 14 below).

Ferguson and Skinner. *Analysis of a Colorado Obsidian Sourcing Database: Implications for an Early and Permanent Occupation of the Colorado Rockies* (abstract on page 14 below).

Flint-Lacey and Hughes. *Geological Sources of Archaeological Obsidian in the Flint Creek Valley Area, Montana: Revision and Reevaluation* (abstract on page 14-15 below).

Hoefer and Andrews. *Organization of Technology and Raw Material Sources: Evidence from Surface Inventories and Limited Test Excavations, Great Sand Dunes National Monument, Colorado* (abstract on page 15 below).

Wunderlich and Brunswig. *Material Sourcing Studies of Lithic Assemblages in Rocky Mountain National Park: Preliminary Results of the UNC/RMNP Systemwide Archeological Inventory Program* (abstract on page 15 below).

Paleoindians and Beyond: Current Research in the Rocky Mountains

Ethnohistoric Research in Rocky Mountain Regions

Prehistoric House Pits in the Rocky Mountain/Wyoming Basin Region: Definitions, Variability, and the Credibility of Archaeological Interpretations

McKern. *Archaic Way Stations: a Prelude of Things to Come?* (abstract on page 21-22 below).

Plastino. *48BH2968: Housepits, Sunflower Seeds and Bobcat Dens; Multi-threaded Interpretations of Complex Site Formational Histories* (abstract on page 22 below).

Smith. *Hunter-Gatherer Mobility and the Mid-Holocene Housepits of Wyoming* (abstract on page 22 below).

Murray and Pastor. *Living in Tight Spaces: Simulating Social Interaction in Wyoming Basin House Pits* (abstract on page22 below).

Andrews, Martorano and Hoefer. *Late Archaic/Late Prehistoric Archaeological Features: Exploring the Implications of Recent Data from the Great Sand Dunes National Monument* (abstract on page 22-23 below).

Pool, Miller and Metcalf. *The Maxon Ranch Site, Part 2: 2002 Excavations* (abstract on page 23 below).

Stiger. *Nature's Features* (abstract on page 23 below).

Rocky Mountain Seasonal Migration and Subsistence Patterns

Benedict. *Tundra game drives: an arctic-alpine comparison* (abstract on page 23-24 below).

Creer and Van Dyke. *Changes in Prehistoric Wetland Subsistence Strategies at Goshen Island (42UT636), Utah* (abstract on page 24 below).

Brunswig. *Hunting Systems and Seasonal Migratory Patterns through Time in Rocky Mountain National Park* (abstract on page 24 below).

Lux. *Archeological Investigation of Ancient Trails in Rocky Mountain National Park* (abstract on page 24 below).

Rohe and Kvamme. *Modeling Prehistoric Locational Variability in Rocky Mountain National Park* (abstract on page 24 -25 below).

Butler. *Non-Site Archeology in Rocky Mountain National Park* (abstract on page 25 below).

Recent Studies in the Uinta Mountains of Northeastern Utah

Johnson. *When the BAER Hits in the Woods* (abstract on page 25 below).

Loosle. *The Unique Uinta Mountains* (abstract on page 25 below).

Carson, Munroe and Laabs. *Post-Glacial Environmental Change in the Uinta Mountains* (abstract on page 25-26 below).

Pitblado. *2003 Survey for Paleoindian Sites in the Uinta Mountains and Beyond* (abstract on page 26 below).

Loosle and Johnson. *Upland Use by Horticulturalists* (abstract on page 26 below).

Gardner. *The Fremont Storage Facilities and Grain Consumption* (abstract on page 26 below).

Knoll. *Defining Variability: Seasonal Switching, Resource Transportation, and High Altitude Land Use by Semi-Sedentary Farmers* (abstract on page below).

Goff. *Ceramics of the Uinta Mountains* (abstract on page 26 below).

Loosle and Knoll. *Fremont Numic Transitions* (abstract on page 27 below).

Johnson. *Archaeological Sites and Fire-Induced Changes* (abstract on page 27 below).

Stertz. *Archaeology Site Rehabilitation and Conservation: a new emphasis for a changing industry* (abstract on page 27 below).

Eberleien and Jensen. *Tie Hacks of the Uinta Mountains* (abstract on page 27 below).

Merkley and Bailey. *Spanish Gold and Other Uinta Mountain Folklore* (abstract on page 27 below).

Poster Papers

Cummings and Bryson. *Comparison of Pollen Records and Archaeoclimatic Modeling* (abstract on page 28 below).

Kindig. *Dendrochronological and Radiocarbon Dates for the Dismal River Aspect* (abstract on page 28 below).

RMAC 2003 Conference Sessions and Paper Abstracts

Plenary Session: Athapaskan Migration in Western North America

Session Chairs: Martin Magne (Parks Canada)
and R.G. Matson (University of British Columbia)

Discussant: Roy Carlson, Simon Fraser University

Athapaskan Archaeology: the View From the Northern Yukon

Raymond Le Blanc
University of Alberta

Archaeological research in the northern Yukon has established a Late Holocene sequence in the middle Porcupine River drainage extending from at least 3000 years ago to the ethnographic past. This framework is based mainly on the results of excavation of two deeply stratified sites along the Porcupine River (Klo-kut and Rat Indian Creek), supplemented by data from several other sites throughout the general region. The earliest part of the sequence begins with the Old Chief Phase that ends with a distinctive technological break at about 1200 BP. The succeeding Klo-kut Phase, which is generally considered to be ancestral Athapaskan, continues, albeit considerably changed, until contact with Hudson's Bay Company employees in the mid-19th century. Among other things, the post-contact period is marked by the use of sophisticated communal hunting systems including river interception and use of caribou surrounds in upland situations. This scheme, which has been in place since the 1980s, has been amplified by additional research in the 1990s, which will be discussed in this paper.

Precontact Athapaskan Material Culture, A Southern Yukon Perspective

Sheila Greer
Canadian Circumpolar Institute, University of Alberta
Champagne and Aishihik First Nations.

P. Gregory Hare
Yukon Heritage Branch

Excavations at four sites in the south central Yukon (Carcross-Tagish area) have yielded assemblages attributed to precontact Athapaskans. The four sites feature significant "Late Prehistoric" archaeological deposits, i.e., those that lay stratigraphically above the White River ash layer, dated to ca. 1150 years ago - thus allowing researchers a degree of confidence in identifying the (large scale) ethnic group responsible for them. The sites also represent different economic situations from which functionally different types of material culture were anticipated, providing some control for that important variable in assemblage variability. These materials, together with the well preserved bow and arrow hunting tools recently collected from mountain top "Ice Patches with Dung" in the region, which are also being discussed at this conference, present a regional example of precontact Athapaskan material cultural from a northern Cordilleran context. The patterning in this regional assemblage will be reviewed, as the issue of assigning ethnic identity to archaeological collections is discussed and the importance of the Athapaskan migration issue in local research is noted.

A Technological Turning Point - Southern Yukon Archaeology 1,200 Years Ago

P. Gregory Hare
Yukon Heritage Branch

Sheila Greer
Ruth M. Gotthardt
Canadian Circumpolar Institute, University of Alberta
Champagne and Aishihik First Nations.

The period 1200 years ago appears to have been one of dynamic change in the southern Yukon. Within a few generations the bow and arrow replaced the throwing dart, copper metallurgy appeared, antler technology fluoresced while lithic technology apparently was diminished in significance. At about the same time the entire region was blanketed by a thick layer of volcanic ash. How are these events interrelated and what do they have to do with Athapaskan migrations? Recent discoveries of ancient organic hunting implements in alpine ice patches of southern Yukon enable expanded speculation on questions of technological versus cultural change, problems of defining the Athapaskan toolkit and examination of how technological change is represented and interpreted in the archaeological record.

The Apachean Departure from the Subarctic:
I. Linguistic and Human Biological Evidence

John W. Ives
Manager, Archaeology & History (Provincial Archaeologist)
Heritage Resource Management Branch

Alberta Community Development

Sally Rice
Department of Linguistics

University of Alberta

The received wisdom for the history of the Athapaskan language family indicates that the Athapaskan homeland was situated in Northwestern North America. There were two major vectors of dispersal from this homeland: one involving the Pacific Coast Athapaskans, who likely began their divergence prior to 1500 years ago, and a second involving Canadian Athapaskans, perhaps 1250 years ago. The Apachean divergence was likely connected with this second vector. Human biological research (particularly recent investigation of AL*Naskapi and Severe Combined Immunodeficiency disorder) is consistent with the linguistic evidence, and suggests founder effects between Canadian and Apachean Athapaskan populations. As helpful as these scenarios are for those interested in Athapaskan prehistory, linguistic evidence could be refined by illuminating selected sets of vocabulary. As part of a larger comparative study, we examine Athapaskan terms for key technological thresholds, terms characteristic of the plains bison hunting lifestyle, terms for flora and fauna not found in the Subarctic, and kin terms. This comparative study affirms the close ties between Canadian Athapaskan and Apachean languages, and further suggests that the Apachean departure from the Subarctic is consonant with a communal bison hunting lifestyle, took place along Plains and Plains periphery routes, featured relatively great unity of the ancestral speech community, and was not contingent on major technological change.

The Apachean Departure from the Subarctic:
II: Archaeological Evidence

John W. Ives
Manager, Archaeology & History
Heritage Resource Management Branch
Alberta Community Development

Although Athapaskan expansion in Western North America is one of the most dramatic processes in New World prehistory, archaeology has contributed relatively little to a better understanding of this phenomenon. Archaeological characterizations of Apachean heritage rarely provide a causal mechanism for migration, and almost inevitably resort to correlations of Apachean identity with highly visible archaeological cultures or phases (e.g., Avonlea, Besant, Fremont, Promontory), or even specific artifact types (microblades, Kavik points, spurred endscrapers), no matter how refractory the supporting evidence. Cues from the other subdisciplines of anthropology do provide helpful direction on when and where we might look for the archaeological heritage of Apachean ancestors. With these cues in mind, we *can* look for other kinds of structured variability in the archaeological record (e.g., microstylistic variability in projectile point assemblages, raw stone material usage, or patterns in kill events at bison drives). Long regarded as a particularly fluid period of change on the Northern Plains, I argue that the Old Women's Phase was polyethnic at its onset, and that more subtle variability within its material culture contains the evidence not only of Blackfoot heritage, but of Apachean departure from the North.

