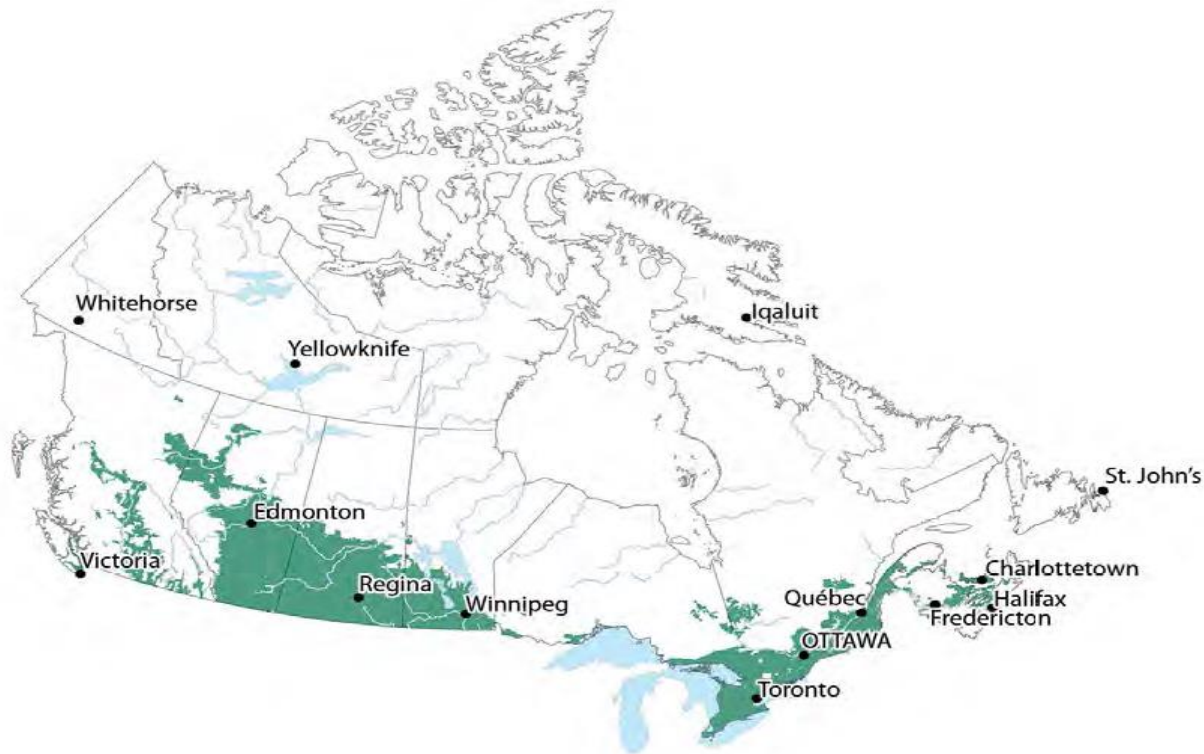


What constitutes extreme weather?

Defining extreme weather to support adaptive planning in agricultural landscapes.



Agricultural extent of Canada (Source: AAFC, 2013).



Agriculture and
Agri-Food Canada

Agriculture et
Agroalimentaire Canada





Bill Redekop, <http://www.winnipegfreepress.com/local/flood-choices-under-debate-143286126.html>

Extreme weather...

The occurrence of a value of a weather or climate variable above (or below) a threshold value near the upper (or lower) ends of the range of observed values of the variable.

IPCC 2012, [Field et al.]. Glossary of terms. SREX. Cambridge University Press.



<http://poleshift.ning.com/profiles/blogs/crop-failure-a-growing-reality>



<https://www.pentictonlakesideresort.com>

“..a cultivated plant is not found in its natural habitat. It’s bred for other qualities, not necessarily environmental adaptability.”

Fruit Growers news, March 27, 2014



Impacts & Adaptation

Will future extreme weather events differ from the past?

How will it affect the things we care about?

What should we plan/prepare for?

Climate Models

Dr. Neil Comer, Risk Sciences International

Historical and modelled climate data issues with extreme weather.

Impacts and Adaptation

Dr. David Sauchyn

Adaptation to extreme weather events in agricultural watersheds in five countries.

Dr. Scott Mitchell

Extreme weather: envisioning Ontario agriculture.

Dr. Suren Kulshrestha

Economics of Crop Production under Climate Change.

Session Format

- Panel followed by questions and a discussion of key points
 - First Hour: four 12 minute presentations (hold questions)
 - 10-20 minutes questions and discussion period (key questions raised by panelists)
- RELATED POSTER – Zhiming Qi, McGill University
P-AGR1. RZWQM Simulated Management Effects on Nitrogen Loss and Corn Production to Adapt Climate Change.

Please turn off mobile devices

Key Points

- Climate change will influence regional agriculture in different ways (positive/negative), with extremes being the most uncertain.
- Despite uncertainty in climate projections of extremes, risk may be quantified so as to 'converge' on a best estimate
- Weather is highly variable and obscures regional expression of regional trends and extreme weather
- Research should be informed by social context regarding what is important (i.e., impacts adaptations)
- Adaptation requires coordination at local and higher levels (resources, information, policies)

Questions for Discussion

Information/Science

- Does the high level of uncertainty regarding extreme weather mean we should not consider the potential risks in adaptation planning?
- When we discuss extreme events, how do we communicate uncertainty regarding Global and Regional models (both temporal and spatial)?
- Do we believe we will ever have the capability to project extreme events at temporal and spatial scales given the incompatibility between climate models (limitations) and local planning (eg., farm)?
- What is an optimal scale and scope of analysis for proper policy making?

Policy & Management

- Can adaptive planning decisions be reasonably made in the absence of information about extreme events?
- What would be a mandate and structure for an inter-provincial agency to coordinate/facilitate rural adaptation?