

North2Warm: The Impact of 1.5°C or Greater Global Warming on Canada's North Tuesday February 28, 2017

Background – Review

The United Nations Framework Convention on Climate Change (UNFCCC) has invited the Intergovernmental Panel on Climate Change (IPCC) to produce a Special Report to consider the impacts of 1.5°C global warming above pre-industrial levels. The Special Report will cover a range of topics including observed warming and its impacts since the pre-industrial era, climate modelling and projections, observed and projected extreme events, projections of impacts, and risk assessment.

Noting that warming in Canada's north has proceeded at more than double the global mean rate (and such amplification is projected to continue), this workshop will gather input for a focused report on the implications of 1.5°C or larger global warming for Canada's North. The primary goal is to submit and publish a peer-reviewed paper on this topic that will provide highly relevant reference material for the IPCC Special Report. In addition to ensuring that Canadian research in these areas contributes to a high profile international endeavour, this activity will provide valuable information to the Canadian public, policy makers, and the research community concerned with this critical topic.

The workshop is intended to be highly participatory and will center on three panels dealing with observed changes, projected changes under different warming scenarios, and impacts and adaptations underway and anticipated.

Preparation for the workshop

Mainly, we would like participants to bring their readiness to engage in the topics at issue with whatever background they currently have. Panelists have been asked to present brief remarks speaking to their expertise. In preparation for the workshop, we would like all participants to think about the following key themes that might extend beyond your boundaries of expertise. Your feedback on these or other themes in advance of the workshop would be most welcome in written form, but this is not obligatory (please send your feedback to paul.kushner@utoronto.ca or bob.christensen@utoronto.ca and we will summarize your comments in background documents for the workshop). These are the questions we will be addressing throughout the workshop.

- 1. What does the Paris agreement's 1.5 degree or 2.0 degree target actually mean to you in a practical sense? What does it imply for your areas of interest with respect to Canada's North and cold regions?**
- 2. In the context of the Paris targets, what adaptation measures are you aware of that are underway or anticipated in Canada's North and cold regions? What additional measures would be useful to undertake?**

3. What metrics or diagnostics of environmental parameters would be most useful for adaptation and planning in Canada's North and cold regions in the context of the Paris targets? These could relate to observations and/or to models. (E.g. location of the 0°C isotherm, timing of 1.5°C versus 2°C, differential impacts of 1.5°C versus 2.0°C on extremes, permafrost impacts, etc.)

Initial reference list

Here is an initial reference list that will be updated in the coming weeks. Please send additional references.

1. IPCC Special Report Page: <https://www.ipcc.ch/report/sr15/>
2. Mitchell et al., Nature Climate Change, 2016: doi:10.1038/nclimate3055
3. Schleussner et al., Nature Climate Change, 2016: doi:10.1038/nclimate3096

Meeting Location

The Faculty Club, University of Toronto
41 Willcocks Street
Toronto, Ontario M5S1C7
(416) 978-6325

[Google Maps Link](#)

Arranged Hotel Accommodations

Holiday Inn Bloor-Yorkville
280 Bloor St West
Toronto, Ontario M5S 1V8
(416) 968-0010

[Google Maps Link](#)

Meeting Agenda

08:30 - 09:00	Registration/breakfast
09:00 - 09:30	Round-table/introductions/Logistics
09:30 - 10:00	Introductory talk/Overview Greg Flato: The IPCC Special Report on 1.5 degrees, purpose of N2W and aims of this workshop.
10:00 - 10:15	Discussion
10:15 - 10:30	Break
10:30 - 12:00	Panel 1: Observed changes Stephen Howell (chair), Chris Derksen, Claude Duguay, Sharon Smith, Bruno Tremblay, Xuebin Zhang
12:00 - 13:00	Lunch (provided)
13:00 - 14:30	Panel 2: Projected changes under the UNFCCC targets Greg Flato (chair), Chris Fletcher, John Fyfe, Nathan Gillett, Michael Sigmond, Francis Zwiers
14:30 - 15:00	Break
15:00 - 16:30	Panel 3: Adaptations underway and anticipated Don Lemmen (chair), Lukas Arenson, Bronwyn Benkert, Jackie Dawson, Marie-Eve Neron
16:30 - 17:30	Recap/Discussion/Knowledge Gaps
17:30	Adjourn meeting
19:00 - 22:00	Dinner: Lee Chen Asian Bistro, 832 Yonge St. http://leechenbistro.com/ Food and non-alcoholic beverages provided.

Confirmed participants/Affiliations for March 3rd Workshop

Lukas Arenson	BGC Engineering
Bronwyn Benkert	Yukon Research Centre
Aaron Berg	Guelph University
Ross Brown	Environment and Climate Change Canada
Elizabeth Bush	Environment and Climate Change Canada
Bob Christensen	University of Toronto
Jackie Dawson	University of Ottawa
Chris Derksen	Environment and Climate Change Canada
Stephen Déry	University of Northern British Columbia
Claude Duguay	University of Waterloo
Janice Festa	Transport Canada
Greg Flato	Environment and Climate Change Canada
Chris Fletcher	University of Waterloo
John Fyfe	Environment and Climate Change Canada
Marie-Eve Gagne	University of Toronto
Stephanie Hay	University of Toronto
Stephen Howell	Environment and Climate Change Canada
Steve Kokelj	Northwest Territories Geological Survey
Paul Kushner	University of Toronto
Wei Li	Environment and Climate Change Canada
Don Lemmen	Environment and Climate Change Canada
Gita Ljubicic	Carlton University
Marie-Eve Neron	Indigenous and Northern Affairs Canada
Thomas Newman	University of Toronto
Lawrence Mudryk	Environment and Climate Change Canada
Marjorie Shepherd	Environment and Climate Change Canada
Michael Sigmond	Environment and Climate Change Canada
Robert Siron	Ouranos

Sharon Smith	Natural Resources Canada
Reinel Sospedra-Alfonso	Environment and Climate Change Canada
Kim Strong	University of Toronto
Laxmi Sushama	Université du Québec à Montréal
Neil Tandon	Environment and Climate Change Canada
Chad Thackeray	University of Waterloo
Bruno Tremblay	McGill University
Xuebin Zhang	Environment and Climate Change Canada
Yu Zhang	Natural Resources Canada
Simon Zwieback	Guelph University
Francis Zwiers	Pacific Climate Impacts Consortium

Please note that members of Inuit Tapiriit Kanatami (www.itk.ca) have expressed interest in this activity on behalf of that organization but are unable to attend because of scheduling conflicts.

Organizing Committee: Greg Flato and Stephen Howell (ECCC), Don Lemmen (NRCan), Paul Kushner (University of Toronto), Bob Christensen (administrative support, University of Toronto)

Author team (as currently planned): Flato, Howell, Lemmen, Kushner, Dawson, Derksen, Déry, Duguay, Fletcher, Fyfe, Gillett, Sigmond, Zhang, Zwiers