



NRES WEEKLY NEWS

January 25 - 29, 2010

A newsletter for faculty, staff and students
who participate in the
Natural Resources & Environmental Studies Institute
and NRES Graduate Programs

COMING EVENTS

NRESI RESEARCH COLLOQUIUM SERIES

Kent Mullinix, PhD, Institute for Sustainable Horticulture, Kwantlen Polytechnic University

Reintroducing Agri-Culture into Urban-Culture in BC



For the first time in history the majority of humans are urban dwellers. In Canada and the United States only 1.5% of the population is engaged in production agriculture. Effectively then, the vast preponderance of our populations have next to nothing to do with agriculture—production, processing or marketing. Urbanites, in particular, have no substantive, meaningful relationship with this fundamentally critical aspect of their sustenance and daily lives. In British Columbia, as elsewhere, there is a growing awareness that the combined effects of peak oil, peak water, climate change, rapid urbanization, continued population growth, loss of farms and farmers as well as the current status, configuration and dominance of conventional industrial agriculture may threaten food security and ultimately result in an agri-food system that is unsustainable. This presentation will address strategies and initiatives that can be undertaken to advance a sustainable regional agri-food system. Such an agri-food system is intended to connect urbanites, in real and meaningful ways, to their environment and to a human enterprise that is undeniably crucial to their future well-being. It is a way of reducing vulnerability and dependence on an ecologically unsound and increasingly vulnerable agri-food system while simultaneously reducing our food system ecological footprint and stimulating real regional wealth generation. **TALK WILL NOT BE WEBCAST**

Thursday, Jan. 21, 2010

7:00 - 8:30 pm

Lecture Theatre 7-238

This Friday

Dr. Brian Menounos, Geography Program, UNBC

Glaciers as Complex Earth Surface Systems



Glaciers are an important natural resource, and they also faithfully respond to changes in climate. At seasonal to annual time scales, the health of a glacier is controlled by winter snowfall and summer melt. An imbalance between winter accumulation and summer ablation at time scales of decades to centuries causes glaciers to adjust their dimensions to reach a new equilibrium state with climate. Temperate glaciers are also remarkably effective in their ability to erode substrates and are thus, effective geomorphic agents. Yet despite decades of glaciological research many links between climate, glaciers, and glacier erosion are complex and remain poorly understood. This complexity provides stimulating research opportunities to study an earth surface system that is important for both pure and applied research. I review some of the intriguing aspects of glaciers as studied by myself, my students, and my colleagues. I also identify major deficits in our understanding of glacier behaviour and where more research is required.

Jan. 22, 2010

3:30 - 4:30 pm

Lecture Theatre 7-152

Melissa Todd, Coast Forest Region Research Section, BC Ministry of Forests & Range

Monitoring silent frogs in noisy streams . . . or . . . how many times can I fill my boots in one day?



Coastal Tailed Frogs (*Ascaphus trueii*) and Rocky Mountain Tailed Frogs (*Ascaphus montanus*) are uniquely adapted to life in cool, fast-flowing mountain streams with large cobble substrates and step-pools, where life can be a bit noisy. They are a treasure trove of weird wildlife trivia! They have no eardrums, they're voiceless, and they have ribs (other frogs do not). Their tongues are attached to the bottom of their mouths instead of at the front, so they can't "throw" out their tongues to catch prey like other frog species. The tadpoles have a sucker-like mouth . . . all the better to hold and feed in fast flowing water. Tadpoles can spend forever in the stream (up to 4 years), teenagers can spend another 3 to 4 years to reach sexual maturity, and adults can grow really old (15-20 years). They are a primitive anuran; their closest living relatives are in New Zealand. And then there's that "tail". Blue-listed (Coastal) and red-listed (Rocky Mountain), tailed frogs are vulnerable to human activities that affect cool, fast-flowing mountain streams, such as forest harvesting and road crossings. I will introduce more of the tailed frog's quirks, review current approaches to conserving tailed frog habitat in forested ecosystems on the coast and in the south-eastern interior of BC, and discuss monitoring initiatives for evaluating the effectiveness of management.

