

## Reflections on the 2021 BC Wildfire Season

July 22, 2021 | By Michael Pontinen

Wildfire season is not anything new in the southern interior of BC. I can vividly recall several wildfires in the last twenty years starting with the 2003 McLure fire that burned 26,420 hectares (264 square kilometers). I know this fire well for the 300-foot-tall flames and the fact that it was burning 28 minutes from my parents' home. That's where I grew up from age three and where the family has lived for 46 years.

This was the first time I'd heard the word "firestorm". This term denotes a particularly intense and destructive fire usually accompanied by high winds that that creates and sustains its own weather system through the rising column of hot air. Firestorm is also used to describe the weather effects of high winds sucked up from a nuclear detonation.



*The McLure forest fire forced 3,800 people out their homes and destroyed 75 homes and nine businesses in July of 2003.*  
Source: SOURCE/sfu.ca<sup>1</sup>

<sup>1</sup> <https://infotel.ca/newsitem/warning-issued-as-10-year-firestorm-anniversary-approaches/it3532>

We'd had wildfires throughout the years since then and been evacuated too. Evacuations start with an *evacuation alert* notifying residents to start getting packed and get ready to leave. Next is the *evacuation order* which is where the government tells you to leave. You're under no compulsion to do so but our family has never not evacuated when ordered to do so. People, dogs, and cats are more important than structures, home and memories. My family evacuated voluntarily and under order four times in the last twenty years. It's not a fond memory but it sure is memorable. I wrote the evacuation plan including what to evacuate, when and where. Emergency management is something I do side of desk with my employer, so I have some experience in this area.



Village of Whitecroft.  
Source: Michael Pontinen

This article could be a few pleasant pages to read remembering the previous evacuations but that is not why I'm writing today. Today I want to talk about climate change and how this wildfire year is like nothing ever seen in BC. The Mayor of Barriere, BC who has experience from the 2003 fire said this week that "people in the Southern Interior are one significant lightning storm away from this wildfire season being worse than anything currently on record."<sup>2</sup>

If you live in the lower mainland, where most housing co-operatives are located, it is quite possible you've only heard of what's going on in the interior through friends, family, or the news. I'm writing today from the southern interior, located 35 minutes northeast of Kamloops and two kilometers west of an out-of-control wildfire, specifically K21644 Embleton Mountain burning between Heffley Lake and Sun Peaks ski resort.

Kamloops has several large fires in the immediate area, dominated by the monster 48,000-hectare Sparks Lake wildfire to the northwest of the city. For a time this fire has been too hot to fight from the ground leaving only helicopters and airtankers to try to contain the growth.



Source: The Weather Network<sup>1</sup>

This wildfire is a *wildfire of note*, just as the Embleton Mountain wildfire, meaning that it is very visible and threatens people and property. This year's wildfires display aggressive behaviours and high growth rates. For example, Embleton Mountain wildfire doubled in size every day for the first five days after the July 8<sup>th</sup> lightning strike and grew by over 50% on Monday night from 604 hectares to 920 hectares. Heavy smoke and lightly falling ash were common as well as

