



Cosy, refreshing French charm

WORKOLOGY

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LIL' KIM OUT OF JAIL

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YZERMAN RETIRES

Detroit Red Wings captain calls it an NHL career.

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SHUTTLE fears

CRACK in foam insulation may scrub launch

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Melting points to disasters

Glacial changes could spark quakes, tsunamis, volcanoes, experts warn

So the warnings of harsher heat waves, stronger hurricanes and rising seas fail to impress. How about volcanic eruptions in the Arctic, or a tsunami off the coast of Newfoundland?

The latest scientific discipline to enter the fray over global warming is geology.

And the forecasts from some quarters are dramatic — not only will the earth shake, it will spit fire.

A number of geologists say glacial melting due to climate change will unleash pent-up pressures in the Earth's crust, causing extreme geological events such as earthquakes, tsunamis and volcanic eruptions.

A cubic metre of ice weighs nearly a tonne and some glaciers are more than a kilometre thick. When the weight is removed through melting, the suppressed strains and stresses of the underlying rock come to life.

University of Alberta geologist Patrick Wu compares the effect to that of a thumb pressed on a soccer ball — when the pressure of the

thumb is removed, the ball springs back to its original shape.

Because the earth is so viscous the rebound happens slowly, and the quakes that occasionally shake Eastern Canada are attributed to ongoing rebound from the last ice age more than 10,000 years ago.

new interest

► No one has claimed that the Boxing Day tsunami of 2004 was triggered by rising sea levels. But that event seems to have sparked new interest in the links between climate and geology.

Melting of the ice that covers Antarctica or Greenland would have a similar impact, but the process would be accelerated due to the human-induced greenhouse effect.

"What happens is the weight of this thick ice puts a lot of stress on the earth," says Wu. "The weight sort of suppresses the earthquakes but when you melt the ice the earthquakes get triggered."

When a quake happens under water it can cause a tsunami. Wu said melting of the Antarctic ice is already causing earthquakes and underground landslides although they get little attention. He predicted climate warming will bring "lots of earthquakes."

When the glaciers melt, the liquefied water causes sea levels to rise and increases the weight on the ocean floor, which could also have an effect on the grinding tectonic plates deep below the surface.

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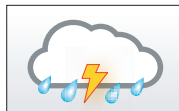


LUCAS OLENIUK/TORSTAR NEWS SERVICE

THERE CAN BE ONLY ONE Canadian chess grandmaster Pascal Charbonneau, left, was at the Eaton Centre yesterday to take on 30 chess players at once — who he defeated in two hours and 45 minutes.

what do you think?

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