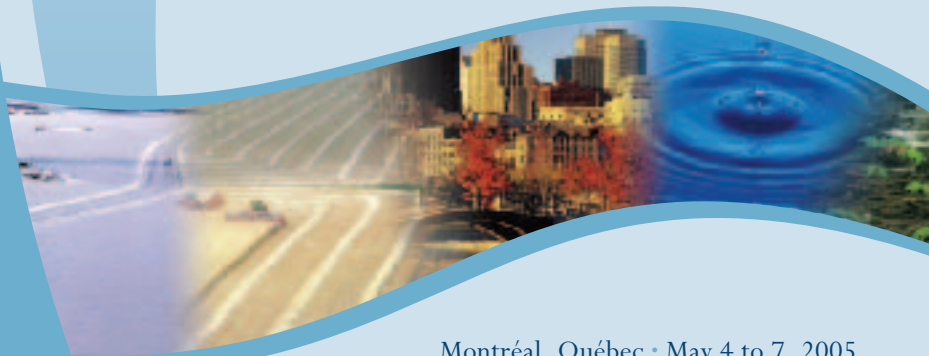




Conference Program
Adapting to Climate Change in Canada 2005
Understanding Risks and Building Capacity



Montréal, Québec • May 4 to 7, 2005



Government
of Canada

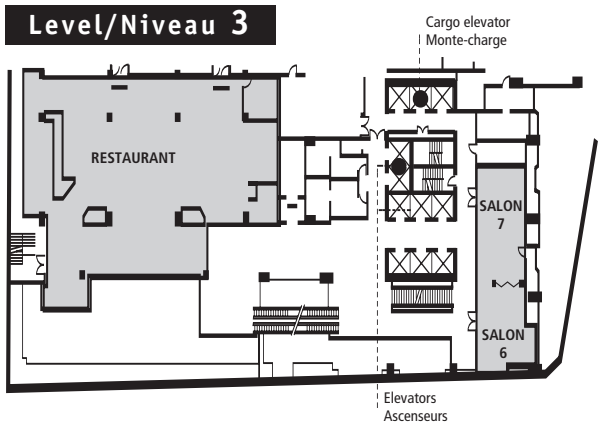
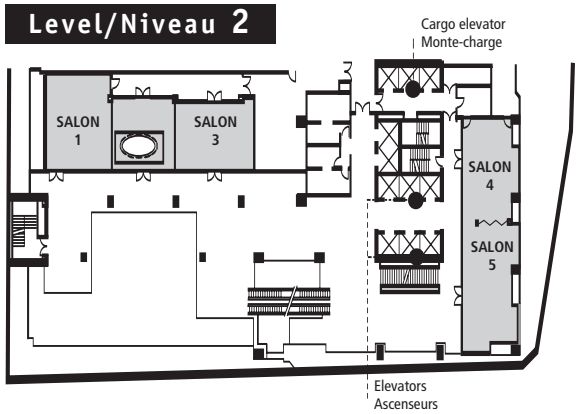
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This conference is sponsored by Natural Resources Canada's
Climate Change Impacts and Adaptation Program and the Canadian
Climate Impacts and Adaptation Research Network (C-CIARN)

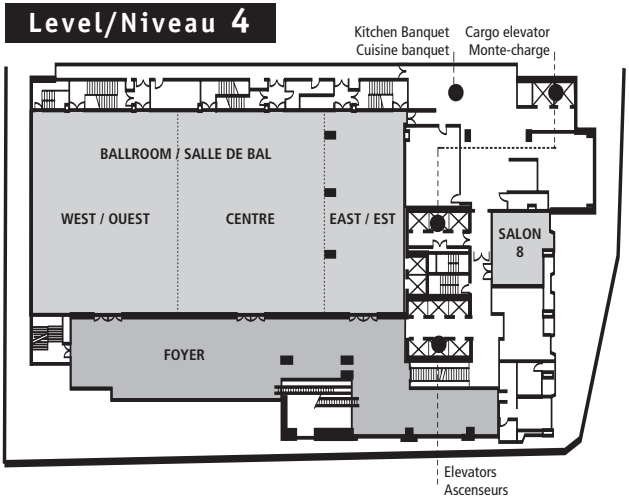


Le Centre Sheraton Montréal Hotel – Meeting Rooms



The conference registration desk is located in the foyer on level 4.