Identifying Athapaskans at Eagle Lake, British Columbia

R.G. Matson
University of British Columbia

Martin Magne
Parks Canada, Calgary

Three different lines of evidence were used to identify the first occurrence of the Athapaskan-speaking Chilcotin at Eagle Lake, the use of the Parallel Direct Historic Approach, the multivariate comparison of collections and projectile points of "known" ethnicities with those from Eagle Lake, and a more intuitive comparison of collections assigned ethnicities by the first two methods, in addition to using ethnographic information. These approaches and are briefly reviewed and the nicely consistent results given in more detail.

A New Look at the Intermontane Model of Athapaskan Migration

Martin Magne, Parks Canada, Calgary
R. G. Matson, University of British Columbia

The Eagle Lake project reviewed the archaeological, linguistic and ethnohistoric literature for Athapaskan migrations, focusing on the Canadian data. The combined evidence strongly supports a wave-like model of intermontane movements southward through the Interior Plateau of British Columbia and eastward across the subarctic from about 1200 BP. At about 1000 to 800 BP Athapaskan groups had reached southern British Columbia and were using inter-montane regions on their way to the Washington, Oregon and Northern California coasts. Between this time and 600 BP the Apacheans had split, perhaps in the area of western Montana, on their way to the US southwest. Central subarctic Athapaskan movements appear related to most strongly to fur trade processes where Cree were pushing subarctic groups westward, while of fur trade posts were attacting groups southward. Tsuu Tlina (Sarsi) were ranging south, coming into substantial contact with Kiowa Apache who were moving northward at the same time. Meanwhile, the central British Columbia

Chilcotin continued to move southward and eastward at about 400 BP. Our model is one of intermontane movement until the Apachean split, after which Apachean movements appear mainly confined to east of the Rockies.

An Intermontane Migration of Athapaskans From Canada to the Southwest

Paul S. Frick
Jeanne Welch
Athabascan Research
Green Valley, Arizona

For more than a century archaeologists have debated by what route or routes the northern Athabakans reached the southwest. The purpose of this research was to determine if the Athabaskans also used intermontane routes. The research was begun in March of 1997 and is on-going. A total of some 78,267 miles have been traveled thus far. This paper presents some of the findings to-date. Some pertinent data prefaces the main portion of the paper which relates to the field work.

Points Are Not People: Avonlea and Athabaskan Migrations

Dale Walde
Department of Archaeology
University of Calgary

Following the initial discovery and description of Avonlea projectile points from southern Saskatchewan in 1961, a number of researchers have proposed an association between the points and early Athabaskan migrations from the north. This paper suggests that assignment of a single ethnicity to a redefined Avonlea Horizon is problematic and that proposals that Avonlea represents Athabaskan people are even more difficult to sustain. At least two of the ceramic wares associated with Avonlea projectile points have clear antecedents in the Eastern Woodlands. One of those ceramic wares, Rock Lake Net/Fabric-Impressed, first appeared in central Minnesota some 3,000 radiocarbon years ago, well before the proposed southern migration of Athabaskan peoples, and was most probably produced by ancestors of certain Siouan-speaking groups. In southern Alberta, continuities between the Upper Kill and Old Women's Phases in the form of Ethridge Ware suggest that Avonlea Horizon groups there may have been ancestral to present-day Blackfoot peoples. Similarly, participation by local Avonlea Horizon groups resident in southeastern British Columbia in the Top of the World Chert quarrying tradition may suggest that those groups were ancestral to present-day Tunaxa. It seems clear that people from a variety of ethnic backgrounds participated in the Avonlea Horizon and that association of a single ethnic group with the Horizon is improbable. Avonlea Horizon groups formed a number of regional phases and had external relationships with different external groups. Local adaptations are identifiable throughout the area, suggesting long-term residency rather than a migration situation. This interpretation does not necessarily prevent Athabaskans from using Avonlea projectile points but it does not allow Avonlea points to be equated with Athabaskans and strongly suggests that a number of different self-identifying groups, some of them probably identifiable and certainly not Athabaskans, participated in producing the horizon style.

Ancestral Plains Apachean Eastern Slope Migrations from the Western Boreal Forest to the Greater Yellowstone

Brian Reeves
Lifeways of Canada Limited
Calgary, Alberta

In positing a Northern Rocky Mountains Eastern Slope/Plains southward migration of Dene speakers from the Western Boreal Forest of the Peace-Athabasca Drainage to the Greater Yellowstone and beyond 1200 -800 years or so ago, there has been much speculation and inference and little if any direct archaeological evidence. In considering this purported migration one must first review the ancestral Dene archaeological assemblages of the Peace-Athabasca. They are documented and belong to the Middle and Late phases of the Taltheilei Tradition. Avonlea style arrow points do not occur in Late Taltheilei arrow point assemblages, the earliest of which post date by some 200 years the first appearance of Avonlea style points in the foothills grasslands of the Saskatchewan Basin to the south, suggesting that the neighboring Dene did not participate in the Avonlea Horizon and secondly that if a southern Dene movement happened, it was very rapid or took place in Post-Avonlea times as there is excellent archaeological continuity between regional Avonlea and other phases and the ancestral Nitsitapii (Blackfoot speaking) and Haaninin (Arapaho speaking) phases in the Upper Saskatchewan and Missouri drainages. Distinctive Taltheilei quartzite cobble spall based wood and hide working tools have not been found in excavated assemblages from Late Period assemblages or in surface collections along the Eastern Slopes further suggesting that if ancestral Dene did migrate south along the Eastern Slopes it was direct "non stop" to the Greater Yellowstone Region. However there is no evidence as yet of the Taltheilei wood working tool kit or other Dene related artifacts in the known Greater Yellowstone archaeological assemblages of ca. 1200 - 800 years age which include regional Avonlea Horizon phases and other archaeological phases ancestral to the Kiowa and Arapaho. This suggests the migration of ancestral Dene peoples who became the Plains Apache to the Greater Yellowstone was not directly south from the Western Boreal Forest and that it's archaeological expression in the Greater Yellowstone assemblages has yet to be identified. Possibly it will be found in Unita Phase or descendant assemblages which post date these earlier phases with which some of the regional pictograph/petroglyph styles are associated.

Household, Landscape, and Persistent Places: The Pacific Coast Athapaskans

Mark Tveskov
Department of Sociology and Anthropology
Southern Oregon University

The Pacific Coast Athapaskans that live along the coasts and interior valleys of northern California and southern Oregon have recently been the focus of intensive research by anthropologists and contemporary Tribal members. In this paper, I review the context of this research, and, drawing on archaeological data, ethnohistoric accounts, and oral traditions, I offer a reading of how traditional social identities and relations of gender and authority were constructed and contested. Although they shared high population densities, maritime hunting and gathering practices, and hierarchical social arrangements with their Northwest Coast neighbors, individual households retained a fundamental independence. Over millennia, this independence was fostered and maintained at seasonal camps set against an ancestral landscape through fire management and spiritual arrangements with different aspects of the animate and inanimate environment.

Comparison of Northern and Apachean Lithic Assemblages

Patricia Ormerod
University of British Columbia

Lithic assemblages have provided evidence for discerning the arrival of Athapaskan-speaking peoples in new environments (Magne and Matson 1987) but artifact types diagnostic of Athapaskan culture remain elusive. This is to be expected for a people who rapidly adapted from northern boreal (even sub-arctic) hunting and gathering, to plains bison hunting, and to pastoralism and agriculture, supplemented by hunting and gathering, in the Southwest. Although artifact types are not consistent over time and space, do other lithic assemblage characteristics occur in both Northern Athapaskan sites and Apache de Navajo sites in the Southwest? To answer this question, this study investigates, among other characteristics, assemblage size, the thrifty use and reuse of raw materials and tools, and the use of exotic raw materials.

Rock Art and Southward Moving Athapascans

Larry Loendorf
Department of Sociology and Anthropology
New Mexico State University

The Castle Garden Shield Style rock art motif is associated with southward moving Athapascans. The manufacturing process for these figures is distinct, unique, and completely different from other shield figures made at the same time. Identifying a Castle Garden Shield motif is relatively easy and essential to comparing one shield image to another. Castle Garden Style Shields, dated at AD 1100 in Montana, are often decorated with turtles, and quite clearly associated with Athapascan-speakers in New Mexico, dated at AD 1550 and later. The evidence strongly suggests the image is associated with Athapascans who moved south via the Intermountain trails.

Rio Grande Tradition Rock Art of the Upper Arkansas River Basin, Southeastern Colorado

Mark D. Mitchell
Department of Anthropology
University of Colorado
Boulder, Colorado

Rio Grande tradition rock art motifs represent a fusion of ancestral Puebloan, Mogollon and Athapaskan artistic practices. Produced between the fourteenth and eighteenth centuries and distributed from southern Colorado to southern New Mexico, Rio Grande tradition images are indicative of sustained and pervasive inter-societal contact across a broad region. In the upper Arkansas River basin of southeastern Colorado, motifs related to the Rio Grande tradition—including horned anthropomorphs, shield-bearing warriors, masks, weapons and numerous animal figures—are thought to be the product of sixteenth and seventeenth century Plains Apache artists. Recent research conducted in the region has helped to define the content and expression of this art. The results of this work also demonstrate that the authors of these images were active and experienced participants in a complex regional system.

