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ICLR and Lloyd's release EQ report Reducing the risk of earthquake damage in Canada: Lessons from Haiti and Chile


On December 1, the Institute for Catastrophic Loss Reduction (ICLR) released a study entitled *Reducing the risk of earthquake damage in Canada: Lessons from Haiti and Chile*. Written by ICLR Executive Director Paul Kovacs and sponsored by Lloyd's, the paper identifies lessons for reducing the risk of earthquake damage in Canada based upon the recent tragic events in Haiti and Chile.

"Someday a large earthquake will strike Vancouver, Montreal, Ottawa or some other large urban centre in Canada. Such an event has the potential to cause loss of life, property damage and economic disruption unprecedented for Canada," said Kovacs. "The tragic and contrasting experiences earlier this year in Haiti and Chile show that appropriate investments in preparedness and resilience can help prevent future earthquakes from becoming disasters."

This report identifies seven lessons for Canada, and in doing so, examines the country's state of preparedness and resilience to extreme earthquake events. There are many areas of strength in Canada's preparedness and resilience, yet there are also several areas where improvement is needed. Of particular concern is the vulnerability of public infrastructure, some concerns about the preparedness of the federal government, and the need to retrofit older homes and buildings.

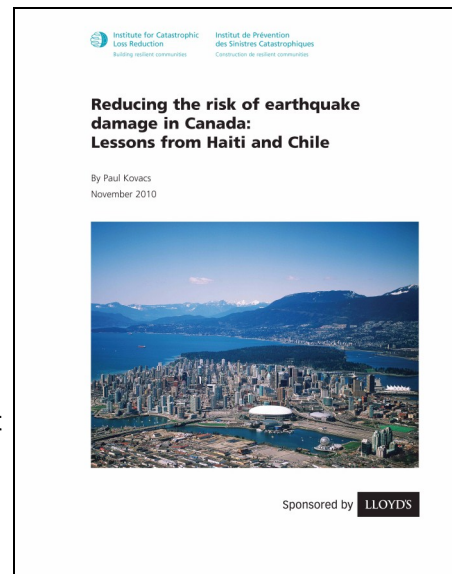
In addition, there is scope to improve the dialogue

between stakeholders, including public officials, business leaders and the research community. The report also highlights the important role that insurance will play to support the recovery following an earthquake and the essential contribution of research to provide a science-based foundation for action.

ICLR hopes the report will foster increased awareness about the potential impact of a major earthquake in Canada, and lead to opportunities to prevent or mitigate the risk of loss. The paper also seeks to strengthen the willingness to invest further in resilient buildings, infrastructure and preparedness. The best time to act is now, before a large earthquake strikes. The paper is available at www.iclr.org 

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Flood of options

A study conducted by the Institute for Catastrophic Loss Reduction (ICLR) and Swiss Re concludes overland flood is insurable for Canadian homeowners.

By Paul Kovacs, ICLR and Sharon Ludlow, Swiss Re

Insurance companies have provided coverage against fire and other perils in Canada for more than 200 years yet consistently choose not to provide flood insurance to homeowners. Businesses in Canada are able to buy flood coverage. Homeowners in the United States, Japan, Germany, the United Kingdom, France and elsewhere all have the option of buying flood insurance. So what is needed to make flood insurable for Canadian homeowners?

Flooding accounts for almost half of the disasters in Canada. Insurance is available for other perils – earthquake, tornado, hurricane, wildfire, winter storms, lightning and hail – but not overland flood. Relief programs offered by government agencies and charitable groups reduce the hardship for flood victims, but providing funds to support immediate, basic needs is not the same as offering insurance.

Joint research by the Institute for Catastrophic Loss Reduction (ICLR) and Swiss Re assessed flood insurance models from around the world to identify what would be needed to make flood insurable for Canadian homeowners. Our proposal would be unique to Canada, while largely adopting the system presently in place in the United Kingdom. The essence of the proposal involves forging a partnership between Canadian governments and the private insurance market. Governments would provide mapping, flood defence and restricted development in flood zones while the insurance industry would commit to including flood coverage for all property owners who purchase fire and theft insurance. Under the proposal, if the property is located outside the safe zone then the

government should not permit development.

Private insurers are responsible for the business of insurance: paying out flood damage losses while accurately pricing this risk. Government is responsible for providing the information that insurers, homeowners and local governments need to manage the risk of flooding, and is therefore responsible for the risks associated with allowing some homes to locate in zones of high risk.

