

-LTER All Scientists Meeting Field Trip-

A Field trip has been arranged to the Mountain Research Station and Niwot Ridge LTER site for Sept. 25 and Sept. 30 (the travel-in and travel-out days). Participants can attend either day depending on individual schedules. Meeting attendees can arrange to stay at the YMCA of the Rockies, or the Mountain Research Station. Jim Halfpenny (of Niwot) has been kind enough to arrange the field trip specifics. David Inouye has invited All Scientists Meeting attendees to stay at the Mount Research Station.

We will leave at 08:00 both days from the YMCA of the Rockies and meet with people staying at the Mountain Research Station. Return time to the YMCA is about 5:00 pm. Lunches will be provided. If you do not plan to stay at the Mountain Research Station the night of September 24 or 30, you will need to make reservations directly with the YMCA reservation center or elsewhere. The field trip will cost \$14.00 including lunch and transportation. Please make checks payable to the University of Colorado. We must have payment on the day of the trip.

Please indicate on the sign-up form if you plan to attend the field trip, and what transportation or accommodations you would like.

Special information: The Niwot Ridge trip will hike to the alpine tundra (12,000 feet). Bring hiking boots and warm clothes. Blizzards occur quickly and commonly in September!!!!

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TO: LTER All Scientist Meeting attendees
FR: David Inouye, Mountain Research Station

I'd like to extend an invitation to attendees at the meeting to stop and visit the Mountain Research Station and the Niwot Ridge LTER site either before or after the meeting in Estes Park. This can be in conjunction with the planned field trip. If any of you would like to spend more time on Niwot Ridge or at the Mountain Research Station (the base of operations for the LTER work, located 4 km from the ridge) than the 1-day field trip will allow, we would be pleased to have you stay here. We have cabins where you can stay, (for up to 60 people) and if enough people come we can open the dining hall; otherwise you can cook in the cabins. We're located 25 miles from Boulder, and less than an hour from Estes Park (more or less on the way from the airport in Denver to Estes Park).

We will also be hosting the annual meeting of the Guild of Rocky Mountain Population Biologists (GRMPB), 21-23 September, for about 60-70 population biologists from the CO-WY-UT-AZ area. LTER scientists who would like to attend this meeting prior to the LTER meeting would be welcome.

For more information about the GRMPB meeting or the Station, call or write the Station:

Dr. David W. Inouye, Director
Mountain Research Station
818 County Road 116
Nederland, CO 80466
303-492-8841,2

Email: dinouye@lternet.washington.ed or INOUYE_D%20CUBLDR@VAXF.COLORADO.EDU

LTERR All Scientists Field trip sign-up form

(Please return to the LTER Network Office with registration information)

Please Circle Y or N:

I plan to attend the Niwot Field trip on September 25.
The transportation and lunch will cost \$14.00

Y/N

I plan to attend the Niwot Field trip on September 30.
The transportation and lunch will cost \$14.00

Y/N

I will need transportation from the YMCA of the Rockies to Niwot
(included in field trip transportation)

Y/N

I will need transportation from Niwot to the YMCA of the Rockies
(included in field trip transportation)

Y/N

I would like to stay at the Niwot Mountain Research Station
I will contact David Inouye

Y/N

I will make my own housing arrangements
Meeting Attendees can stay Sept 24 or 30 at YMCA of the Rockies,
but must make their own reservation/payments - It is not included
in the All Scientists meeting costs. Call YMCA at (303) 586-3341

Y/N

FIELD TRIP TO LOCH VALE WATERSHED

All Scientists Meeting - Additional Field Trip:
Loch Vale Watershed - Friday afternoon - September 28, 1990
A short field trip has been added to the agenda on Friday afternoon. The trip will be lead by Jill Baron of the Natural Resource Ecology Laboratory and the National Park Service. Please contact Jill for further information. (303) 491-1968 or jill@poa.nrel.colostate.edu (and of course jbaron@ltnet.washington.edu).

The field trip will leave the YMCA camp at 3:00pm and return about 6:30.

We will ascend approximately 500 m over a horizontal distance of 3km and the hike at this high elevation will be moderately strenuous. The trail will probably be snow covered at places and sturdy boots are recommended. The weather at this time of year is usually mild so a light parka or sweater with a wind-breaker should suffice. It would be a good idea to carry an extra sweater and rain gear just in case. Bring along sun glasses and sun screen.