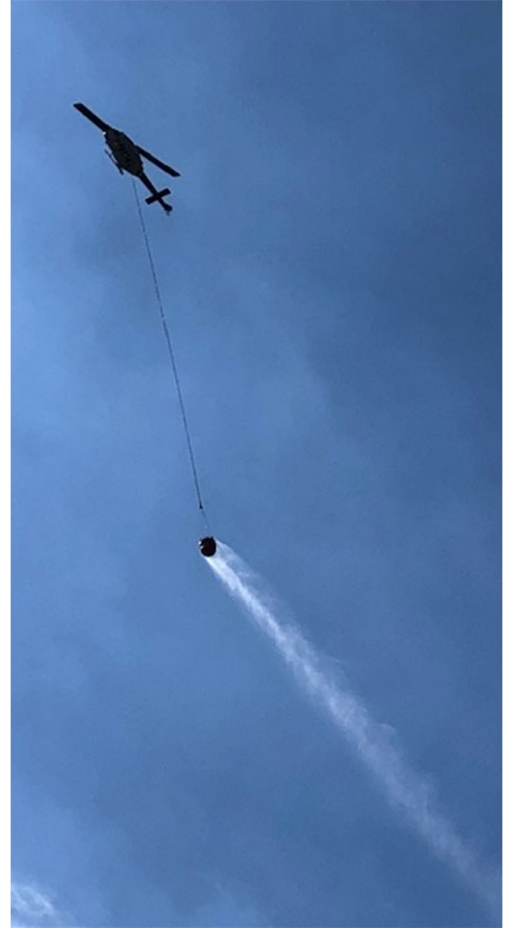
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<sup>2</sup> Kamloops-area mayors say 2021 fire season could be 'worse than previous years on record'. <https://www.radionl.com/2021/07/20/81109/>.

seeing the smoke plume from less than 500m from the house. Helicopters bucketed water from the lake every 2 minutes and 45 seconds from 5:30am to as late as 8:30pm.



*Heffley Lake, BC. (Above left)  
Smoke Plume from Embleton Mountain wildfire. (Below left)  
Source: Michael Pontinen*



*Helicopter flying overhead with water bucket, Heffley Lake, BC. Source: Michael Pontinen*

Wildfires can grow at the rate of a running person, or 16 km/h (10mph), through a behavior called “crowning” whereby the fire is blown by a high wind and passes from treetop to treetop. The tree then burns downwards in a behaviour called “candling” and can explode when it hits the lower branches where most of the fuel is located.

The Kamloops fire region is one of seven, yet this year has had typically one third of the wildfires including the majority of the fires of note.



# Wildfires of Note

Wildfires which are highly visible or which pose a potential threat to public safety. (Source: BC Wildfire Dashboard July 22, 2021<sup>3</sup>)

## Kamloops Fire Centre

- Brenda Creek
- Bunting Road
- Durand Lake
- Embleton Mountain
- Hunakwa Lake
- July Mountain
- Lytton Creek
- Mckay Creek
- Momich Lake
- NK'Mip Creek
- Sparks Lake
- Three Valley Lake
- Tremont Creek
- Two Mile Road
- White Rock Lake

## Southeast Fire Centre

- Akokli Creek
- Bill Nye Mountain - MR
- Michaud Creek
- Octopus Creek
- Trozso Creek

