

Institute for Catastrophic Loss Reduction

University of Western Ontario, Canada www.ICLR.org



The Institute for Catastrophic Loss Reduction (ICLR) was founded in 1997 to strengthen the science base for advancing disaster risk reduction for homes, communities and businesses across Canada. Based at the University of Western Ontario, and backed by Canada's property and casualty insurance industry, the Institute has fostered interdisciplinary research with researchers across North America to develop and implement disaster risk reduction strategies. The research team members have supported flood, wind, wildfire and earthquake risk reduction research.

Institute researchers are also heavily involved in national and international organizations focused on disaster risk reduction and adaptation to climate change, including UNESCO's International Flood Initiative, the World Meteorological Organization, the UN's International Strategy for Disaster Reduction, the International Council for Science's Integrated Research on Disaster Risk program and the UNEP's Finance Initiative. Institute researchers have also participated as authors and lead authors for several of the Intergovernmental Panel on Climate Change assessment reports, and produced a large body of literature that has affected disaster management policy across Canada.

Research and public outreach priorities:

Water: Climate change impacts on riverine flooding and infrastructure vulnerability (Figure 1), urban flood risk reduction, lot-level urban flood mitigation (Figure 2), infrastructure adaptation.



100 yr 250 yr
Figure 1: Climate change impacts on riverine flood hazards in London, Ontario

Wind: Testing vulnerability of buildings to intense wind using a full-scale testing facility (Figure 3), boundary-layer wind-tunnel testing of home vulnerability to high wind events, a hexagonal wind tunnel to simulate tornadoes (WindEEE Dome Figure 4), post-tornado and hurricane damage investigations.

Wildfire: Incorporation of wildfire risk reduction measures in home and community design, developing public education materials, promoting national wildfire risk reduction strategies.

Earthquake: Risk assessment, vulnerability analysis, loss mitigation, resilient build design, impact estimation, fire following, and earthquake forecasting.

Insurance: Developed a model that could be used to introduce flood insurance for homeowners in Canada, improved insurers knowledge about natural hazard risk, provide a forum for insurers to work directly with hazard researchers, coordinate insurance participation in the Canadian building code process.

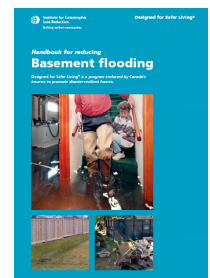


Figure 2: Urban flood risk reduction education materials

More information is available at www.ICRL.org.



Figure 3: Full scale wind vulnerability testing

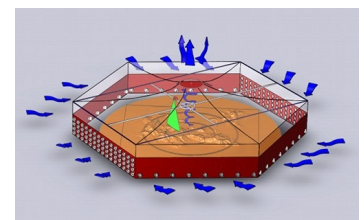


Figure 4: Hexagonal wind tunnel