LOCH VALE WATERSHED

The Loch Vale Watershed site was established in 1981 for long-term monitoring of atmospheric deposition, stream and lake-water chemistry and research on watershed processes. Loch Vale Watershed is a northeastern-facing drainage located on the Front Range of Colorado in Rocky Mountain National Park (Fig. 1). Elevation in the 660 ha watershed ranges from 3,962 m at the Continental Divide to 3,109 m at the outlet of the lowest of three lakes. The bedrock is biotite gneiss and schist, with intrusions of Silver Plume granite (Cole, 1977). The Loch Vale Watershed is 81% exposed bedrock and talus containing the primary minerals biotite, quartz, orthoclase, and a plagioclase near the sodic end of the oligoclase range. The soils under spruce and fir forest range from undeveloped to well-developed alfisols containing an argyllic horizon. Alluvial and bog soils are found adjacent to stream channels and in places where lack of physical relief permits their development (Walthall, 1985). Roughly 11% of Loch Vale Watershed is an alpine ridge physically separated from the valley part of the watershed by almost 300 m of rock walls and talus.

Because of this vertical distance, and because high wind velocities cause most moisture to evaporate or sublimate, it is thought that the processes occurring on the ridges do not contribute much to surface-water composition below.

Three vegetation types are found in the study area. The alpine ridges and the valley area above 3,300 m have sparse patches of alpine tundra interspersed with boulders or bedrock outcrops. From 3,300 m (treeline) to the lowest part of the drainage is an old-growth forest of Englemann spruce, Douglas fir and limber pine. Tree cores strongly suggest few major disturbances, such as fire, have occurred within the last 450 yr in the watershed; however, forest stands along the valley periphery are periodically knocked down by avalanches. Approximately 0.5% of the watershed supports wet sedge meadows.

The three lakes within the study area are connected by Icy Creek, a perennial stream. Sky Pond and Glass Lake are located above treeline and are surrounded by talus and sparse tundra. The lowest lake, The Loch, is partially surrounded by forest, and receives water and chemical input from forest and meadow soils, as well as from Icy Creek. Icy Creek is first order until just below treeline, where it is joined by Andrews Creek; it remains second order into The Loch. None of the three lakes stratify thermally due to the seasonally rapid flow of water and the strong winds which promote mixing. Sky Pond flushes three times per year; Glass Lake flushed 26 time per year; and The Loch flushes 19 times per year. Flushing is partially related to the rapid movement of water through Loch Vale Watershed as well as to the low average lake volumes, 61,000, 26,000, and 121,700 m³ for The Loch, Glass Lake, and Sky Pond, respectively. During November through April no water flows through the watershed and the lake basins become closed.

Average precipitation ranges from 75 to 100 cm/yr, increasing with elevation (Marr, 1967). Out data from the higher elevations at Loch Vale Watershed suggest 60 to 70% of the annual precipitation falls as snow. Summer and autumn inputs often occur as thunderstorms, some of which are severe.



Long Term Ecological Research Network

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July 17, 1990

Dr. Richard W. Peltier
Dept. of Physics
University of Toronto
Toronto Ontario M5B 1A7
CANADA

Dear Dr. Peltier:

You are invited to attend the Long-Term Ecological Research Network (LTER) All Scientists Meeting to be held at the YMCA of the Rockies facility in Estes Park, Colorado, September 25-30, 1990. The purpose of the meeting is to exchange current research ideas and plan future collaborative research. Over 200 to 300 U.S. and international scientists associated with the LTER Network will be in attendance.

The event begins with dinner and a slide presentation on Rocky Mountain National Park, followed by daily plenary sessions, work sessions and workshops (both formalized and ad-hoc) on the following major topics: Site, Network and "Extended Network" Ecological Research; Global Change; Biological Diversity; and Regional Analysis. With the variety of sessions and formats planned, including open time and optional field trips on travel-in and travel-out days, there will be many opportunities for exciting scientific exchange. In addition to the sessions and workshops outlined in the enclosed agenda, there will be an LTER site poster session illustrating current research, as well as written summaries from each the sites. You are welcome to bring materials for distribution and/or display. (Please bring sufficient copies, as duplicating facilities may be limited.)

Please review the attached materials and, if you or your designee plan(s) to attend, please reply by phone, fax (# noted above), or electronic mail as soon as possible, but **NO LATER THAN JULY 30** to reserve space at the YMCA of the Rockies. Please note that we will be able to cover your on-site (food and lodging) costs during the meeting; however, you will be responsible for your own travel. We regret the short notice of this announcement, but we hope you will be able to join us.

For additional information contact:

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