

Exploring Regional Climate Services: Meeting Stakeholder Needs for Practical Climate Information

November 21-23, 2011



**University
of Victoria**
Michèle Pujol Room,
Student Union Building,
Victoria, BC, Canada

REGIONAL CLIMATE SERVICES WORKSHOP 2011



Pacific Institute
for Climate Solutions
Knowledge. Insight. Action.



**University
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KlimaCampus

Workshop Sponsors

Pacific Climate Impacts Consortium

<http://pacificclimate.org>

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Workshop Agenda

Objectives

- To bring together climate stakeholders, regional climate service providers, climate scientists and the media to discuss communication approaches, scientific tools, stakeholder needs and the role of mass media in shaping perspectives on climate variability and change.
- To collectively author a draft manuscript that describes the factors and prerequisites that influence the effective delivery of regional climate services, informed by the various presentations and participant experiences.

Target length: 12-15 pages published (~6,000 words).

Target Audience: users and providers of regional climate services, including those with the responsibility to design and oversee the implementation of regional climate service strategies.

Structure/content: five major sections corresponding to each of the workshop sessions, bookended by introductory and concluding recommendations sections.

Format

- The workshop is divided into five half-day sessions. Three or four invited speakers will open each session followed by a selection of contributed papers. After the speaking portion of the session, participants will breakout into writing groups to prepare draft text. A continental breakfast, lunch and break snacks including coffee and tea will be provided throughout the day.
- Workshop participants are divided into five groups, one group corresponding to the five workshop session topics. Each group will meet five times as the workshop evolves.
- Each writing group has two participants whose responsibility is to “hold the pen” for their group.
- It is expected that each group will produce ~3 pages of draft text on their topic as input to the paper.

November 21

8:00	REGISTRATION (continental breakfast provided in the Upper Lounge)
8:30	Workshop Introduction Welcome, Howard Brunt, Vice President Research, University of Victoria
8:45	Keynote Address * Hans von Storch, Helmholtz-Zentrum Geesthacht (HZG) Regional Climate Services in a Post Normal Context
9:15	Session 1: The Stakeholder Perspective * Kindy Gosal, Columbia Basin Trust Climate Science: Taking it to the People — Adaptation at Work in Communities * Grit Martinez, Ecologic and Dennis Bray, HZG The Perceptions of Political Decision Makers on Climate Change and Adaptation to Climate Change in the Baltic Sea * Pam Kertland, Natural Resources Canada Insights from Surveys of Canadian Decision Makers Ellen Pond, University of British Columbia Case Study: Sea Level Rise Adaptation in Delta (BC Regional Adaptation Collaborative)
10:30	MORNING BREAK
11:00	Marlow Pellatt, Parks Canada Protected Areas and Climate Change: Mitigation and Adaptation Activities in Canada's National Parks Johanna Wolf, Memorial University of Newfoundland Engagement with Aboriginal Communities in North Eastern Canada: Ideas for Climate Service Providers Peter Chapman, Shareholder Association for Research and Education and Dave Rodenhuis, Pacific Climate Impacts Consortium Investor Needs for Regional Climate Services

* Invited speaker

November 21

11:45	GUIDELINES FOR WRITING GROUPS
12:00	LUNCH AND WRITING GROUP BREAKOUT Writing Group Breakout (working lunch)
13:30	Session 2: Regional Climate Service Providers * Albert Klein-Tank, KNMI European Climate Data and Information Products for Monitoring and Assessment Needs * Pierre Baril, Ouranos Ouranos Approach in Integrated Climate Change and Adaptation Research * Amy Snover, Climate Impacts Group Not Just 'Useful to' but 'Used by': Lessons from 15 Years at the Intersection of Climate Science and Decision Making * Insa Meinke, HZG, North German Climate Office Regional Climate Service – Experiences from the North German Climate Office
14:50	AFTERNOON BREAK
15:10	Hans Schipper, KIT, South German Climate Office About Telling, Listening and Acting – Experiences of the South German Climate Office Andreas Marx, UFZ, Mid German Climate Office Dialogue with Regional Stakeholders – Information Exchange, Needs and Conflicts Phillip Pasteris, Ch2M Hill Best Practices for Assessing Climate Risk from Extreme Rainfall Events for Design of Stormwater Facilities
15:55	Writing Group Breakout
17:30	Writing groups return to Michèle Pujol Room to report on progress