## Prince George Fire Centre

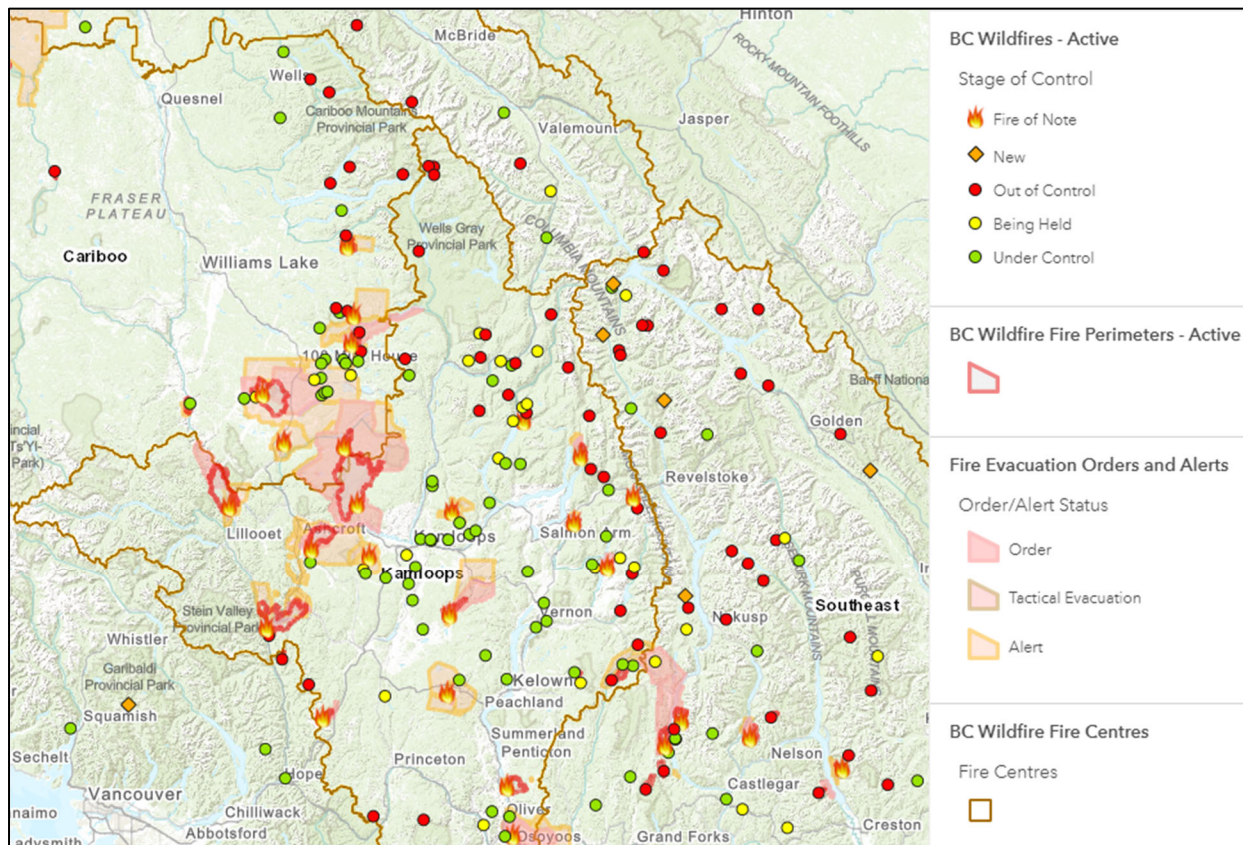
- Black Pine
- Camsell Lake
- Cutoff Lake
- Forres Mountain
- Grizzly Lake
- Klawli Lake
- Mount Porter
- Tentfire Creek

## Cariboo

- Big Stick Lake
- Chasm
- Flat Lake
- Hotnarko Creek
- Mckinley Lake
- Purdy Lake
- South of Canim Lake
- Succour Lake
- Young Lake

