

12TH BIENNIAL ROCKY MOUNTAIN ANTHROPOLOGICAL CONFERENCE

Steamboat Springs, Colorado
September 24-27, 2015



HOSTED BY

PaleoResearch Institute, Inc. and the Steamboat Grand welcome you to the 12th Biennial Rocky Mountain Anthropological Conference in Steamboat Springs, Colorado. It is a pleasure to return to this portion of the Rocky Mountains exactly 20 years after our 2nd conference. Our venue at the base of Mount Werner and near the Steamboat Ski Resort offers a special mountain flavor. In addition to our conference papers and posters and events at The Grand, we are hosted by the Tread of Pioneers Museum for a special Saturday evening when they will open their doors to our group exclusively.

PaleoResearch Institute staff has been assisted by the University of Oklahoma Department of Anthropology (Bonnie Pitblado and Misty Wilson), who did a terrific job handling registration to make our conference successful.

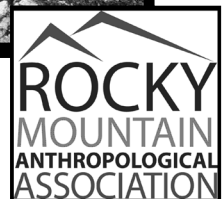
Steamboat Springs and surrounding areas such as Rabbit Ears Pass have much to offer visitors. Whether you hike on your own, participate in our excursion to Windy Ridge Quartzite Quarry, or attend the Farson to Grand Teton National Park excursion, please enjoy the natural beauty of the area.

Linda Scott Cummings
Jennifer L. B. Milligan
PaleoResearch Institute, Inc.



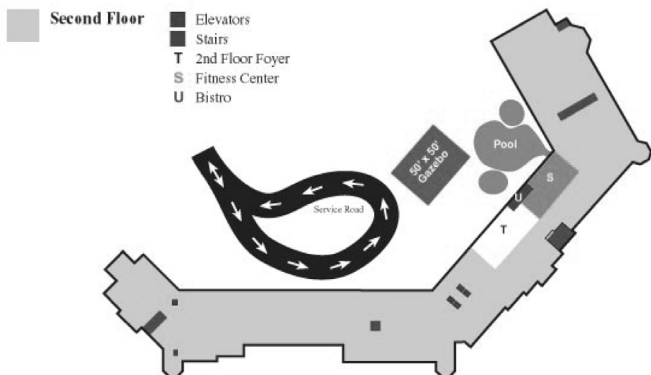
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September 24-27, 2015**

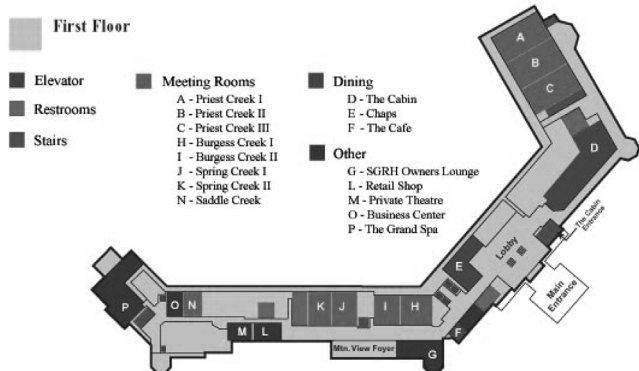




THE STEAMBOAT GRAND



The Grand is fully handicap accessible.



Overnight Parking:

Ski Time Square Parking \$5.00/night

Self-Parking in Hotel Underground Garage \$10.00/night

Hotel Valet \$15.00/night

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Program Committee: Milligan, Scott Cummings

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Local Arrangements Committee: Scott Cummings

Excursion Committee: William Eckerle, Scott Cummings

Conference Logo: Peacock Pool, at the base of Mt. Meeker (13,911'), Longs Peak (14,259'), and Mt. Lady Washington (13,281'), Milligan

Volunteers: Kate Yeske

CONFERENCE SPONSORS

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GENERAL INFORMATION

Conference Headquarters: All conference events except the excursions and Museum Night will be held at the Steamboat Grand located at 2300 Mt. Werner Circle, Steamboat Springs, Colorado 80487. Visit <http://steamboatgrand.com/>, 970-871-5500.

Parking: See map on page 4.

Registration: Conference registration and packet pickup will be in the Second Floor Foyer near the Early Bird Party starting at 5:00 pm on Thursday, September 24th and continue in the Mountain View Foyer until 2:30 pm, Saturday, September 26th.

Vendors and Exhibits: Vendor space is in Spring Creek II from 8:00 am Friday, September 25th until 5:00 pm Saturday, September 26th.

Internet: Free wifi is available throughout the Steamboat Grand. Pick GrandConference, password HappyTrails or simply use the general wifi and register.

Early Bird Party: Outdoor Pavilion/Gazebo (weather permitting) second floor of the hotel from 6:00 to 9:00 pm on Thursday, September 24th.

Board of Directors Meeting: Spring Creek I, Friday, September 25th starting at 12:00 pm.

Voting: Nominee biographies, ballots, and ballot box for RMAA Board of Directors will be available at the registration table starting Thursday evening in the 2nd Floor Foyer and continuing Friday in the Mountain View Foyer. RMAA membership is defined as those registered for and attending the conference. Balloting will close at 11 am, Friday, September 25th.

Business Meeting: The Rocky Mountain Anthropological Association Biennial Business Meeting is scheduled for 5:00 pm on Friday, September 25th in Spring Creek I.

Social and Banquet: A hosted and cash bar social will be held in the alcove outside the banquet room from 6:00 to 7:00 pm. The banquet will be held in Priest Creek I beginning at 7:00 pm Friday, September 25th.

Night at the Museum (Drinks & History) Reception: Tread of Pioneers Museum is providing facilities for our hosted party (drinks and hors d'oeuvres) Saturday 5:30-7:00 pm. They offer us a tour of their expanded and renovated Pioneer Museum.

Sessions: All symposia, presentations and poster sessions will be held in the Burgess Creek and Spring Creek rooms at the Steamboat Grand, see map on page 4.

Symposia and Session Chairs: Please maintain the established schedule in fairness to persons planning to attend specific presentations: hold a session discussion during the period allotted in the program if a scheduled speaker fails to appear. Note that all the papers are scheduled for 20 minutes. Use the alarm clock, which is provided. Keep presentations to 19 minutes, allowing 1 minute to announce the next speaker. Give the speaker warnings at 5, 2, and 1 minutes prior to their end of time.

Conference Website: <https://sites.google.com/site/rmac-2015steamboat/>.

CONFERENCE EXCURSIONS

Tread of Pioneers Museum, Drinks and History.

Saturday, September 26th. 5:30 pm to 7:00 pm. Meet in front of the Steamboat Grand Hotel to catch a shuttle or drive to downtown Steamboat Springs where we will proceed to the museum (800 Oak St., Steamboat Springs, Colorado 80487). The expanded and renovated museum features interactive exhibits with information on local and regional history. Drinks and hors d'oeuvres are offered along with free general museum access. *Event Coordinators:* Candace Bannister, Executive Director, Tread of Pioneers Museum; Linda Scott Cummings and Jennifer L. B. Milligan, PaleoResearch Institute, Inc., Golden, Colorado.

Windy Ridge Quartzite Quarry Hike (weather permitting).

Sunday, September 27th. 9:30 am to ~2:00 pm.

Attendees will provide their own transportation and should be prepared (water, food, and attire) to hike an easy to moderate trail for ~ 5 miles round trip. Meet in front of the Steamboat Grand Hotel. From there the field trip will continue to the trailhead and onto the hike, which includes forested terrain, open meadows, and of course archaeological quarry Site 5GA872.

Directions: Take U.S. Highway 40 south out of Steamboat Springs for 20 miles, up Rabbit Ears Pass. Turn Right on Forest Road 100, about 1 mile past the turnoff for Dumont Lake. Go 1 1/4 miles and take a left on Forest Road 238. Follow the road up a hill and park in the parking lot. *Event Coordinators:* Linda Scott Cummings, Jennifer L. B. Milligan, R. A. Varney PRI.