Before the Spanish Chronicles: Early Apache in the Southern Southwest

Deni J. Seymour, Ph.D.

Until now, evidence of the early Apache in the southern Southwest has evaded identification archaeologically, just as this group avoided contact with the early Spaniards. Examination of collections, review of the pan-regional literature, preparation of behavioral models, and focused fieldwork in portions of the southern Southwest (New Mexico, West Texas, and Arizona) have led to the definition of the Cerro Rojo Complex. This complex includes a flaked-stone assemblage, architecture, and ceramics that are distinctive from the prehistoric pattern and from other contemporary Protohistoric manifestations. Dates indicate a presence from at least the fifteenth century, and perhaps earlier. Small single-component sites provide verification of the associations and large multi-cultural sites with nearly 300 features provide a suite of corroborative data.

First Contact: Modeling Migrations and Navajo Ethnogenesis

John Torres, Curator
Museum of Indian Arts & Culture
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The uses of GIS, theoretical ecology, lifeform, and other computer modeling software have become more sophisticated over the last decade. Some of the current uses have been as predictive tools for the timing and routes for various human migration including out of Africa; peopling of the new world; the spread of agriculture into the American southwest; and the southern Athabaskan migration. Combined with archaeological and linguistic evidence, this paper explores their potential use in predicting the birth of a people by modeling when and where first contact occurred. It was the adaptation of cultural attributes from these other first-contact-people that created a new southern Athabaskan group: the DinÈ.

Restructuring Puebloan Macroeconomies: The Ramifications of Athapaskan Entry to the Southern Plains and the North American Southwest

David R. Wilcox
Albuquerque, New Mexico

After 150 years of effort in the archaeology of the North American Southwest, and especially since the intensive effort of the last 30 years of archaeological survey, it is time to map out what has been learned about settlement systems across all of this large area. Accordingly, a database of over 3500 sites and over 6000 components has been assembled in a geographic information system that allows us to construct a series of maps for each fifty-year period from A. D. 1200 to 1600 showing all known sites with 13 rooms or more keyed out into four size classes: hamlets and small, medium and large villages. A clear structural division into the northern and southern Southwest is apparent with five zones of connectivity, all of which are severed by A. D. 1400, after which the southern Southwest apparently redeployed into Opata and Pima Bajo settlements in Mexico. Just at that moment, ca. A.D. 1450, the northern Southwest experienced the beginning of the dog-nomad trade, and a new Puebloan macroeconomy was created which profoundly affected the settlement-system trajectories of both the competing Puebloan groups and the Athapaskan and other hunter-gatherers with whom the Puebloan futures had become entertwined.

Advances in Technological Applications: Ancient Environments and Materials Analysis

Session Chair: James Doerner (University of Northern Colorado)

Paleoenvironmental Interpretations of Holocene Records from Rocky Mountain National Park

James Doerner, Ph.D.
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University of Northern Colorado
Greeley, Colorado

Reconstructing and interpreting past environmental change is essential for understanding the rich cultural history of human activity in Rocky Mountain National Park. This paper attempts to document the extent and manner in which the vegetation and climate in the Park has changed during the last 10,000 years. This research is part of an inter-disciplinary project designed to reconstruct the paleoenvironmental history of the region and determine the impact the environment had on former inhabitants of the area. Palynological and biogeochemical data obtained from multiple sediment cores provides a proxy record of paleoenvironmental change. This record serves as a basis for interpreting past human occupations in the park. Sediment cores often contain a wealth of paleoecological and geomorphic information, which can illuminate climatic and climate-linked environmental change. Special attention is paid to the link between climatic change and its reflection in the vegetation and depositional record. Cores from multiple sites in the Park were analyzed for fossil pollen, magnetic susceptibility, organic carbon content (LOI), and bulk density. Numerous high-precision AMS age determinations provide chronological control for this study.

Prehistoric Population Change and Environment in Western Colorado

Donald G. Sullivan, Ph.D.
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University of Denver

Fluctuations in prehistoric population are often correlated with changes in paleo-environment. In this paper we present evidence of prehistoric population dynamics from western Colorado and suggest possible links between fluxes in population and environmental change. Using the summed probability distribution of calibrated radiocarbon dates from archaeological sites in the Colorado River Basin as a proxy for prehistoric population, we present data on prehistoric population changes from western Colorado, and relate them to high-resolution multi-proxy evidence of

paleoenvironmental change. Paleoenvironmental evidence comes from palynology and biogeochemical analysis on sediment cores obtained from lakes and fens on Grand Mesa, in western Colorado. Results indicate that Holocene climate has been dynamic with significant temperature fluctuations. Humification analysis of peat suggests that temperature and effective moisture were inversely correlated throughout much of the Holocene. We believe these changes in paleoenvironment are linked to changes in the size and distribution of population and changes in the character of prehistoric cultural adaptations throughout the region.

The Colorado Petrified Wood Sourcing Project

Kevin Black
Colorado Historical Society

Stephen Kalasz
Centennial Archaeology, Inc.

Fred Fraikor, Ph.D.
Craig Simmons, Ph.D.
Colorado School of Mines

A cooperative project is well underway between geologists from the Colorado School of Mines (CSM) and archaeologists representing the Colorado Council of Professional Archaeologists (CCPA), to collect and analyze petrified wood samples from sites in the mountains and plains of Colorado. This pilot program is in part based on promising results from an earlier study conducted by a CSM student. The objective is to conduct geochemical trace element and microscopic cell structure analyses on both cultural (debitage) and non-cultural (natural) specimens, to evaluate both the chemical variability of agatized wood outcrops and the feasibility of using geochemical signatures to identify the provenance of petrified wood artifacts. If successful, this technique could help archaeologists identify the geographical source of petrified wood used to make flakes and tools in much the same way as is currently done with obsidian. This report will present data on the sampled localities, SEM microscopic and ICP–AES trace element results to date, and plans for additional research.

Source Analysis of Chance Gulch Lithics

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Kandus Linde
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Logan, Utah

Preliminary analysis of lithic debitage from the Chance Gulch site (5GN817), a late Paleoindian campsite located in Gunnison County, Colorado, suggests that occupants utilized local raw material sources. Macroscopic, microscopic and ultraviolet fluorescence analyses performed on comparative samples procured from local sources and lithic debitage from the site will test this assumption. The goal of this paper is to understand local raw material preference and use by the Chance Gulch occupants.

Analysis of a Colorado Obsidian Sourcing Database: Implications for an Early and Permanent Occupation of the Colorado Rockies

Jeff Ferguson
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University of Colorado-Boulder

Craig E. Skinner
Northwest Research
Corvallis, Oregon

Colorado represents an ideal setting to study large-scale trade of obsidian used for the manufacture of stone tools. States further to the west contain abundant local sources and states to the east contain extremely small numbers of obsidian artifacts. Colorado is a perfect middle ground with sufficient obsidian artifacts that derive from at least eight western states and more than 20 chemically distinct sources. The patterns in the distribution of obsidian within Colorado, as determined by trace element analysis, suggest permanent occupation of the Colorado Rockies that dates back to at least the Early Archaic with strong cultural ties to northern New Mexico. A discontinuity in the obsidian procurement pattern at approximately the Colorado-Wyoming border hints at a deep cultural boundary between the southern and central Rockies.

Geological Sources of Archaeological Obsidian in the Flint Creek Valley Area, Montana: Revision and Reevaluation

Patricia R. Flint-Lacey
Flint Research

Richard E. Hughes
Geochemical Research Laboratory

Twenty obsidian artifacts from four archeological sites in the Flint Creek Valley area of Western Montana were recently reanalyzed to determine their geological source. The artifacts had been subjected to X-ray fluorescence analysis in 1982 with mixed results because of small sample size and evolving analysis techniques (Flint and Sappington 1982). The purpose of this report is to correct the previous analysis in light of more advanced techniques in X-ray fluorescence and identification of obsidian sources. With a few exceptions, the artifact-to-source (chemical type) assignments differ from those advanced for the same artifacts in the earlier study. Most of the obsidian specimens (70 percent) had their geological origin in Bear Gulch, Idaho, about 200 miles southeast of the Flint Creek Valley, just across the state line from the Montana Centennial Valley obsidian source. The Bear Gulch, Idaho obsidian was found at all four sites.

Organization of Technology and Raw Material Sources: Evidence from Surface Inventories and Limited Test Excavations, Great Sand Dunes National Monument, Colorado

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RMC Consultants, Inc.
Lakewood, Colorado

Bradford Andrews
Penn State University
University Park, Pennsylvania

A number of factors influence the organization of prehistoric flaked stone tool technology, including mobility patterns and raw material availability and quality. Research conducted over the past three years on the Great Sand Dunes Eolian System Anthropological Project has revealed some interesting patterns of stone tool manufacture, use, maintenance, and discard. The Great Sand Dunes area lacks suitable raw materials to manufacture flaked stone tools. Quartzite sources are located 30 km to the east in the Wet Mountain Valley, and chert and basalt sources are located 60-80 km to the west and south in the San Juan Mountains and on the Taos Plateau. Obsidian sources are located 220 km to the south in the Jemez Mountains. This paper examines the differential use of quartzite, chert, basalt, and obsidian materials. Differences in the types of tools, modifications of the tools, and types of flaked lithic debris produced from each material type are believed to relate primarily to raw material availability and quality, and secondarily to aspects of the settlement system.