Presentations and posters will be in either English or French, based on the preference of the presenter. Simultaneous translation will be available for all plenary sessions and for all sessions held in the West Ballroom (the plenary room).



Program

TUESDAY, MAY 3, 2005

19:00 – 21:00 *Welcome Reception – Salon 4/5*
Registration Opens

WEDNESDAY, MAY 4, 2005

7:30 am *Conference Registration Open – Foyer/Level 4*

9:00 – 9:30 *Welcome and Opening Remarks*
West Ballroom

9:30 – 10:15 *Plenary:* Dr. Nola-Kate Seymoar, President and CEO,
International Institute for Sustainable Cities

10:15 – 10:45 *Break*

10:45 – 11:30 *Plenary:* Dr. Barry Smit, Professor and Canada Research Chair
West Ballroom in Global Environmental Change, University of Guelph

11:30 – 12:00 *Plenary:* Dr. Don Lemmen, Research Manager, Climate Change
Impacts and Adaptation Program, Natural Resources Canada

12:00 – 13:30 *Lunch* (provided)
Centre Ballroom *Poster Session*

13:30 – 14:50 *Concurrent Sessions*

West Ballroom **Risk Management – Yves Michaud** (Chair)
David Noble Municipal Risk Management for Climate Change
Grace Koshida Development of a Quick Response Protocol to
Assess High-Impact Weather Events
Philippe Crabbé An Adaptation Strategy for Eastern Ontario
Jennifer Milton Vers une réduction de la vulnérabilité des
municipalités aux phénomènes atmosphériques extrêmes

East Ballroom **Government Perspectives – Elizabeth Atkinson** (Chair)
Alrick Huebener Federal Government Policy Directions on
Climate Change Impacts and Adaptation
Richard Dalpé Fisheries and Oceans Canada Climate Change
Risk Assessment Initiative
Jenny Fraser Facing Future Climate: Adaptation in British Columbia

13:30 – 14:50 *Concurrent Sessions (continued)*

East Ballroom *Birgit Isernhagen* Adaptation to Climate Change and its Barriers: A Municipal Case Review

Salon 1 **Coastal Zone – Kathryn Parlee** (Chair)

Mark Taylor Climate Change and Coastal Zone Management Processes

Linda Mortsch Great Lakes Coastal Wetland Communities: Vulnerabilities to Climate Change and Response to Adaptation Strategies

Réal Daigle Impacts of Sea Level Rise and Climate Change in the Coastal Zone of Southeastern New Brunswick

Paul Jordan The New Brunswick Coastal Areas Protection Policy and Adapting to a Changing Coast

Salon 3 **Vulnerability and Adaptation in the Forest Sector – Nancy Kingsbury** (Chair)

Shusen Wang Water Conditions of Boreal Forest Ecosystems Under Various Climate Change Scenarios – A Modelling Assessment

Tim Williamson Climate Change and Local Forest Management – A Northern Saskatchewan Case Study

John Parkins Assessing Community Vulnerability to the Mountain Pine Beetle Epidemic in British Columbia

Héloïse Le Goff The Adaptive Capacity of Forest Management to Changing Fire Regimes in the Boreal Forest

Salon 4/5 **Infrastructure – Joan Klaassen** (Chair)

Heather Auld The Changing Climate and Increasing Vulnerability of Our Infrastructure

Brian Mills The Road Well Travelled: Implications of a Future Climate on the Performance of Pavement Infrastructure in Southern Canada

T. Edward Hoeve Assessment of Foundation Sensitivity to Climate Change in the Northwest Territories

Harvey Hill Identifying Economically Viable Climate Adaptation Options for Infrastructure Systems

14:50 – 15:20 *Break*

15:20 – 16:40 *Concurrent Sessions*

West Ballroom **Communities – Tracey Jones-Cameron** (Chair)

Melissa Guyot The Impact of Climate Change on Traditional Food Security in Two Northern Aboriginal Communities

Michelle Boyle Sustainability Planning in Arctic Resource Communities

Remi Haf L'adaptation aux changements climatiques : Quel rôle pour la gouvernance régionale?

