



canoe
procurement group of canada

Contingency Planning for Drought/Fire/Floods Season 2024

April 11, 2024

Fred Krause





Who is Fred Krause?

- ◆ Proud father of three girls
- ◆ 20+ years in scouting
- ◆ Hobbies in pen making and welding
- ◆ Current Calgary resident. Have lived in Napa Valley (California), Hawaii (Family Roots), BC Kootenays, Vancouver, and Fort Sask.
- ◆ While I think I can hold my own around the house, my wife feels she married “Tim the Tool Man”
- ◆ Background in high rise construction, carpentry, and industrial sales



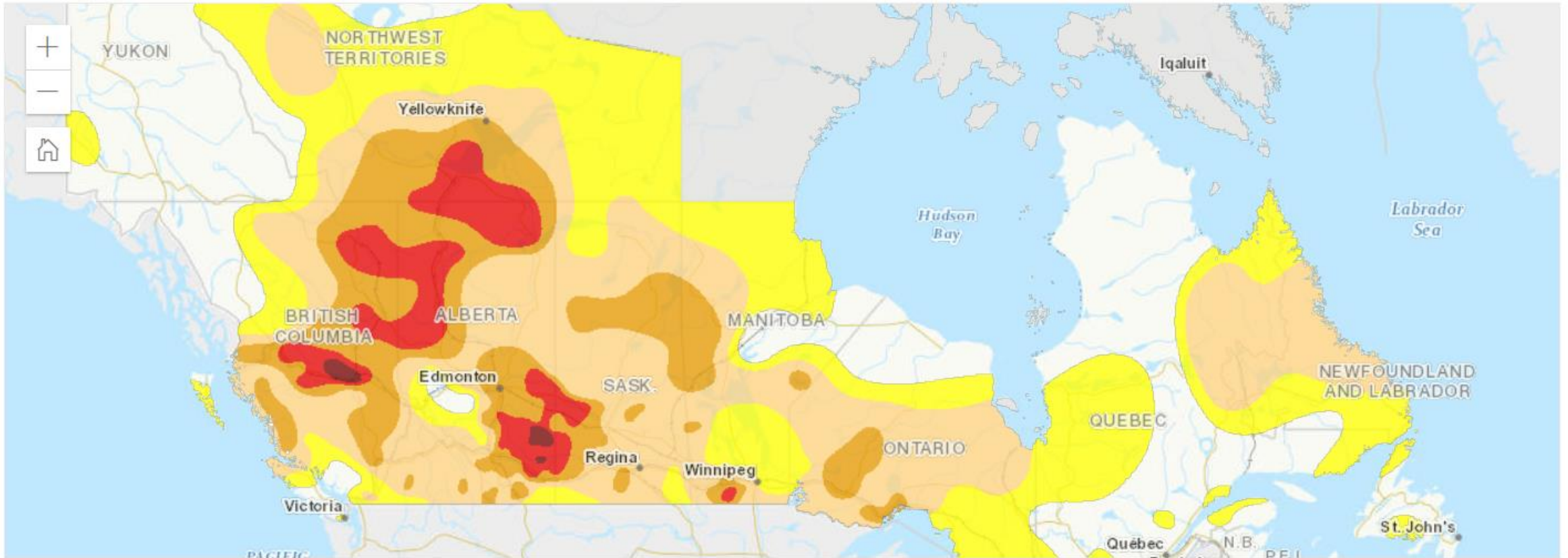
Who is Fred Krause as it relates to Emergency Management?

- ◆ 18+ years of public sector experience in Western Canada, responsible for over \$25 million budget with over 2780 ship to locations in the public sector.
- ◆ Supporting large scale Incidents within the EOC 's during Covid Pandemic, BC forest Fires, Fort Mac Fires, Calgary Floods, SARS, Swine Flu, and other large-scale incidents and disasters.
- ◆ Extensive experience working with the US Military, including at: Joint Base Pearl Harbor-Hickam Air Force Schofield Barracks/Fort Shafter
- ◆ Local experience working with government agencies including: CFB Edmonton(Army), Esquimalt (Navy), Cold Lake(Air Force), RCMP HQ, Prairie Region Corrections, Canada Transport, Canada Fisheries, Canada Coast Guard (CCG), Parks Canada, Municipal associations, Healthcare, Education.

