

WORKSHOP

Integrating Climate Risk into Infrastructure Development

Professional Development Workshop



engineerscanada
ingénieurscanada

April 11, 2016 | Centre Shaw Center, Ottawa, ON
Cost: \$295 / participant



ENGINEERS CANADA

This one day introductory workshop will provide participants with information about, and practice with, a practical tool and process that systematically assesses the risks of current and future climate on public infrastructure, with a focus on building and water infrastructure.

Between 2007 and 2012, Engineers Canada, in partnership with Natural Resources Canada, developed the PIEVC Engineering Protocol. The Protocol is a structured procedure using standard risk assessment science to assess and fully document the vulnerability of infrastructure to the impacts of current and future climate at a screening level. It has been used to assess over 40 infrastructures across Canada.

Two facilitated group sessions will demonstrate the steps in the Protocol through hands-on, small group exercises to define the infrastructure components and climate parameters and to undertake a qualitative, screening-level risk assessment using completed case studies of building and water infrastructure to illustrate real life applications.

This workshop will be of interest to those professionals who are involved in policy, planning, pre-design, design, operation, maintenance, management and regulation of civil infrastructures and buildings infrastructure and who, now and in the future, need to consider the changing climate for these activities.

The Protocol has been applied to the design of new infrastructure as well as for existing infrastructure in need of rehabilitation or retrofitting. It will also be of relevance to planners, managers and operators to improve their understanding of the impacts and risks that public infrastructure, and specifically buildings, face with current climate e.g. extreme weather events and future climate.

The workshop will include a morning coffee break and lunch. Coffee will be available throughout the afternoon sessions. Copies of presentation materials will be provided.

Register for EngineersCanada workshop on Monday, April 11th! This full-day workshop will cover background and use of Engineers Canada's PIEVC tool that systematically assesses risks of current and future climate on public infrastructure, with a focus on building and water infrastructure. Participants will work through real-world examples. This workshop will be of interest to those involved in policy, planning, pre-design, design, operation, maintenance, management and regulation of civil and buildings infrastructure.

Space is limited! To reserve your spot, please contact

jrichard@mirarco.org before

March 1st (indicate

EngineersCanada workshop in the subject line). Registration for this workshop will open soon and the cost is \$295 (+HST).

EDUCATIONAL OBJECTIVES



Upon completion of the Workshop, participants should:

- Have an increased understanding of the increasing costs and liabilities related to public infrastructure as a result of climate change
- Have an increased understanding of historical climate trends and methods for climate projection as these pertain to infrastructure,
- Have a basic understanding of risk assessment as applied to infrastructure response to changing climate,
- Have hands-on experience with the application of climate change risk assessment for selected infrastructure examples
- Recognize the benefits of a multi-disciplinary and multi-stakeholder team to address the impacts and complexities of climate change on infrastructure

AGENDA

MORNING

7:15	Breakfast and Networking
8:15	Registration
8:30	Welcome and Opening Remarks
8:45	The Need for Infrastructure Climate Risk Assessment (Lapp)
9:15	Implications of Not Accounting for Climate Change Vulnerabilities (Zizzo)
9:45	Climate information for Public Infrastructure Decision-Making (Auld)
10:30	Coffee Break and Networking
10:45	Principles of Risk Assessment and the PIEVC Engineering Protocol (Lapp)
11:30	Case Study #1: Assessment of Three Ontario Government Buildings (Carkner)
12:00	Lunch and Networking

AFTERNOON

12:30	Exercise #1 - Infrastructure Component and Climate Parameter Matrix Definition (Lapp)
1:15	Exercise #1 - De-Brief and Q&A (Lapp)
1:45	Case Study #2: City of Welland Stormwater and Wastewater Infrastructure Assessment (Ingebrigtsen)
2:15	Risk Matrix Completion. Introduction and Small Group Discussion (Lapp)
3:30	Risk Assessment Matrix Completion Plenary De-Brief
4:00	Climate Risk Assessment as a Policy Tool (Lapp)
4:20	Infrastructure Climate Risk Assessment – Planning and Implementation (Panel)
4:45	Closing Remarks and Final Q&A
5:00	End of Workshop

TRAINERS AND SPEAKERS

Heather Auld , M.Sc. (Meteorology). Principal Climate Scientist - Risk Sciences International (RSI). Heather retired from the Federal Government in 2011 after spending 32 years in several Environment Canada offices across Canada in Edmonton, Vancouver, Toronto and CFB Trenton. During this time, she worked as a weather forecaster, climatologist, manager, meteorology instructor and climate impacts and adaptation expert and, for many years, was the Associate Director of Environment Canada's multi-disciplinary Adaptation and Impacts Research Group.

