

SAN JUAN MOUNTAIN NOTES

Issue 3: 15 August 2007 (Spring and Summer 2007 News)

AN ELECTRONIC NEWSLETTER FROM THE



NEWS

Mercury Pollution Study Update. How much mercury is deposited in precipitation in the San Juan high country? Is it incorporated into food webs of mountain lakes? Has the amount of input changed over time? These are the questions MSI hopes to answer with data collected from its mercury project, funded by US-EPA with additional support from San Juan and GMUG National Forests, San Miguel County and Telluride Institute. Our progress so far includes sampling snowpack at four sites, collecting weekly precipitation samples since mid-April at Molas Pass, obtaining two lake sediment cores, and collecting zooplankton samples from over 20 lakes. By the end of the summer, an additional 2 lake sediment cores and several more zooplankton samples will be obtained. We don't yet have enough data back to announce results, so stay tuned...



Sampling at Lower Sunlight Lake in the Weminuche Wilderness.

Climate Conference Scheduled for Silverton. The Consortium for Integrated Climate Science in Western Mountains (CIRMOUNT) announced Silverton as the location for its 2008 conference. The event will bring 120 top climate scientists to Silverton from June 9 to 12. MSI will serve as the lead local host. Venues will include Kendall Mountain Recreation Center, Silverton Town Hall, Caledonia Boarding House Museum, and the Avon Hotel. A public lecture and workshop will be included in the conference events as part of the San Juan Climate Initiative. MSI wishes to thank the Town of Silverton, Silverton Chamber of Commerce and the many others that helped the conference organizers to select Silverton. We know that once these scientists experience Silverton that they will want to come back to conduct research...or maybe just take a vacation. Business owners who wish to offer participants reduced rates or other promotion should contact Koren Nydick at Koren@mountainstudies.org. See www.fs.fed.us/psw/cirmount/meetings/mtnclim2008.shtml for more info on the conference.

Who's Been Staying at the Avon? The Avon Hotel has seen a flurry of activity this summer. The Department of Geosciences at Trinity University in San Antonio brought a group of students in May. Will Hobbs made a trek from the University of Alberta to help with our field work on the EPA/Forest Service sponsored Mercury study-collecting valuable lake core samples from some (still) very snowy alpine areas. MSI provided lodging in May, June and July to Dr. Rodney Chimner and his assistants who returned to complete field work on Wetlands Fen assessments and restoration in the San Juan Mountain region. Fort Lewis College brought a Department of Biology class in June; the Department of Geosciences at CSU also brought a group of students for 3 weeks in June. The Colorado School of Mines visited the Avon Hotel in mid-June with 9 students, working late hours to complete their projects. A class from The University of Alabama came to Silverton to cool off in June and study the local geology. In July,



Another big dinner at the Avon.

Andy Burns brought his Fort Lewis College Admissions Department for a retreat; judging by the overall spirit of the group we suspect they might want to make this an annual event. MSI once again became the summer home of returning researcher Melanie Bergolc, PhD candidate from Bowling Green State University in Ohio and her field assistant Candace Brendler. Imtiaz Rangwala, doctoral candidate from Rutgers University, also settled in for the summer, working from a MSI sponsored research grant. MSI saw returning CSU researchers Sara Simonson and Ed Ayres several times this spring and summer; Aaron Berdanier made his first trip from CSU in July. Kimberly Ross from CU Boulder stayed in April working on Jason Neff's air sampling study. Tom Painter from CU Boulder was here in April, May and June; Corey Lawrence in June and July. *The Avon Field Station in Silverton is available to accommodate research, education, or non-profit users.* www.mountainstudies.org/Avon.

Capital campaign to buy the Historic Avon Hotel. MSI is forging ahead with plans to purchase the Avon, which it currently leases and uses as a field station. Acquisition of the Avon is critical for providing a long-term base for MSI operations and the work of visiting researchers and students. In turn, these activities contribute important economic resources to the local community. ***Donations to the Avon Fund are sought to provide matching funds for large grant proposals.*** Individuals and groups have the opportunity to become founding "room sponsors", which entitles them to name the room and install a permanent dedication or other note to inspire future occupants. MSI has applied for the purchase of the Avon to be a Region 9 Enterprise Zone project, which entitles the donor to significant tax credits. In addition, a proposal to the Colorado Department of Local Affairs Energy and Mineral Impact Assistance Program has been submitted by San Juan County and the Town of Silverton for partial funds for the Avon's purchase. Proposals to the Colorado Historic Society Fund and private foundations are in preparation.

Summer Education Series a Success. MSI offers seminars, field trips, and films free to the public. Events are led by MSI staff, visiting scientists, and local experts. Attendance has topped 120 so far, with a few events still remaining.

PAST EVENTS: Seminars: *Air Quality Issues in the San Juan Mountain High Country*, *Sex in the San Juans- A Songbird's Perspective*, and *Historic Preservation in Ouray & San Juan Counties: The Red Mountain Project*. Field trips: *Ecology & Conservation of Chattanooga Fen*, *Geology of the San Juan Mountains*, and a *Wildflower Walk*. Film: *Being Caribou*.



