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PCIC Welcomes New Director

On Sept. 1 PCIC welcomed its new President and CEO Dr. Francis Zwiers, one of Canada's leading climate researchers and an internationally recognized expert on climate change and variability.

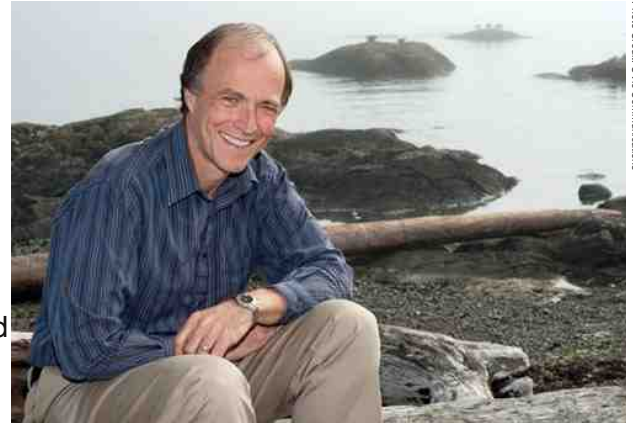


Photo Credit: Uvic Communications

Dr. Francis Zwiers.

“This appointment is terrific news for the university,” said Dr. Howard Brunt, UVic Vice-President of Research and Chair of PCIC's Board of Directors, “Francis is highly regarded in the international climate community and is one of Canada's most respected climate scientists. We're delighted to secure someone of this stature for this important position.”

Zwiers comes to PCIC after a successful career at Environment Canada where he was most recently Director of the Climate Research Division based in Toronto. Between 1997–2006 Zwiers led Environment Canada's University of Victoria based Canadian Centre for Climate Modelling and Analysis (CCCma).

Among his other accomplishments is an impressive list of published work, including past and current contributions to the UN Intergovernmental Panel on Climate Change (IPCC). Zwiers was among a group of UVic professionals, including PCIC Senior Scientist Andrew Weaver, who shared the 2007 Nobel Peace Prize along with the IPCC. He is also an elected member of that agency's bureau for its upcoming fifth global climate assessment, expected in 2013-14.

“Dr. Zwiers is a great addition to the PCIC team and we're happy to welcome him to the strong climate change research community here in BC,” said BC Minister of State for Climate Action John Yap, “Government needs impartial, accurate information to make the best public policy decisions and I'm confident that with the appointment of Dr. Zwiers we will continue to receive the high-calibre research we've come to expect from PCIC.”

Zwiers succeeds Dr. Dave Rodenhuis, who continues to work with PCIC as an Associate Climatologist on projects in the Climate Analysis and Monitoring Theme.

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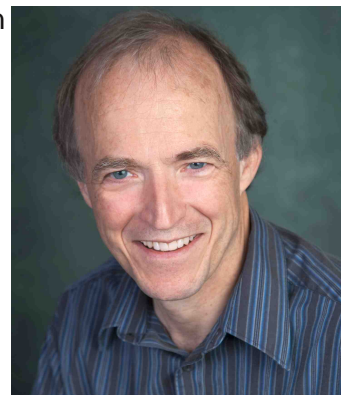
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Editor: Greg Maruszczyk

PERSPECTIVE: *Message from the Director*

As I write this, I am moved to reflect upon my first six weeks at PCIC, and upon the robust and vibrant young organization that is the legacy of my predecessor, Dave Rodenhuis. The level of energy, commitment and dedication of PCIC's staff and collaborators is truly inspiring, and it is a genuine privilege to be able to take the helm of this organization.



The need for well-organized and coordinated climate services to facilitate adaptation to both a changing climate and to the natural variability that is abundant in the climate system is increasingly being recognized both internationally and nationally. Internationally, the World Meteorological Organization and its member countries recognized the importance of climate services at the recent World Climate Conference 3 in Geneva (Aug. 31–Sept. 4, 2009) and have undertaken to develop a global framework for its delivery (http://www.wmo.int/wcc3/documents/brief_note_en.pdf).

Concurrently, individual countries, including Canada, the United States, Germany and others, have either implemented or are actively developing climate service delivery strategies. However, no federal agency, irrespective of resolve or resourcing, has the capacity to satisfy the needs of stakeholder communities or to deal with the diverse requirements for regionally specific climate information, particularly in a large country such as Canada. Thus PCIC, and organizations like Ouranos in Québec (with which PCIC collaborates), have a critical role to play in the delivery of climate services required for adaptation.

In this respect the Province of British Columbia has demonstrated a great deal of foresight through the endowment of PCIC and PICS. In addition, the BC government has led key coordination efforts such as the Climate Related Monitoring Program (CRMP) that will make an unprecedented quantity of high-quality climate data available to the people and agencies of BC (see "New Data-Sharing Agreement Signed in BC" on Page 5).

