

Stephen Hume: Time now to talk about looming water scarcity

B.C. snowpacks and glaciers are shrinking: Look to California to see where this will lead. We need to start planning now

BY STEPHEN HUME, VANCOUVER SUN COLUMNIST APRIL 6, 2015



Snow packs, all important to summertime water flows, have been dropping steadily for years and part of B.C. and the Prairie provinces will suffer the consequences, writes columnist Stephen Hume.

Photograph by: Mark van Manen, Vancouver Sun

California's deepening water crisis offers a gloomy omen for parts of British Columbia as climate change begins to bite.

Things look even gloomier for our Prairie neighbours.

Here, we can look forward to less rain across 15 million hectares of Interior forest already dead and degraded thanks to the mountain pine beetle. This means a growing threat of megafires and denuded hillsides unable to soak up and hold back run-off.

Instead of tit-for-tat finger-pointing, we now need an adult discussion of how to adapt to coming change with long-term planning that isn't dictated by developers, investors and politicians wanting quick returns within short horizons.

Climate change optimists urge us not to worry — the planet is greening thanks to increased atmospheric carbon dioxide, any warming will expand agricultural opportunities, and hey, what Canuck would turn down San Diego winters?

But in California, last week, the wake-up call was a shocker. Everybody — farmers, suburban gardeners, golf courses, college campuses — must now deal with a new reality. The water just isn't there. Use must be slashed by 25 per cent across the parched state. And that is probably just the unpopular start.

Behind everything hangs the big question — is this the new normal or does it foreshadow much worse?

California's brutal drought has entered its fourth year. Snowpacks in the mountains that normally replenish reservoirs and provide 30 per cent of the state's domestic water supply are 94 per cent gone.

In California, as snowpacks disappeared, even declining agricultural and public consumption ran down storage reservoirs that couldn't be replenished. Towns began running out of water last year. Irrigation shortfalls now threaten an agricultural sector that supplies half the fruit, nuts and vegetables consumed in the U.S. Expect sharp rises in food prices.

Sad times for California, but what's this got to do with B.C. and the western prairies?

What's now occurring in California is already trending in B.C., too. True, climate warming is expected to increase precipitation over parts of the province, but BC Hydro data shows peak winter snow accumulation in the mountains in a long, steady decline.

And that's the key point.

Snow cover is a bank. Precipitation deposited in winter is withdrawn in the dry months.

Over the past 50 years, B.C.'s snow cover dwindled by 18 per cent on average. In the Columbia region it declined by 20 per cent, in the Kootenay region by 23 per cent, and in the mid-Fraser region by 47 per cent. Glaciers, covering about 25,000 square kilometres of the province, are rapidly melting away.

Since 1985, glaciers where the Columbia River rises shrank by almost 15 per cent. BC Hydro forecasts glaciers in the watershed supplying the Mica dam reservoir will decrease by 44 per cent and possibly by 100 per cent over the next 85 years.

This isn't a looming crisis for hydro generation — yet. Reservoirs capture precipitation whether it comes as rain, snow or glacial melt. But a crisis does loom for already arid parts of B.C. and for Prairie cities like Calgary, Edmonton, Regina and Saskatoon, which draw domestic water from rivers fed through the summer by B.C.'s mountains.

Scientists David Schindler and W.R. Donahue point out in a paper for the U.S. National Academy of Sciences, entitled "An impending water crisis in Canada's western prairie provinces," that while Canada prides itself on abundant fresh water, on the western plains — an area about one fifth the size of Europe — it's normally scarce.

Worse, European urban settlement, agricultural and industrial expansion all took place during an abnormally wet spell, perhaps the wettest century in 2,000 years.

"In the near future, climate warming, via its effects on glaciers, snowpacks and evaporation, will combine with cyclical drought and rapidly increasing human activity in the western Prairie provinces to cause a crisis in water quantity and quality with far-reaching implications," Schindler and Donahue predict.

We had better start thinking now about what happens when the winter snows and glacial melt that supply Prairie cities with drinking water are at best diminished and at worst simply gone like California's.

This means rethinking both how we live in B.C. and how we pay for it with our \$20-billion suite of water intensive industries like irrigation agriculture, fracking and oilsands mining, hydro generation and industries that affect the hydrological cycle like clearcut logging.

California's increasingly unpleasant experience suggests we'd be wise to start having this conversation right now. Not in the rarefied atmosphere of academic conferences but as citizens prepared to bring the same passion to the discussion that we mustered over TransLink's proposals.

Believe me, water security is a much bigger issue than adjustments to a sales tax.

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