



## **How disaster feels: the cascading effects of time and experience on perceptions of risk, response and recovery to flooding in Whitewater Township**

### **Principal Investigators (PIs):**

**Dr. Jennifer Spinney, Assistant Professor, Disaster and Emergency Management, School of Administrative Studies, Faculty of Liberal Arts and Professional Studies, York University**

**Dr. Brent Doberstein, Associate Professor and Associate Chair Undergraduate, Department of Geography and Environmental Management, Faculty of Environment, University of Waterloo**

### **Introduction**

Capturing the experiences of individuals affected by disasters such as flooding soon after a shock can reveal crucial and timely information about how people understand their risk, how they are impacted and how they respond and recover. The perspectives and experiences of disaster victims in Whitewater Region Township (Ontario) were investigated to determine the influence of time and experience on residents' risk perception, preparation for, response to and recovery from flooding. Flooding took place from April to June of 2019 and recovery began towards the end of May 2019. By valuing the perspectives of those who experienced the flood disaster first-hand, while situating these experiences within the broader social structure, useful insights were garnered that are useful for other jurisdictions faced with similar flood threat.

### **Research Questions**

The research questions that guided this investigation helped to answer questions around residents' preparation for, response to and recovery from the catastrophic event. Questions included those specific to the 2019 event and others related to the influence of recurrent flooding on local perceptions of risk:

- How did residents become aware of flood potential?
- What did residents expect might happen?
- At what point did residents come to feel personally at risk?
- What measures did residents take to keep themselves and their properties safe from flood threat?
- What were residents' experiences recovering from the flood?
- Are these successive disasters changing ideas of what 'normal' impacts might be during springtime?
- If and how is experience with successive flood disasters shaping local capacities and motivations for preparation, or meaningful response, recovery and reconstruction?



## Methods

Ethnographic, qualitative research methods were used to understand risk perception, recovery capacity following catastrophic flooding, and the influence of the 2017 event on experiences with 2019 spring flooding in Whitewater Region Township. Two rounds of interviewing were completed in February 7-10, 2020 and March 13, 2020 after recruitment activities were done. Participation was solicited using fliers and articles published in the local newspaper, in order to, attract people who experienced the flood in 2019. A total of 26 people (four government representatives and 22 residents) participated, which amounted to 1600 minutes of recorded interviews that were transcribed using an AI transcriber (OtterAI) and then verified by a researcher or assistant. NVivo was used to conduct an initial analysis.

## Preliminary Findings

The data collected revealed valuable insights into people's experience of the flooding event with regards to such factors as awareness; type, extent and duration of high water; preparation and response; losses and impacts; factors exacerbating threats and impacts; perceived causes of high water; experiences with relief and disaster aid; and recovery. Residents observed the high water level of the Ottawa River from as early as fall of 2018 and kept informed about their flood risk and potential through the Ottawa River Regulatory Planning Board's website, weather forecasts, the Ontario Power Generation website, word of mouth and other sources. Despite this awareness, a perception of personal safety persisted among residents, partly fueled by residents' experience of the 2017 flood and an opinion that there was a safe distance and elevation between the river and their homes. Residents reported a variety of flood experiences because of the different ways in which high water impacted the physical environment. This resulted in varied recovery, both structurally and emotionally.

Some of the preparation and response activities that respondents engaged in included monitoring water levels, sealing off the septic tanks, sandbagging and moving household belongings to higher elevations. Neighbours also helped each other by offering services such as cooking, sandbagging, and offering a place of respite. Residents reported loss and damage to property and personal belongings, emotional impacts, and impacts on the physical environment. There were also compounding challenges that worsened the flood threat and impacts. Some perceived causes of the flood included the particular sequence of natural events, poor management by the Ontario Power Generation-owned dams and poor decision-making by Quebec Hydro.

## Conclusion

This research reveals the variability of experiences and recoveries during the 2019 event, as well as the role that 2017 played in shaping participants' perceptions of risk. While participants spoke positively about the assistance that was provided by the community, they also reported on challenges that shaped their experiences with, and recovery from, the flood, which have contributed to a considerable degree of mistrust by residents of regulatory bodies. Altogether, the results presented provide critical insight and have important implications for building knowledge and local capacity to reduce hazard risks and disaster losses, and ultimately, for enhancing local disaster and emergency management practices in Whitewater Region Township and beyond.