* Invited speaker

November 22

8:00	REGISTRATION (continental breakfast provided in the Upper Lounge)
8:30	Keynote Address * Andrew Weaver, University of Victoria Climate Science Communication and the North American Media
9:00	Session 3: Communicating Regional Climate Science * Dave Sauchyn, Prairie Adaptation Regional Collaborative Managing the Message in a Variable Climate: Communicating Climate Science in Canada's Western Interior * Werner Krauss, Helmholtz-Zentrum Geesthacht Making Climate Public: The View from Anthropology * Charles Lin, Environment Canada Delivering and Communicating Climate Science: A Federal Science Perspective
10:00	MORNING BREAK
10:20	Stewart Cohen, Environment Canada Avoiding 'Lost in Translation' — Enabling Shared Learning in Climate Change Adaptation Ewa Jackson, ICLEI Canada Translating Climate Science: Communicating Climate Change to Local Governments Stephen Tyler and Sarah Opitz-Stapleton, Institute for Social and Environmental Transition Dealing with Data Deficits in Planning for Climate Adaptation
11:05	LUNCH AND WRITING GROUP BREAKOUT Writing Group Breakout (working lunch)

* Invited speaker

November 22

13:45	Session 4: The Role of Mass Media <ul style="list-style-type: none">* Susan Hassol, Climate Communication Helping the Media Help Us to Tell the Climate Change Story* Mike Schäfer, KlimaCampus Hamburg Translator, Mediator, or Opponent? The Role of the Media in Climate Communication* Reiner Grundman, Aston University Climate Change in the Print Media: A Comparative Perspective
14:45	Writing Group Breakout
17:30	Writing groups return to Michèle Pujol Room to report on progress

November 22 (evening)

19:00	Workshop Dinner Milestones Grill + Bar 812 Wharf Street, Victoria, BC http://www.milestonesrestaurants.com 1-877-439-1188
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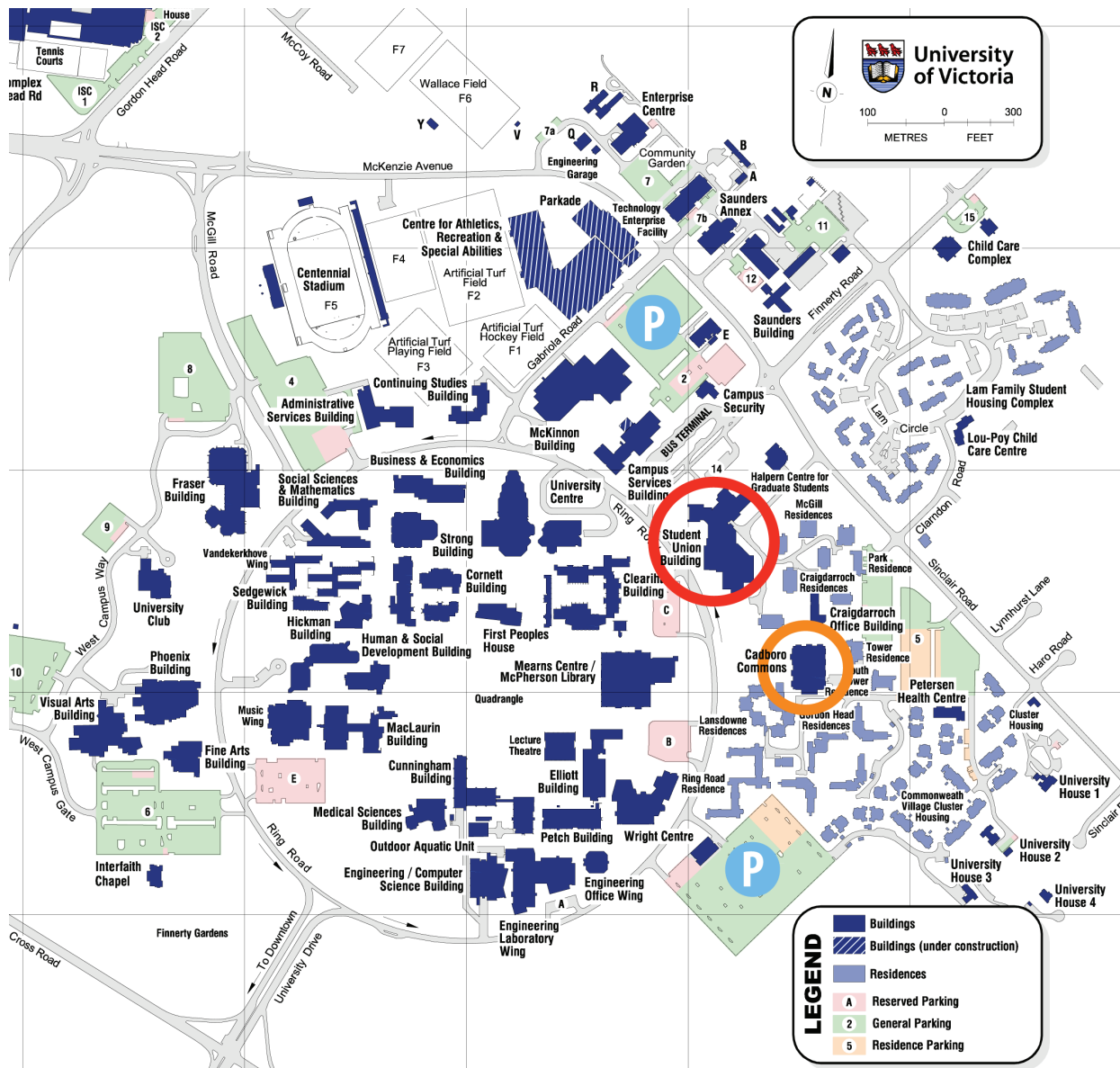
* Invited speaker

