NEWSLETTER
June–July 2015

RM–CESU NEWS & EVENTS

RM–CESU Announces the Annual Competition for Student Award
The Rocky Mountains CESU annually recognizes outstanding students through an awards program.

The **RM–CESU Student Award** recognizes "above and beyond" accomplishments by students involved in Rocky Mountains Cooperative Ecosystem Studies Unit (RM–CESU) projects. Nominations may be submitted by any representative of the federal agency that sponsored the RM–CESU project, or by the student's RM–CESU university.

**Nominations for Student Award are due July 15, 2015.** The Award winner(s) will receive a citation and give a presentation on their project results at annual RM–CESU Fall Meeting in September. For nomination instructions, go to the RM–CESU web site at: [http://www.cfc.umt.edu/CESU/files/Announcements/CESU_Student%20Award.pdf](http://www.cfc.umt.edu/CESU/files/Announcements/CESU_Student%20Award.pdf). For more information contact Lisa Gerloff, RM–CESU Executive Coordinator, at 406-243-6936, lisa.gerloff@umontana.edu

RM–CESU Outreach Visit to LBHC and CDKC
On May 13–14, 2015 Brendan Moynahan, Rocky Mountain Cooperative Ecosystems Studies Unit (RM–CESU) NPS Research Coordinator, and Lisa Gerloff, RM–CESU Executive Coordinator University of Montana, did "outreach visits to two of our tribal college members, Little Big Horn College (LBHC) and Chief Dull Knife College (CDKC). The goals of the visit were to introduce ourselves, learn about our respective organizations, and identify areas of overlap that could lead to cooperative projects through the CESU. On May 13th we met with David Small, Dean of Administration at LBHC. Other NPS participants included Chris Zeigler, Chief of Resources at Little Bighorn Battlefield and Virginia DuBowy, Chief of Resources at Bighorn Canyon National Recreation Area (NRA). We discussed opportunities for internships and experiential learning.

May 14th we travelled to CDKC and met with Zane Spang, Dean of Administration, John Tuthill, Dean of Academic Affairs, and a number of the faculty covering the disciplines of anthropology, Native studies, math, GIS, biology and ecology. Chris Zeigler and Suika Rivett, Archaeologist at Bighorn Canyon NRA were also in attendance. Again internships were a key discussion point, especially the opportunity for cultural interns (archives, data management, interpretation, historical research).
Communicating Climate Change to Technology-Savvy World: Creating Videos based in Glacier National Park

Sarah Moody, Environmental Studies Department, University of Montana

Climate change is altering ecosystems across the entire planet and with it the way in which humans view and interact with the world. Glacier National Park presents a stark image of these changes through the melting glaciers, changes in biodiversity, and altered landscapes. A visitor survey conducted in the national parks in 2011-2012 on climate change education, found that not only do most visitors want to learn more about climate change but they are willing to change their behaviors in the parks to help mitigate the effects of climate change. It is imperative to communicate to the public about these pressing threats in order to educate and respond.

The glaciers in Glacier National Park could be gone by as early as 2020. Even with this visual red flag warning, it is difficult to connect the melting glaciers directly to people’s lives. People must find ways to embrace the beauty and wonder of the natural world while living in a technology driven world. In today’s media, people gather news and learn about the outside world through images and videos that are readily available online.

This project explores the production of short videos on climate change for the Crown of the Continent Learning Center in Glacier National Park as an attempt to connect the impacts of climate change directly to people’s lives. Interviews with experts, locals, and employees are paired with beautiful scenery to engage people with the environmental challenges that face the planet. These videos will be featured on the Learning Center’s website to increase public awareness.

Filming took place throughout Glacier National Park with Canon 5D Mark 2 and Mark 3 cameras. Two videos were produced for the project. The first addresses the water system in Glacier and the connection between glaciers, snow pack, and agricultural lands. The second film highlights the changes that have been witnessed and measured in Glacier, their connection to climate change, and the implications of these changes.

This project is intimately tied to resource conservation in Glacier National Park. Finding ways to communicate and educate the public on the effects of global warming will be crucial in creating a global response to this crisis. These videos will be used as educational material on climate change for the park. Glacier is an unbelievably beautiful and precious natural resource, and it is an excellent venue to show the effects of climate change and opportunities to shift the current climate trajectory. There is a balance that must be found between nature and technology, using the two creatively in partnership to generate more effective messages about the urgency of climate change.

Sarah Moody is a recipient of a 2014 Jerry O’Neal National Park Service Student Fellowship. Read Ms. Moody’s Portfolio for her M.A. in Environmental Studies at the University of Montana: [http://files.cfc.umt.edu/cesu/NPS/UMT/2013/O’Neal_fellowship_Moody_portfolio.pdf](http://files.cfc.umt.edu/cesu/NPS/UMT/2013/O’Neal_fellowship_Moody_portfolio.pdf)
**University of Colorado Boulder: The ebb and flow of Greenland’s glaciers** New CU-Boulder-led paper could improve understanding of Greenland’s contribution to sea level rise.

In northwestern Greenland, glaciers flow from the main ice sheet to the ocean in see-sawing seasonal patterns. The ice generally flow faster in the summer than in the winter, and the ends of glaciers, jutting into the ocean, also advance and retreat with the seasons.

