

NRES WEEKLY NEWS

October 29 - November 2, 2007

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



Dr. Laurie Chan

*BC Leadership Chair in Aboriginal Environmental Health
Professor, Community Health Science Program, UNBC*

Ecosystem Health Research: A Toxicologist's Approach

FRIDAY, OCTOBER 26, 2007

3:30—4:30 PM

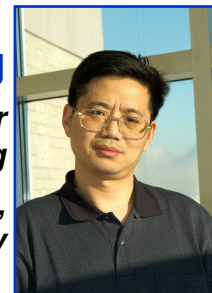
LECTURE THEATRE 7-150

..... **TOMORROW**

NEXT WEEK.....

Dr. Youmin Tang

*Associate Professor
Environmental Science & Engineering
Canada Research Chair,
Climate Prediction and Predictability*



Decadal Variation of El Nino Predictability

We performed El Nino retrospective forecasts for the 120 years from 1881-2000 using three realistic models that assimilate historic dataset of sea surface temperature (SST). By examining these retrospective forecasts and corresponding observations, as well as the oceanic analyses from which forecasts were initialized, we have explored several important issues related to El Nino predictability including its interdecadal variability and the dominant factors that control the interdecadal variability.

The prediction skill of the three models showed a very consistent interdecadal variation, with high skill in the late 19th century and in the middle-late 20th century, and low skill during the period from 1900-1960. The interdecadal variation in El Nino predictability is in good agreement with that in the degree of nonlinearity of El Nino system and in the signal of interannual variability. A good relationship was also identified between the degree of nonlinearity and the signal of interannual variability, both controlling El Nino predictability. Generally the high predictability is attained when El Nino nonlinearity and its signal strength are enhanced, and vice versa. The impact of observed noise on prediction skill, by affecting initial conditions, is somewhat uncertain and model dependent. As the noise degrades the skill of one model, it has either positive or null impact on the other two models. The possible reasons why these factors control EL Nino predictability were also discussed.

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
Elissa Zemlak: zemlak@unbc.ca**

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

Coming Events

PRACTICAL SOLUTIONS FOR CLIMATE CHANGE

What should you do about climate change? Come out to hear Guy Dauncey speak about practical solutions that work. Dauncey is an award-winning author who works to develop a positive vision of a sustainable future. He will be giving a series of presentations in the area, two of which in the Prince George area are open to the public.

Friday, October 26th

7:00-9:00pm, Canfor Theatre, UNBC

The Great Climate Challenge: What Can Prince George Do?

Public lecture, everyone welcome. Free admission.

Saturday, October 27th

9:00am—5:00 pm, One-day course ~ Room 7-238

The Great Climate Challenge: Practical Solutions that Work

Fee: \$100.00

Guy Dauncey is a speaker, author, and organizer who works to develop a positive vision of a sustainable future, and to translate that vision into action. He is author of the award-winning book *Stormy Weather: 101 Solutions to Global Climate Change*; the new book *Cancer: 101 Solutions to a Preventable Epidemic*, and other titles. He is President of the BC Sustainable Energy Association (www.bcsea.org), Co-chair of Prevent Cancer Now; Executive Director of The Solutions Project; and Publisher of *EcoNews*, a monthly newsletter that promotes the vision of a sustainable Vancouver Island. He was also the co-founder of the Victoria Car-Share Cooperative. His home page is www.earthfuture.com

The local chapter of the BC Sustainable Energy Association (BCSEA) is hosting the events. The BCSEA is a non-profit association of citizens, professionals, and practitioners promoting the understanding and use of sustainable energy to the people of British Columbia. The local chapter provides a forum for people in the central interior BC to meet, share ideas, and develop joint initiatives related to sustainable energy.

For more information: **David Connell**, Co-Chair, Event Organizing Committee, BCSEATel.: 250-960-5835

Email: connell@unbc.ca

TRAVEL

Staffan Lindgren will attend a meeting of the Forest Pest Management Technical Advisory Committee of the Forest Genetics Council at the Surrey Tree Seed Center, Surrey, BC, on October 31, 2007 (Halloween!). The committee is responsible for directing forest pest management research in support of tree improvement, including allocation of research funds. It promises to be a scary experience.

Brian Aukema attended a Forest Pest and Climate Change symposium hosted by the Pacific Climate Impacts Consortium in Victoria Oct 14-15 and facilitated a discussion on spatial statistical models relating pests and hosts to climate. **Kathy Lewis** and adjunct Allan Carroll were also in attendance. The dessert table was tasty and a good time was had by all.