November 23

8:00	REGISTRATION (continental breakfast provided in the Upper Lounge)
8:30	Keynote Address * Francis Zwiers, Pacific Climate Impacts Consortium On the Attributes and Challenges of Regional Climate Services
9:00	Session 5: Regional Focus – The BC Perspective * Tom Pedersen, Pacific Institute for Climate Solutions Responding to the CO2 Challenge Via Grid Integration in Western Canada * Stephanie Smith, BC Hydro From Vulnerability to Adaptation: BC Hydro's Approach to Assessing Risks from Climate Change E. (Ted) J. Weick, BC Ministry of Environment BC's Climate Related Monitoring Program – An Update
10:00	MORNING BREAK
10:30	Marc Nelitz, ESSA Technologies Ltd. Evaluating the Vulnerability of Freshwater to Climate Change and Identifying Regional Adaptation Strategies Kim Hyatt, Fisheries and Oceans Canada Responses of Physics, Phytoplankton, Fish and Folks to Climate Variation and Change Events Tongli Wang, Centre for Forest Conservation Genetics, University of British Columbia Development of Climate Bases Seed Transfer System for British Columbia
11:15	LUNCH AND WRITING GROUP BREAKOUT Writing Group Breakout (working lunch)
13:00	Writing groups return to Michèle Pujol Room to report on progress
13:30	WORKSHOP ENDS

* Invited speaker

Campus Map



Invited Speakers

Pierre Baril

Pierre Baril has been Executive Director at Ouranos since September 2010. He earned his BScA. in agricultural engineering from Université Laval in 1982. He obtained his MSc in 1986 and PhD in 1991 in engineering from the Swiss Federal Institute of Technology of Lausanne, Switzerland. He began his career in an engineering firm and joined the Québec Government in 1999. He took successive positions as Vice-President of Research and Development at the Centre de Recherche industrielle du Québec, Assistant Deputy Minister for the Ministère du Développement durable, de l'Environnement et des Parcs and Executive Counsellor for the Ministère des Transports. Pierre Baril possesses a great deal of expertise in environmental management, water resources and sustainable development.

Kindy Gosal

Kindy Gosal is the Director of Water and Environment for the Columbia Basin Trust (CBT), a corporation that was created to assist the people most directly impacted by the construction of the Columbia River Treaty Dams in the Canadian Columbia Region. The mandate of the CBT is to assist the residents of the region to create a legacy of social, economic and environmental well-being. The CBT is committed to working with basin residents to increase understanding and build collective wisdom around water and watershed issues in the basin, to act as a facilitator and convener on key water related issues and to increase the influence that residents have in water management. Kindy is a community practitioner with 15 years experience working at the grassroots level assisting communities deal with a variety of issues that they face. He is a professional forester by training and has worked internationally on a variety of forestry and socio-economic development projects in Africa and Asia. In recent years Kindy has been extremely active regionally and internationally in trans-boundary water policy and community engagement. Kindy's work with the CBT focuses on water and water issues locally, regionally and in the transboundary context.