Cynthia Neudoerffer Lessons from the Past – Lessons for the Future: A Case Study of Community-Based Adaptation on the Canadian Prairies

East Ballroom **Research Programs – Pam Kertland** (Chair)

Pam Kertland Does Stakeholder Involvement in Climate Change Research Make a Difference? Lessons From the Climate Change Impacts and Adaptation Program

Alain Bourque Update on Regional Climatology and Adaptation to Climate Change Scientific Work at Ouranos

Anita Walker Climate Change and Health Research

Martin Fortier ArcticNet: A Network of Centres of Excellence of Canada to Conduct the Integrated Natural/Human Health/Social Study of the Changing Coastal Canadian Arctic

Salon 1 **Industry – Graeme Spiers** (Chair)

Larry Hughes Climate Change Implications for Energy Security: Responding to the Challenges

Craig Wakeford Insurance Adaptation to Climate Change

Pierre D'Arcy Les changements climatiques et le transport maritime sur le Saint-Laurent

Alain Joseph A Systems Approach to Climate Change

Salon 3 **Impacts on Forest Ecosystems – Mark Johannes** (Chair)

Anthony Hopkin Exploring the Vulnerability of Eastern Canadian Forests to Shifting Ranges of Tree Diseases Due to Climatic Change

John Jacobs Climate and Highland Ecosystems of Central Labrador: Understanding and Adapting to Change

Andreas Hamann Impacts of Climate Change on Forest Ecosystems in British Columbia and Adaptation Strategies for Forest Management

15:20 – 16:40 *Concurrent Sessions (continued)*

Salon 3 *Rafael Munoz Marquez* Climate Change Impacts on the Boreal Forest in North-Western Ontario: The Case of the Forestry Sector

Salon 4/5 **Engineering in Canada**

D. Danyluk Canadian Council of Professional Engineers' Climate Change Impacts and Adaptation Action Plan

David Lapp The Implications of Climate Change Adaptation on the Practice of Engineering

Ed Morofsky Adaptation to Climate Change: Buildings

J. Nodelman Climate Change Adaptation and the Energy Sector

THURSDAY, MAY 5, 2005

7:30 *Registration Open – Foyer / Level 4*

8:30 -10:00 *Plenary Panel: Managing Climate and Weather Impacts*

West Ballroom *Mr. Jose Kusugak*, President, Inuit Tapiriit Kanatami

Mr. Stephen King, Manager, Senior Advisor, Strategic and Sustainable Resource Management, Environmental Management Services Halifax Regional Municipality

Dr. David Butler-Jones Chief Public Health Officer, Public Health Agency of Canada (invited)

Mr. Paul Kovacs, Senior Vice President, Insurance Bureau of Canada

10:00 -10:30 *Break*

10:30 -11:50 *Concurrent Sessions*

West Ballroom **Hazards and Extremes – Tanuja Kulkarni** (Chair)

Kenneth Johnson Land Use and Other Responses to Landscape Hazards in Northern Regions

Joan Klaassen Community Vulnerability to Extreme Rainfall In Ontario: Lessons Learned from Recent Years and Implications Under Climate Change

William Richards Reducing Our Vulnerability to Extreme Meteorological Events: Atmospheric Hazards in Atlantic Canada

Rebecca Hanson Hurricane Juan: A Comparison of Impacts and Vulnerability: Implications for Natural Hazard Mitigation

10:30 -11:50 *Concurrent Sessions (continued)*

East Ballroom **Freshwater in the Arctic – Cathleen Knotsch** (Chair)

Terry Prowse Climate Change in Arctic Hydrologic Systems: A Focus on Importance to Freshwater Ecosystems

Fred Wrona Climate Interactions with Arctic Freshwater Ecosystems

Jim Reist Climate Change Issues in Arctic Fisheries: Arctic Char – A Key Northern Resource

Heather Moquin and John Keogak Inuit Concerns of Changing Aquatic Ecosystems in Arctic Communities

Salon 1 **Health and Vulnerable Populations – Jacinthe Séguin** (Chair)

David LaPlante Project Ice Storm: Effects of Prenatal Stress on Children's Physical, Cognitive and Behavioural Development

Louis Jacques Connaissances, attitudes et comportements des aînés face à la chaleur accablante et la pollution de l'air

Michelle Garneau Les impacts du changement climatique la productivité pollinique et la rhinite allergique à Montréal entre 1994 et 2002

Dominique Charron Canadians' Vulnerability to the Foodborne & Waterborne Diseases

Salon 3 **Research Tools and Methods**

Monirul Mirza The Use of SRES Scenarios in Climate Change Impacts and Adaptation Assessments

Kevin Sprague A Prototype Agent-Based Tool for Simulating Decision-Making

Keith Donnelly Self-Organization and Natural Disasters

Yongyuan Yin Resource System Vulnerability to Climate Change: Assessment Methodology

