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## Lloyd's of London to fund major ICLR program

Lloyd's of London announced at its 75th Anniversary in Canada party in Toronto November 29 that it would provide financial support for the creation of an international planning office for the International Council for Science (ICSU). The program will be managed by ICLR.

Following a review of all ICSU programs, it was recommended that ICSU establish a major new international research program entitled 'Integrated Research on Disaster Risk.' The Council Executive established a Scoping Group on Natural and Human-induced Environmental Hazards, chaired by Professor Gordon McBean, a professor of political science and geography at the University of Western Ontario and ICLR's chair of policy.

The Scoping Group reported to the ICSU 28th General Assembly held in Suzhou, China in October 2005, recommending "a program of research aimed at strengthening international science to provide a firmer basis for policies to prevent natural hazards from becoming disasters."

Such an objective, it concluded, would require:

- an international collaborative research program lasting a decade or more
- the combined insights of the natural, health, social and engineering sciences
- engagement with populations living in hazardous areas, to understand better the social

and cultural determinants of choice in the hazards context

- engagement with policy-makers at regional, national and international levels, to understand better the constraints on policy-making in the hazards context
- the ability to accommodate both individual hazards and the interplay between hazards
- a long-term perspective, and
- a focus on delivering new scientific insights for the primary customers development agencies, humanitarian assistance agencies and governmental policy-makers.

To expedite a strong global research program on natural and human-induced hazards and disasters, it was recommended that an international project office be established. ICLR offered to host the office in Canada and the Institute began to source potential partners to share in the costs. Lloyd's in Canada stepped up with a \$100,000 donation to sponsor the office for ICSU's hazards research program. Additional funds are being sought from government agencies.

Accepting the support on behalf of ICLR, Executive Director Paul Kovacs said the fund would be used to establish the new Hazard Research Program. He said the program would produce internationally-relevant scientific research on hazards prevention through ICSU. ►

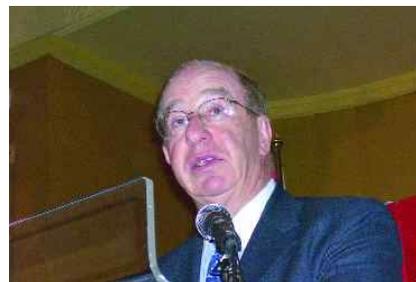
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## Lloyd's of London to fund major ICLR program cont...

The International Council for Science (ICSU) is the world's leading non-governmental science organization. ICSU's secretariat is located in Paris, France. The Council is a federation of international unions in 27 fields of scientific study including physics, biology, psychology, chemistry, and geophysics. ICSU members represent the academies of science from more than 100 countries. The Council is the voice for science in international affairs. It sponsors several scientific programs, including the World Climate Research Program (with the World Meteorological Organisation and the Intergovernmental

Oceanographic Organization of Unesco), the International Geosphere-Biosphere Program, the International Human Dimensions (of Global Environmental Change) Program (with the International Social Sciences Council) and THORPEX (with WMO). ICSU works with national and international funding agencies and these projects plan and coordinate more than US\$1 billion a year of scientific research. 🐾



Lloyd's Chairman Lord Peter Levine at the Empire Club in Toronto November 28.

## ICLR holds emergency planning workshop for small businesses in Guelph

Guelph small-business owners were invited to attend a workshop presented by ICLR February 4. The free event, sponsored by The Co-operators and hosted by the City of Guelph and the Downtown Guelph Business Association, encouraged local businesses to plan and prepare for emergency situations.

"Our City's emergency personnel are ready to respond when disaster strikes. But in addition to their emergency response role, our Emergency Services team is committed to promoting planning and prevention. That's what this workshop is all about," said Mayor Karen Farbridge. "The City is pleased to partner with the Downtown Guelph Business Association, ICLR and The Co-operators to bring this event to local small businesses."

ICLR Managing Director, Glenn McGillivray, and Research Coordinator, Dan Sandink, spoke to a variety of topics, including climate change and catastrophic loss reduction, business continuity and resiliency, and

emergency planning for small businesses.

"There has never been a greater need for organizations of all types to be prepared to respond to emergencies," said Kathy Bardswick, President and CEO of The Co-operators and Chairperson of ICLR. "It can be particularly challenging for small businesses to develop business continuity plans. So we're pleased to help our local businesses better equip themselves to minimize disruption to their operations in times of emergency."