Reiner Grundmann

Reiner Grundmann is widely known for his work in social theory and environmental policy. Most of his recent research focuses on the discourse of climate change, using a comparative approach across nations. He has published several influential papers on the Kyoto Process and the IPCC and has been invited as keynote speaker on many occasions, in Europe, the US, China and Korea. He has been a consultant to the United Nations Global Public Policy Project, served as evaluator for the EU framework 7 programme, and refereed research proposals for the research councils in Canada, Germany, the US and the UK. He has successfully supervised PhD students in the field of business and sustainable development. Currently he is leading a research team at Aston University which investigates the climate change discourse in the print media in various countries. He is a co-author of *The Hartwell Paper*.

Susan Hassol

Susan Joy Hassol is the Director of Climate Communication, based in Boulder, Colorado. She has worked for over 20 years communicating the science of climate change to policymakers, the media, and the public. Susan has written and edited numerous high-level reports, testified before the US Congress, written an HBO documentary, appeared on national radio and television shows, and spoken to leaders in various fields about climate change. In 2006, Susan was honored with the first-ever award for excellence in climate science communication by The Climate Institute in Washington DC. In 2011, Susan was nominated as Climate Change Communicator of the Year. Susan worked with a team of 30 leading scientists to write the 2009 national climate assessment, Global Climate Change Impacts in the United States, the most comprehensive report to date on US impacts of climate change. Susan was lead author of *Impacts of A Warming Arctic*, the synthesis report of the Arctic

Climate Impact Assessment on which she worked with 300 scientists from a dozen countries. Her new website, climatecommunication.org, serves as a resource for the media, the public, and policymakers on climate change science.

Pamela Kertland

Pamela Kertland is a graduate of Queen's University. She joined Environment Canada in 1988 to work on science assessment of climate change. With her work increasingly focused on impacts and adaptation, she joined Natural Resources Canada in 1998 to manage a new climate change impacts and adaptation research program. She is currently the manager of the division's Adaptation Tools Programming and also works on measuring Canada's progress in adaptation.

Werner Krauss

Werner Krauss is a cultural anthropologist at the Helmholtz-Zentrum Geesthacht. From 2005-2010, he was Adjunct Associate Professor at the University of Texas at Austin, and he currently teaches at the HafenCity University in Hamburg. His main areas of interest are the anthropology of climate change, political ecology, science studies, renewable energies, and nature conservation, European Studies and coastal landscapes. He has conducted ethnographic fieldwork in Switzerland, Portugal, Northern Germany and Texas. These ethnographic case studies cover topics from the rise of environmentalism to current concerns about anthropogenic climate change. Furthermore, he did fieldwork in scientific institutions concerning the production of knowledge in coastal research and climate science.

Charles Lin

Charles Lin has been the Director General, Atmospheric Science and Technology Directorate (ASTD), at Environment Canada since 2007. ASTD provides leadership in weather, climate, air quality, impacts and adaptation science that supports weather and environmental prediction and services, and informs policy. He holds a PhD in meteorology from the Massachusetts Institute of Technology (MIT), graduating in 1979. He was a research scientist with Environment Canada in 1979-80, and held faculty positions at the University of Toronto (1980-86) and at McGill University (1986-2006). At McGill, he served as the Chair of the Department of Atmospheric and Oceanic Sciences from 1998-2003, and was the Director of the Global Environmental and Climate Change Centre (GEC3) from 2004-2006. He has published over 60 articles in refereed scientific journals in dynamic meteorology and climate studies. He was awarded the President's Prize of the Canadian Meteorological and Oceanographic Society in 2002, and appointed a Fellow of the Society in 2004.