The challenge for PCIC over the coming year will be to more clearly articulate its role as a climate service provider to BC stakeholders and to ensure that it has a sustainable mode of operation that is centered on the core support that is provided by the endowment. I very much look forward to working with both the stakeholders and the talented PCIC staff to achieve these goals.

Project Focus: Extreme Events Probabilities on the Yellowhead Hwy

A new project is underway in collaboration with the BC Ministry of Transportation and Infrastructure (MoTI) to estimate probabilities related to the occurrence of various extreme climate events on the province's highway infrastructure.

PCIC is currently using meteorological station observations and regional climate model projections to statistically determine the likelihood of extreme rain/snow events as well as the frequency of freeze-thaw cycles affecting a portion of the Yellowhead Highway (Hwy 16) between Vanderhoof and Priestly Hill. Such probability measures can be used to determine potential climate change impacts and provide a scientific basis for future planning and adaptation in the province.

PCIC Climate Scientist Gerd Bürger said that the scarcity of historical station data is a major challenge as it can be difficult to project future conditions without a complete picture of the past. Moreover, such studies involve levels of

uncertainty that challenge planning and decision-making based on these results.

The Yellowhead Highway Project follows on the successful pilot project completed earlier this year by PCIC and MoTI which used the same methodology to make similar estimates in the vicinity of the Coquihalla Highway. A final report including project results is expected in December 2010.



Photo Credit: BC Ministry of Transportation and Infrastructure

Extreme weather events can negatively impact community infrastructure such as transportation networks.

European Researchers Apply EDS for Studies in the Alps

PCIC played host to a late summer visit by two European researchers interested in the application of statistical downscaling techniques to hydrologic studies in the Alps.

Christian Dobler from the University of Innsbruck and Christoph Kormann from the University of Potsdam spent three weeks in September applying the Expanded Downscaling (EDS) technique developed by PCIC's Gerd Bürger. The two doctoral students are working on similar but separate projects aimed at understanding how climate change will affect the frequency and intensity of extreme hydrological events in Austria and Germany.

The visit provided both Dobler and Kormann with a unique opportunity to better understand the EDS approach through the eyes of its creator, facilitating its application to their respective research projects.

Bürger developed EDS in the 1990s specifically for analyzing changes in climate extremes. Over the

last couple of years he has worked to simplify the model and increase its portability for application by a wider range of users and study areas. EDS is one of three main downscaling approaches used at PCIC, alongside TreeGen and Bias Corrected Spatial Disaggregation (BCSD).

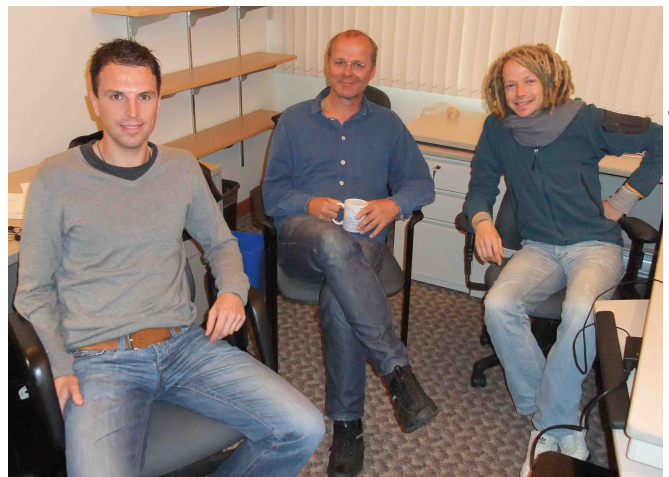


Photo Credit: Greg Manuszczyk

(Left to Right) Christian Dobler, Gerd Bürger and Christoph Kormann at PCIC offices in mid-September.

Pacific Climate Seminar Series Resumes with Discussion on Low Impact Development

The joint PCIC-PICS Pacific Climate Seminar Series marked the beginning of its third academic year on Sept. 15 with a presentation by PICS Fellow Chris Jensen titled “Climate Change Adaptation: Using Low Impact Development to Mitigate Future Flooding”.

The presentation focused on Jensen's ongoing research examining whether Low Impact Development (LID) practices can effectively reduce flooding in light of increasing urbanization and higher intensity precipitation from climate change.

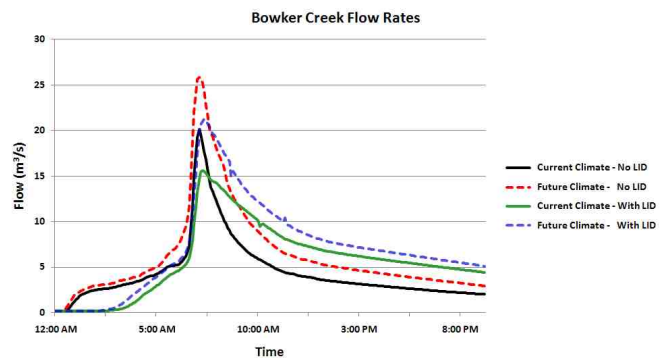
LID refers to runoff management measures that minimize the creation of impervious surfaces while implementing ways of infiltrating, storing and transpiring water as close to its origin as possible. Jensen offered three examples of LID measures for consideration:

- strategically located and sized 'rain gardens', which are planted depressions that allow runoff from impervious areas to infiltrate into the soil
- building roofs covered with soil and vegetation, known as 'green roofs'
- enhanced topsoil to increase its absorbency

Such an approach contrasts with the conventional method of stormwater management where runoff is channeled and collected along fixed pathways that

may be increasingly overwhelmed when water volumes greatly exceed original planned capacities.

