



FLOOD

Diary of Urban

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Editor's Note: This is the second installment of a two-part series on flooding risks in Canada. The first installment, "Flood of Information," ran in Canadian Underwriter's October 2007 edition.

The city of Calgary experienced a heavy rainfall event on June 5, 2007. The storm, which began on Tuesday night and carried over into Wednesday afternoon, delivered approximately 100 mm of rain, much of it within a one-hour period. This is significant when compared to the 80 mm of precipitation that Calgary receives during the average month of June.

Flooding affected a wide geographic area, causing significant damage to residential homes, businesses and municipal infrastructure. More than 1,000 people made emergency calls to police, fire departments and paramedics, reporting injuries from lightning strikes and damage to property. The city estimated infrastructure damages to be approximately Cdn\$10 million, and the Insurance Bureau of Canada reported total insurance claims came in at approximately

were affected by flooding, including Edmonton, St. Albert, Stony Plain and Calgary. The provincial funding was to assist infrastructure recovery and individuals who suffered damages from overland flooding.

I visited Calgary on the weekend following the flood event. Although I didn't conduct a formal scientific study, I did get a feel for how flood victims react in the short time following a hazard event. The visit provided some insights that were not before apparent to me. First, basement renters appeared to bear the brunt of the negative impacts of basement flooding. Second, damages were exacerbated by failure to clean and dry flooded basements in a timely manner. Finally, many renters, property owners and homeowners were unaware that insurance does not cover overland flood damages. These observations solidify findings in hazards research, and serve as a reminder of the importance of timely hazards education.

IMPACT ON BASEMENT RENTERS

Newspaper reports of the flooding directed me all over the city. My travels took me from the new subdivisions in the north, to the older areas of the central city, to the developments on the south end of the city. Homeowners, renters, rental property owners and small businesses all experienced damages from the heavy rainfall. However, one observation was apparent: basement apartment renters appeared to sustain the most immediate and serious consequences of basement flooding.

Homeowners were perturbed by the water in their basements; they hoped they would receive insurance coverage or obtain some kind of help



from provincial disaster relief. Basement renters, however, did not just lose extra furniture, carpeting and items kept in the basement: they lost everything. Adding insult to injury, the saturated rental market in the City of Calgary, where rental vacancies are estimated to be as low as 0.5%, left many basement renters wondering where they would go next.

THE POTENTIAL FOR MOULD DAMAGE

Based on the number of emergency calls – more than 1,000 – and the newspaper reports related to flood damage, basement flooding potentially affected hundreds of homes and rental units. However, unless the city of Calgary had been exceptionally prudent and swift in picking up garbage from the front yards of flooded homes in the two days following the rain event, it was obvious to me that many people who sustained flooding had not yet begun the processes of cleaning out their basements when I was in Calgary.

Mould damage poses a serious problem following basement-flooding events. The Calgary Health Region (CHR) specifically addressed mould concerns in its public advisory documents related to



Cdn\$43 million. The province of Alberta on June 13 approved Cdn\$40 million in disaster relief to assist municipalities that

Flooding

The author arrived in Calgary on the heels of a major flood in June 2007 and gauged the public's response. Here's what he found

basement flooding, stating that: "failure to remove contaminated materials and to reduce moisture and humidity [in flooded basements] can present serious long-term health risks such as respiratory disease and allergic reactions."

Mould can be eliminated with proper cleaning methods. However, the longer damp property and building materials sit in a damp basement, the more likely it is that mould will develop. CHR recommended that damp items and building materials should be left for no more than 48 hours.

Nevertheless, by Friday (72 hours after the initial event) and Saturday (96 hours after the initial event), it was evident many

learn that they would not be eligible for damages caused by overland flooding. These observations are in line with previous research I had conducted following Peterborough flooding in 2004. (Please see "Hazard Perceptions and Urban Flooding," CU, March, 2007.) In Peterborough, as in Calgary, many home-

during and after disasters in developed countries. In Calgary, it was apparent that individuals living in basement apartments had suffered immensely from basement flooding.

Second, mould damage may be a serious threat following basement flood events. In my 2005 study of Peterborough basement flood victims, 29% of 46 overland flood respondents reported mould damage, and 43% of 58 sewer backup respondents reported mould damage following heavy rainfall flooding. Based on observations in Calgary, specifically the lack of timely cleaning and drying of basements, mould damage may pose a problem for many property owners and renters.

Finally, humans are by nature reactive. A great deal of the hazards literature has shown that people are generally unaware of hazards and methods designed to manage the risks of hazards until they have personally experienced them. Although many of the flood victims to whom I spoke were still occupied with cleaning up their property, worrying about insurance coverage or public relief and/or contacting the city to have their flooded property collected and disposed of, it was evident they wanted more information. Flood victims wondered why the city allowed homes to be built in flood-prone areas and why insurance was not available for overland flood damages. To those of us working in the insurance industry or studying flood hazards, answers to these questions may seem obvious. But to many flood victims, they are not. Certainly the short-time period following a flood event is not only a good time to increase public knowledge of basement flood mitigation, but also general knowledge on the nature of flood events and how insurance works. ☐

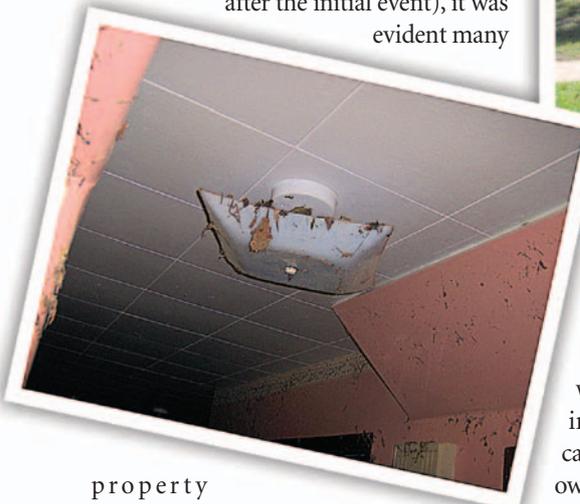


owners were upset with the lack of coverage provided by their insurance companies for overland flood damages.

Some of the property owners to whom I spoke did not know if their insurance policies covered damages caused by sewer backup. One property owner did not know that any type of water damage, including sewer backup, could be covered by insurance. Many hazard studies have identified a lack of awareness of mitigation and cost-sharing programs, such as government relief and insurance. This lack of awareness about insurance and flooding coverage was quite evident in Calgary during the short time period following basement flooding.

CONCLUSION

My observations in Calgary served to solidify some of the common findings identified in hazards research. First, hazards literature often points out that marginalized populations, including those with lower incomes, often suffer the most



property owners and renters had not cleared out their flooded basements. I could have counted the number of garbage piles on front lawns on my two hands. Conversations with flood victims supported my suspicions that many property and homeowners had not yet begun cleaning out their basements.

AWARENESS OF INSURANCE

It generally takes a flood event for homeowners to realize that they are not covered for overland flood damage. Indeed, many of the property owners to whom I spoke had already discussed their basement flood damages with their insurance companies and were displeased to