**Farson to Grand Teton National Park, Wyoming:
Archaeology of the Upper Green River Basin and
Jackson Hole.** Sunday, September 27th 12:30 pm.

Attendees will provide their own transportation. Meet at the Farson Mercantile Ice Cream Parlor (4048 US-191, Farson, Wyoming 82932). From there, the field trip will continue to Jackson, WY with stops along U.S. Highway 189/191 including Early Archaic housepits in the Jonah Natural Gas Field, New Fork Housepit site, Trappers Point pronghorn kill, Goetz site, and high elevation archaeology of the Teton Range.

Directions: Farson is 255 miles from Steamboat Springs (~4 hrs). Go west on Colorado 40 to Craig, CO, then north on Colorado 13/Wyoming 789 to Creston Junction, WY, continue west to Rock Springs, WY on I-80, and north to Farson via U.S. 191.

Tour Coordinators: William Eckerle¹, Ken Cannon², Dave Darlington³, Julie Francis⁴, Stacy Goodrick³, Scott McKern, Mark Miller⁵, Jana Pastor³, Paul Sanders⁵, Rebecca Sgouros⁶, and Matt Stirn⁶.

¹Western GeoArch Research, Alta, Wyoming

²USU Archaeological Services, Logan, Utah

³Western Archaeological Services, Rock Springs, Wyoming

⁴Wyoming Department of Transportation,
Cheyenne, Wyoming

⁵Office of the Wyoming State Archaeologist (retired),
Laramie, Wyoming

⁶Jackson Hole Historical Society and Museum,
Jackson Hole, Wyoming

SUMMARY SCHEDULE

Thursday, September 24th

5:00-9:00 – Conference Registration, Second Floor Foyer

6:00-9:00 – Early Bird cocktails, Outdoor Pavilion/Gazebo
(weather permitting) or Korbel I

Friday, September 25th

8:00-4:00 – Conference Registration Mountain View Foyer

8:30-3:15 – Presentations, Burgess Creek I & II

9:10-10:00 & 11:15-6:00 Mobile Field Lab (MAML) Tours
outside front hotel entrance

10:00-10:30 – Morning Coffee Break

11:00 – RMAA Board of Directors Close of Ballots

11:45-1:30 – Lunch

12:00 – Board of Directors Meeting, Spring Creek I

3:15-3:45 – Afternoon Coffee Break

3:45-5:00 – Posters, Spring Creek II

5:00-6:00 – RMAA Buisness Meeting, Spring Creek I

6:00-7:00 – Social, alchove outside Priest Creek I

7:00-9:00 – Conference Banquet Priest Creek I

Saturday, September 26th

8:00-2:30 – Conference Registration Mountain View Foyer

8:30-5:00 – Presentations, Burgess Creek I & II

9:00-1:30 & 4:00-5:30 – Mobile Field Lab (MAML) Tours

10:10-10:40 – Morning Coffee Break

11:45-1:45 – Lunch

3:30-4:00 – Afternoon Coffee Break

5:30-7:00 – Tread of Pioneers Museum, Drinks & History

SUMMARY SCHEDULE CONTINUED

Sunday, September 27th

Excursions

9:00-2:00 – Option 1: Windy Ridge Quarry Hike

12:30 – Option 2: Farson to Grand Teton National Park

PROGRAM

Friday Morning, September 25th

Room: Burgess Creek I & II

Session 1 (Symposium): **High Elevation Archaeology in the Rocky Mountains**

Organizer and Chair: Marcia Peterson

8:30 Session Introduction

8:40 Craig M. Lee, Robert L. Kelly,
Kathryn Puseman, Rachel Reckin, Ira Matt,
and Pei-Lin Yu.

*Ice Cores from Ice Patches: A Novel Paleoclimate
Proxy for the Rocky Mountain Region.*

9:00 Matthew A. Stirn and Rebecca Sgouros.

*Lipid Residue Analysis of Steatite and Groundstone
Artifacts from the Teton Range, Wyoming.*

9:20 Marcia Peterson.

*Paleoindian Presence in the Cloud Peak
Wilderness Area of the Bighorn Mountains.*

- 9:40 Dave Vlcek.
High Elevation Research in the Northern Wind River Range, Wyoming.
- 10:00 BREAK
- 10:30 Connor Corcoran Johnen.
Pines, Elevation, Slope and Aspect: Predictive Modeling in the Wind River Range, Wyoming.
- 10:50 Marcia Peterson.
Alpine and Ice Patch Archaeology in the Caribou-Targhee National Forest and Grand Teton National Park.
- 11:10 Connor Corcoran Johnen and Richard Adams.
Revisiting the Summer of 1969: Wyoming's First High Altitude Archaeological Survey.
- 11:30 Discussion

Friday Afternoon, September 25th

Room: Burgess Creek I & II

Session 2 (Symposium): High Elevation Artifacts and Site Chronology

Chair: Judson B. Finley

- 1:30 Spencer Pelton, Joshua Boyd, Heather Rockwell, and Cody Newton.
On the Relationship between Folsom Fluting and Cold Adaptation.

- 1:50 Rachel Reckin.
Patterns of High Altitude Use in the Beartooths: The Waples.
- 2:10 Aaron Whittenburg.
Hunting above the Trees: Site Chronology at Three Prehistoric High Elevation Hunting Sites and a Lithic Scatter at Rollins Pass, Grand County, Colorado.
- 2:30 Halston Meeker.
Examining Tool Manufacture as a Measure of Occupational Length from Two Stone Circle Sites, Larimer County, Colorado.
- 2:50 Hillary A. Jones, Judson B. Finley, Tammy M. Rittenour, and Kenneth P. Cannon.
Assessing Paleoenvironmental and Geomorphic Variability in Relationship to Paleoindian Site Preservation, Centennial Valley, Southwest Montana.
- 3:10 Business Meeting Agenda and Instructions.
- 3:15 BREAK

Room: Spring Creek II

Poster Session 3: **Contributed Posters**

3:45-5:00

Noah Benedict

Visualizing Spotted Pony: Mapping Artifact Densities from a Middle Holocene High Altitude

Camp, Boulder County, Colorado.

Michelle Dinkel.

*Finding Shelter Along the River: Preliminary
Testing of Two Rockshelters along the Cache la
Poudre River, Larimer County, Colorado.*

Casey D. Dukeman and Jody A. Clauter.

*Preliminary Survey and Subsurface Testing at the
Elk Mountain Site (48CR301).*

Julia Kenyon and Jason LaBelle.

*Further Understanding of Prehistoric Game Drive
Systems along the Continental Divide,
Rollins Pass, Colorado.*

Marcel Kornfeld, Mary Lou Larson, and
George Frison.

Of Mammoth Tusks and Paleoindians.

Kelton Meyer and Halston Meeker.

*Sourcing Eagle County WSAs: Raw Materials,
Tools, and Site Types.*

Kelly J. Pool, Gail Lincoln, Amy Nelson,
Naomi Rintoul, Nicki Sauvageau, John M. Scott,
and Garrett Williams.

*Archaeology and the Ruby Pipeline in Southwest
Wyoming.*

Saturday Morning, September 26th

Room: Burgess Creek I & II

Session 4 (Symposium): **Archaeology Today**

Chair: Casey D. Dukeman

8:30 Casey D. Dukeman.

"YOU TRICKED ME INTO LEARNING": Using Archaeological Inquiry to Create Outdoor Learning Experiences for Children and Families.

8:50 Michael Bies.

Who Was That Masked Man?

9:10 Lorena Craig.

A Phylogeny of the Earth-Diver Creation Myth: Migration and Evolution.

9:30 Elizabeth Hora-Cook, Judson Finley, and Molly Boeka Cannon.

Maize at the Margins: Explaining Femont Maize in Jones Hole Canyon, Utah.

9:50 Jennifer L. B. Milligan, Jason LaBelle, and Curtis Martin.