FINAL EVENTS:

- **Ecology in Avalanche Slide Paths**, Seminar cancelled, but stop by the Avon Hotel to see a poster by Sara Simonson, Natural Resource Ecology Laboratory, Colorado State University
- **Film: Cultural Adventure in the Himalayas!** Thursday, August 30, 7:00pm, Avon Hotel

Training Sessions for Environmental Professionals. A dozen water managers and consultants attended "Tree-ring reconstructions of stream flow and their use in water management" on May 31. The workshop, held at Fort Lewis College, was a collaboration between MSI and the University of Colorado/NOAA Western Water Assessment. The workshop is the first in a series of products that MSI hopes to provide as part of the San Juan Climate Initiative. Instructor Dr. Jeff Lukas explained how tree-rings are used to reconstruct historic stream flow prior to gauge records and how this information can be used in water management. As a result of recommendations provided by workshop participants, Dr. Lukas plans to perform reconstructions for one or two stream gauges in the San Juan "Mountains and provide this information to managers. See www.colorado.edu/resources/paleo/workshops.html for presentations from this workshop.

Another workshop, "Fen Wetlands Training", was held on July 9 at MSI's Avon field station in Silverton with a field trip to Chattanooga Fen. Instructor Dr. Rod Chimner and fifteen participants "submersed" themselves in the ecology and hydrology of these fragile wetlands, while learning methods for identifying fens and assessing their ecological health. This workshop, and two previous sessions in July 2006 attended by 45 participants, were offered as part of MSI's wetland grant funded by US-EPA. See www.mountainstudies.org/Research/fenProject.htm for fen training presentations.

Mini-Grant Recipients Announced. Since 2005 MSI has awarded students and post-docs funds to conduct projects in the San Juan Mountains. The 2007 San Juan Mini-Grant recipients are listed below. Results from the 2007 projects will contribute to the San Juan Climate Initiative. Information on this mini-grant program is found at www.mountainstudies.org/Research/miniGrant.htm.

Christy McCain, a post-doc at University of New Mexico, \$2,500 to study the "Elevational diversity of small mammals in the San Juan Mountains: Preliminary signals of climate change?"

Imtiaz Rangwala, a PhD student at Rutgers University, \$2,500 for his project, "Assessment of Changes in the Hydrological Cycle in the San Juan Mountains Due to the Past and Projected Future Climate Changes".

Julie Crawford, a PhD student at the University of Pavia, Italy, \$1,000 for her project, "Multi-Scale Investigations of Alpine Species in Northern Hemisphere Gloria Target Regions."

In addition, since 2006 MSI has managed a mini-grant program for students at Fort Lewis College to conduct projects in the San Juan Mountains. The 2007 recipients of FLC-MSI San Juan Mini-Grants: BoLars Matson, a major in Geosciences, \$500 for "Spatial Variability in the Development of Near-Surface Facets and Their Contribution to Avalanche Activity".

Eilene Lyon, a major in Biology, \$500 for "Effects of Ultra-Low-Volume Permethrin Spraying on Bat Activity in La Plata County, Colorado."

Sarah Donaldson, a major in Chemistry, \$500 for "Determination of the Relative Abundance of *Acidobacteria* in Soils Common to Mountain Environments".

MSI Thanks Outgoing Staff. Blake Engelhardt, Operations and Special Projects Manager, and Debbie Childers, Finance Manager, will be moving on to the next chapter of their lives. We wish them the best of luck and thank them for their immensely valuable contributions to MSI.

MSI Director welcomes new family member. Executive Director, Koren Nydick and husband Brad Brandewie are proud parents of Owen Nydick Brandewie, born on June 22. At four weeks of age, Owen participated in his first day of field work, looking on from shore as mom worked with MSI techs on the mercury project.



Owen Nydick Brandewie!

VISITING SCIENTIST PROFILES

Rod Chimner. If you want to know something about wetlands, ask Dr. Rod Chimer, a professor from Michigan Tech University, who has spent the past three summers studying fens in the San Juan Mountains. A fen is a ground-water fed wetland that forms peat soils. They are particularly prevalent in the San Juans and are sensitive to impacts from human activity and climate change. Rod's research involves understanding how disturbance and climate affect fen hydrology and ecology. He also develops methods to monitor fen health and restore impacted areas. Rod works with Dr. David Cooper from Colorado State University (profiled in MSI's 2004 Benchmark) and MSI on the San Juan Fen Project. The project, funded by US-EPA, has surveyed 200 fens and provided three training workshops for environmental professionals. Rod also recently led a fen field trip for the public as part of MSI's 2007 summer Education Series. See www.mountainstudies.org/Research/fenProject.htm for more info.

