

Opinion: Rising sea level demands attention

Future threat: Vancouver's great ocean views could well become the city's greatest problem

BY TAMSIN LYLE, SPECIAL TO THE SUN SEPTEMBER 16, 2014



Rising ocean levels and an extreme storm could spell disaster for Kitsilano Beach and much of Vancouver beyond the water.

Recently, I heard a U.S. army general, who had been on site during the aftermath of hurricane Katrina, boom out: "If you see water out your window, you're on the damn floodplain."

Although not entirely accurate, this is a good starting point to help us understand how the Lower Mainland might be impacted in the face of a coastal storm. Thousands of area residents look out their windows at the Strait of Georgia or the Fraser River — they are on the floodplain.

With sea level rise and climate change, the threat of floods is increasing. The science is in: We know from the work of the Intergovernmental Panel on Climate Change that the ocean is rising and our floodplains expanding. But we don't know by how much or how fast. We also don't know exactly what this will mean for our region, but it is fairly obvious the impact will be great, and that we need to start planning now to reduce the impact.

In the past couple of years, extreme storms have slammed into coastal regions. The economic cost of floods around the world have increased exponentially since the 1970s, as documented by insurance company SwissRe. And yet, on the West Coast, we have been lucky, so far escaping the damages, losses and untold misery of a coastal flood.

What do sea level rise and climate change mean to the Lower Mainland? Some cherished areas along our coast will be underwater twice a day at high tide, or even all the time. Other areas that are now well back from the ocean will face increasing threat from coastal storms as the shoreline retreats and natural protection is reduced. They will face nuisance levels of flooding every year during winter storm season, or even catastrophic damage when extreme storms hit. And, because the Fraser Valley is

exactly that — a relatively flat deltaic valley — the impacts will be seen far upstream. Recent work by the province suggests impacts along the Fraser all the way to Chilliwack.

Let's consider what we are at risk of losing. Our coastal floodplains are filled with important assets: It's where we do business and grow our food, it's where we play, and where we live. The impacts and consequences of sea level rise aren't going to be limited to buildings, which can be fixed or replaced. The greatest impacts will be to people, the economy and the environment.

Today's prized waterfront homes will be the first to go; families will have to retreat inland. Communities behind the retreat zone will see increased flooding from storm surges. When, not if, the big storm hits, people will face evacuation, ruined homes, stress and health impacts.

Metro Vancouver's coastal foreshore is not only stunningly beautiful, but also home to diverse ecosystems. As the sea marches inland, what will become of the eelgrass beds of Roberts Bank, and how will the bluffs of Stanley Park fare when coastal storms attack? Again, the details are unclear, but we can be sure that our natural environment will be affected. The impact will not just be on our environment, but also our economy. Without serious efforts at adaptation — and soon — a large coastal storm would certainly damage the businesses that line our shores, and it could potentially paralyze transportation across the region. Portions of the Port would be under water, major train lines would be severed, road access to the U.S. would be interrupted and YVR would be affected.

The produce depots on the False Creek flats would likely be out of commission and stores across the region would suffer. Imported goods from Asia would be stalled in English Bay. Electricity, gas, phone, and Internet services might suffer periods of disruption. Sea level rise will impact many daily, but combined with a large coastal storm, it would affect the whole country.

We're lucky to live in a country and region that has resources to plan and adapt for sea level rise. In fact, there's a heartening swell of activity from the trenches. At a grassroots level people are interested, universities are engaged and municipal governments in the region are seen as leaders in the field of climate adaptation.

But this fight will require many more resources. We need people with innovative ideas to help us thrive under the new climate regime. More importantly, we need serious funding from the federal government if we are to start redesigning our region against the threat of sea level rise.

The urgent need to begin adaptation planning to reduce our risk to future coastal floods far outweighs the risk of moving ahead with imperfect information. We need to act now.

RISE is an open ideas competition addressing sea level rise in Metro Vancouver with a Grand Prize of \$35,000! Free to enter and open to B.C. residents 19 years of age or over, the deadline for submissions is Oct. 6.

See sfu.ca/rise for details.

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[Next](#)