Meat, It's What's for Dinner: Protein Residue Analysis Along the Rockies.

10:10 BREAK

Room: Burgess Creek I & II

Session 5 (Symposium): **Laws and Historic Archaeology**

10:40 Lorena Craig.

*Western States "Public Land Transfer Act":
Threat to Cultural Resources?*

11:00 Maureen Boyle.

*Beyond Deserter Point: Metissage and Information
Exchange in Peter Skene Ogden's Snake County
Journals, 1824-1829.*

11:20 Steven Baker.

*Dallas City Colorado ca. 1879-1890: An
Archaeological "Gold Standard" Example of an
American Victorian Mining Community.*

11:40 Closing Remarks and Instructions.

Saturday Afternoon, September 26th

Room: Burgess Creek I & II

Session 6 (Workshop & Symposium): **Dating &
Chronology**

Organizer and Chair: Linda Scott Cummings

1:45 Linda Scott Cummings

*Workshop: Radiocarbon Dating: Expectations &
Essentials for Sample Selection*

3:10 Anastasia M. Lugo Mendez and Judson B. Finley.
*High Plains and Central Rocky Mountain Stone
Circle Radiocarbon Analyses.*

3:30 BREAK

4:00 Carlie Ideker, Judson Finley, Tammy Rittenour,
and Michelle Nelson.
*A Shot in the Dark: Single-Grain Optically
Stimulated Luminescence Dating of Quartz Temper
from Prehistoric Intermountain Ware Ceramics.*

4:20 Judson Finley and Matthew Rowe.
*Rockshelter Geoarchaeology, Radiocarbon Age
Models, and Paleoenvironmental Reconstruction.*

Session 7 (Symposium): **PaleoIndian Rockshelter**

Chair: Linda Scott Cummings

4:40 Dudley Gardner, Glade Hadden, and
William Gardner.
*Eagle Rock: A Brief Look at What Excavation
Results in a Rock Shelter in West Central Colorado.*

PLEASE SEE SCHEDULES IN FRONT OF ROOMS
FOR ANY CHANGES.

SYMPOSIA AND GENERAL SESSIONS

High Elevation Archaeology in the Rocky Mountains

Session 1 (Symposium), Burges Creek I & II

Organizer and Chair: Marcia Peterson

Traditionally, high elevation areas and ice patches of the continental United States Rocky Mountains were subject to very limited archaeological investigation and were not thought to contain significant archaeological sites or remains. Starting around 30 years ago, European researchers began finding artifacts and archaeological sites melting from ice patches, which changed our perspective on high elevation and ice patch archaeology. The high elevation and ice patch research spread into Alaska and Canada, then south into the U.S. continental Rocky Mountains, where North American archaeologists continued to locate archaeological sites and artifacts in high elevation and ice patch contexts. For at least the past decade, archaeologists have conducted high elevation archaeological projects throughout the continental Rocky Mountains. These researchers have recorded prehistoric alpine villages, stone circle sites, cairns, open camps, lithic scatters, historic sites, and numerous isolated prehistoric and historic artifacts and have located artifacts melting from ice patches that date from the Paleoindian to Late Prehistoric/Protohistoric periods. The data gathered demonstrate significant prehistoric use of higher elevations and ice patches from Paleoindian to Protohistoric times. This symposium presents the results of recent high elevation and ice patch archaeology throughout the continental U.S. Rocky Mountains.

SYMPOSIA AND GENERAL SESSIONS

Continued

High Elevation Artifacts and Site Chronology

Session 2 (General Session), Burges Creek I & II

Chair: Judson B. Finley

Posters

Session 3 (Contributed Posters), Spring Creek II

Archaeology Today

Session 4 (General Session), Burges Creek I & II

Chair: Casey D. Dukeman

Laws and Historic Archaeology

Session 5 (General Session), Burges Creek I & II

Dating & Chronology

Session 6 (General Session), Burges Creek I & II

Chair: Linda Scott Cummings

PaleoIndian Rockshelter

Session 7 (General Session), Burges Creek I & II

Chair: Linda Scott Cummings

AMS Radiocarbon Dating

Workshop, Burges Creek I & II

Organizer and Chair: Linda Scott Cummings

ABSTRACTS

Adams, Richard (Colorado State University) see Connor Corcoran Johnen

Baker, Steven (Centuries Research, Inc.)

Session 5: *Dallas City Colorado ca. 1879-1890: An Archaeological “Gold Standard” Example of an American Victorian Mining Community*

Mining communities deriving from the American Victorian cultural tradition (aka “Ghost Towns”) make up a huge portion of the historical archaeological resource base in the western United States and Canada. The history of the Rocky Mountains is, in particular, hallmarked by them. Despite their large numbers, archaeologists and cultural resource managers have long wrestled with how to evaluate them in terms of archaeological contribution potential and accompanying National Register eligibility. The evaluation record has been marked by extreme unevenness, and often extreme doses of historical archaeological naiveté. Fruitful evaluations and archaeological investigations of them has been very limited and hampered by targeting the wrong kinds of sites with inadequate understandings and expectations as to final contributions from them. The site of Dallas City (ca. 1879-1890) in Ouray County, Colorado is an exceptional archaeological resource and exemplifies a “gold standard” for such sites. This paper explains why it is such a fine site and should be helpful to archaeologists and managers charged with evaluating or investigating such resources.

Benedict, Noah (Center for Mountain and Plains Archaeology, Colorado State University)

Poster Session 3: *Visualizing Spotted Pony: Mapping Artifact Densities from a Middle Holocene High Altitude Camp, Boulder County, Colorado*

The Spotted Pony site (5BL82) is a high altitude prehistoric campsite located west of Boulder, Colorado, in a forest clearing along the Middle St. Vrain Creek. Byron Olson, Jim Benedict, and members of the Indian Peaks Chapter of the Colorado Archaeological Society excavated the site between 1999-2002, and amassed a large collection debitage, projectile points, ground stone, and historical materials. A weighted-average date from an excavated fire feature places the prehistoric occupation at 5390 +/- 25 years radiocarbon years before present, supported by the spatial association of Mount Albion corner-notched dart points. The Center for Mountain and Plains Archaeology is completing a final report on these past investigations. This poster focuses on the spatial visualization of artifact densities, both horizontally and vertically, from the excavation area. The artifact distribution paints a picture of how the Spotted Pony site was used, its occupational history, and demonstrates where further field work might be warranted. In addition, the distribution of historic materials illustrates some of the taphonomic processes that have impacted the site over the past century.

Bies, Michael (OW Heritage Research L. C.)

Session 4: *Who Was That Masked Man?*

This paper presents a previously unrecorded rock art site recently identified in northwestern Wyoming. The site consists of one rock art panel with limited associated archaeological deposits. The images at the site do not fit comfortably within any currently defined rock art style in this area. The paper will discuss similarities between the images and currently recognized styles. The objective is to establish a relationship between the images at this site and others through feedback from the audience.

Notes:

Boeka Cannon, Molly (Utah State University) see
Elizabeth Hora-Cook

Boyd, Joshua (University of Wyoming) see
Spencer Pelton

Boyle, Maureen (Utah State University)

Session 5: *Beyond Deserter Point: Metissage and
Information Exchange in Peter Skene Ogden's Snake
Country Journals, 1824-1829*

Derived from the colonial French term *métis* or “mixed-blood,” *metissage* is a process of biological and cultural mixing related to European colonialism. *Metissage* is a deeply relevant construct for understanding cultures of exchange in the Rocky Mountain fur trade of the early nineteenth century. The paper examines the cross-cultural context of information exchange during the Hudson Bay Company's Snake Country expeditions from 1824 to 1829. An extensive Northern Newe social network connected lands drained by the Snake River in the 1820s. For millennia, this network conveyed a dense array of raw materials, trade goods, food, information, and ideas across the Central Rocky Mountains and into the adjacent Northern Plains, Columbia Plateau, and Great Basin regions. The paper examines information exchange in Peter Skene Ogden's Snake Country Journals within the wider context of *metissage* as a transgressive identity that privileged freemen's participation in the Northern Newe network. The paper argues that the activation of this long-standing network

by fur trade participants was critical to boundary-making practices in historic Snake Country borderlands.

