

by Omar Mouallem illustration by Genevieve Simms

City Hall wants us to celebrate our cold climate and play in the snow, but what if we go outside in a warmer future?

The Winterless City Strategy

Last season's first dump of snow fell on November 17, 2011. "It's official," read the *Edmonton Sun*, "winter is here and it's packing a lot of punch."

Drivers were reminded of their low gears and mothers furiously hunted for their children's mittens. *Where were they, they wondered, and why do they always go missing?* Luckily for them, but perhaps not for the kids, the temperature rose to nearly 8 C five days later, the snow quickly melted and Edmontonians enjoyed their peacoats a little longer. >>

As

2012 neared, it was clear that we were going to have a very brown Christmas, not that the City's transportation department was complaining — or anyone with a driveway and sidewalk for that matter. Meanwhile, though, Councillor Ben Henderson and other members of the WinterCity Strategy committee were preparing for a rather awkward kick-off to their campaign to change our negative attitudes toward winter by convincing us that snow is one of our most precious resources.

And then, as if sprinkled by Bing Crosby himself, that white gold trickled to the ground in mid-January just in time for WinterCity Strategy Member Carol Neuman to declare, "Let's let winter become a time of inspiration and celebration for Edmontonians. Let's turn winter into our rallying cry."

And then it melted again.

In fact, that winter we saw 25 per cent less snow than normal and, when we did, it was driven out by the third-warmest temperatures and second-driest days on record since 1947. The flu season was more of a flu fling and the robins stuck around to see Ryan Nugent-Hopkins get 52 points in his rookie year. His fans in size-four skates weren't so lucky, though. The unseasonably warm weather forced an early closure to their favourite outdoor rinks, including the Hawrelak Park pond. And the river valley cross-country ski trails? Nonexistent.

What happened? Considering that the winter before it was one of history's most punishing, it's safe to say that 2012 was more anomalous than apocalypse. (Had the Mayans mentioned anything about jet streams, it would have been easier to take them seriously.)

But the last winter did give a sniff of what was to come and acted like a time portal to an Edmonton altered by climate change. By 2050, the average local temperature is expected to rise by 4 to 7 C and the number of "warm" days — those over 5 C — could increase by half. As CTV meteorologist Josh Classen explains, "If you get 50 per cent more days above plus-five, it almost doesn't matter how much snow you have, it's not going to last long."

So, what happens when the resource that defines our city both to the world and to ourselves

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almost runs dry? Might we need a backup plan for the WinterCity Strategy?

THE WAY WE DRINK

The backup plan already exists. Commissioned for the City's conservation strategy, *The Way We Green*, University of Alberta professor Debra Davidson wrote *Climate Change: Projections and Implications for Edmonton*. In it, she provides mitigation advice, but one of her main objectives is to make Edmontonians prepare for adaptation.

Though the environmental sociologist says we'll need to become accustomed to dynamic and uncertain weathers — "more frequent storms and freak cold spells and hot spells" — the most radical change will be to our relationship with water. Most of our supply comes from the North Saskatchewan, which is fed by melting snow. "When water falls as snow, it serves as a natural storage device and, as it slowly melts, we get access to that water," says Davidson. "If you consider that our winters are going to be warmer, that means more of our snow is not going to be snow at all. It's going to fall as rain, which means that huge reservoir that stores our water will gradually shrink."

We'll see volumes of rain in the spring, but she suggests we may need to adjust to having seasonal and unreliable water supplies. For farmers, that means they may not even be able to take advantage of the longer growing season and new possibilities for fruit crops.

THE WAY WE DRIVE

Driving conditions during the 2010/11 winter were so notorious that City Hall implemented no-parking rules to allow snowplows to clean up the streets post-haste and not repeat the 12-day waits to clear a cul-de-sac. But not only did the following winter make the new bylaws less necessary, by February it had only sipped \$1 million of the \$50 million snow removal budget. The City's roadway maintenance director Bob Dunford explains that an increase in warm days lead to a "better chance of letting nature take care of it for you."

But drivers shouldn't celebrate. "We may see more extreme events," he says. One possible scenario is mild winters peppered with horrible

blizzards. That type of winter, says Dunford, "requires more steady, consistent work to keep up."

