## **Cold may cause frost quakes**

**By Pam Douglas** Metroland Media Group

If you hear something go bump in the night, the University of Toronto Climate Lab wants to know about it.

That's because if it sounded like a tree falling or something crashing onto your roof— but you can find no explanation for it—it was very likely a "frost quake".

Conditions are ripe this week for frost quakes, or cryoseisms as they are also called. They happen when there is little-to-no snow cover on the ground, and mild/wet weather

is followed by a plunge in temperature.

The booms or bangs are the sound of ice cracking under pressure as water in the ground freezes and expands.

"It's a very similar phenomenon to an earthauake." said Andrew Leung, a Ph.D candidate working in the Climate

Without the ensuing damage, though, he said.

Leung is working with professor William Gough in the lab, and they hope to publish a study on the phenomenon, possibly this fall.

And as part of their research, they are asking for members of the public to use an interactive online map to report the time and location of frost quakes.

There was a flurry of frost quake reports last January following the ice storm that hit the GTA. There were as many as 140 reports from Brampton alone. Another 50

reports came from Mississauga, about 10 in Georgetown, and more than 500 in total around the GTA.

So far this week, most reports have come from the Ottawa and Montreal areas, but on Monday (Jan. 5), someone just west of Brampton reported hearing one around 10

"Huge bang. I thought my son fell off the bed, but no," one person reported. "Felt re-

The quakes are typically heard at night because there is less competing noise from traffic and daytime activity, Leung said.



Frost quakes are still relatively rare, and they aren't audible more than one or two kilometres away, so they cannot be monitored by traditional seismic stations unless a station happens to be within that distance, so public reporting is key, Leung said.

Reporting of the booms and crashes is more frequent now compared to a decade ago because members of the public are taking to social media to discuss and share their experiences, so word spreads now, he



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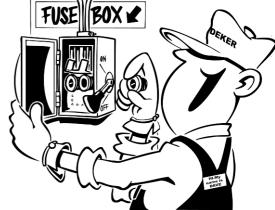


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