While all families and organizations should take steps to mitigate these risks, small businesses in particular often lack the resources necessary to do so. With this in mind, ICLR presented Business Resumption Toolkits to Guelph-based small businesses. The free toolkits are a planning resource for small business owners to help them make preparations that would allow them to reduce the impact of catastrophic events on their business operations. 🐾

## Friday Forum schedule

Each month ICLR hosts an informal discussion of current research and industry issues related to natural hazards. The cost is \$75 for members, \$150 for non-members for each forum. Business casual dress.

**April 18**  
Mould  
(Eric Savory)

**May 16**  
Edmonton/Toronto sewer backup  
(Dan Sandink)

**June 20**  
Managing the threat of asteroid impacts  
(Paul Kovacs)

**September 19**  
Tornado/wind damage  
(Greg Kopp)

**October 17**  
Earthquake  
(Kristy Tiampo)

**November 14**  
Insurance Research Lab  
(Mike Bartlett)

For more information, contact Tracy Waddington at (416) 364-8677 or [twaddington@iclr.org](mailto:twaddington@iclr.org)

## When disaster strikes

### Critical Infrastructure Assurance Programs should focus on service delivery and physical assets

By Vanessa Mariga

Canadian Underwriter magazine

Knee-jerk reactions to catastrophes will no longer work, since climate change actually decreases the predictability of events, Richard Kinchlea, the City of Hamilton's community emergency management coordinator, said during a seminar in Toronto. Given increasingly complex societies and economies, one 'minor' event could have a domino effect that spirals into astronomical damage figures. This leads to the importance of all levels of government -- particularly municipal governments -- developing programs to ensure the protection of critical infrastructure during times of disaster.

Hosted by the Institute for Catastrophic Loss Reduction, Kinchlea discussed a ground-breaking critical infrastructure assurance program (CIAP) that the City of Hamilton and Niagara Region are jointly developing. While CIAPs are currently underway on the provincial, federal and even international level, Kinchlea says this is the first attempt at developing such a program on the local level, at "ground zero."

#### Resilience vs. response

Just looking at the research, Kinchlea said, it's easy to see today's disaster trends include an increase in the frequency of events and mounting costs of damages. Although improving the response to a catastrophe is a step forward, Kinchlea says climate change has muddied the ability to tell what the next big catastrophe will hold, making it difficult to plan a response. The focus when constructing a plan should be about strengthening

infrastructure and developing resilience in order to mitigate the risk of damage and injury, he said. In turn, this should reduce the overall cost of such an event.

"The cost of response [to a catastrophe] is really minor compared to the cost of damage overall," he said. "So improving our response, although a good idea, is not going to have a significant impact on what we do moving forward. We have to make our infrastructure more resilient."

He pointed to the 2003 blackout as an example of one seemingly minor event that had a catastrophic impact on the economy.

"With a complex society, we can have one little tornado or blackout and it could throw the entire system into chaos and cause millions or billions of dollars in damage or lost productivity, or however you want to put that dollar figure together," he warned.

Enter the CIAP. The general set-up of such a program, he explained, is to take an inventory of infrastructure and split it up into sectors. Right now in Canada, the federal government has 10 sectors and Ontario has nine, including the likes of electricity, food and water, gas, public health, public safety and continuity of governance.

"You get representatives of those sectors meeting together to figure out who's doing what [in terms of mitigation programs], what's critical to our society to keep running in the face of an emergency and what are the vulnerabilities in that system," he said. "And if we figure out what our vulnerabilities are in that system, how do we put together programs to either make the

system more resilient [i.e. by plugging a gap] or improve a response?" A co-coordinating committee pulls everything together to develop a comprehensive mitigation plan that crosses all of the sectors and, hopefully, addresses all of the shared vulnerabilities.

#### Ground zero

Provincial and federal governments are developing their CIAPs, Kinchlea noted. And so it only makes sense to form one on the municipal level, since, when disaster strikes, the damaged infrastructure is located within the municipality.

"In an emergency, the municipality is the first one on the ground that has to deal with whatever has occurred," He said. "Who's impacted? The municipality.

"We're starting at ground zero, so to speak, so we're going to be hurt first and [suffer] consequential damages after that. Who benefits from greater resilience? Well, anyone who is impacted is going to benefit from greater resilience and that just ripples through the economy."

Quite often it's not the initial event that poses the problem, he continued. It tends to be a second event, triggered by the first. He pointed to the devastating 2005 flooding of New Orleans after Hurricane Katrina weakened the city's levee system.