Alternatively, more warm spells increasing Edmonton's already frequent freeze-thaw cycles mean more of another enemy to tires: potholes. "It makes it very difficult to design a pavement for that kind of variance," says Dunford. Coun. Henderson wonders aloud: "It could mean that the entire premise on which we engineered our city may no longer be valid."

THE WAY WE PLAY

"If we can count on more warmer days," says Davidson, "without question there are positive impacts. We might become less reliant on using automobiles in the winter and more likely to use bicycles and buses and so forth. Certainly it would be beneficial to outdoor activities."

The scientist so happens to be born and raised in Los Angeles. For those who joined Neuman's rallying cry, milder winters could mean a possible end to the Ice on Whyte festival and the Canadian Birkebeiner Cross Country Ski Festival, an end to tobogganing down Gallagher Hill, an end to Snow Valley and, yes, even outdoor hockey.

Last March, a trio of Montreal climate scientists published a paper that found out today's outdoor skating seasons are ending 15 days earlier than they did 55 years ago. It read: "Wayne Gretzky learned to skate on a backyard skating rink; our results imply that such opportunities may not be available to future generations of Canadian children." The answer, however, might be to employ the kind of ice preservation technology that keeps L.A.'s downtown public rink icy — at an estimated cost of US \$400,000 for two months. Currently, it costs Edmonton neighbourhoods about \$3,700 to maintain a rink two-thirds the size, but for a four- to five-month season.

THE WAY WE DON'T GREEN

Spending more time outdoors instead of cooped up by the fireplace would undoubtedly decrease flu rates, but what awaits you outside could be worse. According to the City's bug expert Mike Jenkins, "Hotter and drier could actually lead to fewer mosquitoes, as development habitats [water bodies] dry up, but could lead to increases >>



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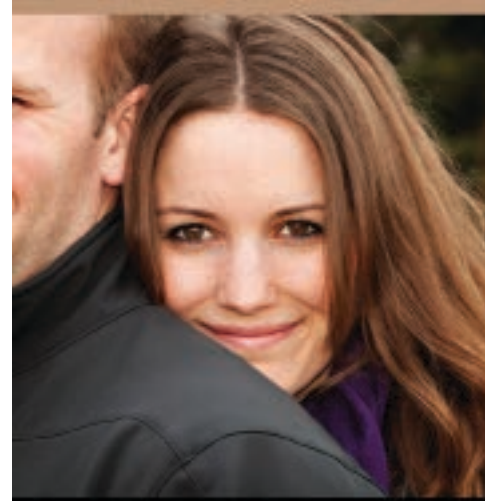
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There are strong correlations between hot weather and aggression, as well as community bonding and cold weather, which suggest that the Edmonton of the future could be a less peaceful one

in some individual species, including those that can carry West Nile. Hotter and wetter conditions could definitely lead to more mosquitoes, but might also increase the health of our urban forest, allowing trees to be better equipped to fend off insects and disease.

Judging from the pine beetles' rapid expansion east, you might want to cross your fingers for the latter. "The pine beetle has historically been held in check by cold winters," says Davidson. Recent warm and dry weather, however, have allowed the infestation to devastate 60 per cent of the British Columbia interior pine forest and could do the same to our beloved backyard, Jasper.

Another pest usually put in its place by winter's cold is the emerald ash borer, which threatens 60 per cent of Edmonton's street trees that line roadways and boulevards.

As well, based on early evidence, Jenkins believes Dutch elm disease would also threaten the primary populace of our urban forest, elm trees. So not only could that turn the green-belt brown, it could also kill Edmonton's long standing reputation for having one of the world's

largest concentrations of unaffected elms.

But the greatest peril to our flora might be fire. Earlier this year, a region of southern Alberta was under a state of emergency because of a massive grass fire — in January.

