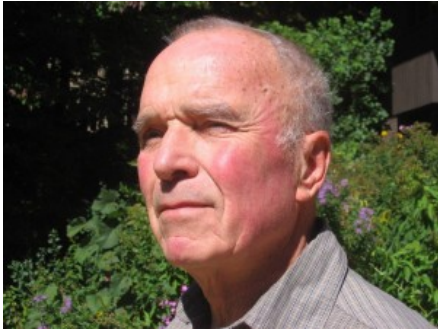


Climate change is already here



By Hans Martin

Climate change, like gravity, is not a matter of opinion.

In the summer of 2003, 52,000 people died in Europe as a consequence of the heat wave. A refrigerated warehouse outside Paris was used by undertakers as they did not have enough space in their own facilities.

The western USA is suffering from a drought which started about three years ago. It is severely impacting farmers and ranchers. Drinking water supplies are threatened.

Between 2010 and 2012, nearly 260,000 people died in Somalia because of the famine aggravated by conflict.

Canada: "Homeowners should be prepared to pay more for property insurance as the severe weather trend is expected to continue." Canadian insurance payouts due to weather related disasters averaged roughly \$1-billion a year from 2009-2011, which compares with \$167-million in 2007 and \$392-million in 2008.

The Nunavut government is devising a "Homeowner's Guide to Permafrost," which is a primer describing measures a homeowner can take to promote and preserve permafrost under their home.

And on and on!

The science of climate change is rather simple. If CO₂ increases in the atmosphere then the temperature of the earth will go up. At a Canadian research station at Alert, 4,350 kilometers north of Toronto, the concentration of CO₂ in the atmosphere near the ground, has been measured every half-hour for more than 15 years. Similar records with slight variation have been produced at stations on Mount Aloha in Hawaii and at Cape Grim Australia. In all cases the records show a rapid rise in CO₂ concentrations in the atmosphere over the past 50 years. The current levels of CO₂ are higher than any in the last 400,000 years.

Recently, the IPCC, International Panel On Climate Change, released its most recent report. The document, produced by scientists from 100 countries, states that the climate change warming is real and alarming. Economic costs will be high and social unrest on an international scale is expected. Ironically the "greenhouse gas deniers" have announced the release of their most recent report this coming week in Washington, on April 9 at the National Press Club. The deniers call themselves the nongovernmental international panel on climate change, NIPCC. In the coming week the media discussions should prove very interesting. One can only hope that the media is equal to the task of sorting out the truth. They often are.

Politics and public policy are deeply involved in the whole matter of climate change. In the last 35 years the relationship between science and political centres has changed dramatically. In the 1980s the scientific community in Canada was working hand-in-hand with federal and provincial governments in addressing key environmental issues, including acid rain, climate change, stratospheric ozone depletion and air toxics. The contribution to these issues made by government scientists equaled those coming from the private sector and the educational institutes. Internationally, Canada was a leading country in the development of international agreements concerning these issues.

We had the Montréal protocol for the protection of the stratosphere and the first international high-level conference on climate change in Toronto (1988). We chaired the drafting session which finalized the Stockholm Convention on toxic chemicals (2001) and, for nearly 20 years, we were vigorous supporters of the development and conduct of the Economic Commission For Europe

initiative to address international environmental policies. Canadians chaired subgroups and played an important role in the harmonization of Western and Communist bloc initiatives.

Since that time the Canadian government has changed. Some time ago when the United Nations Framework Convention On Climate Change (UNFCCC) was formed, Canada signed on as a member country. This convention holds meetings each year and has produced agreements and commitments on carbon dioxide management. Perhaps the most important is the Kyoto Accord. A few years ago Canada withdrew from the convention.

It is the only country in the world that has withdrawn from this dialogue. In addition, at home in recent years government-sponsored scientific research programs have been "adjusted" so they are better coordinated with policy development. Scientists are obliged to obtain approval from policy centers before their research findings are made public.

In the past of course, it was the scientific programs that provided much of the information required for the initiation of policy. Today, economic expansion and prosperity are the keywords. The oil sands development is an example of this focus. Objections to the scale and nature of this activity and cautionary guidance are not welcome.

Back home, here in King Township, it seems hopeless for one to try and sell the notion of climate warming, given the disastrous winter weather that we have suffered. But it must be remembered that the initial description of the phenomenon before us was "climate change and variability." The variability part has been lost, probably because the title becomes too long. But the variability part is where the disaster lies.

Extremes in weather kill and destroy. I always objected to the notion that climate change "involves 1 or 2 degrees C average increase in temperature." This is simply because most people don't know if it's 11° or 13° or if it's 23° or 25° outside. It's a non-event. But of course if you have normal temperatures throughout nine months of the year, exactly the same as the average for the last 30 years, and then three months in the summer when the temperature is 9° higher than average every day, then you will remember that summer, it was the summer when the plants died, senior citizens suffered from heat stroke, the water table of our wells dropped to a record low, and you could not wash your car for the lack of water. But wait. Three months with the temperature on average 9° above normal is the same as one year with the temperature 1° above normal.

The notion of climate warming of 1° or 2° was a bad marketing strategy. The message got lost in the average.

A final word about precipitation. Flooding and associated landslides are regular news items these days. Rainfall patterns have changed dramatically in the last 50 years and are predicted to continue to change. Environment Canada has a modeling center in Victoria which is a major contributor to the global theoretical examination and prediction of climate warming trends.

About 15 years ago it was predicting changes in precipitation patterns for most of Canada, involving among other things, fewer showers and more heavy rain falls. In the summer, this means flooding.

At the municipal level there is a need to ensure that land-use regulations control or prohibit construction in vulnerable low lying areas. Secondly, swamps and wetlands should be preserved and enhanced in order to slow runoff. Finally, if necessary, infrastructure design guidelines should be altered in such a way that public facilities, roads, culverts, ridges, etc. ? can accommodate extreme flooding conditions.

At home it is advisable to check your house insurance policy to determine whether it covers damage due to flooding. If it does not, you will want to look into 'home and auto insurance near me' online and see what is out there for you to potentially go for. Making sure your home and surrounding areas are covered will help you in future events of extreme weather. In addition, if appropriate, you should install an automatic sewer plug that will prevent sewer back-up and the flooding of your basement.

Climate change and variability - they are here.

Dr. Hans Martin is one of the world's leading scientists on climate change, toxic chemicals and other air issues. He has advised both national and international governments. He worked work Environment Canada and most recently for Foreign Affairs before retiring.