Grit Martinez

As a humanities scholar and business economist by training, Grit Martinez's areas of expertise include the governance of the implementation of regional and local adaptation measures, public involvement and participatory action in environmental policy, good governance, integrity and transparency themes. Grit Martinez works on a wide range of issues, including climate change, coastal zone management and water sector development. She has more than ten years of practical experience working on environmental issues in a globalized context. She is a native German speaker, and also works in English and in Spanish. In addition to her commitments with the Ecologic Institute in Berlin, Grit Martinez serves in various capacities as advisor and coordinator for several national and transnational networks. In her role as advisor she cooperates with the Water Integrity Network (WIN), an open and inclusive global network that promotes anti-corruption activities and coalition building between actors from civil society, private and public sectors, media and governments. She facilitates many dialogue sessions in the international and national fora, particularly in Europe, Latin America and West Africa.

Insa Meinke

Insa Meinke heads the North German Climate Office at the Helmholtz-Zentrum Geesthacht and KlimaCampus Hamburg. As regional climate service provider she is making regional climate research adoptable to stakeholders in Northern Germany. Based on a stakeholder dialogue she is developing information products that focus on stakeholder needs. One example is the north German climate atlas, an interactive web atlas showing possible future climate changes in Northern Germany based on 12 regional climate scenarios. Another product is a regional climate report for the metropolitan region of Hamburg summarizing, assessing and discussing published knowledge on climate, climate change and climate impacts in the region.

Tom Pederson

Tom Pedersen is the Executive Director of the Pacific Institute for Climate Solutions. He completed an undergraduate degree in geology at the University of British Columbia in 1974 and began his career as an exploration geologist. Curiosity about the earth, and particularly the ocean, propelled him back to graduate school. In 1979 he graduated from the University of Edinburgh with a PhD in marine geochemistry. He joined the University of British Columbia as a post-doctoral fellow that year. UBC subsequently appointed him to faculty and in 1994 he was promoted to Professor. He served as associate dean, research, for the Faculty of Graduate Studies at UBC from 2000 to 2002 before joining the University of Victoria as director of the School of Earth and Ocean Sciences. In 2003, he took on the role of dean of science at UVic and, in 2009, became executive director of the Pacific Institute for Climate Solutions. Tom Pedersen's awards include the UBC Killam Outstanding Teaching Award in 1990, a Killam Faculty Research Fellowship in 1997, and the Michael J. Keen Medal of the Geological Association of Canada in 2002. He was elected to fellowship in the Royal Society of Canada in 2002, and fellowship in the American Geophysical Union in 2006.

Dave Sauchyn

Dave Sauchyn is Research Professor at the Prairie Adaptation Research Collaborative (PARC) at the University of Regina. His main research interests are the climate and hydrology of the past millennium in Canada's western interior and how knowledge of the past can inform scenarios of future climate and water supplies. He has been involved in a series of interdisciplinary research projects in South America and western Canadian. Dave has been an invited expert witness on climate change in the Canadian Senate and House of Commons, and at forums hosted by provincial premiers and environment ministers. He is senior editor and co-author of the book *The New Normal: The Canadian Plains in a Changing Climate*, published in fall, 2010.

Mike S. Schäfer

Mike S. Schäfer heads the research group Media Constructions of Climate Change at the University of Hamburg's KlimaCampus. His research focuses mainly on international climate communication, debates on climate politics and the role of the internet in these processes. He has published several books on science and risk communication, as well as articles in leading communications and sociological journals such as *Public Understanding of Science*, *Communications*, and *Sociology*.

Stephanie Smith

Stephanie Smith is the Manager of the Hydrology & Technical Services department in the Generation Division of BC Hydro. She manages a team of scientists, engineers, technologists, and data management specialists who provide weather and hydrologic forecasting, hydrologic and climate data collection and data management, and energy accounting and water conveyance reporting for BC Hydro's water resources. Her team is coordinating a number of technical studies of the hydrological impacts of climate change to BC Hydro's hydroelectric generation resources, including the PCIC Hydrologic Impacts studies and the WC2N Mica Glacier study. Stephanie has a BSc in Geography from UBC, and worked for 12 years as a hydrologic forecaster prior to becoming

manager of the Hydrometric and Generation Data team and then manager of the Hydrology & Technical Services team. Stephanie is a member of the PCIC Program Advisory Committee, and is the Canadian Chair of the Columbia River Treaty Hydrometeorological Committee.