Insurers need to be able to negotiate commitments from the government that provide confidence that maps, defence structures and development restrictions will be appropriately managed, because it would offer the insurance sector a greater opportunity to establish adequate prices for the coverage provided. Insurers must be able to charge actuarially-sound rates for risk cover because appropriate pricing is critical to their long-term stability and solvency – e.g. their ability to pay claims well into the future.

Governments are likely to find this proposal beneficial when flood insurance becomes available for most Canadian homeowners as it should result in less reliance on government relief programs.

Insurance companies have been providing bundled flood insurance coverage to homeowners in the United Kingdom for almost 50 years. The ICLR and Swiss Re believe that many aspects of this model may be effective in Canada. We believe that governments in Canada can provide stronger commitments to insurers about mapping, defence and development which will result in greater potential for flood cover. Strong incentives to directly

involve homeowners in flood risk reduction is imperative as well. As an example, homeowners who fail to take certain protective actions should face significant deductibles and appropriate rates and those who do take protective measures should benefit on a relative basis.

Our research identified many models for providing flood insurance in different countries. Each of these programs has different features and provides an opportunity to weigh the strengths and weaknesses of the programs against our needs in Canada.

In the United States, public officials determine prices and coverage and homeowners are offered basic flood coverage as an option. However, our research indicated that some of the dynamics of the US program may not meet the needs we have in Canada.

In Germany private insurance companies offer coverage to homeowners as an optional addition to their fire and theft coverage. Generally, pricing has been sufficient to cover claims over the longer term; however, most homeowners do not choose to purchase flood coverage. Low take-up presents serious challenges for the government and insurers following major flood events. Flood relief paid to homeowners who do not buy insurance further erodes efforts by private insurers to sell coverage.

In France, the government has established a program that covers losses that result from flood, earthquake and a number of other natural hazards. All homeowners who purchase fire and theft insurance are required to participate. The price of coverage is set by the government and is uniform across the country, so it does ►

not reflect the actual risk of loss. Political processes are used to determine the specific events that trigger the payment of claims. The program has been successful in securing broad participation but this model provides no incentives to property owners to participate in damage risk reduction, so it transfers risk but does not reduce the risk of damage.

There are a number of other flood insurance models in place around the world. All involve an active and continuing relationship between the insurance industry and government agencies responsible for flood risk reduction.

One special challenge in the Canadian environment is the many different government agencies involved in flood management. Issues such as mapping, flood defence and zoning are provincial responsibilities or municipal concerns under provincial guidance, so the Canadian insurance industry would need to establish several partnerships to bring flood insurance to homeowners across Canada.

The federal government withdrew from the Flood Damage Reduction Program more than 15 years ago and has since not taken a very proactive role in flood management. The state of flood mapping and defence differs from province to province. Our research has focused on the four provinces with the largest populations, as 85 percent of Canadian homes are located in Ontario, Quebec, British Columbia and Alberta. In many respects, Quebec has sustained the strongest commitment to flood risk reduction, perhaps presenting a jurisdiction where the insurance industry could look to first explore the idea of a partnership model in Canada.

There are a number of potential benefits for Canada's insurers if flood coverage is


introduced for homeowners following the partnership model identified by the ICLR and Swiss Re. In particular, the provision of flood coverage should:

- Educate homeowners about insurance cover, as nearly 70 percent of Canadian homeowners presently – and incorrectly - believe that their insurance policy includes flood protection;
- remove the need for complex policy wordings detailing coverage available for sewer back-up and other water damage, and excluding overland flooding;
- engage consumers in loss prevention, potentially through the introduction of significant deductibles for homeowners who fail to protect their property;
- launch a partnership with government that clarifies the role of insurance and the role of government in disaster risk management, particularly the financial role;
- extend coverage to include the natural peril most commonly experienced by Canadians yet not presently part of basic homeowners coverage;
- enhance the insurance industry's capacity to continue to provide commercial flood coverage by securing mapping, flood defence and zoning information;
- bring Canadian homeowner coverage more in line with property insurance coverage available in the other major insurance markets around the world;
- anticipate the needs of consumers where change in the climate is expected to increasingly influence the future coverage requirements of homeowners;

- clarify that governments are responsible for helping property owners allowed to locate in zones of high risk, as this risk is uninsurable;
- open a new market for insurers.

ICLR and Swiss Re's research demonstrates that it is possible for flood to become insurable for homeowners in Canada. We need to establish a partnership involving insurers, governments and homeowners jointly working to manage the risk of flood damage.

The next step toward making flood an insurable peril for Canadian homeowners would involve debate among insurance companies to determine if there is a consensus to address this issue. Should the insurance industry choose to take this issue to governments, we believe that the initial discussion would focus on one or two provinces. It will likely take many years before a national flood insurance program can be agreed upon and instated. The ICLR and Swiss Re are available to support this effort, and we have set out our joint research in the publication *Making Flood Insurable for Canadian Homeowners*.