Cannon, Kenneth P. (Utah State University) see
Hillary A. Jones

Clauter, Jody A. (University of Wyoming) see
Casey D. Dukeman

Notes:

Craig, Lorena (University of Montana)

Session 4: *A Phylogeny of the Earth-Diver Creation Myth: Migration and Evolution*

Mythologists have long thought the commonalities of myths are due to archetypes in the human psyche. I propose another explanation. The commonalities in creation myths may be better explained through migration and evolutionary processes. The inherent nature of creation myths explains the how and why of the world and the actors upon it. The importance of these origin stories suggests these myths continue generation to generation with the core of the myth retained in the retelling. However, peripheral details are more susceptible to descent with modification which allows for phylogenetic analysis. Cladistic analysis provides a quantitative tool to reconstruct evolutionary histories. In a broader sense, analysis of creation myths may help identify migration patterns around the globe. In order to test the above hypothesis, cladistic analysis of character traits from identified Earth-Diver creation myths were conducted. Earth-Diver creation myths only occur in parts of Eurasia and North America. Results from phylogenetic analysis suggest: 1) Earth-Diver creation myths spread through migration; 2) migration occurred in waves into the Americas; 3) the movement of Earth-Diver myths across the landscape of the Americas occurred within language groups; and 4) although commonalities may be explained by migration, variability occurs through descent with modification.

Craig, Lorena (University of Montana)

Session 5: *Western States “Public Lands Transfer Act”:
Threat to Cultural Resources?*

This paper examines the potential impact of the Western States proposed Public Lands Transfer Act, led by Utah, on cultural resources. In this paper, legislation and controversies between federal, state, local government, environmentalists and big business over public lands will be examined. This paper will consider the ongoing conflicts in Utah to provide a framework for discussion. Legal actions to regain access to closed roads, fights over oil and gas drilling, local organized off road rides through areas with abundant archaeological sites, are some of the case examples. Studies of the effects of access to archaeological sites make clear that sites become vulnerable to vandalism, theft and destruction. Also, if western states were to gain control of public lands, existing state laws would provide weaker protection to cultural heritage sites. Strained state budgets could also pose a threat to the preservation of wilderness and cultural resources. How would archaeological treasures in the Western States fare if indeed public lands were to be transferred to the states?

Notes:

Dinkel, Michelle (Center for Mountain and Plains Archaeology, Colorado State University)

Poster Session 3: *Finding Shelter Along the River: Preliminary Testing of Two Rockshelters along the Cache la Poudre River, Larimer County, Colorado*

During the summer of 2015, the Center for Mountain and Plains Archaeology investigated two rockshelters in the Cache la Poudre Canyon (5LR543 and 5LR553) of western Larimer County, Colorado. This portion of the Canyon presents a relatively easy travel corridor from the foothills to the east, leading up and over several mountain passes and into the headwaters of the North Platte River (North Park) or instead the Colorado River. As such, shelters such as these would have been important locations for prehistoric wayfarers travelling through this portion of the Colorado Front Range. Nine small test units were excavated in the two shelters in order to assess the potential for future excavation. This poster discusses the faunal, lithic, and historical artifacts produced by the testing, as well as the potential for further work at the sites. The shelters are also compared to other shelters documented within Poudre Canyon in hopes of further understanding Native American use of this site type during the prehistoric and historic eras.

Notes:

Dukeman, Casey D. (Alpine Archaeological Consultants, Inc.)

Session 4: *“YOU TRICKED ME INTO LEARNING”: Using Archaeological Inquiry to Create Outdoor Learning Experiences for Children and Families*

Nature Deficit Disorder, a term coined by journalist Richard Louv, describes the negative effects on individual health and society as children reduce their amount of physical contact with the outdoors. Attention disorders, depression, obesity, and reduced creative thinking have all been attributed to this shift toward indoor unstructured activities seen among children in recent years. The solution is simple. Get those kids outdoors! To this end, archaeological inquiry and experimentation can provide an excellent vehicle for encouraging children and their families to go outside and learn more about their local culture history, while becoming stewards of the archaeological record. Everything from counting tree rings on an old stump, to visiting historic sites and parks, can provide valuable outdoor learning experiences for children and their families.

Notes:

Dukeman, Casey D. (Alpine Archaeological Consultants, Inc.), and **Jody A. Clauter** (University of Wyoming)
Poster Session 3: *“Preliminary Survey and Subsurface Testing at the Elk Mountain Site (48CR301)”*

The Elk Mountain site was subjected to testing and excavations by the Wyoming Archaeological Society and University of Wyoming from 1969-1981. Although this work produced a large number of artifacts from many different artifact classes, provenience data from excavation records was lacking. Recent investigations conducted in 2014 and 2015 by the University of Wyoming Archaeological Repository (UWAR) attempted to reestablish vertical and horizontal controls, and determine the nature and extent of subsurface deposits, in order to garner better provenience for the collection. This poster highlights the results of survey, controlled testing, and subsurface augering completed by UWAR during these field seasons.

Finley, Judson B. (Utah State University) see Elizabeth Hora-Cook, Carlie Ideker, Hillary A. Jones, and Anastasia M. Lugo Mendez

Notes:

Finley, Judson B. (Utah State University), and
Matthew Row (University of Arizona)

Session 6: *Rockshelter Geoarchaeology, Radiocarbon Age Models, and Paleoenvironmental Reconstruction*

Rockshelters in Wyoming's Bighorn Mountains have a long history of archaeological research resulting in a rich dataset of geological and paleoecological information that provides a context for the region's 12,000 year cultural record. In this study we focus on three deeply stratified and well-dated rockshelters to meet three primary objectives. First, we apply Bayesian statistics to each record to create an age model that contextualizes stratigraphic variability and contrasts autogenic and allogenic sedimentation processes at each site. Second, we correlate the stratigraphic record with a recently published regional temperature and precipitation record that provides a paleoclimatic reconstruction at 50-year intervals spanning the last 13,500 cal years BP. Third, we propose a biogeomorphic process-response model that examines complex linkages between Late Quaternary climatic variability, ecological response, and human foraging behavior. The results of this study complement recent archaeological reconstructions in the Bighorn Basin that demonstrate distinct, long-term relationship between climate conditions and human population densities in this part of the semi-arid Rocky Mountain west.

Frison, George (University of Wyoming) see
Marcel Kornfeld

Gardner, Dudley (WAARI), **Glade Hadden** (Bureau of
Land Management), and **William Gardner** (Yale
University)

Session 7: *Eagle Rock: A Brief Look at What Excavation
Results in a Rock Shelter in West Central Colorado*

Excavations at Eagle Rock shelter have been ongoing for
the last nine field seasons. As a result of this, a multi-
occupation site has been identified. The occupation
horizons extend from ca. 200 BP to 12,900 BP. In this
presentation we will put forward some of the results of the
macrobotanical analysis and the geomorphological
analysis of the materials recovered during excavation.

Gardner, William (Yale University) see Dudley Gardner

Hadden, Glade (Bureau of Land Management) see
Dudley Gardner

Notes:

Hora-Cook, Elizabeth (Utah State University), **Judson B. Finley** (Utah State University), and **Molly Boeka Cannon** (Utah State University)

Session 4: *Maize at the Margins: Explaining Fremont Maize in Jones Hole Canyon, Utah*

Jones Hole Canyon lies at the intersection between the Rocky Mountains, Great Plains, and Colorado Plateau. Between 800 – 1300 AD, canyon occupants adopted aspects of a Fremont lifestyle: most notably incorporating Fremont stylistic expression and adding cultigens to their subsistence base. Unlike previous centuries, during which time people foraged from canyon locales like Deluge Shelter, people began to build scattered granaries stocked with maize and pumpkins, in addition to foraged plant foods. Determining whether canyon residents grew this maize locally, or obtained it from nearby horticultural villages is a critical step to understanding the subsistence and mobility of the Jones Hole Canyon Fremont. We approach this fundamental question by evaluating the prehistoric horticultural suitability of the area. We model environmental constraints on maize cultivation in Jones Hole Canyon, in particular precipitation, to gauge the possibility for Fremont horticultural investment in Jones Hole. Results using modern data indicate that Jones Hole Canyon can support maize cultivation, and we use tree-ring data as a proxy precipitation record to evaluate the potential for maize agriculture contemporaneous with dated Fremont granaries in the canyon.