Material Sourcing Studies of Lithic Assemblages in Rocky Mountain National Park: Preliminary Results of the UNC/RMNP Systemwide Archeological Inventory Program

Robert Wunderlich and Robert Brunswig, Ph.D.
Department of Anthropology
University of Northern Colorado

Several thousand artifacts, consisting of diagnostic projectile points, tools, and lithic debitage, were collected from 400+ sites during UNC Surveys of Rocky Mountain National Park from 1998 to 2002. The sites represented all known cultural periods for the north central Colorado Rockies. All lithic assemblages were analyzed for material types and sources using an expanded, pre-existing UNC lithic comparative collection in macroscopic, microscopic and ultra-violet light analyses and limited utilization of trace element sourcing of obsidian and petrified wood artifacts. Preliminary results of the study show the presence of patterned variation in lithic source material use through time, but also strongly supporting a model of inner mountain procurement and occupation systems related to extensive use of mountain-based lithic sources since earliest Paleoindian times.

Intra-site Occupational Diversity: An Examination of Expedient Stone Tool Technology at the Hell Gap Site, Wyoming.

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U.S. Forest Service
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Marcel Kornfeld
Department of Anthropology
University of Wyoming
Laramie, Wyoming

Hell Gap, a multicomponent Paleoindian site in eastern Wyoming, presents a rare opportunity to compare intra-site diversity in Paleoindian technology and behavior through time. Unlike most Paleoindian sites that represent single occupations, Hell Gap provides an expansive timeframe of cultural and environmental data. To compare components within a single site, baseline information about the composition of the components must be obtained. Our analysis characterizes the activities associated with each of the Paleoindian components at the Hell Gap site by quantifying the diversity of expediently produced flaked stone tools from the Goshen, Folsom, Agate Basin, Hell Gap, Alberta, Cody, and Frederick components excavated from Locality I of the site between 1962 and 1966 by the University of Wyoming and Harvard's Peabody Museum. A three-step analysis of the tool's edges was implemented, enabling evaluation of site function. The result of this analysis is a development of the Robinson coefficient, an attribute-based measure of assemblage similarity. The quantification allows for both a specific and a general comparison of site function within and

between the site's occupations. Significant trends are seen in the tool composition that are not functions of temporal or stylistic factors but are instead reflective of the occupant's activities and site use. The results both support and contrast with previous characterizations of the site's occupational diversity.

Typological Affiliation of Projectile Points
Recovered from Southwestern Wyoming.

Mark Karpinski

One of the fundamental problems faced by archaeologists examining archaeological surface deposits in southwestern Wyoming is establishment of their time depth. Regional projectile point chronologies are frequently utilized to date surface deposits, but in southwestern Wyoming archaeologists often have to ask the question, which typology should they use? Stratified subsurface sites have produced points attributable to Great Plains, Great Basin and even Mountain Tradition typologies. In this study we examine whether or not Great Basin point types are present in southwestern Wyoming. We compared 328 projectile points found in surfaces sites within the Moxa Arch area of the Green River Basin to the Great Basin chronology developed by Thomas (1981) for the Monitor Valley of Nevada. Using attribute measurements developed by Thomas the data were subjected to multivariate data analysis to see if any statistically valid similarities existed. The results indicate that few statistical similarities exist between projectile points from Moxa and Thomas's typology. While the results do not completely negate the existence of Great Basin point styles in southwestern Wyoming, but they do provide insight into how future studies could be oriented to define the region's projectile point chronology.

The Cultural Chronology of the Rio Grande Basin: A Preliminary Analysis

Heather Mrzlack
RMC Consultants, Inc.

To date a cultural chronology for the Rio Grande Basin of southern Colorado is nonexistent. The following analysis is the first attempt at building a prehistoric chronological record of this area. This paper addresses several sites investigated during the Great Sand Dunes Eolian System Anthropological Project during the 2000 and 2001 field seasons. Cultural affiliation and/or temporal intervals were assigned based on the presence and interpretation of diagnostic indicators including ceramics, projectile points, radiocarbon dates, dendrochronology, and sediment ages. Radiocarbon dates are compared with results from adjacent regions, including the Western Slope and Gunnison Basin of Colorado and Northern New Mexico. The combined analyses show a wide chronological range of occupation from the Paleoindian period, through the Archaic and Late Prehistoric periods, and into the Protohistoric.

Geophysical Archaeological Surveys at Fort Laramie National Historic Site

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Wyoming State Archaeologist's Office

Steve De Vore
National Park Service

The first geophysical archaeological survey at Fort Laramie National Historic Site was in 1949, when attempts were made to locate Fort John using mine detectors. Over the past 10 years, several more sophisticated geophysical survey projects were conducted over the main fort area, usually related to specific CRM related projects for maintenance activities by the Park Service. The past two field seasons has seen the first comprehensive geophysical survey conducted on the fort. Between the two summer projects, almost all of the main fort area has now been mapped using a gradiometer. Because of soil and other stratigraphic conditions, lesser areas have been covered with metal detectors, soil resistance and soil conductance surveys. The surveys have again demonstrated the feasibility of using geophysical remote sensing procedures on such historic sites. Limited testing of selected anomalies in 2003 identified specific features first recorded by the geophysical survey, including stone lined wells, trash dumps, fortification ditches, and homesteader era foundations.

Paleoindians and Beyond: Current Research in the Rocky Mountains

Session Chairs: Robert Brunswig (University of Northern Colorado)
and Bonnie Pitblado (Utah State University)

Archaeology in the Bridger Mountains, Montana

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Montana State University-Bozeman

Walt Allen
U. S. Forest Service
Gallatin National Forest
Bozeman, Montana

Robert Donahoe
Bozeman, Montana

Molly Casperson
Montana State University-Bozeman

Archaeologists from the Gallatin National Forest and Montana State University-Bozeman are engaged in ongoing, long term, cooperative investigations in the Bridger Mountains, southwestern Montana. This cooperative project has two major objectives: to investigate questions of anthropological interest concerning prehistoric use of the Bridger Mountains by ancient Native Peoples, and to develop strategies and methods for meeting stewardship needs for heritage resources. Archaeological sites are common in subalpine basins high in the Bridger Mountains. A variety of site types occur in that setting, including seasonal base camps and specialized sites of various kinds. Prehistoric archaeological materials span the Paleoindian through Late Prehistoric periods, with the Middle Prehistoric Period apparently dominant. To investigate more fully the use of the Bridger Mountains by ancient peoples, comparisons are made to archaeological sites located at the edge of the broad valley adjacent to the base of the west flank of the Bridger Mountains. These comparisons reveal both similarities and differences between sites in high basin and those at the base of the mountains. Future investigations in the Bridger Mountains will include developing methods to monitor over multiple years the impacts of present-day natural and human processes and activities on heritage resources.

Paleoindian to Pottery: A Prehistoric Site District in Sublette County, Wyoming

Therese L. Miner
Current Archaeological Research, Inc.
Rock Springs, Wyoming

In the 2000 field season, Current Archaeological Research recorded a group of sites in the Jonah Gas Field near Pinedale, Wyoming, that resulted in the definition of Prehistoric Site District 48SU4000. Encroaching well field development poses a threat of vandalism to rare and significant cultural resources through increased access of the area to the public. The district is situated around a system of bedrock outcrop ridges that create numerous rock-sheltered areas. The site areas are dense with surface cultural material scatters including five site localities with a prehistoric ceramic presence, two of which contained approximately 500 sherds each. Other rare artifact classes are represented in the site district including two projectile points typed to the Paleoindian Period. A wide range of activities are implied by the broad representation of cultural material and feature types documented thus far that include toolstone procurement, tool manufacture, floral and faunal resource processing, pottery use and possible manufacture, habitation, hunting, trade, communal meeting and ceremonial activities. Test units placed in collapsed rock shelters confirmed the existence of substantial cultural deposits. A significant potential in the site district for preserved Paleoindian deposits, otherwise perishable organic cultural material, possible human interments and data relevant to paleoecological reconstruction is indicated by this initial inventory and limited testing.

Fremont Socio-politics: The Parowan Valley Archaeological Project

Christopher N. Watkins
Cady Waldrom
Emily Wise

The archaeological significance of the Parowan Valley has been recognized since the earliest historic settlement of Southern Utah. Brigham Young's initial observations were followed by those of Beckwith and initial excavations by Montgomery and Judd. UCLA dug in the Parowan Valley for ten seasons from 1954 through 1964. Later the University of Utah and Southern Utah University conducted intensive excavations. Despite the many years of excavation in the valley, few detailed reports and no synthesis work are available in the literature. The Parowan Valley is critical to the understanding of Fremont social complexity; two of the three status burials discovered in Utah came from the Parowan Valley. The aim of the Parowan Valley Archaeological Project is the analysis of existing Parowan Valley collections, and the publication of a detailed report and synthesis. These findings will be integrated with extant Fremont data and will be utilized in a re-examination of Fremont sociopolitical structure, community planning and interaction, and other socio-political issues.

Fluted Point Sites in Colorado:
the Mountaineer Site, the Gunnison Basin, and Beyond

Mark Stiger, Ph.D.
Professor of Anthropology
Western State College
Gunnison, Colorado

Archaeological sites that have yielded Clovis and Folsom points are unevenly distributed across Colorado. Archaeologists have described what they assumed to be the distribution and they have explained the pattern from a culture-historical perspective. This paper will describe the Folsom camp excavations at the Mountaineer Site near Gunnison in western Colorado, and fit this site into a regional and statewide pattern.

Animals move to lower elev in winter from high (up to 14,000) peaks & ridges Binford's storage threshold temperature inversion keeps animals and people above the basin!

Topography, Temperature, Snow and Solar Radiation: A Broad Scale, Landscape Analysis of Hunting Tactics and Seasonal Adaptation within the Gunnison Basin

Robert Foxworth
Department of Anthropology
Southern Methodist University

Previous discussions concerning the game drives and hunting blinds in the Gunnison Basin have focused on the placement of these facilities with respect to the variability in topography, environment, diversity among ungulate species and animal behavior. On closer inspection, expansion of these variables may help to illuminate patterns of prehistoric seasonal subsistence adaptation. Patterns of seasonal ungulate aggregation and disaggregation, received solar radiation, and the potential for temperature inversions are examined to develop a model for the placement and seasonal activation of these hunting facilities within the Gunnison Basin.