For more than two decades, Heather extensively researched and developed climate and climate change design values supporting the National Building Code of Canada, National Energy Code, hydrological structures and other national infrastructure standards. She has provided forensic analyses and expert testimony support to several notable Canadian disaster inquiries and co-led the development of a national climate hazards web portal supporting disaster management planning in municipalities and provinces. Heather has served on expert climate teams with the World Meteorological Organization, the Intergovernmental Panel on Climate Change and represented Canada on delegations to the UN Convention on Biodiversity. She recently helped to lead a delegation of the World Federation of Engineering

Organizations to meet with the World Meteorological Organization for discussions on ongoing collaboration. Heather is the author of many peer-reviewed publications and international reports on extreme weather, climate adaptation, engineering climatology, climate change scenarios, and disaster risk reduction.

Laura Zizzo B.E.S., J.D. Laura is the founder and Chief Executive Officer of Zizzo Strategy Inc. She has significant experience environmental legal issues including complex environmental transactions, litigations and securities issues. Laura provides strategic advice to clients related to sustainability, climate change and related matters. Recent projects include a study of municipal and public sector liability associated with climate change, legal requirements to better manage and report environmental and climate risks and the current state of understanding on climate adaptation in Canada's electricity sector.

She is co-founder of the Climate Change Lawyers Network, a member of the International Union for the Conservation of Nature (IUCN) committee on Environmental Law, an executive member of the Ontario Bar Association's Environmental Law section and is a volunteer presenter for The Climate Reality Project. Laura regularly writes and speaks on climate change law and policy issues. She has a degree in Environmental Studies from the University of Waterloo and a law degree from the University of Toronto. Laura is called to the Bar of Ontario.

Marvin Ingebrigtsen, P. Eng. Technical Analyst Infrastructure Programs. Infrastructure Services - Engineering Division, Corporation of the City of Welland. Marvin is a Professional Engineer, obtaining a Bachelor of Science in Engineering from the University of Guelph, specializing in Water Resource Engineering. Marvin has been employed by the City of Welland since 2005. From 2005 to 2010 Marvin held the position of Construction Services Supervisor and now currently holds the position of Technical Analyst Infrastructure Programs, responsible for the asset management of the city's infrastructure. Prior to his joining the City of Welland, Marvin spent approximately eleven years in the Consulting Engineering field involved primarily with the design and construction of municipal drainage, capital and private development projects.

David Lapp, P.Eng. Practice Lead, Engineering and Public Policy - Engineers Canada - Ottawa, ON. David graduated with a bachelor's degree in geological engineering from the University of Toronto in 1978. He is a professional engineer, registered in Ontario and has been part of the Secretariat to the Engineers Canada Canadian Engineering Qualifications Board since 1997. His current work focuses on environment and sustainability issues as they relate to the practice of engineering. He has worked in climate change adaptation and engineering since 2001, overseeing the implementation an Engineers Canada national action plan on climate change impacts and adaptation. Since 2005 he has been the Project Manager on a long-term project to evaluate the engineering vulnerability of public infrastructure to the impacts of climate change, supporting the Public Infrastructure Engineering Vulnerability Committee and the development and application of an infrastructure climate risk protocol in Canada and internationally.

Since 2007, David provides the Secretariat for the World Federation of Engineering Organizations Standing Committee on Engineering and the Environment, hosted and chaired by Engineers Canada. This assignment concluded at the end of December 2015.



ADAPTATION CANADA 2016

National Symposium on Climate Change Adaptation |

Symposium national sur l'adaptation aux changements climatiques

April 12 to 14, 2016 | Du 12 au 14 avril 2016 | [Centre Shaw Center, Ottawa, ON](#)