Ideker, Carlie (Utah State University Department of Sociology, Social Work and Anthropology),

Judson B. Finley (Utah State University Department of Sociology, Social Work and Anthropology),

Tammy Rittenour (Utah State University Department of Geology and Luminescence Laboratory), and

Michelle Nelson (Utah State University Department of Geology and Luminescence Laboratory)

Session 6: A Shot in the Dark: Single-Grain Optically Stimulated Luminescence Dating of Quartz Temper from Prehistoric Intermountain Ware Ceramics

This study tests single-grain optically stimulated luminescence (OSL) dating of quartz temper from Intermountain Ware ceramics. Seven sherds were selected for analysis. These include three sherds from Boulder Ridge and four sherds from High Rise Village (HRV), two high elevation sites in northwestern Wyoming. Each site has existing radiocarbon ages that provide independent age control for luminescence results. Additionally, Boulder Ridge and HRV were impacted by past wildfires of varying intensity and consequently provide a test of the thermal resetting capabilities of wildfires. Ceramics recovered from the surface of Boulder Ridge after a high-intensity fire produced near-modern apparent ages suggesting they were thermally reset. However, OSL results produced from HRV sherds came from buried contexts and are consistent with radiocarbon ages and the expected occupation age. Luminescence results from HRV also yield greater precision at two-sigma standard error than associated radiocarbon ages. Results of this study

demonstrate that single-grain OSL dating of quartz temper from Intermountain Ware ceramics can provide improved accuracy and precision over radiocarbon dating when sherds are not adversely affected by wildfires. We advocate using single-grain OSL dating of prehistoric ceramics to bolster site and regional chronologies previously plagued by problems with old wood and low precision due to radiocarbon calibration.

Notes:

Johnen, Connor Corcoran (University of Wyoming)
Session 1: Pines, Elevation, Slope and Aspect: Predictive Modeling in the Wind River Range Wyoming

This paper will present the preliminary results of field-work conducted in August 2015 in the southern portion of the Wind River Range, which is located in Wyoming. The fieldwork was conducted to accomplish two goals: relocate and formally record sites found in 1969, and test predictive models of site location. A GIS model published by Matthew Stirn for the northern Wind River Range was employed and manipulated with a two-fold goal: to test the potential of Stirn's model in another region of the same mountain range while trying to isolate the critical variables associated with site location. This paper will discuss the results of systematic survey in the southern Wind River Range and the implications of these results to Rocky Mountain archaeology.

Notes:

Johnen, Connor Corcoran (University of Wyoming), and **Richard Adams** (Colorado State University)

Session 1: *Revisiting the Summer of 1969: Wyoming's First High Altitude Archaeological Survey*

A student paper written back in 1971 surfaced in the library of late archaeologist Dr. James Benedict a few years ago. The paper describes the first high altitude archaeological survey in Wyoming's Wind River Range. Written by two Colorado State University undergraduates, the paper describes their exploration of two drainages in the southern Wind River Range in the summers 1969 and 1970. They discovered about two dozen high altitude prehistoric sites, but no site forms were ever filled out. Site numbers were obtained in 2012. In 2015, we visited as many of the sites as we could relocate in a week-long field session. We present preliminary results of our field work.

Notes:

Jones, Hillary A. (Utah State University),
Judson B. Finley (Utah State University),
Tammy M. Rittenour (Utah State University), and
Kenneth P. Cannon (Utah State University)

*Session 2: Assessing Paleoenvironmental and Geomorphic
Variability in Relationship to Paleoindian Site
Preservation, Centennial Valley, Southwest Montana*

Wave action along Lima Reservoir in Centennial Valley, Montana has exposed three adjacent Paleoindian sites along the north shore cutbank. Site 24BE46 contains subsurface cultural levels while sites 24BE43 and 24BE52 appear to be surface manifestations. While these sites lie in close proximity, they exhibit dissimilar stratigraphy and hint at variable geomorphic settings. From Late Pleistocene through present the Centennial Valley has experienced a complex geomorphic history. Previous researchers have identified alternating periods of alluvial aggradation and incision, pluvial lake formation and eolian deposition. Each of these geomorphic contexts possesses different potential for site burial and structural preservation. Using stratigraphic interpretation, optically stimulated luminescence (OSL) and radiocarbon dating, grain size distribution analysis, X-ray diffraction (XRD) and other techniques we attempt to reconstruct the environmental and geomorphic history of the area encompassing these three sites. By determining site formation histories and antecedent conditions we seek to model what geomorphic processes and resultant landforms could signal potential for buried Paleoindian material in the Centennial Valley.

Kelly, Robert L. (University of Wyoming) see
Craig M. Lee

Kenyon, Julia (Colorado State University), and
Jason LaBelle (Colorado State University)

Poster Session 3: *Further Understanding of Prehistoric
Game Drive Systems along the Continental Divide, Rollins
Pass, Colorado*

This poster presents recent results of an on-going systematic survey of game drive and camp sites situated near Rollins Pass (Boulder/Grand/Clear Creek counties) in the Colorado Front Range. The Pass is located within the Indian Peaks and James Peak Wilderness areas, and represents an important travel corridor between the Eastern Plains and the headwaters of the Colorado River in Middle Park. The Center for Mountain and Plains Archaeology (CMPA) has conducted yearly inventory of the pass from 2010-2015, following earlier efforts of Jim Benedict and Byron Olson. This past season focused on mapping hunting blinds, cairns, and rock walled drive lines from several major hunting sites in the alpine tundra, as well as new survey aimed at locating probable associated camp sites below tree-limit and near several lakes. The CMPA recorded a range of lithic tools, groundstone and bone from a variety of site contexts, the results of which will be discussed in the poster.

Notes:

Kornfeld, Marcel (PaleoIndian Research Lab – University of Wyoming), **Mary Lou Larson** (University of Wyoming), and **George Frison** (University of Wyoming)
Poster Session 3: *Of Mammoth Tusks and Paleoindians*
Proboscidean extinctions at the end of the Pleistocene are roughly coterminous with the first human occupations of the Americas. Consequently the First Americans had only a short time to make use of these resources. Clovis mammoth procurement sites are well known and proboscidean bone objects have been a subject of numerous articles including a recent overview. Post-Clovis Paleoindians are associated with *Bison antiquus* or various Holocene faunal species. However, this simple scenario is complicated by occasional occurrences of vanished species in post-Clovis assemblages. Excavation of post-Clovis strata at the Hell Gap site yielded a proboscidean tusk. The purpose of this poster is to evaluate the context of the tusk object, describe its features and manufacturing process, as well as provide a brief review of proboscidean tusk objects in the Americas.