Paleoindian Colonization of Colorado's Southern Rockies: new evidence from Rocky Mountain National Park and adjacent areas

70+% use of local materials for tools

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Department of Anthropology
University of Northern Colorado

The University of Northern Colorado recently completed a five-year program of extensive surveys in Rocky Mountain National Park. An important element of that investigation was to determine the time frame and nature of the park and its region's earliest occupations. Results of the project show that colonization of the local mountain territories dates to Clovis times (11,300 BP) and accelerated dramatically in Late Paleoindian times (9500-7500 BP) with a major warming trend after the Younger Dryas climatic episode. To date, more than sixty Paleoindian projectile points and thirty eight sites have been identified within the present boundaries of Rocky Mountain National Park. The composite archaeological and environmental data from those sites and others in adjacent mountain territories show a pervasive pattern of indigenous mountain adaptation throughout the Late Paleoindian periods, evolving from earlier Clovis populations who appear to have already begun systematic exploitation of inner mountain resources by 11,300 BP.

Towards an Integrated Prehistory of Colorado's South Park

Susan Bender, Ph.D.
Swarthmore College

Thomas Lincoln
Edward Friedman, Ph.D.
University of Northern Colorado

Lori Tigner
Front Range Community College

Although the largest of Colorado's intermontane "parks", South Park is poorly represented in regional prehistory. Relatively little information about the area is included in the professional literature, and South Park is clearly under represented in State site files. Seeking to redress this oversight, especially in the emergent area of Mountain Paleo-Indian traditions, the South Park Archaeological Project was begun in 2001. The first three seasons of Project fieldwork have focused on site identification and description through survey, limited surface collection, and documentation of collections made by local residents. The over 150 new archaeological sites that have been recorded in survey of approximately 5,000 acres, attest to the fact that sustained investigation of South Park can contribute significantly to developing understandings of prehistoric settlement in Colorado's parks. This paper presents initial findings derived from the Project's fieldwork program, paying particular attention to the major spatio-temporal patterns in artifact distribution that have been identified for South Park.

Way Down Upon the South Platte River: Southern Avonlea Manifestations in Colorado and a Population-based Scenario for Athapaskan Migration

Kevin Gilmore
Archaeological Research Institute
University of Denver
Denver, Colorado

Most archaeologists consider the Avonlea complex (ca. A.D. 100-1200) the archaeological manifestation of prehistoric Athapaskan occupation of the northwestern Plains. The Navaho and Apache are descendants of Athapaskans that migrated from this area ca. A.D. 1100-1200 and arrived in the southern Plains and Southwest prior to A.D. 1550. The timing and impetus for this migration are incompletely understood, and there is little physical evidence south of Wyoming to indicate the route taken. However, evidence from the Bayou Gulch site in central Colorado suggests that some of these migrants passed through the western High Plains close to the foothills. Projectile points morphologically similar to Avonlea points and manufactured from local materials were recovered from stratigraphic contexts dated A.D. 1010-1420.

Migration through the area at this time was probably uncontested; evidence suggests that population on the western High Plains was at a 1300 year low. This suggests a scenario in which Athabaskan migrants moved through the area between the 13th and 15th centuries relatively unimpeded by the large resident populations of previous centuries. A rapid migration of relatively small groups could help explain the paucity of physical evidence of pre-Dismal River Athapaskans between the northwestern Plains and the southern Plains and Southwest.

The Role of Authenticity in Our Relationship with the Past:
The Fake Anasazi of Manitou Springs, Colorado

Troy Lovata
University of New Mexico

For nearly 100 years visitors have made their way to Manitou Springs, Colorado, at the foot of Pike's Peak, to tour a set of Anasazi Cliff Dwellings. Few realize that these ruins lie well outside the range of the Anasazi and that they are touring a site upon which Puebloan ancestors never tread. Dismissed by many professionals as, at best, a tourist trap, this site was actually constructed by some of Anthropology and Archaeology's biggest and honored pioneers. Examination of the Manitou Springs Cliff Dwellings offers insight into the role authenticity and authority play in the study of the past, the relationship between professional Anthropologists and a public audience, and the striking differences between preservation, explanation and re-creation.

Archaeology, Why it Rocks: an educational video for 5th Graders

Beth Ann Camp
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Logan, Utah

Many archaeologists are seeking new ways to educate young people. Through funding from the Colorado Historical Society-State Historical Fund and Utah State University, I created a video to teach 5th grade students about archaeology. The video introduces students to artifacts, features, excavation methods and lab activities based on work at the Chance Gulch late Paleoindian site located near Gunnison, Colorado. Students also learn how one becomes an archaeologist, and who does archaeology professionally and avocationally. The video is a "kids teaching kids" production with 5th graders as narrators and educators of their peers. An accompanying CD-Rom contains additional educational materials and activities for students and teachers.

Ethnohistoric Research in Rocky Mountain Regions

Session Chairs: Sally McBeth (University of Northern Colorado)
and Louise Elinoff (Stanford University)

Ethnohistorical Perspectives on the Tabeguache
and Omar Stewart's "Eastern Utes"

Steve Baker
Uncompahgre Valley Ute Project

Over the past twenty years the Uncompahgre Valley Ute Project has conducted extensive research on the ethnohistory of the Tabeguache and Uncompahgre Ute bands of west-central Colorado. The late Omer Stewart's works remain the primary ethnohistorical references on the Utes of Colorado and he encouraged and assisted the author in building from his work as summarized in his ca. 1973 manuscript "The Ethnography of the Eastern Ute" and his 1971 Ethnohistorical Bibliography of the Ute Indians of Colorado. This paper reconsiders some of Stewart's views on the Eastern Ute in light of original source materials which he did not have, including the 1765 diaries of Juan Rivera. The paper will address new perspectives on band distinctions, political structure, territories, historic trade and culture change, the acquisition of the horse and other topics.

Ethnohistory and Archaeology of Colorado's Ute Trail: Voice of the Elder

Clifford Duncan
Northern Ute Tribe

Ethnohistory and Archaeology of Colorado's Ute Trail: Voice of the Anthropologist

James Goss, Ph.D.
Department of Anthropology
Texas Tech University

Ethnohistory and Archaeology of Colorado's Ute Trail: Voice of the Heritage Manager

Bill Kight
White River National Forest

U.S. Forest Service

The White River National Forest Ute Trail and Ute Lifeways Heritage Project is now entering its 15th year. This model cooperative program involves Ute Indian elders, scholars, agency personnel, volunteers, and students. The project has focused on understanding traditional ways that the Ute People view and relate to their Colorado Mountain Homeland. It has involved cooperative research and its application to a Ute Lifeways Environmental Education experience in the Flattops Wilderness in the White River National Forest. The project is exploring the potential for interpreting complex adaptations of Ute people to their mountain homeland over many generations. It has resulted in important meanings and values for the Ute people and contributed to the preservation of their cultural identify and their ties to their traditional landscape. It has resulted in varied meanings and values for the involved scholars, environmental specialists, and Forest Service managers responsible for the stewardship, protection, and publication interpretation and education of Ute mountain homeland heritage resources. The three presenters will provide different perspectives on the project. The Ute elder will tell his story first, followed by the anthropologist, and ending with the Forest Heritage Resource Manager. The three perspectives will integrate important information on the Ute experience in their sacred, traditional mountain homeland.

Archaeological, Ethnographical and Ethnohistorical Research: A Multi-Theoretical and Methodological Approach to Understanding Human Past of the Rocky Mountain National Park Region

Louise Elinoff
Department of Cultural and Social Anthropology
Stanford University
Stanford, California

Recent archaeological, ethnographical and ethnohistorical research, including collaboration with Native Americans, indicate the entire Rocky Mountain National Park is well-represented by Northern Ute material culture and cultural features, including: Ute ceramics, wickiups, peeled trees, and rock structures. These cultural and ethnographic resources encompass Northern Ute practices, memories, experiences, and attitudes regarding the Park. With specific attention to archaeological stone features and oral narratives, I have sought to elicit the latter characteristics to gain a richer insight and better understanding of the contemporary and ancestral Northern Ute cosmology and religion, particularly, the complex behavioral and moral relationships between the Northern Ute and their sacred symbolic landscape—their homeland—the RMNP region.

Emerging Themes in an
Indigenous Cultural Interpretation of Rocky Mountain National Park

Sally McBeth, Ph.D.
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University of Northern Colorado
Greeley, Colorado

This presentation will explore a cooperative and collaborative oral history and cultural interpretation project between the National Park Service (Rocky Mountain National Park) and the Ute and Arapaho Tribes. The National Park Service is responsible for scores of sites and artifacts that are central to Native peoples' cultural identity and survival. The concern that many oral histories and stories of mountain life were being lost led to a series of consultations with members of the Ute and Arapaho tribes that was begun in 2001. This presentation will examine some of the common cultural, spiritual, and historical themes that have emerged during the first two years of this project.

Ethno-topography: Northern Arapaho Place Names in Northern Colorado

Andrew Cowell
University of Colorado-Boulder

This paper will examine a list of over 120 Arapaho place names compiled for Colorado and southern Wyoming, concentrating on the area around Rocky Mountain National Park. The names can be classified both linguistically and culturally (based on whether they refer to plants, animals, human use, human history, mythology, and so forth), as well as by the type of landform they are applied to. These classifications reveal that the Northern Arapaho of the nineteenth century conceptually organized the landscape: names with reference to sacred mythology tended to be assigned to mountains, for example, while names referring to human use tended to occur most often for lowland sites. In addition, the various names used on the landscape have very close connections to sacred Arapaho decorative motifs used in painting, quillwork and beadwork. Furthermore, the material items themselves often constituted semi-abstract maps or narratives of the Arapaho world. Thus Arapaho ideology and traditional narrative, material culture, and landscape toponymy can be seen to form part of an intimately connected single whole. In particular, notions of temporal evolution and ontological distance from the time of creation are inscribed elevationally and spatially onto the landscape.