Correlation between Drought, Fires, and Floods here in Canada

Drought conditions as of March 31, 2024

The Canadian Drought Monitor (CDM)



Fire Emergencies in Canada

Table S3. Ten largest wildfire evacuations on record, by number of evacuees (Canadian Forest Service, 2023). Five of the ten largest evacuation events (by number of evacuees) since 1980 occurred in 2023.

Evacuation Date	Province/Territory	Location	Evacuees
2016-05-03	AB	Fort McMurray	88000
2003-08-18	BC	Kelowna	33050
2023-08-16	NT	Yellowknife	21720
2023-08-17	BC	West Kelowna	19809
2023-05-28	NS	Halifax	16400
2009-07-18	BC	West Kelowna	11000
2017-07-15	BC	Williams Lake	10753
2023-08-17	BC	Kelowna	9757
2023-05-05	AB	Edson	8414
1998-08-10	BC	Salmon Arm	8000

FACT- Flood risk remains significantly higher in burned areas until vegetation is restored — up to five years after a wildfire.

Federal Emergency Management Agency

DROUGHT/FIRE/FLOODS

Flood Emergencies in Canada

- ◆ Flooding is the most frequent natural disaster in Canada
- ◆ Floods are getting more frequent and more dangerous
- ◆ 2 in 10 Canadian homes are at risk of flooding, but most homeowners don't know about it
- ◆ Flooding can happen to you, no matter where you live



The Gazette

Water management to cost Montreal billion public consulta

Montreal is one of the worst drinking water

Drought in Morden renews call for new water source

15 days ago | News

Lake Minnewasta reservoir



2019: \$24 million

2024: \$100 million

CALGARY HERALD

Ad closed by Google



24: \$2 billion set aside for ; amid flood, drought and

· wildfire management, additional and resources



cbc.ca

B.C. unveils \$39M for climate emergencies, new flood plan



More than \$3M funding Phase 2 of Malloy Drain Project



The Importance Of Exercises (PPOST)

Priorities

Guides the setting of objectives - often remains constant

Problems

Are statements of what you see and know about the incident

Objectives

State “what” will be accomplished

Strategies

Address the “how” it will be accomplished

Tactics

Deploying and directing of resources. Addresses the “who”

[See ICS Canada for more information](#)



Solutions Seen As Outside The Box

- ◆ LA Water Shade Balls Evaporation started in 2008
- ◆ Facts about the balls from the DWP:
 - ◇ Reduced evaporation by 85-90%
 - ◇ Each ball comes fully assembled and costs 36 cents
 - ◇ The balls were expected to save \$250 million compared to other means to comply with clean-water laws
 - ◇ The balls were also expected to save 300 million gallons of water otherwise lost to evaporation

Policy: “If you see something, do something”

Tackling Water Loss – City of Lacombe, AB

- ◆ In 2021, the city conducted a water audit to understand its water loss situation and establish a baseline
- ◆ The audit pinpointed excessive water usage in a chlorine analyzer within a pump house that draws water from the reservoir, analyzes it, then discards the water.
- ◆ From the audit, the city was able to switch to a more efficient water device.

What can be
done to
support
wildfires and
what is
happening in
industry ...





Resources To Utilize

Fire Smart™ Canada is a national program that helps Canadians increase neighborhood resilience to wildfire and minimize its negative impacts.