Wednesday, Jan. 27, 2010

3:30 - 4:30 pm

Lecture Theatre 7-238

Unable to make it in person? Watch the colloquium at your desk!

For Elluminate information and link to the webcast: http://www.unbc.ca/nres/nresi_webcast.html

Log in as "Guest"

Dr. Darwyn Coxson, Ecosystem Science & Mgmt. Program, UNBC

Impacts of Climate Change on Inland Temperate Rainforests in western North America: Snow Forests No More?



Inland mountain ranges in western North America support a unique wet-temperate rainforest ecosystem on their windward slopes. On first impression these forests, which historically were dominated by old-growth western red-cedar and hemlock, seem closely related to coastal wet-temperate rainforests. Old stands support rich canopy lichen communities, including many taxa from wet maritime forests. In contrast, many of the plants growing on the forest floor are boreal species, consistent with the location of most stands north of 50° latitude, in sites more than 500 km from the ocean. This presents a paradox for the development of this ecosystem. By most measures, the climate of these sites is too dry and continental to support temperate rainforests. One approach for examining this paradox is to look at the distribution of old-growth forest stands against regional climate models and topographic indices. This analysis suggests that the development of inland temperate rainforest ecosystems is closely associated with topographic position. Ecosystem characteristics are best developed in wet “toe-slope” positions at the base of mountain slopes, where summer groundwater flow is sustained by melt from high-elevation snowpack. This forest ecosystem is now threatened at multiple scales. Changes in winter climate are bringing earlier snowmelt, potentially threatening hydrological linkages that sustain this ecosystem. These impacts may be compounded by historical forestry practices and the fragmentation of remaining old forest stands. This raises the spectre that current protected areas may represent ecosystems that can no longer perpetuate themselves, and one-by-one, will be lost, as supporting ecosystem processes are altered.

Jan. 29, 2010

3:30 - 4:30 pm

Lecture Theatre 7-152

Global Fridays

Senate Chambers

12:00 - 1:30 pm

January 22, 2010

Dr. Ajit Dayanandan, Economics Program, UNBC

Micro-Finance and Social Capital: A Study of Microfinance Institutions in India

PUBLICATIONS

Berthier, E., Schiefer, E., Clarke, G.K.C., **Menounos, B.** and F. Rémy (2010) “Contribution of Alaskan glaciers to sea-level rise derived from satellite imagery.” *Nature Geoscience*, 17 January. doi: 10.1038/NGEO737

NEWS

John Pomeroy (U. of Saskatchewan), **Brian Menounos**, Ron Stewart (U. of Manitoba), and E. Johnson (U. of Calgary) received an \$80,000 grant from the Canadian Foundation for Climate and Atmospheric Sciences (CFCAS) for their proposal entitled, “Western Water Security: Threats from Climate Change and Extreme Weather”.

MSc NRES (Biology) student Allan Carson (co-supervisors: **Mike Rutherford** and **Phil Burton**) won the Northern BC Business and Technology Collaborative Research Award for his reclamation research conducted in collaboration with Huckleberry Mines and Cooper, Beauchesne and Associates Ltd. Allan was presented with the award January 13 at the Civic Centre.

Ken Otter has just accepted an Associate Editorship with the journal *Behaviour*.

VISITORS

Melissa Todd, Research Wildlife Habitat Ecologist with the BC Ministry of Forests & Range, Nanaimo, will visit UNBC 27-28 January. Melissa will give a seminar on tailed frog research on Wednesday afternoon, attend a graduate student committee meeting (Sean Henderson, supervisor **Staffan Lindgren**), and she will participate in the weekly FIRG (Forest Insect Research Group) meeting Thursday afternoon.

We're on the web at : www.unbc.ca/nres/newsletter

REMINDER: Share your information about recent publications, grants, and/or other honours you may have received with others interested in NRES issues.

PLEASE EMAIL ALL INFORMATION AND MATERIAL TO MICHELLE KEEN: keenm@unbc.ca