Antelope Trapping in the Black Hills

Alice M. Tratebas
Bureau of Land Management
Newcastle, Wyoming

Antelope trapping on the Little Missouri River in northeastern Wyoming is well documented in ethnographic and historical accounts. The most recent documented use was by two bands of Suhtai and Cheyenne during the winter of 1865-1866. Initial surveys of the Little Missouri Antelope Trap (48CK69) have revealed campsites and isolated projectile points dating from the Late Prehistoric and the Late Archaic. Trap structures show evidence of rebuilding, and termini include a pit and likely also a corral. The wings suggest the ability to move antelope over several low ridge fingers before bringing them into the trap termini.

Buckskin Charlie's Headdress, The Southern Ute Tribe, and the Colorado Historical Society

Richard Ellis
Department of Southwest Studies
Fort Lewis College
Durango, Colorado

Several years ago the Southern Ute tribal museum, supported by the tribal council, sought the return of Buckskin Charlies headdress. He was the last traditional chief of the Southern Ute tribe. To date the headdress has not been returned. The museum, supported by the council of elders, identified the headdress as an item of cultural patrimony under NAGPRA. This paper will follow the course of museum-historical society discussions on the return of the headdress to the tribe and evaluate the impact of NAGPRA on its affected constituencies.

Prehistoric House Pits in the Rocky Mountain/Wyoming Basin Region: Definitions, Variability, and the Credibility of Archaeological Interpretations

Session Chairs: Lynn L. Harrell (Bureau of Land Management, Kemmerer Field Office and Michael D. Metcalf (Metcalf Archaeological Consultants)

Symposium Abstract

Excavated examples of features interpreted as house pit structures now number in the hundreds in the Rocky Mountain/Wyoming Basin region. These features have a wide range of size and complexity and a time range of about 7300 BP to 1000 BP. Some features interpreted as houses are less than 3 m in diameter, just a few cm deep, and are defined by the extent of charcoal and ash stained fill. Other house pits are larger, deeper, and have a defined pattern of internal pit and fire features. This symposium explores the diverse range of features interpreted as being houses, examines the implications of house pit use for such things and group mobility and social interactions, and attempts to synthesize the status of house pit investigations in general. An important question for this symposium is, when is a house a house? Several papers explore the question of what sorts of archaeological evidence it takes to support the supposition that a house actually existed. The symposium concludes with an invitational roundtable focused on the interpretation of house pit evidence.

Five Mid-Holocene Housepit Sites Excavated during the Express Pipeline Project, Wyoming

Bruce R. McClelland
TRC Mariah Associates Inc.

Eight housepits at five sites were excavated in the Big Horn Basin, Wind River Basin, and the Casper Arch during the Express Pipeline project. These housepits date to the mid-Holoecene with age estimates ranging from 5550 to 3510 years ago. The investigated sites are Elk Head (Component I) and Nowater Housepit (Component III), located in the interior zone of the Big Horn Basin, and three sites located on the Casper Arch or Wind River Basin: Flying A Ranch (Component II), Natrona Housepit, and Sixmile Draw. The proposed presentation will summarize the structural characteristics of the eight housepits, the number and types of internal, peripheral, and associated external features, as well as other topics. These topics will include identifiable domestic activities, subsistence practices, contemporaniety of intrasite occupation of structures, and seasonality of occupation. Problems concerning housepit identification and excavation will also be addressed.

Archaic Way Stations: a Prelude of Things to Come?

Scott T. McKern
Current Archaeological Research

Between the summers of 1997 and 2002, three sites containing the floors of housepits and surface structures were excavated in the upper Green River Basin. The three sites were located along a 1200-meter line on the floodplain of a prominent ephemeral drainage called Sand Draw. A total of 10 housepits and three surface structures were excavated. Each of the structures included interior features with post molds forming a defining boundary around each of the structures. Radiocarbon dates indicated that these structures were occupied from 7300 BP through 4600 BP, with a minimum of eleven occupations. The paucity of the material culture suggests that these structures do not represent a village but rather, Archaic period way stations located along a trail that connects the area of the central Wind River mountain range with the Wyoming Range that border the east and west sides of the Wyoming Basin. The three sites to be described in this paper are: Mckevaryka (48SU2094), Jonah's House (48SU2324) and J. David Love (48SU4479)

sites.

48BH2968: Housepits, Sunflower Seeds and Bobcat Dens; Multi-threaded Interpretations of Complex Site Formational Histories

Antony T. Plastino
Current Archaeological Research

Site 48BH2968 is located in the Bighorn Basin, near Manderson, Wyoming. Sixteen features, two or more housepits and a small assemblage of bone, chipped stone and other artifacts were recovered from 50 sq. m. 48BH2968 was occupied in the Late Prehistoric (ca. 1500 BP) and Middle Archaic periods (4500-5300 BP). Burned pad cactus and sunflower seeds were recovered from the earlier occupations. The Late Prehistoric Period occupation yielded mussel shell and a fish vertebrae. Fabric analysis, refit analysis and gross distribution of various types of artifactual and faunal material are used to posit various pathways whereby a complex site assemblage (reflective of occupation and reoccupation by both human and non-human residents) could be created. Chronological control was established by dating 10 of 16 features, many via ams. Sequential, rather than concurrent, use of internal features within pitstructures is suspected.

Hunter-Gatherer Mobility and the Mid-Holocene Housepits of Wyoming

Craig S. Smith
TRC Mariah Associates Inc.

Important for considerations of hunter-gatherer mobility is delineating what the presence of house remains in the archaeological record from an environmentally marginal area represents in terms of mobility patterns—especially the duration of site occupation and the stability of these patterns from year to year. Some insights from the archaeological record concerning houses and mobility in a marginal environment can be obtained by investigating several lines of evidence: the design and substantialness of the represented structures; the density and diversity of the recovered remains; the distribution of the remains and whether refuse cleaning was practiced; the kinds, relative efficiency, and quantity of resources exploited; the presence or absence of long-term storage facilities; and, the possibility of site reuse. The excavation of 41 pit structures or housepits at 21 sites in the Wyoming and Big Horn basins of Wyoming dating to the mid-Holocene provides an excellent opportunity to study hunter-gatherer mobility and houses in a marginal, low carrying capacity environment. The Wyoming housepits appear to represent short-term occupations of residentially mobile groups, who constructed these structures in anticipation of repeated visits and reuse over a period of years—exemplifying stable land use patterns.

Living in Tight Spaces: Simulating Social Interaction
in Wyoming Basin House Pits

Susan Murray
Jana V. Pastor
Western Archaeological Services
Rock Springs, Wyoming

Currently, studies of house pits have largely focused on comparisons of the spatial arrangements of features and artifacts associated with the structure. An attribute that is particularly remarkable is the small size of the houses. The mean size of a prehistoric house pit in southwest Wyoming is 3.51 m. This restricted space undoubtedly influenced the social interaction and relationships of the occupants. For this paper, experiments or simulations were undertaken to obtain a clearer understanding of internal household constructs. A primary focus was to determine how gender related activity sets were distributed within the household. This paper is an attempt to simulate the constraints of living, working, and interacting within a prehistoric house pit.

Late Archaic/Late Prehistoric Archaeological Features: Exploring the Implications of Recent Data from the Great Sand Dunes National Monument

Bradford Andrews
Penn State University
University Park, Pennsylvania

Marilyn Martorano
Ted Hoefer III
RMC Consultants, Inc.
Lakewood, Colorado

Recent research by the Great Sand Dunes Eolian System Anthropological Project included the excavation of one fire hearth and two sizable shallow depressions filled with charcoal laden soil. Of the nine radiocarbon samples that have been processed during this project, these features located in the pinyon-juniper zone yielded the only dates associated with the transitional Late Archaic/Late Prehistoric period. This paper explores two main issues. First, what kind of semi-sedentary exploitation do these features represent (in particular, are the two shallow depressions the remains of ephemeral structures, or processing activities)? Second, what do these features indicate about the nature of the

settlement system at the time? Evidence from the Blanca Wildlife Refuge (Jones 1977) indicates a relatively intensive exploitation of the valley-bottom lacustrine zones during this transitional period. In contrast, these features are located in the foothills and may represent resource zones that were seasonally occupied by groups who regularly resided in the moister lacustrine areas.

The Maxon Ranch Site, Part 2: 2002 Excavations

Kelly J. Pool
James Miller
Michael D. Metcalf
Metcalf Archaeological Consultants)

Three large oval depressions marked by clustered pit features and generalized charcoal and ash staining were excavated for Questar Pipeline Company in Sweetwater County, Wyoming. Features within the depressions yielded conventional radiocarbon ages between 5710 60 BP and 5170 40 BP. The oval depressions are similar to features characterized as house pits or basin houses that have been excavated in numerous places within and adjacent the Wyoming Basin, but the features also resemble natural blow-out depressions between sage-anchored coppice deposits also common in the Basin. When such natural clearings were prehistorically available, they may have been utilized, and perhaps enhanced, as sheltered living areas. The similarities between the culturally utilized depressions at Maxon Ranch and nearby natural clearings suggest the need for refinement of the criteria used to define a house pit. Some specific suggestions for field observations are: truncated natural stratigraphy, unconformable interior stratigraphy, a paraconformity marking the floor/substrate contact, the presence of collapse debris from superstructure, and differential artifact distributions between floor and fill contexts. Charcoal and ash staining is not a good marker since fine charcoal and ash are mobile stratigraphically and laterally. The distinction between constructed houses, enhanced natural features, and open semi-sheltered depressions becomes important in interpreting underlying cultural behaviors and is an area that needs better analytical distinctions.

