

Sounding the alarm bells on climate change

By Dr. Hans Martin



The Northwest Territories and northern British Columbia have been on fire most of the past summer. Southwestern Manitoba and southeastern Saskatchewan had massive floods in the last few months. The Great Lakes and St. Lawrence water levels have risen in the last year after falling for a decade. Arctic ice cover and ice volume have been declining over the last three decades. In the case of ice cover, it has been declining since about 1950.

In Greenland ice is moving at an alarming speed. During the summers of 2012 and 2013, the Jakobshavn glacier was moving at a rate of 4 m per day (17 kilometres per year) towards the sea.

Over the past spring and summer, violent rainstorms have caused extensive damage in many regions across Canada.

These events and many more are noteworthy individually. Taken together they are worthy of alarm if not panic. The events are related directly or partially to climate change.

Locally we have had some alarming experiences but in general do not worry too much about the long-term implications of these sporadic outbursts of nature. But there is no free lunch. There can be immediate personal consequences associated with these events, such as a rise in taxes and property insurance.

If you want to learn about climate change and its long-term impacts don't ask your politicians, don't ask your local scientist, ask your home insurance agent or a home insurance company similar to [one sure insurance](#). The insurance industry studies trends in claims associated with flooded basements, floods, windstorms, forest fires, crop failures etc. With that information present-day coverage costs are calculated. Insurance companies don't need to know what scientists predict. They have no political angle. They try to provide a service that is fair and yields a profit. It's a service that alleviates the pain of misfortune by distributing that pain among a larger group of individuals. In truth, their premiums can be an excellent objective indicator of the implications of climate change, though the agents may ignore the issue itself.

To some it may seem that over the past year or so, the chatter about climate change has exploded without any warning. We seem unprepared; without a strategy. This notion could not be farther from the truth.

Fourteen years ago I was one of a group of five people contracted by the government to assess Canada's 'Vulnerability and Adaptation to Climate Change' in the water sector. Essentially we were asked to examine what was happening, what might happen and advise on what we should do. The 140-page report was delivered in June 2002. The report was based on a synthesis of 250 scientific papers, many meetings with special interest groups and a workshop in Yellowknife. Our report identified regional vulnerabilities and suggested some of the adaptive measures which we might take. The proposals for action and the identification of responsibilities were quite specific though not intending to be complete.

Rather, the report presented a guide for all of us from which we can start taking charge of a crisis which is getting out of hand. We worked somewhat separately on individual aspects. I was not involved in the assessment of future predictions derived from computer models. When I read the climate predictions I was surprised at their specificity. I have only a limited understanding of these large complex computer models which are developed at centers in North America and Europe. They are undertaken only in places where inordinate computer capacity is available. Their predictions are remarkably accurate. A few examples are:

? Less frequent showers and more frequent heavy downpours in specific parts of Canada, for example, southwestern Ontario. In the last few months we have had record floods in several southwestern Ontario towns.

? Droughts will occur in northern British Columbia and in the Northwest Territories. The unprecedented number of forest fires in this region is testament to the lack of rain.

? The Great Lakes levels will fall. In part this is due to greater evaporation from the lakes due to diminishing ice cover in the winter. Here we have implications for power production at Niagara and shipping restrictions.

? Widespread infrastructure damage will be associated with permafrost melting in the Arctic. A growing annual problem in Yellowknife is road slump.

? Temperatures in the Arctic are rising above historic levels and will continue to do so. Arctic sea-ice will disappear at an alarming rate as well as the glaciers on Greenland.

The last two references to the Arctic deserve a further word. The melting of permafrost makes road transportation extremely difficult and road maintenance nearly impossible. With warming, ice roads can no longer be constructed. The winter road to the diamond mines 400 kilometres north of Yellowknife is at risk. If the 8,000 to 10,000 truckloads of materials and supplies cannot be delivered in the 6 to 8 short weeks each January and February, the enterprise will need to develop other options. Diamond mining represents nearly 30% of the GDP of the Northwest Territories (\$3.3 b, 2010).

The second Arctic reference to sea ice disappearance has grave implications. The Arctic Archipelago with over 36,000 islands represents nearly 15% of the area of Canada. As long as the Canadian islands in the Arctic were ice bound, they were part of our true North Strong and free.?

What is going to happen as the ice disappears? We always have enjoyed the idea of having the Arctic up there for us to use whenever we felt like it. When we have open waters for hundreds of kilometers in every direction there may be many other interested parties snooping around charting the unknown but highly anticipated phenomenal mineral wealth in that Canadian treasure house. Can we maintain our sovereignty? Can we rely on the loyalty of those who have lived there throughout history and have been shamelessly neglected by us over the last 200 years?

On Sept. 23 the world climate summit will occur at UN headquarters in New York. The preamble to the meeting underscores the urgency of our current situation and calls for courage:

?Climate change is not a far-off problem. It is happening now and is having very real consequences on people's lives. Climate change is disrupting national economies, costing us dearly today and even more tomorrow. But there is a growing recognition that affordable, scalable solutions are available now that will enable us all to leapfrog to cleaner, more resilient economies.

There is a sense that change is in the air. UN Secretary-General Ban Ki-moon has invited world leaders, from government, finance, business, and civil society to Climate Summit 2014 this Sept. 23 to galvanize and catalyze climate action. He has asked these leaders to bring bold announcements and actions to the Summit that will reduce emissions, strengthen climate resilience, and mobilize political will for a meaningful legal agreement in 2015.

Climate Summit 2014 provides a unique opportunity for leaders to champion an ambitious vision, anchored in action that will enable a meaningful global agreement in 2015.?

For more than a decade we have snubbed the work and concerns of world bodies such as the United Nation Framework Convention on Climate Change, the UNFCCC. I wonder what our bumbling nation will have to say and contribute to this gathering, in the event that we show up at all.

Why not

? Call your MP?and ask him what Canada intends to do at this summit.

? Call your property insurance agent and confirm that you are covered for climate change related property damage.

? Read the report discussed above ?Vulnerability and Adaptation to Climate Change.? It can be found at the University of Waterloo at: http://www.env.uwaterloo.ca/research/aird/aird_pub/Water_Sector_Vulnerability_and_Adaptation_to_Climate_Change.pdf

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