David Connell (ENPL) traveled to Vermilion, AB to present at the CRRF/NRRN/NRE2 Fall Conference 2007: Connecting communities, Rural and Urban, October 11-13, 2007. The conference focused on rural health and development in Canada.

Stephen Dery, Phil Owens, Ellen Petticrew, Mike Rutherford, and 10 postdocs/students gave presentations at the first annual Quesnel River Research Centre (QRRC) workshop on Saturday 13th October. The presentations described research in the Quesnel watershed by UNBC staff and students, as well as that by three visiting Masters students from Utrecht University. Many of the presentations can be found at <http://nhg.unbc.ca/QRRCWorkshop/>. The workshop was attended by over 60 people, with most from local communities. It is hoped to have a similar event at the QRRC in October 2008.



The Northern Sustainable Landscape Initiative

<http://www.web.unbc/sustainablelandscape>

"A collaborative partnership to increase our knowledge and understanding of sustainable landscaping"

UPDATE by Annie Booth

This year saw a number of new and continuing initiatives for this research project. A couple of new areas joined the project as well.

Weed Control: This year we continued work using vinegar to control weeds as well as livestock control trials. We found that 5% vinegar seems to discourage dandelions but wasn't as effective on thistle. Eight percent vinegar at three week application intervals does control thistle, but also controls pretty much everything else. Next year we are planning an in-between approach to see if we can find a balance.

We also introduced goats to two sewage lagoon sites to determine their weed control capability. Booth's Petting Zoo proved a hit with the local businesses and City employees, but the four goats were also documented preferentially eating several invasive species, including various thistle, ox-eye daisies and orange hawkweed. Next year, we will be using goats again to determine appropriate volume of goats per square foot for effective control. This plan is enhanced by the fact that the original four goats produced between them seven new university assets.

Carrie Jane Grey/Massey Drive: We have continued work at this site with the installation of 17 kinds of perennials and grasses that Cornell University research suggests present significant weed suppressive capacity. The trial will be to establish that capacity in a more northern climate and to determine the plants capacity to survive Prince George winter conditions including salt contamination. All are also drought tolerant, in case drought becomes a concern next year.

The Prince George Regional Airport: Two activities have been undertaken with this partner. We are in the process of establishing demonstration areas around the Airport grounds to showcase more sustainable Landscaping options. One installation was added at the Domestic Arrivals area, others will go in next year. This year as well, Ken Otter and Roy Rea have been working at the Airport looking at opportunities for reducing bird and mammal interactions with airplanes. Ken and his student completed extensive documentation of bird use adjacent to runways and Roy and his student have been looking at methods for limiting access by mammals. Next year we will be examining application of different methods, including different landscaping choices, to reduce wildlife conflicts. As well, a survey is being undertaken with other airports to determine what methods they use and their effectiveness.

The Teaching and Learning Building: Several demonstration sites have been established around this building, including a rock garden, a fernery, and wildflower mix trials. We are interested in learning about what will do well on this challenging site.

Salt Trials: **Jane Young** and her student have been testing plants for their ability to tolerate salt. Last year's trials with roses will be field replicated at sites at the CN Centre. This year work was undertaken with kinnickinnick.

Two new sites are in planning for next year. We have put in a proposal to do some sustainability landscaping at the Northern Sports Centre and we are working with the city of Prince George to re-vegetate some sites that are still bare on University Way. Thanks as always go to John Orłowsky and Steve Storch who have provided invaluable time and assistance on this project.

NEW GRANTS

Ken Otter, Peter Jackson, Roger Wheate, Eric Rapaport and **Brent Murray** received an NSERC Strategic Projects Grant for a proposal entitled "Assessing the effects of on-shore wind farms on aerial wildlife". This is a three-year funding grant (\$482,000) that will take a multidisciplinary approach to assessing the environmental assessment procedures for wind farm monitoring, as well as develop some new techniques for tracking movement patterns and space use around wind farms being erected in the Peace Region.

Chris Johnson and Bruno Croft (Government of the Northwest Territories) received a \$15,000 grant from the NWT Cumulative Impacts and Monitoring Program. The funding will support research on the distribution and habitat ecology of barren-ground caribou relative to fire.

PUBLICATIONS

Owens, P.N. (Guest Ed.) (2007). Sediment linkages between the river catchment and the sea. *Journal of Soils and Sediments*, 7, 273-350.

Connell, David J. 2007. Philosophical Reflections on 'The Communitarian Vision', *Communal Societies* Volume 27, pp. 71-81.