## Northwest Fire Centre

- Chief Louie Lake

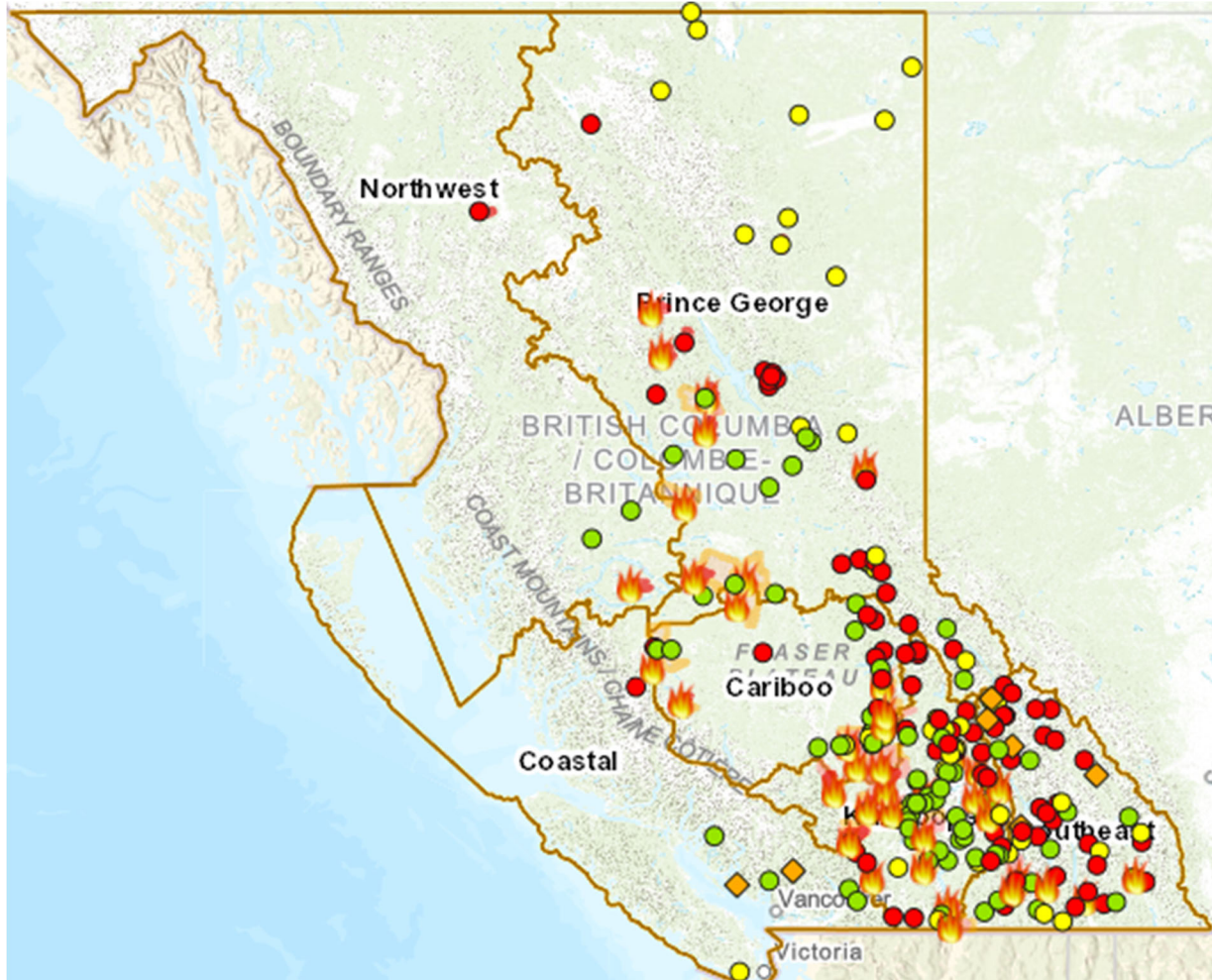


Source: BC Wildfire Dashboard July 22, 2021<sup>4</sup>

<sup>3</sup> <https://governmentofbc.maps.arcgis.com/apps/dashboards/f0ac328d88c74d07aa2ee385abe2a41b>

<sup>4</sup> [Ibid.](#)

The fire count for July 22, 2021 for the province of BC is 1,176 of which 268 are active and 8 are new as of the last two days.<sup>5</sup> The wildfire count to date is over twice the five-year average of just over 500. The BC Wildfire map below shows how many fires are burning or have burned in the province.



Source: BC Wildfire Dashboard July 22, 2021<sup>6</sup>

In summary, the wildfires of 2021 are more aggressive, hotter, and tougher to fight, and earlier than ever before. The first wildfire in the Kamloops fire region was in March. The last wildfire in that region in 2020 was in mid-September. This trend indicates a six-month fire season, far longer than in past. In addition, smoke events caused by these fires are reaching well into the lower mainland and Vancouver Island as well as into Alberta.

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<sup>5</sup> [Ibid.](#)

<sup>6</sup> [Ibid.](#)

## Climate Change

It would be reasonable to ask if climate change plays a part in this year's wildfires and climatologists are telling us this is the case. In particular, the "heat dome" that stretched from Los Angeles to Whitehorse, YK in early July played a critical role in the wildfire season this year. Heat waves are natural occurrences, but heat domes can only be caused by climate change and cause heat waves to be hotter and last longer.