Canada's insurers have a host of priority issues that need to be addressed including: restoring profitability in auto and property coverages, insurance to value and increasing water damage claims. Nevertheless, the issue of homeowners flood cover for the Canadian market is an issue critical to this market and needs to be  facilitated.

Download *Making Flood Insurable for Canadian Homeowners* at www.swissre.com or www.iclr.com



Mark your calendar...

Basement flooding symposium

Basement flooding is one of the biggest challenges facing homeowners, municipal governments and personal property insurers across the country. Join us as we discuss the issue in depth, including causes, mitigative best practices, homeowner perceptions research, as well as the legal side of the issue - including discussions surrounding government liability and the role of laws and bylaws.

Presenters will include:

- City water and wastewater experts
- City solicitors and risk managers
- Private consultants
- Researchers
- Insurance experts

A full agenda will be available in due course.

Thursday May 26, 2011
8:30 a.m. to 6:00 P.M.
Toronto Board of Trade
777 Adelaide Street West
Toronto, Ontario
M5X 1C1

Cost: \$295 per person
including HST

Contact Tracy
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With partial support from...



Institute launches ICLR news

With a view to providing its members and other interested parties with information on natural hazards and hazard research, the Institute has launched *ICLR news*. This new product provides readers with information under the headings of *Climate Change*, *(Re)insurance*,

Windstorm, *Wildfire*, *Flood*, *Earthquake* and *Public Policy*.

ICLR news is released regularly via email and contains brief headings and links to items of interest published in academic journals, magazines, newspapers and other sources from around the world.

If you wish to be included on the mailing list, please contact Tracy Waddington at twaddington@iclr.org



ICLR's Simonovic releases new textbook on disaster management

By Mphatso Mlotha, Western Engineering news

"Alleluia!" is the opening word found in the forward section of Slobodan P. Simonovic's new textbook, *Systems Approach to Management of Disasters: Methods and Applications*. The forward, written by Professor Emeritus Dr. Ian Burton, emphasizes the long awaited arrival of a book, published in a way to revise and revolutionize approaches to management of disasters.

The main goal of this text is to introduce the systems approach to the disasters management community as an alternative approach that can provide support for inter-disciplinary activities involved in the management of disasters. The systems approach draws on the fields of operations research and economics to create skills in solving complex management problems.

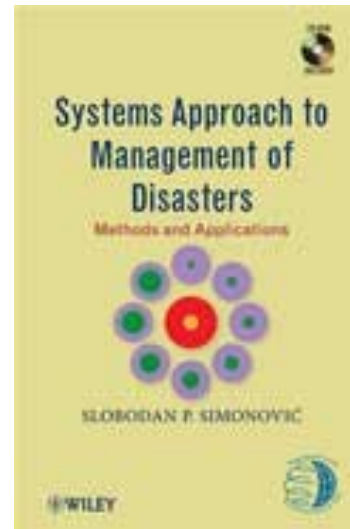
Simonovic, a professor in the Department of Civil and Environmental Engineering and an Engineering Research Chair at the Institute for Catastrophic Loss Reduction at The University of Western Ontario, states that the textbook offers a new view of disaster management that he names integrated disaster management.

"Integrated disaster management is described as an iterative process of decision making regarding prevention of, response to, and recovery from disasters," explains Simonovic. "Integrated disaster management is important because it provides a chance for those affected by

disasters to balance their diverse needs for protecting lives."

The book strongly advocates the systems-view or a holistic approach of integrated disaster management. It involves complex interactions within and between the natural environments, human population and built environment. Simonovic adds that, "a systems view of disasters focuses on interactions among elements of a system and on the effects of these interactions." Systems theory recognizes multiple and interrelated causal factors, emphasizes the dynamic character of processes involved and is particularly interested in a system change with time—be it a flood, hurricane, or a disaster affected community.

Included in the book is a CD with three computer programs Vensim PLE, LINPRO, and COMPRO. Vensim PLE (Personal Learning Edition) is state-of-the-art simulation software used for the implementation of system dynamics simulation. The other two programs are: LINPRO, a Linear Programming optimization tool; and COMPRO, for the implementation of the multi-objective analysis method of Compromise Programming. 🐾



Systems Approach to Management of Disasters can be purchased at www.wiley.com

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Mission
To reduce the loss of life and property caused by severe weather and earthquakes through the identification and support of sustained actions that improve society's capacity to adapt to, anticipate, mitigate, withstand and recover from natural disasters.

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