Applying PCIC-supplied future climate projections and modeling software that anticipates hydrologic responses to low impact development, Jensen asked the question: “Can LID reduce future peak flow rates to current flow rates?” Preliminary results from this work suggest that at least for the area studied (Bowker Creek watershed in the City of Victoria), LID can largely mitigate the adverse impacts of climate change.



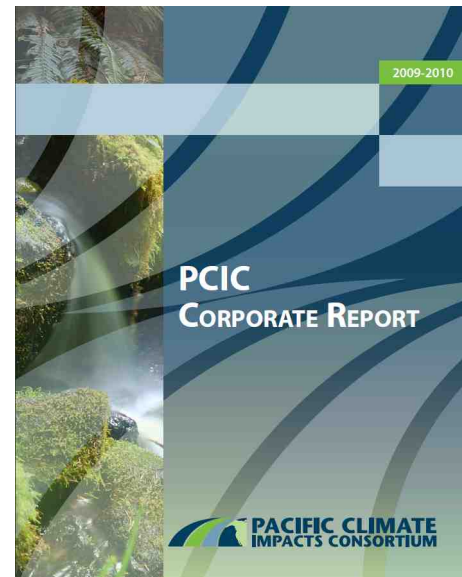
Peak flow rates for current and future climates (2080) with conventional and LID land use for the 25-year, 24-hour storm event using the 90th percentile for precipitation increases. Preliminary modeling results show that full LID implementation can mitigate almost all of the flooding that is predicted to occur under this severe scenario for climate change.

PCIC Publishes Corporate Report

PCIC published its second annual corporate report in late August, outlining the consortium's growth and activities over the past fiscal year.

The PCIC Corporate Report 2009-2010 features updates on a number of completed and ongoing collaborative projects as well as perspectives from the PCIC Director and the Chairs representing the Board of Directors and Program Advisory Board. The report concludes with a summary of the consortium's financial picture.

The corporate report is available electronically via the PCIC website at www.pacificclimate.org or in print form from PCIC offices at the University of Victoria.



Other PCIC News

New Data-Sharing Agreement Signed in BC

PCIC signed a new data-sharing agreement in early September 2010 alongside BC Hydro, Rio Tinto Alcan and the BC government. The Agreement on Management of Meteorological Networks promises to improve access to meteorological data among its signatories in preparation for subsequent climate analysis at PCIC. It is a product of the BC government led Climate Related Monitoring Program (CRMP).

In support of CRMP objectives, PCIC has collected data from eight operational meteorological networks in BC. These data will be used to supplement historical climate data supplied by Environment Canada for the purpose of initiating near-real-time climate analysis and monitoring in the province.

PAC Member Paul Whitfield Retires

PCIC Program Advisory Committee (PAC) member Paul Whitfield recently retired from his position at Environment Canada.

Paul joined Environment Canada in 1975 and just prior to retirement was Head of Environmental Studies, Meteorological Service of Canada — Pacific and Yukon Region. He has been a member of PCIC's Program Advisory Committee since its inception in 2006 and his departure from Environment Canada in September 2010 also marks the end of his PAC tenure.

Since 2006, Paul has acted as an expert in his field, advising PCIC on science and strategic direction. As he moves on to explore new opportunities, all of us at PCIC would like to thank him for his leadership and wish him all the best.

Thank You Party for Dave Rodenhuis

PCIC hosted a thank you party July 9, 2010 in honour of David Rodenhuis for his four years of leadership and service to PCIC. The event was held at the University of Victoria's University Club and was well-attended by colleagues and friends who paid tribute to Dave with gracious speeches and warm accolades.

Although Dave has stepped down as Director he continues to work with PCIC as an Associate Climatologist in the Climate Analysis and Monitoring Theme.



Photo Credit: Leslie Gallacher

PCIC Board of Directors member Gayle Gorrill and Dave Rodenhuis smile for the camera during a thank you party held in Dave's honour at the University of Victoria July 9, 2010.

Thank you for your continued interest in the Pacific Climate Impacts Consortium. We are committed to maintaining PCIC as a stakeholder-driven consortium, rooted in the academic research community, yet looking outward. Hence, we welcome and value feedback from researchers and stakeholders either through our online feedback form at <http://www.pacificclimate.org/aboutus/contactus/feedback/> or by contacting us directly via email at climate@uvic.ca, or telephone (250) 721-6236.