

Profile

Dr. R.D. (Dan) Moore



Donna Underhill

Do streams that warm up in clearcuts cool down when they flow back through a forest? As glaciers recede, are stream temperatures affected? What happens to stream flow under ice? These are some of the many questions that Dr. Dan Moore is addressing through his research. Dr. Moore is currently Associate Professor in the Departments of Geography and Forest Resources Management at the University of British Columbia (UBC).

"Water is emerging as the key issue for the 21st century," said Moore. "Security of water supply is vulnerable even here in BC. The challenge facing aquatic scientists is to make our research results understandable by and relevant to managers, policy-makers, and the general public."

After working and travelling throughout Canada and internationally, Moore has returned to UBC, the place where he began his academic career. After completing his undergraduate degree at UBC, Moore went to the Yukon to work for Water Survey of Canada. His research in the north stimulated his interest in the hydrology of ice-covered rivers, particularly in the problems of accurately measuring their flows. After a year in the

Yukon Territory, Moore left the continent for New Zealand, where he conducted research for his PhD on snow hydrology in the Southern Alps. His doctorate complete, Moore returned to Canada to take up a teaching and research position at McGill University. There, he collaborated with soil scientists to investigate snow hydrology in small catchments in the southern Laurentians. This research studied the effects of acid rain and snowmelt on streamflow and on the chemistry of soil and water.

After three years at McGill University, Moore succumbed to the draw of the West Coast, and returned to Vancouver in 1988 to work as a consulting hydrologist on a range of projects including studies on the Nechako Reservoir. He then took up a position at Simon Fraser University (SFU), where he pursued research into glacial influences on streamflow and runoff processes in

forest catchments. Collaborating with Stu Hamilton of Environment Canada, he is developing more reliable methods for estimating streamflow under ice.

In addition to studying river ice hydrology at SFU, Moore got involved in a study at Place Glacier, which has been monitored since 1965. The research team includes Mike Demuth of the Geological Survey of Canada, who measures the glacier's mass balance, and Scott Munro of University of Toronto, who concentrates on micrometeorology and melt processes. Moore's focus is on the streamflow and water quality in the stream below the glacier. Together, their research efforts will provide important information on how glaciers respond to climatic change, and how such responses will influence streamflow, water quality, and fisheries.

In 1999, Moore accepted his current position as the Junior Chair in Forest Hydrology at UBC. Here, he lectures on watershed processes and management in the departments of geography and forestry, as well as

co-instructing a graduate course on headwater systems. This course addresses the hydrology, geomorphology, and ecology of small streams and their catchments. Besides teaching and conducting research, Moore is also involved in extension work in forest hydrology and riparian management.

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Recently, Moore has been collaborating with fisheries biologists to study the effects of different forest management practices on stream temperature and aquatic ecology. In

2002, he worked with scientists from UBC, the B.C. Ministry of Forests, and Fisheries and Oceans Canada to organize an international symposium on "Small Stream Channels and Their Riparian Zone: Their Form, Function and Ecological Importance in a Watershed Context." In conjunction with that symposium, Moore helped organize a technical workshop that brought together leading scientists from the Pacific Northwest to define the state of knowledge applicable to riparian management. This process continues, and a follow-up workshop is planned for the near future.

Through these and other research and extension activities, Moore hopes to contribute to the development of a science-based set of riparian management standards.

Moore's academic interests are reflected in what he does outside the office. Active in the environmental movement since the 1980s, he has served on the Board of the B.C. Chapter of the Canadian Parks and Wilderness Society. Lately, he has shifted his service activities to the academic community, and is currently the President of the Canadian

Geophysical Union, Hydrology Section. Even Moore's hobbies seem to reflect his interests in water, snow, ice, and the environment—he enjoys skiing, sea kayaking, and back-country adventures. ~

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Update

Web-based Resources

Canadian Agricultural Science Providing Global Water Solutions

Canada placed second behind Finland for having the best quality water, according to the United Nations (UN) report, "Water for People, Water for Life," published earlier this month. The report ranked 122 countries based on the quality of water, and each country's ability and commitment to improve the water quality situation.

http://www.agr.gc.ca/cb/wwd/news_e.html

Statistical Methods in Water Resources

Download free of charge - 11 MB for the full report or by individual chapter. 523 pages total. Statistical Methods in Water Resources, Chapter A3 by D.R. Helsel and R.M. Hirsch. U.S. Geological Survey, Techniques of Water-Resources Investigations Book 4.

<http://water.usgs.gov/pubs/twri/twri4a3/>

Community Mapping Network

The "Maps and Databases" section is really useful for details about B.C. regions.

<http://www.shim.bc.ca/>

Structure Design

"Shoreline Structures Environmental Design Guidelines: A Guide for Structures along Estuaries and Large Rivers"

This recently published document is part of the DFO stewardship series.

http://www.stewardshipcentre.bc.ca/sc_bc/main/index.asp?sProv=bc

Watershed Training

Online training is available through the US Environmental Protection Agency Watershed Training Academy:

<http://www.epa.gov/owow/watershed/wacademy/>

See the new slideshow from the Center for Watershed Protection on why watersheds matter, the impacts of impervious cover, and what communities can do.

<http://www.cwp.org/water.htm>

A number of additional slideshows can be viewed on the Web at:

<http://www.stormwatercenter.net/>

Culvert Removal and Replacement Resources:

Oregon Fish and Wildlife Office guidelines to assist with culvert-related endangered species consultation requirements

Geomorphologic Impacts of Culvert Replacement and Removal:

Avoiding Channel Incision, by Janine Castro

<http://www.r1.fws.gov/jobs/orojitw/document/pdf/guidelines/culvert-guidelines.pdf>

Culvert guidelines should be used to complement the Oregon Road/Stream Crossing Restoration Guide:

<http://www.dfw.state.or.us/odfwhtml/infocntrfish/management/fishpassage.html>

New Journal Release: Journal of Geomorphology

Wood in Streams Focus Issue, Volume 51, Issues 1-3.

<http://www.elsevier.com/locate/geomorph>