LaBelle, Jason (Colorado State University) see
Julia Kenyon, and Jennifer L. B. Milligan

Larson, Mary Lou (University of Wyoming) see
Marcel Kornfeld

Lee, Craig M. (Metcalf Archaeological Consultants and INSTAAR), **Robert L. Kelly** (University of Wyoming),
Kathryn Puseman (Paleosciapes Archaeobotanical

Services Team), **Rachel Reckin** (University of Cambridge), **Ira Matt** (Confederated Salish and Kootenai Tribe), and **Pei-Lin Yu** (Boise State University)

Session 1: *Ice Cores from Ice Patches: A Novel Paleoclimate Proxy for the Rocky Mountain Region*

In the last two decades, ice cores obtained from temperate glaciers and ice caps have been used to interpret Holocene climatic variability on annual to millennial time scales. While ice patches do not contain an easily discernable record of annual snowfall due to the variable impact of melt/thaw cycles, they nevertheless capture and hold climatic information in a stratigraphic sequence in the form of organic lag deposits. To date, we have obtained three ice cores from ice patches in the Rocky Mountain region – two in Glacier National Park and one in the Greater Yellowstone ecosystem. All were recovered with the use of a “Prairie Dog” internal and external barrel coring platform supported by the University of Wisconsin’s Ice Drilling Design and Operations (IDDO) center. The recovered lags yielded significant materials ranging from intact fecal pellets from Bighorn sheep to Dryas leaves to the remains of probable Rocky Mountain locust (cf. *Melanopus spretus*). Climate scientists need multiple archives to identify and corroborate long term paleoclimatic trends. Our efforts to date have only begun to reveal the information potential of ice patch cores. Because these features are co-located with archaeological sites, the climate record they contain is especially salient.

Lincoln, Gail (Metcalf Archaeological Consultants, Inc.)
see Kelly J. Pool

Lugo Mendez, Anastasia M. (Utah State University), and
Judson B. Finley (Utah State University)

Session 6: *High Plains and Central Rocky Mountain Stone
Circle Radiocarbon Analyses*

Stone circles represent a ubiquitous facet of the High Plains and Central Rocky Mountain archaeological landscape with untapped research potential. Radiocarbon dates associated with stone circles comprise one of these understudied resources, and hundreds of dates are available for analysis in grey literature and field reports from 1950 forward. This project uses radiocarbon data from Montana and Wyoming stone circle sites to test the predicted relationships between mobility and climate variability within the marginal value theorem framework. Contrasting summed radiocarbon probability plots arrayed against environmental reconstructions may reveal local and regional relationships between stone circle frequencies and climate variability. The marginal value theorem's expectations predict that during periods of greater environmental productivity groups will move quickly through dense and abundant patches. Increased effective moisture should therefore result in increased mobility as evidenced by higher frequencies of house features. A second prediction assumes that reproductive rates increase with foraging efficiency, and demographic trends and population estimates are expected to show this

positive correlation with increased effective moisture. Exploratory data analysis on Wyoming ages alone revealed potential relationships between radiocarbon frequencies associated with stone circles and climate variability about 1000 years BP, and we expect that Montana data will show similar patterns.

Martin, Curtis (Dominguez Archaeological Research Group) see Jennifer L. B. Milligan

Matt, Ira (Confederated Salish and Kootenai Tribe) see Craig M. Lee

Meeker, Halston (Center for Mountain and Plains Archaeology, Colorado State University) see Kelton Meyer

Notes:

Meeker, Halston (Center for Mountain and Plains Archaeology, Colorado State University)

Session 2: *Examining Tool Manufacture as a Measure of Occupation Length from Two Stone Circle Sites, Larimer County, Colorado*

Two stone circle sites, T-W-Diamond (5LR200) and Killdeer Canyon (5LR289), offer insight into structure use intensity and occupation length. Elizabeth Ann Morris and the Colorado State University archaeological field school excavated the sites in 1971 and 1982. The assemblages include lithic artifacts, bone, ceramics, and ground stone. On-going research examines structure use intensity and occupation length by combining multiple artifact analyses. This paper hypothesizes that chipped stone tool manufacture and the ratio of local to non-local materials can be used as a proxy for determining occupation length and structure use intensity at stone circle sites. This analysis is combined with results from debitage and faunal studies at T-W-Diamond and Killdeer Canyon to situate the two sites on a continuum of occupation length.

Notes:

Meyer, Kelton (Center for Mountain and Plains Archaeology, Colorado State University), and **Halston Meeker** (Center for Mountain and Plains Archaeology, Colorado State University)

Poster Session 3: *Sourcing Eagle County WSAs: Raw Materials, Tools, and Site Types*

The Center for Mountain and Plains Archaeology examined the Bull Gulch and Castle Peak Wilderness Study Areas (WSAs) in Eagle County, Colorado during the 2015 field season. Twenty-three prehistoric sites and isolated finds were recorded primarily along the flat ridgetops of the Bull Gulch WSA, a juniper-sage ecosystem wedged between the Colorado River and the montane and sub-alpine environments of Castle Peak. This poster focuses on raw material patterns noted within the prehistoric chipped stone assemblages, specifically the use of local versus non-local raw materials, the potential source areas for those materials, and the intensity of chipped stone tool reworking. If non-local raw materials are prominent, lithic reduction strategies are primarily in late stages, and chipped stone tool reworking is moderate, then the WSA site assemblages will represent intensively occupied camps. Conversely, if local raw materials are prominent, lithic reduction strategies are primarily in early stages, and chipped stone tool reworking is minimal, then the WSA site assemblages will represent more camps that are ephemeral. The CMPA aimed to explore whether prehistoric sites in these WSAs represent intensively occupied camps, more ephemeral hunting forays, or a variety of site uses in-between.

Milligan, Jennifer L. B. (PaleoResearch Institute, Inc.),
Jason LaBelle (Colorado State University), and
Curtis Martin (Dominguez Archaeological Research
Group)

*Session 4: Meat, It's What's for Dinner: Protein Residue
Analysis Along the Rockies*

Protein residue analysis using cross-over
immunoelectrophoresis (CIEP) was conducted on artifacts
and feature components from sites along the Rocky
Mountains including an Early-Middle Archaic foothill site
and a Formative Era-Late Prehistoric Ute site.

Positive results of varying strength were observed for rocks
recovered from a milling slab from the Spotted Pony site
(5BL82) and the floor of a storage pit at the Jeff Lick Stone
Circles site (5MN3462). When protein residue results are
combined with zooarchaeological and macro/mico botanic
analyses we can reconstruct tool use, feature functions, and
menu options.

Nelson, Amy (Metcalf Archaeological Consultants, Inc.)
see Kelly J. Pool

Nelson, Michelle (University of Utah) see Carlie Ideker

Newton, Cody (University of Colorado) see
Spencer Pelton

Notes:

Pelton, Spencer (University of Wyoming), **Joshua Boyd** (University of Wyoming), **Heather Rockwell** (National Park Service), **Cody Newton** (University of Colorado)
Session 2: *On the Relationship between Folsom Fluting and Cold Adaptation*

Archaeologists working in the Plains and Rocky Mountain regions have long recognized a relationship between Folsom fluting and the cold conditions of the Younger Dryas (YD) chronozone. The two phenomena seem to correspond closely in time. Implicit to the association between Folsom fluting and the YD, then, is the notion that the former is in some way a human adaptation to cold temperatures. Either fluting was a) part of a larger, integrated suite of behaviors, and indirectly related to cold adaption or b) that fluting was directly related to cold adaptation in a functional manner. Exploring this relationship, we present a multi-scalar spatial analysis of Folsom fluting, bone needles, and temperature at structure, site, and regional-level scales. Additionally, we present the results of a use wear analysis on channel flakes from the Agate Basin site and Barger Gulch, Locality B that we undertook in order to test the notion that Folsom foragers used channel flakes to produce cold weather garments. We find little evidence that Folsom fluting was directly related to cold adaptation, but ample evidence to suggest fluting was indirectly related to a suite a cold-adapted behaviors.

Notes:

Peterson, Marcia (Office of the Wyoming State Archaeologist)

Session 1: *Paleoindian Presence in the Cloud Peak Wilderness Area of the Bighorn Mountains*

In July 2015, the Office of the Wyoming State Archaeologist conducted an archaeological inventory of the Mirror Lake and Lost Twin Lakes area of the Cloud Peak Wilderness. Six new sites and four isolated resources ranging in age from the Late Prehistoric to the Paleoindian periods were recorded. One Cody knife was located at the lower Lost Twin Lake at approximately 10,400 ft asl, and one Eden midsection was located approximately 4 miles away from the Cody knife near the boundary between the Cloud Peak Wilderness and Bighorn National Forest at around 9,000 ft asl. This paper will summarize the results of the 2015 inventory and synthesize the Cody Complex and other paleoindian artifacts and sites located in the high elevations of the Cloud Peak Wilderness and Bighorn National Forest areas.