Nature's Features

Mark Stiger
Professor of Anthropology
Western State College
Gunnison, Colorado

Occasionally archaeologists discover spatially patterned rocks or patterned charcoal on sites. These patterns may not be obviously attributable to human behavior but they might be perceived as human-caused because they are on a site and they are spatially patterned. However, natural processes can create some of the patterned material encountered by archaeologists. As interpretation of houses and firepits spawn important archaeological constructions, a strategy for distinguishing between cultural and natural spatial organization is critical. I offer such a strategy, illustrated by examples of natural features.

ROUNDTABLE

Additional Invited Participants:

Kevin D. Black (Office of Archaeology and Historic Preservation, Colorado)
W. Lane Shields (Iowa Highway Department)

Format: Moderated discussion among presenters and invited participants focused on: When is a House a House? After symposium participants have had a chance to contribute, the discussion will be open to the general audience.

Rocky Mountain Seasonal Migration and Subsistence Patterns

Session Chairs: William Butler (National Park Service)
and Thomas Lux (University of Denver)

Tundra game drives: an arctic-alpine comparison

James B. Benedict
Center for Mountain Archeology
Ward, Colorado

Techniques used for communal hunting of elk and bighorn sheep above timberline in the Colorado Rocky Mountains are similar in concept to those used by the Copper Eskimo and their predecessors for hunting caribou in the Bathurst Inlet region of the Central Canadian Arctic. Important differences exist, however. Circular blinds and continuous rock walls were favored in the Front Range, whereas arcuate breastworks and lines of widely spaced cairns predominate near Bathurst Inlet. House foundations, meat caches, meat-drying facilities, fox and wolf traps, kayak racks, and tent rings occur near drive sites along migration routes used by the Bathurst caribou herd. The structures imply long-term, multi-season habitation made possible by plentiful supplies of stored meat. Except for an occasional tent ring, no comparable

structures are found near drive sites above timberline in the Front Range. Their absence reflects the ease with which Front Range hunter-gatherers could vacate the tundra in autumn, establishing winter camps in mild, low-altitude environments. Hunting from horseback replaced traditional game-drive techniques 5–6 generations before the first literate observers arrived in the Front Range. Drive systems continued to be used by the Copper Eskimo until the 1920s, and probably much later. Thus the ethnographic record of game-drive hunting is rich and detailed for the Central Canadian Arctic, but non-existent for the Colorado Rockies.

Changes in Prehistoric Wetland Subsistence Strategies at Goshen Island (42UT636), Utah

Sarah Creer
Ryan VanDyke

Goshen Island, 42UT636, is comprised of a Late Archaic occupation dated to A.D. 400 and a Late Prehistoric occupation dated to A.D. 1450. Excavations at this site recovered abundant faunal materials from both occupations, including fish, waterfowl, muskrat, small artiodactyl and other mammal remains. In this paper, we will compare the faunal material from both these temporal components of the site in order to determine changes in wetland subsistence strategies over time. We will focus in particular on the comparative roles of muskrat, waterfowl, and fish to each occupation of the site.

Hunting Systems and Seasonal Migratory Patterns through Time in Rocky Mountain National Park

Robert Brunswig, Ph.D.
Department of Anthropology
University of Northern Colorado

The University of Northern Colorado conducted extensive (40,000 acres) surveys of a complete sampling of mountain ecosystems in Rocky Mountain National Park from 1998 to 2002. The survey documented more than 400 prehistoric sites or isolated finds with components ranging from Clovis to historic Ute times. This paper briefly summarizes important new evidence about long-term subsistence patterns and associated paleoenvironmental evidence related to 11,000 years of warm-season seasonal migrations to mid and upper elevation resource zones of the park and cold-season residence in lower mountain valleys and the eastern Front Range foothills.

Archeological Investigation of Ancient Trails in Rocky Mountain National Park

Thomas Lux
Department of Anthropology
University of Denver
Denver, Colorado

Although westbound pioneers deliberately avoided traversing the rugged topography of the Front Range, the area now occupied by Rocky Mountain National Park has been an attractive destination for thousands of years. Visitation and occupation of the Park by indigenous peoples is evidenced by the presence of a network of prehistoric trail corridors that cross the Continental Divide. These ancient trails, which were initially described by Arapaho elders in 1914, are the focus of the author's graduate thesis research at the University of Denver. Trails research, conducted as an ancillary study to a multi-year archaeological inventory of the Park by the University of Northern Colorado, attempted to document extant remnants of trail corridors described by Arapaho informants and to identify additional probable trail corridors. Trails analysis included evaluation of the duration, function, and efficiency of the Park's ancient trail corridors. Trails research was also intended to explore indigenous land use through the incorporation of knowledge retained in native oral tradition, particularly that of the Ute, whose perceptions are under-represented in Rocky Mountain National Park.

Modeling Prehistoric Locational Variability in Rocky Mountain National Park

Christopher M. Rohe
Statistical Research, Inc.
Tucson, AZ

Kenneth L. Kvamme
Department of Anthropology
University of Arkansas

Archeological location models, created through GIS technology, are presented for Rocky Mountain National Park, Colorado. The Park covers 265,769 acres, of which only 16 percent has been professionally examined for archeological materials. The National Park Service provided the archeological data, which were separated into large, medium, and small lithic scatters, game drives, isolated finds, stone rings, and wickiups, some of which were further divided according to a clear distinction between high and low altitude zones, for a total of 11 site types. These known archeological locations were tested for significant location patterns against 17 environmental layers created by GIS. They include elevation, slope, a "shelter" measure, cost and linear distances to water and ridge crests, relief, aspect, and vegetation variables. The variables found to be statistically significant were then used to construct the models. Three types of models (Boolean, ordinal additive, and logistic regression) were explored for each of the site types, yielding 33 models. These models were then combined to create three composite models for the entire Park. The final models yielded

the following accuracy, or percent correct, statistics for the known sites. The Boolean model included 80 percent of sites in 52 percent of the Park's area; the ordinal additive model 82 percent of sites in 63 percent of the area; and logistic regression 86 percent of sites in 54 percent of the area. Logistic regression generally provided the most powerful means to create a location model based on its versatility and performance. These models may be used for decision planning by Park staff to prevent unwarranted destruction of unknown cultural resources, and for future research.

Non-Site Archeology in Rocky Mountain National Park

William B. Butler, Ph.D.
Rocky Mountain National Park

Non-site or distributional analysis seeks to discern patterns of human behavior by examining the relationship and patterning of individual tool functions as related to some environmental parameter such as vegetation, altitude, or topography. Some 458 prehistoric sites and isolated finds from Rocky Mountain National Park were used to examine the relationship of 10 functional tool groups with seven vegetational communities. No statistically significant association was found between any functional tool class and any vegetational community. It would appear that the tool kits brought to the Park were robust and used in all vegetation zones, suggesting long-term broad economic systems. No statistically significant association was found for time of occupation with any vegetational unit as measured by chronologically diagnostic projectile points or ceramics. Although a site might be described as being in subalpine or lodgepole forest environments, visual inspection nearly always shows that sites are situated near the forest edges next to meadows, i.e., where the large ungulates can be found. It is proposed that tundra game drives were used in the fall of the year when several bands would come together to run them – this is the time of the year when there was sufficient food to support large groups of people. The presence of manos and metates on or near the tundra suggests that they were used to grind dried meat derived from the game drives for incorporation with berries, seeds, and fat to make pemmican. Robust tool kits allowed for the utilization of different resources in all vegetation zones during a summer through fall occupancy, i.e., a very old and successful pattern for using the high mountains, and it was practiced by the Ute, Apache, and maybe other identified groups until the acquisition of the horse.

Recent Studies in the Uinta Mountains of Northeastern Utah

Session Chairs: Byron Loosle (U.S. Forest Service)
and Clay Johnson (U.S. Forest Service)

When the BAER Hits in the Woods

Clay Johnson
Ashley National Forest

Post-wildfire emergency treatment and rehabilitation of archaeological sites under BAER (Burned Area Emergency Response) requires a much different approach than the rehabilitation techniques used for other public lands resources. The objective for archaeological sites is not to slow erosion over a large area, but to prevent damage from erosion, deposition, and human activities to a specific small area, the archaeological site. Treatments depend on both topography and the nature of the site. The 2002 Mustang Fire on Ashley National Forest in northeastern Utah required treatments of two main site types (rockshelters and lithic scatters with probable buried features) in the rugged terrain of the Uinta Mountains.

The Unique Uinta Mountains

Byron Loosle,
Ashley National Forest

The Uintas are the longest east-west trending mountain range in North America. This range forms a natural boundary that separates cultural, climatic and geophysical provinces. Located between the high deserts of southwest Wyoming and northeast Utah, the Uintas create an oasis with unique floral and faunal resources. The Ashley National Forest has been at the vanguard of a number of Uinta Mountains climatic and archaeological studies, which now involve several universities.

Post-Glacial Environmental Change in the Uinta Mountains

Eric Carson
J.S. Munroe
Benjamin Laabs
Department of Geology & Geophysics
University of Wisconsin-Madison

Current and recent research has evaluated Holocene (post-glacial) climate change and resultant landscape response. Radiocarbon dates indicate deglaciation commenced before ~14.5 ka BP and was complete by 10 ka BP; this chronology will be supplemented by additional radiocarbon dates and cosmogenic surface exposure dating. Fossil pollen data show

that riparian vegetation types were established by 9.5 ka BP, and growing season temperatures were ~1°C warmer than modern values. Maximum warmth occurred at 6.5 to 5.4 ka BP, followed by subsequently cooling to near modern conditions by 4.0 ka BP. Quantitative reconstruction of flood magnitudes, dendrochronology-based streamflow reconstructions, and examination of 19th Century landscape photographs all suggest complex climate-landscape-vegetation interactions through time.