### Heat Dome

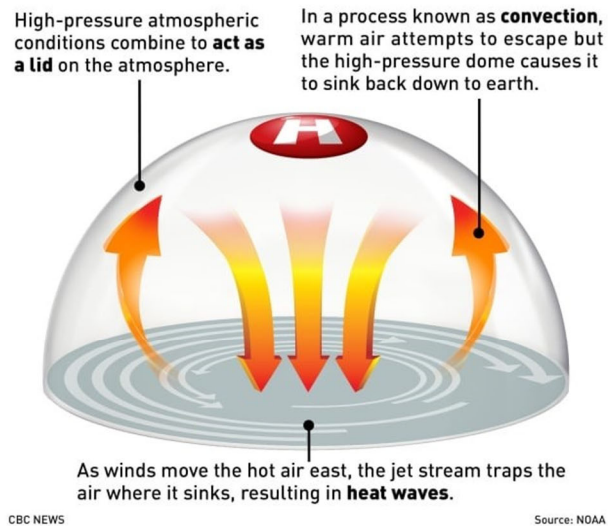


Image Source: CBC science news, National Oceanic and Atmospheric Administration<sup>7</sup>

The heat dome created conditions leading up to the heat waves. The Kamloops fire region has had two heat waves in the 35C-38C degree range. Kamloops and area have been in a severe drought situation since the spring, two severe heat warnings and multiple poor air quality alerts for the last four weeks. Air quality in the city has varied but often exceeds 10+ on the air quality scale which is an extreme warning to those with pre-existing respiratory conditions or the elderly.

Climatologists from Environment Canada are saying that not only will heat domes repeat but may be an annual occurrence.

Heat domes and heat wave bring temperatures to dangerous highs. Lytton, BC broke three national heat records in three consecutive days, then burnt down to the ground on the fourth leaving 250 residents only 15 minutes before the fire destroyed the town. Climate change is very real to the two known fatalities and several missing persons.

<sup>7</sup> When you can't escape the heat, you're in a 'heat dome'. <https://www.cbc.ca/news/science/how-a-heat-dome-happens-1.5216908?cmp=rss>

## Canadian Heat Records

<b>45 °C</b> <b>113 °F</b>	<b>46.6 °C</b> <b>115.9 °F</b>	<b>47.9 °C</b> <b>118.2 °F</b>	<b>49.6 °C</b> <b>121.3 °F</b>
Record set 1937	Record set June 27	Record set June 28	Record set June 30
Midale and Yellowgrass, Saskatchewan	Lytton, BC	Lytton, BC	Lytton, BC

Source: Michael Pontinen from news outlets (see, for example: <https://globalnews.ca/news/7991383/lytton-bc-new-all-time-canadian-heat-record-third-day>)

Aside from burning down Lytton, BC, the recent heat waves have resulted in 808 deaths according to the BC Coroner's Service.<sup>8</sup> This number is over four times the 5-year average of 198 deaths during this week for the first week of July. Heat and smoke-related deaths and illness are only adding to the pressure on our health care system during the COVID-19 pandemic.

It is my hope that this article helped to inform you of the dire situation currently being faced by residents of BC. Premier John Horgan declared a provincial state of emergency on July 21, 2021 based on the threat of changing weather patterns. This is on the heels of a 16-month state of emergency due to the COVID-19 pandemic that had concluded on July 1, 2021.<sup>9</sup> With two more months remaining in the 2021 wildfire season, let us all hope that we do not see the one storm that breaks all previously known records and work hard to ensure that future years are not a repeat of 2021.

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<sup>8</sup> <https://bc.ctvnews.ca/early-info-shows-b-c-heat-wave-death-toll-likely-much-higher-than-u-s-neighbours-1.5517147>

<sup>9</sup> <https://globalnews.ca/news/8043298/bc-government-wildfire-update-state-of-emergency/#:~:text=On%20July%201%2C%202021%2C%20B.C.%20concluded%20a%2016-month,and%20may%20be%20extended%20or%20rescinded%20as%20necessary.>