Notes:

Peterson, Marcia (Office of the Wyoming State Archaeologist)

Session 1: *Alpine and Ice Patch Archaeology in the Caribou-Targhee National Forest and Grand Teton National Park*

In 2013, the Office of the Wyoming State Archaeologist conducted an archaeological inventory of the Alaska Basin in the Jedediah Smith Wilderness Area of the Caribou-Targhee National Forest. In 2015, OWSA conducted archaeological inventories of the North Fork Teton Creek and Roaring Creek drainages in the Jedediah Smith Wilderness Area and surveyed three ice patches, two in the Jedediah Smith Wilderness Area and one on Table Mountain in Grand Teton National Park. This paper will report the results these alpine and ice patch inventories.

Notes:

Pool, Kelly J. (Metcalf Archaeological Consultants, Inc.),
Gail Lincoln (Metcalf Archaeological Consultants, Inc.),
Amy Nelson (Metcalf Archaeological Consultants, Inc.),
Naomi Rintoul (Metcalf Archaeological Consultants, Inc.),
Nicki Sauvageau (Metcalf Archaeological Consultants,
Inc.), **John M. Scott** (Metcalf Archaeological Consultants,
Inc.), **Garrett Williams** (Metcalf Archaeological
Consultants, Inc.)

Poster Session 3: *Archaeology and the Ruby Pipeline in
Southwest Wyoming*

Produced as part of the Ruby Pipeline project's public education component, this poster describes excavations conducted by Metcalf Archaeological Consultants, Inc. that identified occupations on five sites dating from roughly 7800 BP to A.D. 1700/1800. The earliest Archaic dates were from an isolated hearth (48UT2696) near Little Muddy Creek and a deeply buried stratified camp (48LN4114) in the Hams Fork valley. On the eastern slope of Oyster Ridge, two sites (48LN1301, 48LN3997) with Archaic house pits exhibited long-term Archaic and Late Prehistoric use. One (48LN3997) preserved Late Prehistoric house pits as well as pronghorn processing associated with both Archaic and Late Prehistoric springtime mass kills. In Dry Muddy Creek basin, data recovery exposed a Late Prehistoric flintknapping station (48LN2043) and a Protohistoric/early Historic butchering, processing, and retooling locale (48LN2041) associated with a fall pronghorn mass kill.

Puseman, Kathryn (Paleosciapes Archaeobotanical Services Team) see Craig M. Lee

Rintoul, Naomi (Metcalf Archaeological Consultants, Inc.) see Kelly J. Pool

Rittenour, Tammy (University of Utah) see Carlie Ideker and Hillary A. Jones

Reckin, Rachel (University of Cambridge) see Craig M. Lee

Reckin, Rachel (University of Cambridge)

Session 2: *Patterns of High Altitude Use in the Beartooths: The Waples*

Between the 1920s and the 1970s, a game warden named Vern Waples collected more than 1300 prehistoric artifacts from the area surrounding Red Lodge, Montana, most of them from the Absaroka/Beartooth Wilderness. In recent years, Waples returned the collection, along with his notes, to the Custer National Forest. Because Waples kept relatively detailed records about the location of his finds, unlike many collectors, his collection provides a remarkable cross-section of lithics from high altitudes in the Greater Yellowstone ecosystem. Specifically, in this paper I will use over 400 typed points as a proxy to measure the changing intensity of human high altitude activity in the Absaroka/Beartooths over time.

Rockwell, Heather (National Park Service) see
Spencer Pelton

Rowe, Matthew (University of Arizona) see
Judson B. Finley

Sauvageau, Nicki (Metcalf Archaeological Consultants,
Inc.) see Kelly J. Pool

Scott, John M. (Metcalf Archaeological Consultants, Inc.)
see Kelly J. Pool

Notes:

Scott Cummings, Linda (PaleoResearch Institute, Inc.)
Workshop: Radiocarbon Dating: Expectations & Essentials for Sample Selection

The objective of AMS radiocarbon dating varies by project. At its most basic, AMS radiocarbon dating provides reference points to understand the chronology of past occupations or events. AMS radiocarbon dating also may be used to identify separate occupations, refine chronologies, and identify when individuals (humans or animals) lived. Understanding what constitutes an ideal sample and what can be dated is critical for archaeologists, particularly when it relates to life span of the material being dated. Life span of trees may exceed centuries, introducing another element of uncertainty to the date calibration. Consider that once you produce a date “you own it.” It’s up to you to interpret it in proper context, report it, and explain any anomalies you observe. Don’t pollute the greater archaeological radiocarbon database with dates that are meaningless or worse, have no relevance. Today there is almost no such thing as a bad date, but some dates do not meet expectations. We, as archaeologists, need a new paradigm to handle the dates that don’t meet expectations. We’ll discuss contamination, life span of material dated, and compare dates on microscopic charcoal, which can be chemically pre-treated to the same standards as visible pieces of charcoal, to dates on soluble humates, viewed as “ballpark” at best, wrong at worst, and usually problematic.

Sgouros, Rebecca A. (Jackson Hole Historical Society and Museum) see Matthew A. Stirn

Stirn, Matthew A. (Jackson Hole Historical Society and Museum), and **Rebecca A. Sgouros** (Jackson Hole Historical Society and Museum)

Session 1: *Lipid Residue Analysis of Steatite and*

Groundstone Artifacts from the Teton Range, Wyoming

During the 2014 field season, the Teton Archaeological Project (Wyoming) conducted a pilot study to determine the survivability of absorbed lipid residues in prehistoric high-elevation artifacts. This study tested two Middle Archaic (c. 5,000 BP) and Late Prehistoric (c. 2,000 – 300 BP) groundstone manos, six Late Prehistoric steatite bowl fragments, and one Middle Archaic projectile point for plant and animal fatty acids and/or other lipid biomarkers. The results of this project identified a high level of fatty acids and/or other identifiable lipid biomarkers in all samples and determined that the residues could be extracted and analyzed using a non-destructive methodology. After exploring the successes and limitations of the study, this paper determines that absorbed lipid residue analysis offers a detailed tool for reconstructing prehistoric alpine diets.

Notes:

Vleck, David (Bonneville Archaeology)

Session 1: *High Elevation Archaeological Research in the Northern Wind River Range, Wyoming*

In 2015, Bonneville Archaeology conducted archaeological investigations in the Northern Wind River Range, Bridger/Teton National Forest. Terms of the Forest Service permit identified the Northern Wind Rivers from the iconic Squaretop Mountain and the upper Green River southward towards the glacial region north of Titcomb Basin as priority. Prehistoric campsites, Bighorn sheep procurement locales, steatite sources and heavily utilized chert and quartzite quarries abound. The research includes examination of snow fields and ice patches in an area of the north-central Rocky Mountains previously unexplored.

Notes:

Whittenburg, Aaron (Center for Mountain and Plains Archaeology, Colorado State University)

Session 2: *Hunting Above the Trees: Site Chronology at Three Prehistoric High Elevation Hunting Sites and a Lithic Scatter at Rollins Pass, Grand County, Colorado*

This paper investigates the chronology of three prehistoric high elevation hunting sites (5GA35-37) and a lithic scatter (5GA48) located above tree limit near Rollins Pass, Colorado. Understanding site chronology is important for reconstructing and comparing prehistoric lifeways during different periods of occupation, including such things as regional mobility, raw material preference, and hunting strategies, among others. This analysis utilizes projectile points and a radiocarbon date produced during the 1970 excavation of six hunting blinds by Byron Olson and James Benedict and points collected during a series of intensive surface surveys beginning in 2011 by Jason LaBelle and the Center for Mountain and Plains Archaeology. Projectile points are compared to established regional sequences to derive a period of use for each tool. The derived sequence is then compared to chronological sequences from other high elevation game drives along the Continental Divide. This analysis provides a more holistic understanding of how hunting sites at Rollins Pass fit into the regional story of prehistoric high elevation hunting along the Continental Divide in northern Colorado.