2003 Survey for Paleoindian Sites in the Uinta Mountains and Beyond

Bonnie Pitblado, Ph.D.
Department of Anthropology
Utah State University
Logan, Utah

This paper reports on summer 2003 archaeological survey on the Ashley and Wasatch-Cache National Forests by Utah State University archaeologists and partners on the two forests. The purpose of the survey was to identify and record Paleoindian sites in the Utah high country, a region that has as yet produced little evidence for occupation dating to this time frame. This paper will describe previous Utah Rocky Mountain Paleoindian finds, outline 2003 survey methodology, and detail results of the project. It will conclude by offering suggestions as to where Utah Rocky Mountain Paleoindian research might profitably go next.

Upland Use by Horticulturalists

Byron Loosle
Clay Johnson
Ashley National Forest

Analysis from 10 years of Passport in Time and other volunteer projects on the Ashley National Forest show a marked transition in uplands use between the Late Archaic and Fremont periods. The Fremont period is marked by logistical use of highly dependable resources, usually in the fall. The patterns observed suggest the uplands were used by lowland horticulturalists during windows of opportunities when they were not constrained by horticultural duties. The upland pattern also indicates there was no separate cultural group that occupied the uplands.

The Fremont Storage Facilities and Grain Consumption

A. Dudley Gardner
Western Wyoming Community College

Over the last four years granaries in northwestern Colorado have yielded data that provides insights into the nature and extent of cereal agriculture in northwestern Colorado. Combined with excavations at other Fremont sites in the area we are gaining a better picture of the nature and distribution of corn cultivation in the area. This paper will focus on the nature of Fremont granaries in the area and also look at the diverse plant resources stored and used during the Fremont occupation of the area.

Defining Variability: Seasonal Switching, Resource Transportation, and High Altitude Land Use by Semi-Sedentary Farmers

Michelle Knoll
Brigham Young University

Rarely do scholars address the possibility that Fremont farmers would have used alpine zones to procure resources. Seasonal mobility of Fremont farmers from the Uinta Basin and their use of alpine zones will be discussed with reference to a recently excavated high altitude site (11,000 ft.) in the adjacent Uinta Mountains. Three features from this site may have been occupied by Fremont farmer-hunters, who utilized the area logistically after crops were harvested. Using a calculated Maximum Transport Distance (MTD), Fremont farmer residential sites predictions will be made.

Ceramics of the Uinta Mountains

Sheila Goff
Department of Anthropology
University of Colorado-Boulder

Ceramics have been recovered from sites in the Uinta Mountains on Ashley National Forest at a variety of elevations, from the low benches to the Uinta Divide, and from a variety of locales such as canyons, ridge tops, meadows and lake side areas. They have been found in different site types such as probable hunting camps and longer term residential and farming areas. Uinta Gray ware is typically conceived of as "medium brown to dark gray, limestone tempered, with a plain, relatively poorly finished surface" (Loosle and Johnson 2002:276). However, analysis of the ceramics thus far recovered reveals there may be more variety than expected. This paper will present the typical as well as unusual ceramic findings, and look at avenues for future research.

Fremont Numic Transitions

Byron Loosle
Ashley National Forest
Michelle Knoll
Brigham Young University

Data from 42Da791, the Allen Creek site, seems to support a pattern noted elsewhere that the Fremont tradition persisted longer on the fringes of the Uinta Basin than in other areas. Although numerous Numic style artifacts have been noted in the Uintas, no structural or subsurface remains have been recovered. It was hoped the discovery of a Numic era structure at Deadman Lake (42Un2331) would help address the nature of the transition between these two material culture complexes. Unfortunately, the late date of this structure leaves unresolved many questions about the transition.

Archaeological Sites and Fire-Induced Changes

Clay Johnson
Ashley National Forest

The 2003 Mustang Fire required Burned Area Emergency Response (BAER) treatment and monitoring of archaeological sites on Ashley National Forest in northeastern Utah. The fire burned over 20,000-acre area and nearly 300 known sites. Ashley Heritage staff performed archaeological reconnaissance, BAER site treatment, and monitoring of the treated sites. The fire and subsequent rainstorms transformed terrain, sites, and individual artifacts. This experience suggests that some changes provide valuable archaeological information. What archaeologists choose to document during survey and excavation, and how it is interpreted, can depend on identification of wildfire-induced patterns. Conversely, the observed presence (or absence) of fire-induced changes may reveal the past fire history of a site or an area.

Archaeology Site Rehabilitation and Conservation: a new emphasis for a changing industry

Derek Stertz
Ashley National Forest

The modern age has created many concerns that directly impact how archaeologists and other cultural resource managers conduct their day-to-day business. Cultural resource managers' time is consumed with compliance activities related to legislative mandates and paper-pushing. Land uses and land use regulations have changed traditional expensive, labor-intensive excavation and recovery activities in favor of cheaper methods of surface documentation within a centralized, state-based catalog. The new CRM working realities insist that rehabilitation and conservation of resources be elevated to the frontline of the industrial practice. New rehabilitation designs in conjunction with conservation will ensure the quality of traditional methods of archaeological exploration while adapting to 21st century necessities.

Tie Hacks of the Uinta Mountains

Jennifer Eberlien
Teneal Jensen
Wasatch-Cache National Forest

For the past four years, the Wasatch-Cache NF hosted volunteer projects to locate and record the numerous cabins, dams, and features associated with the production of railroad ties for railroad companies that operated in the vicinity of the Uinta Mountains during the late nineteenth and early twentieth centuries. The men and women that produced railroad ties were known as tie hacks and their remains dot the North Slope of the Uinta Mountains. This paper reports the results of four years of fieldwork and offers some insights into this fascinating and little known history of the Uinta Mountains.

Spanish Gold and Other Uinta Mountain Folklore

Tami Merkley
Cris Bailey
Ashley National Forest

Myths, legends and folklore are all tied together in northeastern Utah. The traces that Early Europeans left of their travels have endured down through the generations in various forms. We have recorded documentation of exploration from the Spanish, who previously owned this area. God, Glory, and Gold were the main reasons for Spanish presence in the New World. If there was no one to fight or convert in northeastern Utah, then was the quest for gold the only reason for being here?

Poster Papers

Comparison of Pollen Records and Archaeoclimatic Modeling

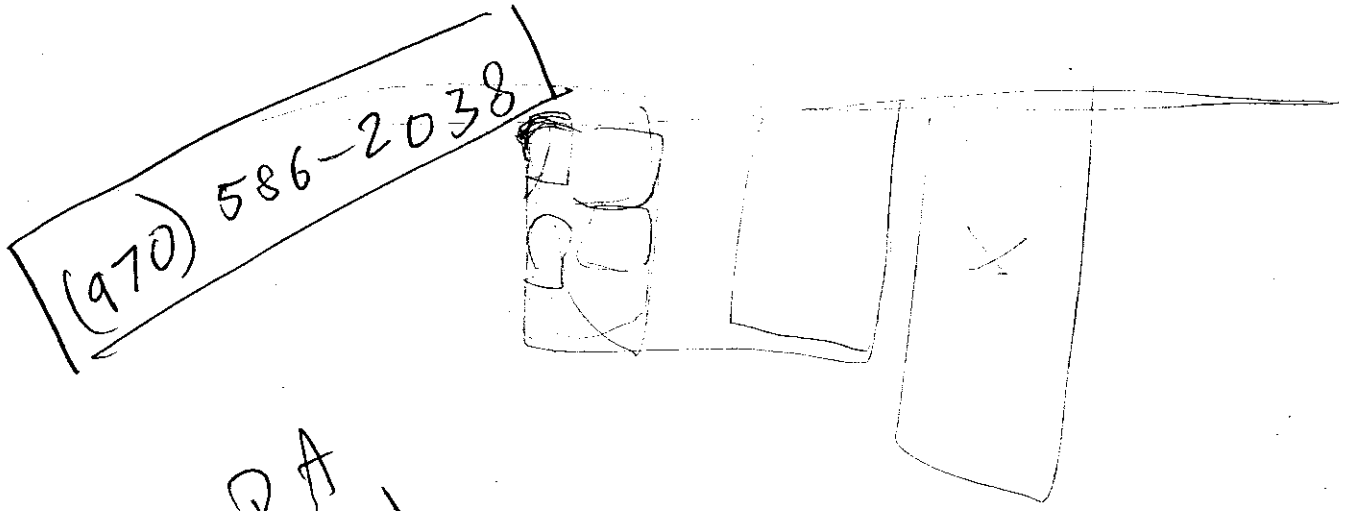
Linda Scott Cummings
PaleoResearch Laboratory
Golden, Colorado

Reid A. Bryson
Department of Geography
University of Wisconsin
Madison, Wisconsin

Archaeoclimatic modeling, developed by Drs. Reid Bryson and Robert Bryson, generates temperature and precipitation graphs, as well as water budget models. Once generated, these models provide valuable information for retrodicting paleoenvironmental conditions during prehistoric occupation of our continent. Pollen and phytolith records serve as a means of "ground truthing" these models. Since they record vegetation living both locally and regionally, pollen and phytoliths provide a good means of observing responses to changing paleoenvironmental conditions. A stratigraphic pollen record examined just east of Dinosaur National Monument displays vegetation vastly different from that of today near the Pleistocene/Holocene boundary. Comparison of the pollen record and archaeoclimatic model from this location, as well as others, provides insight that enlivens interpretation of the landscape in which man lived.

Dendrochronological and Radiocarbon Dates for the Dismal River Aspect

Jean Kindig
University of Colorado Museum
University of Colorado
Boulder, Colorado



Holiday Inn

Rocky Mountain Park

Antelope trap — [illegible]

Ethnohistoric use of antelope trapping, that is recent use. How ~~consistent~~ consistent is this with linking Middle Archaic ~~trapping~~ ? points being associated with the trap

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