Salon 4/5 **Tourism – Daniel Scott** (Chair)

Brenda Jones The Vulnerability of Tourism Events in the National Capital Region to Climate Change

Geoff McBoyle The Implications of Climate Change for the Ski Industry in Eastern North America

Bhawan Singh Impacts of and Adaptation to Climate Change for the Golf Industry in Southern Québec

Daniel Scott Climate Change Implications for Visitation to Canada's National Park

11:50 - 13:30 *Lunch* (provided)

Centre Ballroom *Poster Session*

13:30 - 14:50 *Concurrent Sessions*

West Ballroom **Regional Water Impacts Assessment – *Bano Mehdi*** (Chair)

Stewart Cohen and Denise Neilsen A Participatory Approach for Assessing Climate Change Impacts and Adaptation: A Case Study on Okanagan Water Resources

Dave Sauchyn Adaptation to the Impacts of Climate Change on Water Supply in the City of Regina

Sophie Duchesne Impacts et adaptations liés aux changements climatiques en matière de drainage urbain au Québec : évaluation de la performance historique des réseaux

Yves Michaud Trends in Groundwater Levels in Eastern Ontario

East Ballroom **Traditional Knowledge and Scientific Research –**

John Streicker (Chair)

Leslie Whitby Northern Impacts and Adaptation Strategy: Partnership Approach to Developing a Comprehensive Strategy

Mark Buell Unikkaaqatigit: Putting the Human Face on Climate Change Through Community Workshops: Inuit Knowledge, Partnerships, and Research

Violaine Lafortune Adapting to Climate Change in Nunavik and Northern Québec: Using Traditional and Scientific Knowledge to Enhance Local Capacity and Cope with Changing Ice Conditions

Chris Paci Improving Canadian Understanding of Risks and the Importance of Capacity Building: Denendeh, an Example

Salon 1 **Physical and Social Health Impacts –**

Marcia Armstrong (Chair)

Adam Fenech The Spread and Severity of the West Nile Virus in Ontario 2000-2004: Implications for Adaptation to Climate Change

David Hutton Psychosocial Aspects of Climate Change: Building Community Adaptability and Resiliency Through Integrated Health Planning and Program Development

Christopher Furgal Climate Change Health Impacts, Vulnerabilities and the Capacity to Respond in Canadian Northern Aboriginal Communities

Barb MacKinnon Health Effects of Wood Smoke and Risk Reduction Strategies

13:30 - 14:50 *Concurrent Sessions (continued)*

Salon 3 **Climate Scenarios – Ryan Schwartz (Chair)**

Philippe Gachon The Climate Change Scenarios Network: Meeting Canada's Need for Scenario Information and Adaptation Science

Samuel Gameda Climate Change Scenarios for Agriculture

Chad Shouquan Cheng A Synoptic Weather Typing Procedure to Assess Possible Impacts of Climate Change on Freezing Rain in South Central Canada

Gail Chmura Variability in AOGCM Prediction of Sea Surface Temperature Change on the Scotian and Newfoundland-Labrador Shelf

Salon 4/5 **Understanding Risk and Capacity in Agriculture – Bob McGregor (Chair)**

Christopher Bryant Climate Variability and Quebec Agriculture: Lessons for Farm Adaptation From an Analysis of the Temporal and Spatial Patterns of Crop Insurance Claims in Quebec

Ben Bradshaw Farmers' Vulnerability to Climate and Other Risks: A Comparative Assessment from the Okanagan Valley, B.C.

Michael Brklacich Climatic Change and Agriculture in Central Canada

Robert McLeman Migration as an Adaptation to Climate Change

14:50 – 15:10 *Break*

15:10 – 16:30 *Concurrent Sessions*

West Ballroom **Policy for Water Resources Management – Beth Lavender (Chair)**

Terry Rolfe Integrating Vulnerabilities into Managed Systems

Jean-François Cyr Analyse du potentiel du stockage en eau dans un contexte de gestion intégrée par bassin versant et d'adaptation aux changements climatiques

Derek Bonin Watershed Management Adapting to Climate Change

Gordon McBean Public Policy Aspects of Managing Canadian Waters in a Changing Climate

East Ballroom **Facilitating Adaptation – Quentin Chiotti (Chair)**

Peter Berry Your Health and A Changing Climate: A Risk Management Toolkit for Public Health Professionals