Amy Snover

Amy Snover is Co-Director of the Climate Impacts Group at the University of Washington, an interdisciplinary research and outreach team dedicated to developing and delivering climate impacts science in the public interest. She has over a decade of experience bridging the gap between science and decision making, focusing on improving society's resilience to natural and human-caused fluctuations in climate. Dr. Snover's research focuses on integrated assessment of climate impacts at the regional scale, assessing climate-related vulnerabilities, and planning for climate change. She frequently advises on strategies for adopting this research to planning and decision making processes. With her colleagues at the Climate Impacts Group, she has developed strategies for clear and effective communication of regional climate risks and methods of engaging stakeholders in climate change-related needs assessment, to develop priorities for research, decision support, planning and assessment support. Dr. Snover was the lead author on the popular climate change-planning guidebook, *Preparing for Climate Change: A Guidebook for Local, Regional, and State Governments*, of which more than 3000 copies have been distributed worldwide. Dr. Snover received a PhD in Analytical/Environmental Chemistry from the University of Washington in 1998.

Albert Klein Tank

Albert Klein Tank has been working as a scientist at KNMI for almost 20 years. He is actively involved in observational research embedded in international projects and programmes. Albert co-ordinates the European project EURO4M which develops regional reanalyses of past weather and user-oriented data products for monitoring climate variability and change in Europe. He leads the European Climate Assessment & Dataset project that joins over 40 meteorological services in Europe and the Mediterranean. ECA&D delivers high quality observational datasets and information services on changes in weather and climate extremes. Albert is also involved in the production of the 2007 and 2013 assessment reports of the IPCC. Currently, he co-chairs a global expert team on the topic of detection and attribution of anthropogenic climate change. On a national level, he co-ordinates the climate change scenarios for the Netherlands constructed by KNMI for local adaptation to climate change. Albert has published papers in scientific journals, as well as policy relevant reports.

Hans von Storch

Hans von Storch is a director of the Institute for Coastal Research of the Helmholtz-Zentrum Geesthacht and professor at the Meteorological Institute of the University of Hamburg. His research interests are coastal climate and impact (wind, storm surges and waves) in recent times and in possible futures, and methodical issues of statistical climatology such as detection and attribution of anthropogenic climate change, or utility of proxy data. He has been engaged in transdisciplinary research with social and cultural scientists for many years.

Andrew Weaver

Andrew Weaver received his BSc in Mathematics & Physics from the University of Victoria in 1983, a Certificate of Advanced Studies in Mathematics from Cambridge University in 1984, and a PhD in Applied Mathematics from the University of British Columbia in 1987. He is a Professor and Canada Research Chair in climate modeling and analysis in the School of Earth and Ocean Sciences, University of Victoria. He was a lead author in the United Nations Intergovernmental Panel on Climate Change Second, Third and Fourth scientific assessments and is also a lead author in the ongoing Fifth scientific assessment. He was the Chief Editor of the *Journal of Climate* from 2005-2009. Andrew Weaver is a Fellow of the Royal Society of Canada, Canadian Meteorological and Oceanographic Society and the American Meteorological Society. Over the years he has received numer-

ous awards including the E.W.R. NSERC Steacie Fellowship in 1997, the Killam Research Fellowship and a CIAR Young Explorers award in 2003, the CMOS President's Prize in 2007, a Guggenheim fellowship in 2008 and the Royal Society of Canada Miroslaw Romanowski Medal and the A.G. Huntsman Award for Excellence in Marine Science in 2011. In 2008 he was appointed to the Order of British Columbia. His book, *Keeping our Cool: Canada in a Warming World* was published by Viking Canada in September 2008. His second book, *Generation Us: The Challenge of Global Warming* was published by Raven books in 2011.

Francis Zwiers

Before becoming Director of the Pacific Climate Impacts Consortium, Francis Zwiers served as a Research Scientist, Chief of the Canadian Centre for Climate Modelling and Analysis and Director of the Climate Research Division, all at Environment Canada. He is an Adjunct Professor in the Department of Mathematics and Statistics of the University of Victoria and in the Department of Statistics and Actuarial Science of Simon Fraser University. His expertise is in the application of statistical methods to the analysis of observed and simulated climate variability and change. Francis Zwiers is a Fellow of the Royal Society of Canada and of the American Meteorological Society, a recipient of the Patterson Medal, has served as an IPCC Coordinating Lead Author of the Fourth Assessment Report, and is an elected member of the IPCC Bureau.



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