A new analysis shows some important connections between these seasonal patterns, sea ice cover and long-term trends. Glaciologist hope the findings, accepted for publication in the June edition of the American Geophysical Union’s Journal of Geophysical Research-Earth Surface and available one, will shed light on how a warming Greenland will contribute to sea level rise. To continue reading, please click on link [http://www.colorado.edu/news/releases/2015/06/01/ebb-and-flow-greenlands-glaciers](http://www.colorado.edu/news/releases/2015/06/01/ebb-and-flow-greenlands-glaciers)

**Utah State University: Controlled Floods Rebuilding Colorado River Habitat say USU Scientists** In a warming world of inevitably decreasing runoff and increasing human needs, rehabilitating parts of the much-dammed and much-diverted Colorado River is an immense challenge that requires identifying river segments where tractable strategies can be implemented. The Colorado River downstream from Glen Canyon Dam in the Grand Canyon region is one such place say U.S. Geological Survey scientists, many of whom have a long association with Utah State University.

USU alum Paul Grams ’97MS, research hydrologist with the USGS Grand Canyon Monitoring and Research Center, is lead author on a paper detailing this challenge, penned with former USU advisor Jack Schmidt, published in the June 3, 2015, issue of the American Geophysical Union’s *Eos* online newsletter. Additional authors include USGS colleagues Scott Wright, David Topping, Ted Melis and David Rubin.

“The U.S. Department of Interior’s High-Flow Protocol, adopted in 2012, is yielding positive results in terms of building larger sandbars,” says Schmidt, professor in USU’s Department of Watershed Sciences, who recently returned to Utah State after serving as USGS/GCMRC chief for the past three and a half years. To continue reading, please click on link [http://www.usu.edu/ust/index.cfm?article=54882](http://www.usu.edu/ust/index.cfm?article=54882)

**University of Utah: Why big dinosaurs steered clear of the tropics** For more than 30 million years after dinosaurs first appeared, they remained inexplicably rare near the equator, where only a few small-bodied meat-eating dinosaurs eked out a living. The age-long absence of big plant-eaters at low latitudes is one of the great, unanswered questions about the rise of the dinosaurs.

And now the mystery has a solution, according to an international team of scientists who pieced together a remarkably detailed picture of the climate and ecology more than 200 million years ago at Ghost Ranch in northern New Mexico, a site rich with fossils from the Late Triassic Period.

The new findings show that the tropical climate swung wildly with extremes of drought and intense heat. Wildfires swept the landscape during arid regimes and continually reshaped the vegetation available for plant-eating animals.

“Our data suggest it was not a fun place,” says study co-author Randall Irmis, curator of paleontology at the Natural History Museum of Utah and assistant professor at the University of Utah. “It was a time of climate extremes that went back and forth unpredictably and large, warm-blooded dinosaurian herbivores weren’t able to
exist nearer to the equator - there was not enough dependable plant food.” To continue reading, please click on link http://unews.utah.edu/news_releases/dinosaur-mystery-explained/

University of Wyoming: UW Life Sciences Program Earns High Marks in National Pilot Project Students taking undergraduate biology courses at the University of Wyoming are studying in an outstanding program that is at the forefront of national efforts to improve biology education, an organization funded by the National Science Foundation has concluded. UW's Life Sciences Program, which each year teaches about 2,200 students in 28 of the university's academic departments, has been evaluated by the Partnership for Undergraduate Life Sciences Education (PULSE) as one of the top programs among eight institutions chosen for an ambitious pilot certification project.

The project is intended to provide incentives for colleges and universities across the country to transform their life sciences programs or biology departments, leading to broad national change in how undergraduate life science courses are taught. The nationwide PULSE effort coincides with UW’s Science Initiative, which aims to transform science education and improve student success at UW and across the state, while creating world-class facilities to propel research on issues important to the state and nation. To continue reading, please click on link http://www.uwyo.edu/uw/news/2015/06/uw-life-sciences-program-earns-high-marks-in-national-pilot-project.html

JOB OPPORTUNITIES

Director, American Heritage Center, University of Wyoming, Laramie, WY (closes 9/15/2015)

Assistant or Associate Professor of Dendroclimatology, Department of Plants, Soils, and Climate in collaboration with the Ecology Center, Utah State University, Logan, UT (screening begins 8/17/2015)

Wildlife Biology positions, Center for Environmental Management of Military Lands (CEMML), positions located at Fairbanks Fort Wainwright, Alaska and Donnelly Training Area, Delta Junction, Alaska. (This pool expires 11:59 pm, July 15, 2015)

Research Scientist, Future Earth Secretariat, Colorado State University, Fort Collins, CO (closes 6/28/15)

For details on job opportunities visit http://www.cfc.umt.edu/cesu/Postings/Jobs.php

MEETINGS OF INTEREST


October 5-8, 2015: 13th Biennial Conference of Science & Management on the Colorado Plateau and Southwest Region, Northern Arizona University, Flagstaff, AZ. The 13th Biennial Conference is the preeminent forum for bringing together resource managers and research scientists to discuss findings and management needs associated with the Southwest's natural and cultural resources. http://nau.edu/Merriam-Powell/Biennial-Conference/

If you would like to post an announcement in the next RM-CESU Newsletter or on the website, please contact the RM-CESU Coordinator at rmcesu@cfc.umt.edu.