Rob Young Incorporation of Adaptation to Climate Change into the EIA Process

15:10 – 16:30 *Concurrent Sessions (continued)***East Ballroom** *Clive Callaway* Shoreline Stewardship Support for Local Government*Bano Mehdi* A Primer for Municipalities and Communities on Adapting to Climate Change**Salon 1** **Understanding Adaptive Capacity – *Fiona Warren* (Chair)***Dave Sauchyn* A Comparative Study of Institutional Adaptive Capacity: South Saskatchewan River Basin, Canada, and Elqui River Basin, Northern Chile*Francine Portenier* Community Adaptation to Climate Change*Henry David Venema* Adaptation as Resilience Building: A Policy Study of Climate Change on the Canadian Prairies*Lisa Van Buren* Industry Activities and Opportunities to Adapt to Climate Change**Salon 3** **Fish and Aquatic Resources – *Kim Hyatt* (Chair)***Alex Salki* Assessing the Lake Winnipeg Fish Community Response to a 2XCO₂ Climate Scenario*Richard Beamish* A Comparison of the Initial Impacts of Global Warming on the Marine Fish Communities Off the Pacific and Arctic Coasts of Canada*Kim Hyatt* Climate Impact and Adaptation Responses of Salmon and Water Managers on the Somass River to the 2002 Fall Drought in British Columbia*Mark Johannes* Past, Present and Future Canadian Perspectives of Impact and Adaptation Responses of Fish and Fisheries to Climate Variation and Change**Salon 4/5** **Learning from Impacts in Agriculture – *Ellen Wall* (Chair)***Virginia Wittrock* Adaptation Strategies for Agriculture in Canada: Preparing for the 21st Century*Jonathan Newman* Climate Change and the Fate of Cereal Aphids*Juan Cabas* Extreme Weather Events and Crop Yield*Denise Neilsen* Agricultural Water Supply in the Okanagan Basin: Using Climate Change Scenarios to Inform Dialogue and Planning Processes

18:00 – 21:00 *Conference Dinner Event*

7:30 *Registration Open – Foyer / Level 4*

9:00 - 10:20 *Concurrent Sessions*

West Ballroom **Canada in an International Context**

Harvey Hill Summarizing Climate Adaptation Research and Applications Internationally and How They Relate to the Canadian Context

Frédéric Gagnon-Lebrun Responses to Climate Change Impacts: Canada in a Global Context

Heather Smith The International and Foreign Policy Dimensions of Adaptation, Risk and Capacity Building

Richard Connor Mainstreaming Adaptation in Water and Climate

East Ballroom **Economics – Timothy Folkins (Chair)**

Timothy Folkins The Importance of Integration of Economic Analysis into Climate Change I&A Research and Methodological Challenges

Frank Millerd Impact of Climate Change on the Shipping Industry in the Great Lakes/St. Lawrence Seaway

Lisa Debaie Evaluating the Economic Impact of Climate Change to the Eco-tourism and Cultural Tourism Sector of Bouctouche, New Brunswick

Jean-Willy Ileka From Biophysical to Socio-Economic Modelling – The Database Challenge in Assessing Vulnerability of Agriculture in Prairie Project

Salon 1 **Taking Action on Adaptation – Kyle McKenzie (Chair)**

Pierre Gosselin Improving Public Health Surveillance in the North is Crucial for Adaptation

David Welch How Should Protected Area Managers Adapt to Climate Change?

Rob Young ClimateSMART – Mainstreaming Climate Change Considerations in Municipal Decision Making

Louis Drouin The Response of the Montreal Public Health Board to Climate Change: Preventing Excess Morbidity and Mortality Due to Extreme Summer Temperature in Vulnerable Human Populations

9:00 - 10:20 *Concurrent Sessions (continued)*

Salon 3 **Adaptive Capacity in Diverse Cultural Contexts – Sue Belliveau** (Chair)

Johanna Wandel The Vulnerability Approach: Cross-Cutting Themes and Common Results from Culturally Diverse Contexts

Jennifer Pouliotte Environmental Change and Dynamic Vulnerability: Changing Livelihoods in Southwest Bangladesh

Karen Sutherland Vulnerability to Climate Change and Adaptive Capacity in Samoa: The Case of Saolufata Village

James Ford Vulnerability of Arctic Communities to Risk Associated With Climate Change: Two Case Studies from Nunavut

