



Drought Monitoring in British Columbia

SEPTEMBER 30TH, 2020

ASHLEE JOLLYMORE – RIVER
FORECAST CENTRE

BC PROVINCIAL GOVERNMENT



British Columbia Drought Response Plan

Updated June 2018

Agencies Involved in BC Drought Response

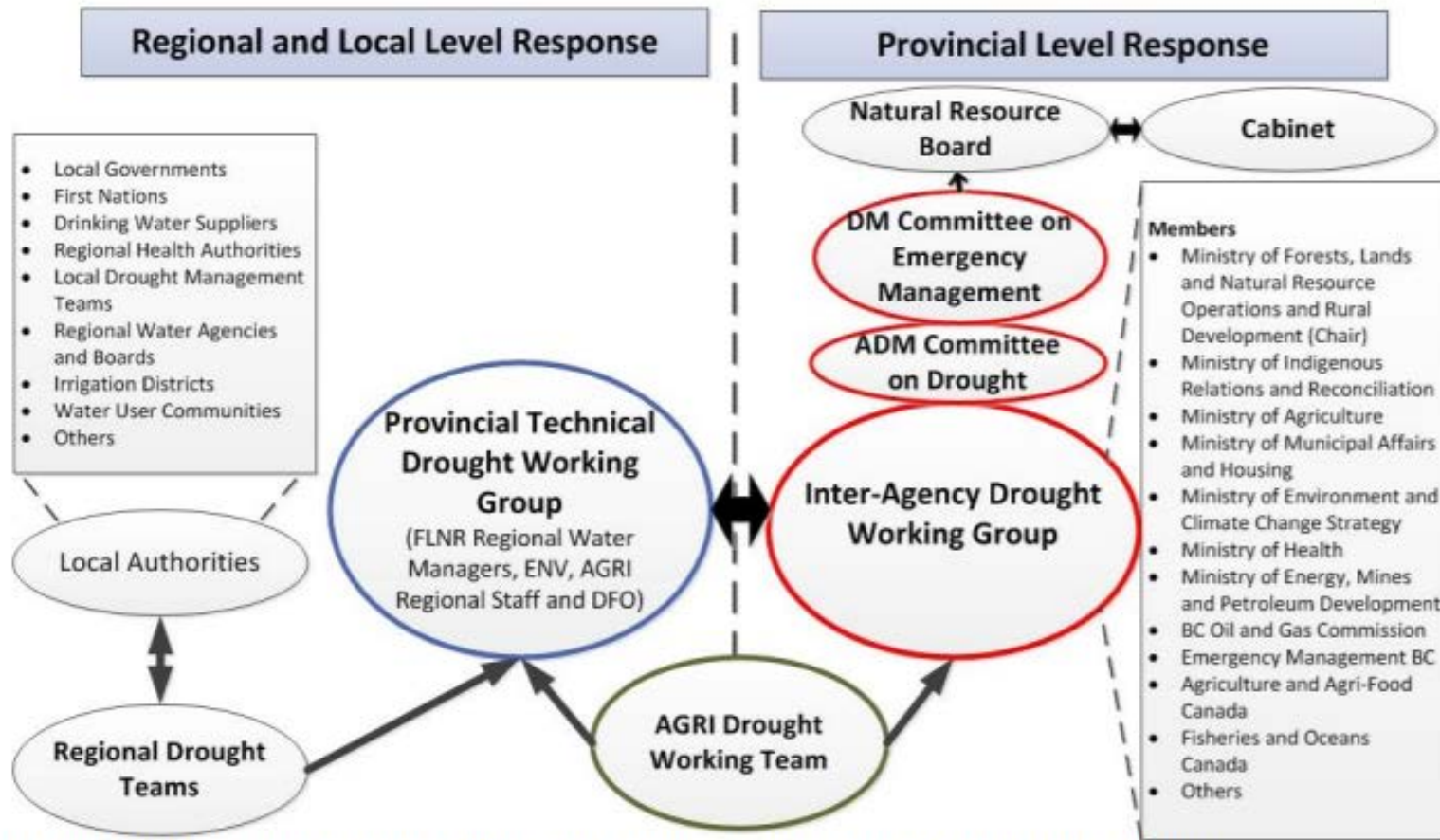


Figure 1. Key coordinating bodies and groups involved in BC drought response.

