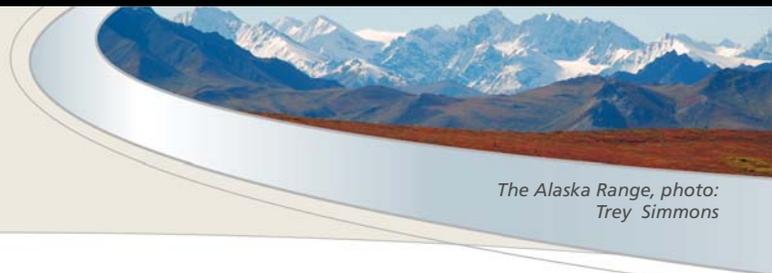




# CAKN Field Season 2012 Highlights

Issue 1, Dec 2012



The Alaska Range, photo:  
Trey Simmons

## Muldrow Glacier terminus plant communities: 54 years later

“Plant Succession and Soil Development on the Gravel Outwash of the Muldrow Glacier, Alaska” described the vegetation and site characteristics in 1958. The study, authored by Les Viereck, was published in a 1966 issue of Ecological Monographs. This summer, the study was repeated by NPS staff. The goal of the new study is to evaluate vegetation changes that have occurred across more than five decades in the vicinity of the Muldrow Glacier terminus. The vegetation and site characteristics in each of the five successional stands originally measured in Viereck’s study were repeated using the same methods. Analyses of 2012 field data will yield important information regarding the trajectory of succession and comparisons to the original data set will yield insights regarding the magnitude and direction



Vegetation plot in 1958, Les Viereck photo



Vegetation plot in 2012

of vegetation and plant community changes that have occurred across a long span of time in interior Alaska. This study will provide a unique window into ecosystem changes over a period of 54 years and update a classic study in the history of Alaska vegetation scholarship. For more information, contact Carl Roland.

## Creative collaboration ensures continued data collection at Nabesna River station

The first field season for the collaborative operation of the Nabesna River gaging station was completed in 2012. The station has operated since 2007 but was scheduled for removal in 2012. To maintain this important data collection point, the CAKN Stream Monitoring Program entered into a collaboration with the FWS Water Rights Branch, Tetlin NWR and the NOAA River Forecast Center to maintain the station indefinitely. In March, a new datalogger and GOES satellite transmitter were installed, providing real-time stage data for the first time. During visits in May, July and September, discharge measurements were made using an acoustic Doppler current profiler, and routine station maintenance was performed. Discharge data from this station, the only currently operating gage within or downstream of a network park, will be used to assess hydrologic conditions upstream in WRST. For more information, contact Trey Simmons.



USFWS scientists measure flow in the Nabesna River through the ice, March 2012.

## Adaptive management plan guides decisions on access

The impacts of recreational hiking on the reproductive success of Golden Eagles in Denali have been incorporated into a structured adaptive management framework that now guides decisions about trail access each season. This collaborative effort involves NPS staff and Dr. Julien Martin, Dr. Jim Nichols, Dr. Paul Fackler, and Dr. Krishna Pacifici. This effort has been described in several professional journal articles and the adaptive management framework for this project was recently highlighted in a national report.



Golden eagle, photo: Carol McIntyre-Hander

Williams, B. K., and E. D. Brown. 2012. Adaptive Management: The U.S. Department of the Interior Applications Guide. Adaptive Management Working Group, U.S. Department of the Interior, Washington, DC. Data collected by the CAKN Golden Eagle monitoring program was instrumental for developing this framework.

For more information, contact Carol McIntyre.

## Listening to wood frogs in CAKN parks

During summer 2012, CAKN aquatic ecologists used sound recorders to monitor the timing and duration of the wood frog (*Rana sylvaticus*) breeding season. In this second year of the program, battery supplies were updated at sites in Denali and Wrangell-St. Elias and an additional site was added in Yukon-Charley Rivers. Using sound



Sound recorders are being used to monitor the wood frog breeding season.

recorders allows staff to deploy recorders well in advance of spring break up and continue collecting

### By the numbers:

- 93** percent occupancy by golden eagles in Denali
- 420** number of fossil specimens documented this summer from the Late Cretaceous Cantwell Formation in Denali
- 58** stream sites visited in 2012
- 37** number of years peregrine falcons have been monitored by NPS in YUCH
- 86,385** documented occurrences of vascular plants from Denali found in historical herbarium records
- 62** shallow lakes sampled in in YUCH this summer
- 197** current number of DNA barcodes acquired for aquatic invertebrates
- 3.01** max daily rainfall (in), 9/16/2012 at Tebay in WRST
- 71** max wind gust 71 (mph), 9/4/12 at Klawasi, WRST
- 87** maximum temperature (°F) 6/23/2012 at McKinley River, DENA
- 59** minimum temperature (°F), 1/28/2012 at McKinley River, DENA

### UPCOMING FIELD TIME:

- Moose survey in YUCH (November)
- River gage reading at Nebesna River WRST (Dec, Jan)
- Wolf surveys DENA, YUCH (Feb)

data well after breeding has finished. This method is being used over ground surveys because surveys often miss the calling period because site conditions are unknown. The recorders collected sound data from late April through mid-September. In addition to collecting audio data for frogs, these test recorders captured digital recordings of frogs and other birds and animals from both wetlands. This collaborative effort seeks to track phenological changes in the timing and duration of the wood frog breeding season across North America and locally involves with Alaska Department of Fish and Game and the Terrestrial Wetland Global Change Research Group as well as CAKN. In 2013, CAKN plans to expand efforts into the Arctic Network, along the edges of the known distribution of wood frogs. For more information, contact Amy Larsen.

### Coldest January on record in 2012

Most of Alaska was under the influence of the persistent cold air mass last winter, and many communities reported January 2012 as the coldest on record, including McGrath, Nome, Galena, and Bettles. It was the 2nd coldest January on record at Denali Park headquarters, and temperature records at this location date back to 1925. The average temperature was -18.6 °F (-28.1°C), more than 20 degrees colder than the long-term average. The low for the month was -41 degrees (F and C) - recorded on January 25th. The maximum daily temperature did not rise above -20°F (-29°C) for 10 of the 31 days. There were 13 days where the minimum temperature was below -30°F (-34°C). There were 22 days where the high temperature for the day was below the average minimum temperature for that date. During the month of January 2012, the range of temperature was 71 degrees. Climate and snow monitoring was conducted at 16 locations in the CAKN parks. Data from the climate and snow stations are shared through partnerships with the Western Regional Climate Center (WRCC) and the Natural Resources Conservation Service (NRCS). The CAKN climate and snow data are transmitted real time and available via the web for summaries, analyses, and downloading. Contact Pam Sousanes for more information.



Snow survey in WRST adds to growing dataset of climate and snow records for the network