Sara Simonson. You might have met Sara skiing near Red Mountain Pass with snow survey teams in the Senator Beck Basin Study Area of the Center for Snow and Avalanche Studies, or in the summer,

hiking steep avalanche paths to survey native plant species and forest disturbance. Her projects on avalanche path ecology (supported through MSI's mini-grant program) are focused on areas where large slides occurred following the severe snow storms in January 2005. Sara aims to highlight the impressive diversity of species and ecosystems that are found in avalanche terrain, to map the local frequency and magnitude of avalanches, and to contribute to snow system monitoring for the San Juan Mountains. Investigations from example avalanche paths near Silverton show that characteristic patterns in the spatial distribution of landscape vegetation, and annual growth layers in woody plants (tree rings and impact scars), can be used to extend the historical record of past avalanche events. Sara plans to continue her research in avalanche ecology and snow science in the San Juan Mountains, as a Research Associate with the Natural Resource Ecology Laboratory, and a student in the Earth Sciences - Watershed PhD program through the Department of Geosciences, at Colorado State University.

OPPORTUNITIES

2 MSI Positions Open. **Finance & Operations Manager** to begin mid-Sept. in Silverton. Applicants must have solid accounting, computer, communication and organization skills; and desire to live in a small mountain town and interact with scientists, environmental managers, students, and local collaborators. Position is 4-5 days/wk. Job-sharing is possible. **Trails Project Coordinator** in Silverton. Position is temporary, part-time with flexible hours based on project needs. Applicants must be community-oriented and have ability to negotiate permits and permissions for trail right-of-way, lead volunteer work crews, and interact with artists commissioned for trail art. **To apply**, email letter of interest, resume and references to Koren Nydick, koren@mountainstudies.org as soon as possible. For full position descriptions, see www.mountainstudies.org. MSI is an equal opportunity employer.

Advertise in the 2008 MSI San Juan Mountains Calendar! MSI seeks sponsors for a large, color calendar. Each month will feature a sponsor, an MSI activity, and a beautiful eye-catching photograph. Five hundred calendars will be distributed free of charge throughout the region. Funds generated from this calendar will allow MSI to continue its ambitious mission in the San Juans. Sponsors will receive a letter documenting donation to a 501(c)3 not-for-profit organization. Please contact Koren Nydick, koren@mountainstudies.org for more information.

Donate to the Avon Fund. Help MSI to continue proving a field station base to visiting students and researchers. Opportunities to become a founding "room sponsor" are available. Tax credits will be available. Contact MSI Board President, Bill Dodge, WilliamRDodge@aol.com or 970.387.5165, for more information or to donate.



Become a Member! Send in the form provided with this newsletter or sign up online at www.mountainstudies.org/member.htm. MSI is a federally recognized 501(c)3 organization. We will promptly send your tax receipt letter. Thank you for your support!

Mountain Studies Institute (MSI) is a 501(c)3 not-for-profit mountain research and education institution and high-altitude field station with headquarters in Silverton, Colorado and offices at Fort Lewis College in nearby Durango. MSI's mission is to enhance understanding and sustainable use of the San Juan Mountains and its communities through research and education.

Please see www.mountainstudies.org for more information, including how to become a member. To be added to or removed from our mailing list, please go to: www.mountainstudies.org/contact.

BECOME A MEMBER

The board of directors of the Mountain Studies Institute invites you to support MSI. Your membership will:

- Ensure the continuation of MSI's mountain research and education programs and mission to enhance understanding and sustainable use of the San Juan Mountains;
- Sustain MSI's field station facilities at the Avon Hotel and Mayflower Mill Field Laboratory;
- Strengthen the support services MSI provides to college and university students and faculty, researchers, land and environmental managers, elected officials and community planners, visitors, and residents of local San Juan Mountain communities.

Members receive MSI's *Benchmark*, periodic e-newsletters, and a 10 percent discount on special lectures, education programs and study tours, conference registration fees, MSI merchandise, and lodging and meeting rooms at the Avon Hotel.

Membership information:

Title _____ First Name _____ Last Name _____
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| <input type="checkbox"/> Foothills (San Juan Mountain Resident) \$25 | <input type="checkbox"/> Upper Montane \$100 | <input type="checkbox"/> Alpine \$1,000 | |
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MEMBERSHIP TOTAL.....\$ _____

Give the gift of membership – It's a great way to acknowledge special occasions (holidays, birthdays, weddings, anniversaries) and show your support of the MSI mission. We'll send a note card to your friends or loved ones and let them know about your gift.

Recipient First Name _____ Last Name _____
 Mailing Address _____ City/State/Zip _____
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Select from the following MSI merchandise: (*member prices – non-members add 10%*)

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Please send this form with payment to Mountain Studies Institute, P.O. Box 426, Silverton, Colorado 81433. For more information on capital campaign, planned giving, or giving to MSI's endowment fund, please contact Debra Childers at 970.387.5161. MSI is a federally recognized 501(c)(3) tax-exempt organization. We will promptly send your tax receipt letter. Thank you for your generosity!



SAN JUAN MOUNTAINS, COLORADO

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