THE WAY WE COEXIST

There are strong correlations between hot weather and aggression, as well as community bonding and cold weather, which suggest that the Edmonton of the future could be a less peaceful one. The problem worsens once you factor in a ballooning population. According to the Alberta Population Projections, Edmonton will be home to 1.8 million people by 2050. The provincial government report is based on the current rate of growth (which is currently the second fastest in Canada after Calgary), as well as age and gender demographics, but does not account for the in-migration of people displaced by extreme weather and environmental changes. Some refer to them as climate refugees and, according to the Intergovernmental Panel on Climate Change, there will be 200 million of

them by 2050, while other projections put it as high as 600 million. Currently, Canadian and international law doesn't consider such people "refugees," but as the masses from such vulnerable places as Indonesia are forced to migrate, policy change is inevitable.

A landlocked, economically strong city like ours is exactly the kind of place they'll be headed for. The question is, which Edmonton will they arrive to? Will it be the one you know, the one of Jennifer Heil and Jamie Salé, of hockey practice and moccasins, of snow angels and gruff pride? Will the unfrozen car doors make them — us, really — weaker people? Will the hot chocolate in their paper Tim Hortons cup — you know, the one with the jubilant, mittened snowman and snow-woman cheering steaming cups of their own — be half-full or half-empty?

Coun. Henderson says if the WinterCity committee truly does its job right, if they make the people of today learn to find beauty in the city's harshest season, then the people of tomorrow will come to find a cup that's dust dry. And the loss will be profound. **F**

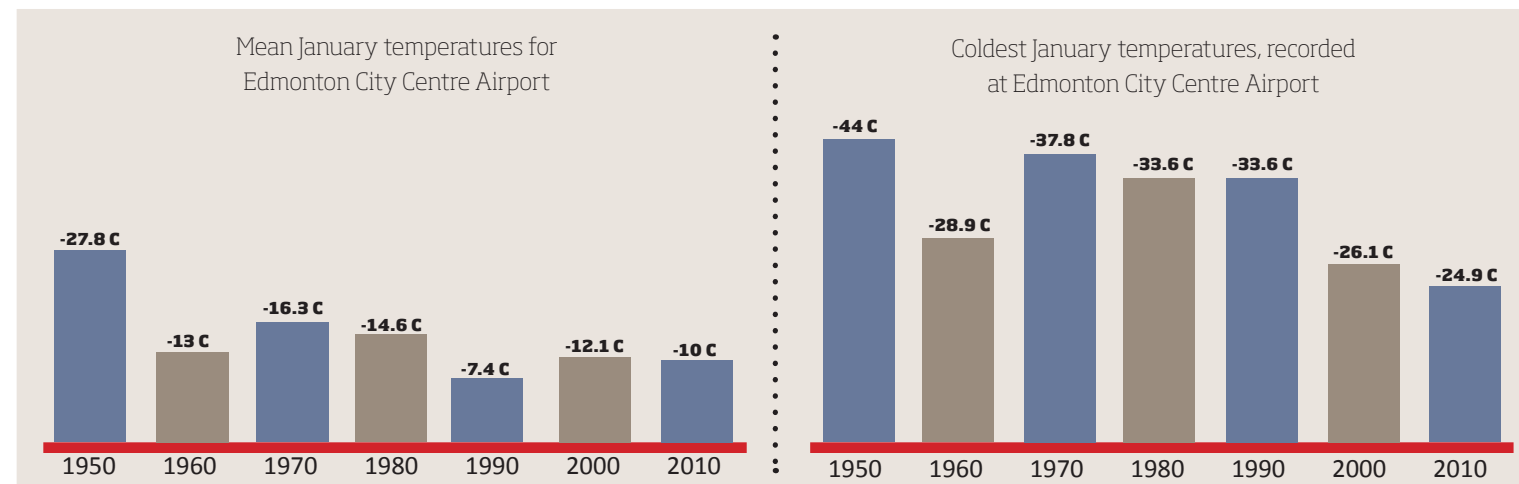
COLD COMFORT

Our winters are getting warmer and we can prove it. We gathered some key Edmonton weather statistics, from 1950 to 2010, at 10-year intervals. And they clearly show a warming trend for our normally cold months.

While Edmonton's not yet a balmy place in the dead of winter, we do see that our average January temperatures are on an upward trend. And those freezing cold days aren't quite as frigid as they once were.

We see upward trends of almost 20 C from 1950 to 2010. So, when seniors claim winters now aren't nearly as hard as when they were young — they're right.

SOURCE: National Climate Data and Information Archive (Environment Canada Weather Office)



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