DROUGHT/FIRE/FLOODS



Floods: 3 Key Points

- ◆ It takes two people about 1 hour to fill and place 100 sandbags - Caribou Regional District, BC
- ◆ Simple polyethylene sandbags might only last as little as 6 to 12 months if stored in direct sunlight

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INDUSTRIAL & CONSTRUCTION SUPPLIES

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- ◆ Worker Safety - 1/2 to 2/3 full...never throw, use **brigade line** instead

Solutions Abound to Support



Whatever The Situation...

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- ◆ Delineators
- ◆ Signage and Sign Stands
- ◆ Message/Arrow Board Trailers
- ◆ Permanent Dynamic Message Signs
- ◆ Alternate Routes Systems
- ◆ Automated Queue Warning
- ◆ Automated Flood Detection System
- ◆ Anti-Terrorism Barriers
(permanent/temporary)

Whatever The Situation...

solutions for emergency and planned projects



20kW ▶ 400kW TOWABLE GENERATORS

500kW ▶ 2MW CONTAINER GENERATORS



Regional District of Central Kootenay Water Meter Vault's 2024

Water resource tracking and billing



Whatever The Situation...

- ◆ Rain Tanks
- ◆ “Billable Water”
- ◆ Water Quality Units
- ◆ Sediment and Erosion Control
- ◆ Deep Roots Silva Cells
- ◆ Sanitary/ water pipe fitting’s

* Whatever you do, do something. Doing something is better than had you done nothing.

* Know a friend before you need a friend.

* Time is the most precious commodity.





QUESTIONS?

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Local Emergencies and Disasters NOTES For Presentation....

- * Lake Minnewasta reservoir for Morden 1.5 meters lower than it should be.
- ◆ Quebec's fire monitoring agency, issued a warning for some parts of the province last week, the earliest in its history.
- ◆ "We have an early spring that is coming, a mild end of this winter and the snow cover that is disappearing faster than usual."
- ◆ Alberta also [declared](#) last month that its wildfire season had started, 10 days early, and B.C. [issued a notice](#) saying it was monitoring holdover fires from last year.
- ◆ The federal government recently [set aside](#) up to \$285 million over five years to help communities better handle wildfires, and is also aiming to hire [1,000 more firefighters](#).
- ◆ 232,000 people across 12 of the 13 provinces and territories were forced to evacuate
- ◆ The wildfire season traditionally runs from March 1 to Oct. 31
- ◆ A 'mega-drought' is a term increasingly used to describe persistent, multi-year drought events that stand out as especially extreme in severity, duration, or geographical size. One such event is the ongoing drought in the southwestern United States which started in 2000 and according to geophysical evidence, is the driest period in the last 1200 years. (<https://www.drought.gov/news/megadroughts-common-era-and-anthropocene-2022-11-15>) Pomeroy states that the term mega-drought starts coming into the conversation when drought conditions persist for ten years, so while western Canada is not at that stage yet, it is halfway there, and "it's time to start to really be concerned about that."

- ◆ last year's wildfire season burned 2.2 million hectares and forced the evacuation of more than 38,000 people. It also depleted our \$1.5-billion contingency, and more than 50 fires continue to burn Nate Horner Finance Minister.
- ◆ Alberta is also spending \$19 million to create a “modern, 21st-century water strategy” to increase water availability through water storage projects, conservation, data systems and stronger water policies.
- ◆ There are currently 51 water shortage advisories in place across Alberta
- ◆ 2016 wildfire in Fort McMurray, Alta., that forced more than 80,000 people to flee

Upcoming Events And Helpful Links

 23 January 2024

The Canadian National Emergency Preparedness and Climate Adaptation Convention to Take Place September 24-26, 2024 in Ottawa

CEPCA and dmG events to connect all levels of government, industry experts and thought leaders to collaborate on emergency mitigation, preparedness and climate adaptation

- ◆ [MB Wildfire - FireView \(gov.mb.ca\)](http://gov.mb.ca)
- ◆ [North American Seasonal Fire Assessment and Outlook \(nifc.gov\)](http://nifc.gov)