#### Cause and effect

There is one primary difference between the CIAPs of the federal and provincial governments and the one currently being ►

designed by Kinchlea's team for the City of Hamilton-Region of Niagara, Kinchlea noted. Instead of having 'sector working groups,' the municipal CIAP will have 'system working groups,' which focus on service delivery rather than physical assets.

"One of the key differences between the system that we're proposing and the provincial and federal ones, is that quite often in CIAPs the sector groups are interested in physical assets like the hydro network or the telecommunications network -- hard things you can sit and fix," he explained. "Ours looks more at service delivery. Physical assets are important, but they're only elements of the service delivery. So if you look to emergency medical care, you may have all of the ambulances in the world, but what happens if you don't have paramedics?"

When you start talking about service delivery and the people element, then you can start contemplating sticky elements like contracts and working conditions, Kinchlea said. You can also address non-standard items such as the idea that maybe responders' families should take precedence, so that the responders can concentrate and perform better in the face of a disaster, he suggested. "So, we want to look at physical assets as a piece of the whole puzzle, but the concept is to look at the service that's being delivered during the emergency."

The municipality's systems groups -- including fuel and energy, food availability, potable water and sewage disposal, transportation, economic health, emergency health care, among others -- would essentially form a chain or a system that needs to be tracked from origin to destination.

"You can't treat these things as separate items," Kinchlea said. "An ambulance

can't run without gas, so an ambulance is part of the emergency medical system. The food can't get delivered without gas, or the trucks don't run. Interdependencies are going on." By looking at vulnerabilities, single points of failure and choke-points within those systems, a CIAP analyzes the entire system to figure out what's most likely to go first, and what's there to replace it.

"The nice thing about the CIAPs being developed now is that they really organize it in, I hate to say it, a very bureaucratic way," he said. "They get people from the different sectors around the table and sharing the information that they should be sharing, realizing the interdependencies that they have on one another and not just addressing a certain problem."

Ad hoc groups tend to develop solutions only for problems that just happened, not necessarily the problems coming down the line, he added. "If you put in a risk assessment and go through the entire system and do a vulnerability assessment, you start to see where you're really weak," He said. "I think this is one of the best methodologies we can use to forecast which problems may occur. And when you have the whole system together, then you can get some coordination in mitigation programs.

"It's a think-tank way of doing it, but it gets the people around the table and thinking about our systems in an analytical way to try and forecast these kinds of events or mitigate against these events." 🐾

*This article first appeared in the December 2007 issue of Canadian Underwriter. ICLR would like to thank the magazine and the author for permission to reprint this piece.*



Richard Kinchlea, Emergency Management Coordinator, City of Hamilton.

ICLR, in partnership with the Canadian Forest Service, hosted an international summit on the changing face of wildland fire at its Toronto office February 27 and 28.

The summit brought together wildland fire experts from Canada, the United States and Australia to discuss current problems and future issues facing wildland fire management agencies.

There are a number of reasons for holding such a meeting. These include:

- The recognition that wildfire frequency and severity is increasing and that this problem will not be solved with more expenditures on equipment, personnel and pre-suppression planning. Indeed, there is strong evidence of diminishing marginal returns with further investment;
- The number of people choosing to live in flammable landscapes (i.e. the wildland/urban interface) while still expecting government protection from fire is increasing dramatically;
- The recognition that jurisdictional boundaries related to management of urban and wildland fires may be blurred due to increasing fire risk and development in the wildland/urban interface;
- Fire management costs are rising steadily however the number of large fires and

area burned continue to increase, along with communities burned and fatalities;

- The recognition that there will be significantly more fire and subsequent impacts in the future due to climate change, expanding communities, forest health issues and declining fire management and research capacity;
- Agreement that reinforcing the tactics of the past (improving detection and response times, better equipment, more training, etc.) is not the answer and will not yield positive results, and;
- Agreement that a new approach and accommodation with fire is required, reconciled with the fact that there will be more fire and fire impacts on the landscape in the near future.

Key questions explored at the summit included:

- What are the options? Do the above issues present the opportunity to manage future fire in new and innovative ways?
- How do we get this message out to the public and policy-makers? How can education and awareness be used to manage public expectations for wildfire management?

The first day of the summit consisted largely of presentations from several of the attendees, providing perspectives on the Australian, American and Canadian wildland fire management experience, and on public perceptions of wildland fire and the experience of urban firefighters with interface wildfires.

The meeting was held with the understanding that stakeholders must move forward on these issues in a proactive rather than reactive manner. 

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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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