Institute for Catastrophic Loss Reduction
Building resilient communities

Institut de Prévention des Sinistres Catastrophiques
Construction de resilient communities

ICoE
Disaster Resilient Homes, Buildings and Public Infrastructure
(ICoE –DRHBPI)

Established: June 3, 2015
Base: Toronto, Canada
Affiliation: Institute for Catastrophic Loss Reduction (Toronto, Canada)/Western University (London, Canada)

Glenn McGillivray, ICoE Director/Managing Director, ICLR





ICLR

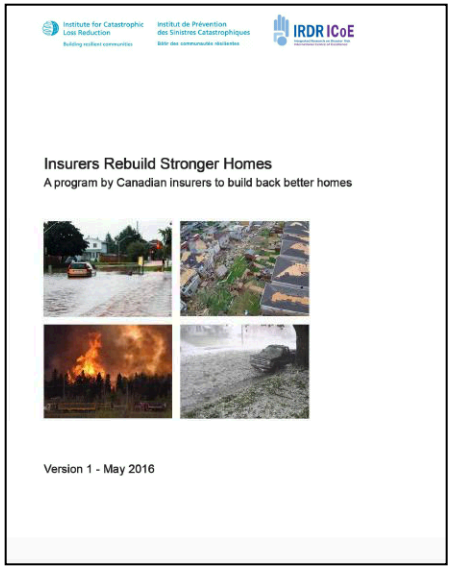
- Mission - reduce loss of life and property caused by severe weather and earthquakes
- Created in 1997 by the Canadian non-life insurance industry to confront rising disaster losses
- Transdisciplinary research and education provides an essential foundation for ‘science to action’
- 30 scientists / 100+ students / 12+ universities / 350+ research papers / $50+ million in research
- Western University affiliated

External Advisory Committee

- Glenn McGillivray (Managing Director, ICLR)
  - Director of ICoE-DRHBPI
- Paul Kovacs (Executive Director, ICLR)
  - Principle investigator
- Dr. Greg Kopp (Professor & Associate Dean, Engineering, Western University)
  - Principle investigator
- Dr. Jörn Birkmann (Director, Institute for Spatial Planning and Regional Development, University of Stuttgart/Director of ICoE-CI&SP)
- Dr. Forrest Masters (Assoc. Professor of Civil and Coastal Engineering, University of Florida)
- Dr. Yukio Tamura (Director, Wind Engineering Research Center, Tokyo Polytechnic University)

ICoE publications/presentations

- Publication title: ‘Insurers rebuild stronger homes: A program by Canadian insurers to build back better homes’
- First program in the world setting out actions that insurance companies can take to strengthen the disaster preparedness of homeowners by building back better homes after a disaster strikes
- Best practices for the design and construction of homes to reduce the risk of loss and damage from natural hazards including basement flooding, wildfire, severe wind and hail



ICoE publications/presentations

- 'Why some homes survived: Learning from the Fort McMurray wildfire disaster: Preliminary report (released August 22, 2016)
- Why did some homes survive this wildland/urban interface disaster with little or no damage, while others were vulnerable to ignition and destroyed?
- "…wind-driven embers were the most probable cause for the majority of early home ignitions…"
- Preliminary findings at www.iclr.org
- Final report due out in 4Q

Future planned activities (2016)

- Title: “State by State Benefit/Cost Analysis for Wind Resistant Construction”
- Principle investigators
  - Dr. Greg Kopp (Western University)
  - Dr. Kevin M. Simmons (Austin College)
- Project goals:
  - Identify states that would benefit from the enhanced construction standards adopted by Moore, Oklahoma
  - Recommend other less expensive options for states that don’t quite meet the Moore benefit/cost test
  - Provide benefit/cost guidelines for individual states open to enhancing standards for residential construction
  - Help groups with an interest in wind resistant construction target their outreach efforts

Future planned activities (2016)

- “Wind effects of tornadoes on residential structures: Wind tunnel simulation of the 1985 Barrie, Ontario tornado”
- MOE signed with Dr. Greg Kopp, Western University
- Scope: The objective of this project is to simulate the passage of a tornado through a typical Barrie, Ontario neighbourhood. Model houses will be constructed using the `failure model` technique, then modern mitigation techniques will be added to test their effectiveness
- These first-of-a-kind experiments will allow us to assess the adequacy of such measures with a view to further developing them.