Williams, Garrett (Metcalf Archaeological Consultants, Inc.) see Kelly J. Pool

Yu, Pei-Lin (Boise State University) see Craig M. Lee

Notes:

PAST CONFERENCE ORGANIZERS, SPEAKERS, FIELD TRIPS AND RMAA BOARDS

Location and Organizers:

- 1993 Jackson, WY. David B. Madsen, Michael D. Metcalf, Jamie Schoen
- 1995 Steamboat Springs, CO. Calvin H. Jennings, Michael D. Metcalf, Susan Struthers
- 1997 Bozeman, MT. Kenneth P. Cannon and Jack Fisher
- 1999 Glenwood Springs, CO. Marcel Kornfeld, Mary Lou Larson, Rhoda O. Lewis, Michael D. Metcalf, Brian Vivian
- 2001 Waterton Lakes National Park, AB. Marty Magne, Barney Reeves, Brian Vivian
- 2003 Estes Park, CO. Bob Brunswig and Bill Butler
- 2005 Park City, UT. Craig Smith, Bonnie Pitblado, Lynn Harrell, Ronald J. Rood, Scott McKern
- 2007 Jackson, WY. Kenneth P. Cannon and Molly Boeka Cannon
- 2009 Gunnison, CO. Casey Dukeman, David Byers, Brian Andrews, Rachel Wolf, Megan Jamison, Lu Anna Bryant, Ruth Dukeman (plus student organizers)
- 2011 Missoula, MT. Douglas MacDonald, Pei-Lin Yu
- 2013 Taos, NM. Marcel Kornfeld, Jan Biella, Judson Byrd Finley, Gary Grief, Kathy Roxlau, Sylvia Rodriguez, Ana Steffen, Jacqueline St. Claire, Jeannie Tiemann, Brad Vierra, Dorothy Wells, Paul Williams

2015 Steamboat Springs, CO. Linda Scott Cummings and Jennifer Milligan

Board of Directors (until incorporation of RMAA in 2007, RMAC conference organizers served as an informal board. In 2007 the association was incorporated and the incorporation signatories began the task of organizing elections. First elections took place in 2011).

2007 Kenneth P. Cannon (President), Linda Scott Cummings, Marcel Kornfeld (Secretary), Craig M. Lee, David B. Madsen, Bonnie Pitblado (temporary secretary at meeting), Russel L. Tanner, and Jeannie Tiemann (Treasurer)

2009 Kenneth P. Cannon (President), Linda Scott Cummings, Marcel Kornfeld (Secretary), Craig M. Lee, David B. Madsen, Bonnie Pitblado, Russel L. Tanner, and Jeannie Tiemann (Treasurer)

2011 Kenneth P. Cannon (President), Marcel Kornfeld (Secretary), Jeannie Tiemann (Treasurer), Linda Scott Cummings, Craig M. Lee, David B. Madsen, Bonnie Pitblado, and Russel L. Tanner

2013 Kenneth P. Cannon (President), Casey Dukeman (Vice President), Marcel Kornfeld (Secretary), Jeannie Tiemann (Treasurer), Jacqueline St. Claire, Meg van Ness, Michael D. Metcalf, Bonnie Pitblado

2015 Mike Metcalf (President), Jacqueline St. Claire (Vice-President), Christopher Morgan (Secretary), William Eckerle (Treasurer), Casey Dukeman, Jennie Lee, Meg Van Ness, Brian Vivian

Banquet Speakers or Events:

- 1993 Buffet and organizational meeting
- 1995 Buffet and organizational meeting
- 1997 Kenneth L. Pierce (USGS), Global Change and Climate History
- 1999 Jack Gladstone, Blackfoot singer/songwriter/storyteller
- 2001 Andy Russell,, naturalist and author, Real Bears Friday BBQ and Jack Gladstone, Blackfoot singer/songwriter/storyteller
- 2003 Gerald Baker (NPS) and W. Raymond Wood (U. Missouri, Columbia), Lweis and Clark Centennial
- 2005 Mark Aldenderfer (U. Arizona), Preshistoric Hunger-gatherers of the Andes and Himalayas
- 2007 John Rick (Stanford), Hunger-Gatherers of the Frigid Tropics - Early Archaeology of High Altitude Peru
- 2009 Donald Grayson (U. Washington), Dead Wood, Global Warming, and High Elevation Archaeology in Western North America
- 2011 Milo McLeod (USFS) and T. Weber Greiser (HRA), Working with Lewis Binford in the Arctic
- 2013 Thomas Leatherman (U. Massachusetts, Amherst), The Shifting Faces of Human Ecology in the High Andes of Peru

Field Trips:

1993

1995 Windy Ridge Quartzite Quarry

1997 Optional Field Trip

1999

2001 Head-Smashed-In

2003 Trail Ridge and Trail Ridge Game Drive

2005

2007 The Henn Site (Mary Lou Larson and Marcel Kornfeld); Quaternary Geology and Archaeological Site Burial in Jackson Hole, Wyoming (William Eckerle); the Archeology of Jackson Lake (Kenneth P. Cannon); The Goetz Site (Kenneth P. Cannon, William Eckerle, Mollyl Boeka Cannon, and Kenneth L. Pierce); Blacktail Butte; The Game Creek Site (Daniel Eakin)

2009 Mountaineer Site (Mark Stiger and Casey Dukeman)

2011 Black Bear Coulee Paleoindian site and Coloma/Garnet ghost towns

2013 Taos Pueblo (Dorothy Wells); Fort Burgwin and Pot Creek Pueblo (Mike Adler, Kit Nelson); Valles Caldera National Preserve (Ana Steffen); Vista Verde Petroglyph (Severin Fowles, Hannah Kligman)

Other Significant RMAC Events:

- 1993 Inaugural Conference; Plenary Session: Human Use of High Altitude Environments
- 1995
- 1997
- 1999 Plenary Session: The Rocky Mountain Culture Area
- 2001 Plenary Session: Archaeology, Paleoecology, Traditional Knowledge and Rocky Mountain Ecosystem Management in the 21st Century
- 2003 Athapascan Migrations in Western North America
- 2005 Rocky Mountain Archaeology Ccontinues to Look Up
- 2007
- 2009 Plenary Lunch: Cultural Interaction and Continuity Between the Rocky Mountains and Adjacent Regions
- 2011 Federal Lands and CESU Research
- 2013 From Jackson to Taos



The University of Georgia

Center for Applied Isotope Studies

Radiocarbon Dating

AMS & Conventional

Isotope Ratios

δD , $\delta^{13}C$, $\delta^{15}N$, $\delta^{18}O$, $\delta^{34}S$, $^{87}Sr/^{86}Sr$, C/N ratio

Elemental Analyses

ED-XRF, WD-XRF, portable-XRF

CHN-elemental analyses of bulk samples

ICP-MS, ICP-OES

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Alex Cherkinsky, cherkin@uga.edu
Radiocarbon Dating, Bone/Teeth

Randy Culp, rculp@uga.edu
Stable Isotopes, GC-IRMS

Doug Dvoracek, dvoracek@uga.edu
Geochemistry, Geology, Sr isotopes

Alice Hunt, ahunt@uga.edu
XRF, ICP-MS/OES, Archaeology

Kathy Loftis, kloftis@uga.edu
Residue Analysis, ICP-MS/OES

Jeff Speakman, archsci@uga.edu
Geochemistry, Archaeology, XRF

www.cais.uga.edu

120 Riverbend Rd., Athens, GA 30602

706-542-1395