Salon 4/5 **Communication: Reaching Target Audiences – Al Douglas** (Chair)

Quentin Chiotti Developing a More Effective Adaptive Response to Climate Change: An ENGO Perspective

Clive Tesar Getting Traction on the Thinning Ice Road

David DeYoe Still Preaching to the Converted? Employ a Knowledge Management System to Effect Change

Philip Hill Transferring Climate Change Impacts and Adaptation Knowledge to the Community of Communities

10:20 - 10:50 *Break*

10:50 - 12:30 *Plenary Panel: Looking to the Future*

West Ballroom **Dr. Richard Klein**, Potsdam Institute for Climate Impact Research

Dr. Andy Reisinger, New Zealand Climate Change Office

Mr. Paul Egginton, Executive Director, Climate Change Impacts and Adaptation Program, Natural Resources Canada

Dr. Stewart Cohen, Researcher, Adaptation and Impacts Research Group, Environment Canada

12:30 *Closing Remarks*
End of Formal Conference

FRIDAY

14:00 - 17:00 *Concurrent Workshops*

Salon 1 *Workshop 1* From Science to Action

Salon 3 *Workshop 2* Climate Change and Water: Impacts and Adaptations
(Canadian Water Network)

SATURDAY MAY 7, 2005

9:00 - 14:00 *Concurrent Field Trips (additional cost)*

1) Amundsen Ice Breaker (Canadian Research Icebreaker)

2) Wine tour

3) Lake St-Pierre

Workshops

Workshop 1: Salon 1

From Science to Action

Clive Callaway and Sarah Kipp, The Living by Water Project

To effectively communicate “science based” messages to a variety of audiences (including climate change/adaptation or other stewardship messages), we need to think outside the traditional box.

This workshop will give you practical tips for gaining “buy-in” of your messages, and move your audience along the continuum from knowledge to action. You will explore ways to identify your target audiences, and match your messages to their needs. You will also review practical examples and techniques that can be easily applied to your materials, whether they are for promotional, educational or other communication purposes. Results from this workshop will be helpful for any participant subsequently involved in developing a communications/outreach strategy.

The workshop will introduce you to Conservation Action Marketing, drawing from community-based social marketing, modern ethical business marketing, and environmental education techniques. It will help you develop skills to raise awareness and build relationships within your target audience, leading to sustained behavioural change.

This free workshop is intended to improve understanding and stimulate some creative discussion, building on the conference themes of “*communication, awareness and capacity building*”. It is cosponsored by C-CIARN, the Climate Change Conference, and The Living by Water Project.

Workshop 2: Salon 3

The Canadian Water Network Presents a Workshop on Climate Change and Water

The changing patterns of precipitation in the observed data, indicate that climate change is already a reality. For example, research carried out by CWN researchers shows increased variance of precipitation everywhere. Consistent with this finding, we observe that wet areas become wetter; dry and arid areas become more so. In addition, the following general changing pattern is emerging: (a) increased precipitation in high latitudes (northern Hemisphere); (b) reductions in precipitation in China, Australia and the Small Island States in the Pacific; and (c) equatorial regions become more variable, i.e. increased variance. The changes in the major ocean currents also appear to be affecting precipitation patterns. For example, increased intensity and frequency of El Niño and ENSO seems associated with evidence of an observed "dipole" pattern affecting Africa and Asia, although this time series is too short so far. But the changing pattern calls for renewed efforts for adaptation to climate change, as the changing precipitation pattern will also affect the regional availability of food supply. The objective of this Special CWN Session is to present some new findings relevant to these issues on the impact of climate change on water supply and the required adaptation measures.

Presentations will include:

- 1) Teleconnectivity between Global Oceans and Prolonged Droughts in Canada
Amir Shabbar and Walter Skinner, Environment Canada
- 2) Statistical Downscaling Methods for Climate Change Impact Studies
Van-Thanh-Van Nguyen^{1,3}, *Tan-Danh Nguyen*^{1,3} and *Philippe Gachon*^{2,3}, ¹McGill University, ²Environment Canada, ³OURANOS Consortium
- 3) From Modelling to Scenarios of Climate Change
Philippe Gachon, Environment Canada, OURANOS
- 4) A Nonparametric Approach to Detecting and Dating Climate Change: Implications for Adapting Water Supply
Mohammed Dore, Brock University
- 5) Climate Change in the South Saskatchewan River Basin: Implications for Adaptation
Thian Gan, University of Alberta