
10th Annual
Canadian Risk and Hazards Network Symposium
November 5-8, 2013 Regina, Saskatchewan, Canada



Canadian Risk and Hazards Network 10th Annual Symposium

ABSTRACTS



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Government Building at Sunset – Rae McLeod, Saskatchewan

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Following the panel speakers, an interactive session will foster discussion between Federal, Provincial and Territorial (FPT) counterparts on risks of concern, the different risk assessment methodologies used and how results from risk assessments are incorporated in risk reduction decision making. We will explore the concept of a national risk assessment in terms of its potential purposes and what it could provide in terms of analysis and evaluation of both malicious and non-malicious threats and hazards. For illustrative purposes, a practical application using the hurricane scenario, developed during the federal 2011 – 2012 All Hazards Risk Assessment cycle will be demonstrated. The goal of this session is to expose participants to an all-hazards risk assessment methodology.

Panel Presenters:

National Risk Assessments in the Canadian Context

G. Paoli

Mr. Paoli from Risk Sciences International will provide an overview of comparative risk assessment experience in multiple domains. The discussion will focus on the many dimensions upon which a national comparative risk assessment can be designed, and the inevitable trade-offs that are required. Experiences in other disciplines and in other countries will also be considered.

Utility of Risk Assessments from the Federal Perspective

1. Regional Resilience Assessment Program

Presenter(s): J. Gulak and R. Hunt

Public Safety Canada will provide a presentation on the importance of a regional approach to managing risks to Canada's critical infrastructure, and in particular the Regional Resilience Assessment Program (RRAP). The RRAP is an integral part of the Beyond the Border Action Plan, and is central to Public Safety Canada's efforts to enhance the resilience of Canada's critical infrastructure. The RRAP brings together owners and operators of critical infrastructure and governments to conduct site assessments, identify and address resilience gaps and conduct exercises to validate mitigation measures.

2. Disaster Scenarios: Loss-estimates for Hazard Risk Analysis

Presenter(s): L.C. Struik

Disaster scenarios describe the consequences of a hazard event that severely impacted something people care about. This presentation describes why you need disaster scenarios to analyze disaster risk, what constitutes a disaster scenario and how they are derived in quantitative and qualitative analysis. Risk is described as the probability of a consequence. In the field of hazards, risk of concern is when the consequence is a disaster; an event severe enough to impact lives, destroy substantive numbers of buildings and infrastructure, and cost society millions or more dollars (CDN). The catalogue of such losses is the disaster scenario caused by the hazard event. To estimate a probable disaster scenario, people and structures of some vulnerability to a particular hazard are exposed to a

plausible event of that hazard of some probability (a hazard scenario). An example is used from the Hazus loss-estimation tool. A plot of various probabilities of disaster scenarios provides a measure of the risk. In summary, risk will be shown to be the profile of various disaster scenarios caused by various hazard scenarios. Know your scenarios and know your risk.

3. Brainstorming Session

Presenter(s): E. MacGillivray and C. Cheung

This session will be led by the Ernest MacGillivray on the concept of a National Risk Assessment and Register for Canada. A National Risk Assessment discussion will take into consideration: risks of concern to FPTs, the different risk assessment methodologies utilized and strategies to address how different risk-based approaches might be harmonized to form a national risk picture.

Thematic Session 06: Yesterday's Weather in Today's Landscape

Graham Strickert

The Canadian climate can lead to severe weather in all parts of the country, of many different forms and impacts. From tornadoes to heavy snowfalls and ice storms, Canada sees it all. Severe weather affects infrastructure, transportation, food production. It causes loss of life and loss of property. As it has been in the past, severe weather will be part of our future but as cities grow, populations increase, and infrastructure becomes more complex, risks posed by severe weather will also increase. Looking at past severe weather events in the context of a present and future Canadian society can help us put the risks that severe weather poses in perspective. In this session I will be looking at past severe weather events, like hurricane Hazel, which impacted southern Ontario, and the Regina tornado of 1912 and will examine the breadth of their impact and the impacts of similar events in today's landscape.

Affiliations: Environment Canada

Oral Presentations:

Possible Impacts of Climate Change on Future Wind Gust Events at Local Scale over Canada

Author: C.S. Cheng

Presenter: C.S. Cheng

The overarching purpose of this study was to project changes in the frequency and intensity of future hourly/daily wind gust events under downscaled future climate conditions over Canada. Wind gust factors were employed to simulate hourly/daily wind gusts based on observed hourly/daily wind speed. Regression-based downscaling methods were used to downscale future hourly/daily wind speed to each of the selected 104 cities over Canada for eight GCM models with IPCC SRES A2 and B1 scenarios. The wind gust simulation models were then applied using downscaled future GCM wind speed data to project changes in the frequency and intensity of future hourly/daily wind gust events. Downscaling transfer