

**If We Snooze .... Do We Lose?**

Are you making planning and management decisions (land development, water use, fisheries, forestry) or business investment decisions based on the assumption that future climate will be the same as what it has been in the past? Can you afford to operate on these assumptions? How vulnerable might you be to climate change?

Generally, when we use the term “climate change”, we are talking about both a general warming of our climate, and increased variability of extreme weather events associated with this change.

The scientific evidence shows that climate change is happening in British Columbia. Between 1895 and 1995:

- ◇ The north warmed faster than the south
- ◇ Winter warmed faster than summer
- ◇ Spring thaw occurred earlier, with later freezing and earlier break-up of rivers and lakes
- ◇ Winter precipitation increased (with a greater proportion falling as rain, and less as snow)
- ◇ Snowpacks decreased
- ◇ Summer precipitation declined

These trends mean a number of potential impacts in the BC interior:

- ◇ **Increased potential for periods of drought**, decreased stream flow and accompanying warmer water temperatures in late summer (the result of changes in glacier melt and precipitation resulting in impacts on stream flows and groundwater)
- ◇ **Increased potential for storm events** like heavy rainfall in short periods, associated with increased variability of the climate
- ◇ **Increased potential for ice jams and flash flooding** in winter
- ◇ **Increased potential for flooding and erosion** associated with storm events

- ◇ **Increased forest fire hazard, spread of grasslands**, and loss of some species (for example, Western red cedar in the interior)
- ◇ **Impacts on species such as salmon** as a result of increased stream temperatures
- ◇ **Increased spread of invasive plants** able to tolerate drought and stress



Debris flow after a wildfire, 2003, Kootenay Lake. Source: Forest Practices Board

Businesses such as the insurance industry are paying attention to climate change. The industry is concerned because they are plotting the trends of weather-related disasters, and the costs associated with these disasters.

Local governments in countries like the United Kingdom are incorporating climate change planning into activities such as drainage management, and water resource planning.

BC interior communities need to talk about climate change, and plan for it. If we don't, and we snooze instead....we may lose.

**Question: What do the insurance industry, the Federation of Canadian Municipalities, and local governments in the United Kingdom have in common?**

**Answer: They are all carrying out projects to incorporate climate change thinking into their day-to-day planning.**

**Adaptation versus Mitigation**

Most of us are probably aware of the need to reduce our emissions of greenhouse gases – for example, as the recently curtailed One Tonne Challenge encouraged. This is called a “**mitigating**” action – something we can do now to reduce the severity of future climate change.

Even if we all stepped up to the plate and achieved goals like those of the One Tonne Challenge, the level of greenhouse gases in our atmosphere means that our climate is still going to change – significantly – over the next few decades. How this impacts us will vary depending on where we live.

**Climate Change, Shorelines, and the BC Interior**

This project is aimed at helping us consider climate change and how it is going to affect shorelines in the interior of British Columbia. **What can we do to help adapt, to help reduce our vulnerability to climate change?**

**Planned Project Outcomes**

- ◇ Increased awareness of climate change issues
- ◇ Improved responsiveness – planning, engineering, emergency measures
- ◇ Community networking, and establishing a “BC interior climate adaptation network”
- ◇ Strengthened resources for shoreline planning
- ◇ Transferability of lessons learned to other communities



Invasive plants like bull thistle could spread more easily with climate change

**Talking About Climate Change**

Initiating community discussions about climate change will help us be more prepared.

*“Many people are uncomfortable talking about the future and what climate change might mean.” (Paul Whitfield, Climate and Fisheries conference, Victoria 2005).*

These are some of the questions we need to be asking:

- ◇ How vulnerable is the Nicola / Thompson / Shuswap to climate change impacts?
- ◇ What are the risks? What could happen if we don't take action?
- ◇ Does climate change create opportunities? For example, new crops? New businesses?
- ◇ Are there “no regrets” options – i.e. things that we could do anyway that would make us less vulnerable?
- ◇ How do we evaluate the options?
- ◇ What strengths do our communities have that will help us adapt to a changing climate? Where are our weaknesses?
- ◇ Can we improve our capacity to make decisions given uncertain knowledge about climate change?

**What Local Governments are Saying**

Our project team has met with a number of local government representatives in the past few months to talk about planning for climate change impacts and adaptation. Issues include:

- ◇ Responding to unprecedented growth rates in the BC interior.
- ◇ Demand for recreational property, especially lakeshore development.
- ◇ Limited resources of local governments to respond to climate change (funds, human resources, knowledge).
- ◇ Need for further knowledge about interactions between surface water and ground water.

- ◇ Stresses caused by additional responsibilities local governments have assumed in recent years.
- ◇ The need for knowledge about local impacts of climate change, specific to streams, lakes, and linked to soil type.
- ◇ Concerns about the added cost of doing climate change planning, and the burden on the development community.

Some general vulnerabilities have been identified:

- ◇ Flooding, both from spring freshet and flash flooding of creeks from storms. Some communities have specific areas with development in vulnerable locations.
- ◇ Landslip concerns in some areas where soils, drainage are vulnerable.
- ◇ Impacts of pine beetle harvest on vulnerability for flooding in some areas.
- ◇ Fire risk and subsequent flood risk.
- ◇ Sudden storm events.
- ◇ Potential water shortages

These general vulnerabilities will be made more specific as more detailed climate change forecasts are developed.

Possible positive impacts

- ◇ Less expenditures on snow removal budget.
- ◇ Potential reduction in winter heating and energy costs.
- ◇ Potential extended tourism season.



New 37<sup>th</sup> St. Bridge, Calgary, Alberta. June 2005 flood. Source. Calgary Herald.

**The Dialogue Continues**

A forum will be held in September to further discuss how our region might adapt to climate change. Details will be announced in June.

**Please contact our project team by May 22, 2006 if you wish to be involved in a focus group discussion.** We are seeking representatives from many sectors – the business community, local government, tourism, and non-government organizations.

Schedule of Meetings	
January - April	Stakeholder and community meetings
May / June	Focus Groups
September	Climate Change Forum (Kamloops)

...Scientific research ... may appear to be largely irrelevant to important municipal stakeholders and the communities that they serve because results of the research are either not immediately accessible ... or not clearly linked to policy-relevant objectives...

Robin Gregory & Joe Arvai  
Preparing Canadian Municipalities for a Changing Climate

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