Table 2: Drought Levels Summary

Level	Conditions	Significance	Objective
1 (Green)	Normal Conditions	There is sufficient water to meet human and ecosystem needs	Preparedness
2 (Yellow)	Dry Conditions	First indications of a potential water supply problem	Voluntary conservation
3 (Orange)	Very Dry Conditions	Potentially serious ecosystem or socioeconomic impacts are possible	Voluntary conservation and restrictions
4 (Red)	Extremely Dry Conditions	Water supply insufficient to meet socio-economic and ecosystem needs	Voluntary conservation, restrictions and regulatory action as necessary.

Table 4: Early Season Forecast Core Indicator Thresholds

	Level 1 (Green)	Level 2 (Yellow)	Level 3 (Orange)	Level 4 (Red)
Basin Snow Measures±	>80%	80-65% of normal	<65% of normal	
Seasonal Volume Runoff Forecasts	>80%	80-61% of normal	60-45% of normal	<45% of normal

±: Basin Snow Measures would not normally be relied on as a basis for elevating drought response to Level 4 (Red). However, the Inter-Agency Drought Working Group may decide that this elevation is warranted in the case of exceptionally low results.

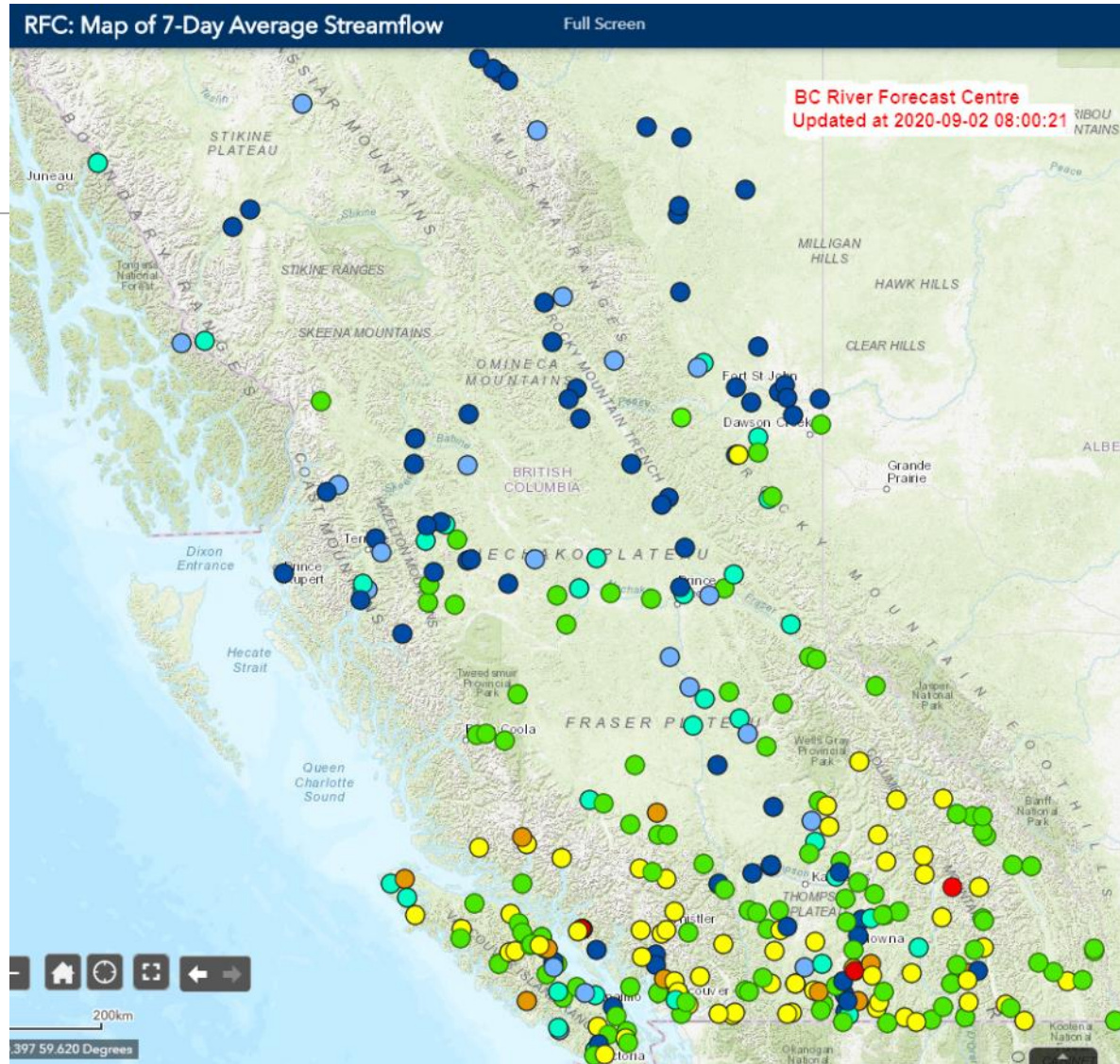
Table 4: Core Indicator Thresholds

	Level 1 (Green)	Level 2 (Yellow)	Level 3 (Orange)	Level 4 (Red)
Basin Snow Measures±	>80%	80-65% of normal	<65% of normal	
Seasonal Volume Runoff Forecasts	>80%	80-61% of normal	60-45% of normal	<45% of normal
30 Day % of Average Precipitation ¥	>80%	80-51% of average	50-25% of average	<25% of average
7-Day Average Stream flow	>25 percentile	11-25 percentiles	6-10 percentiles	<6 percentiles

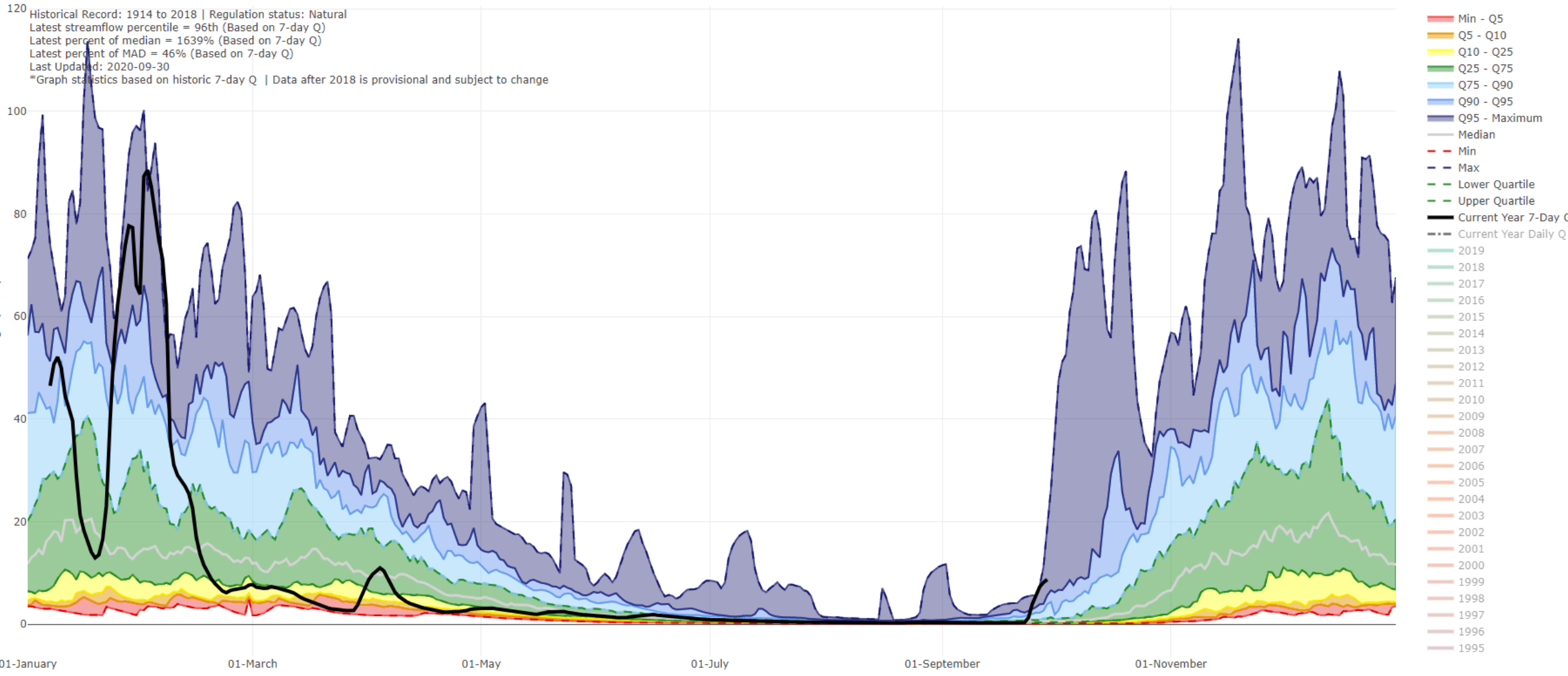
Supplemental Indicators	Aquifer Levels Individual Indicator Hydrometric Station Results Multi-Year Trends Reservoir Inflows Wildfire Danger Class Ratings
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Note: these are different from the criteria used for the regulatory tools under the WSA.

Current Streamflow Percentiles – 7 Day

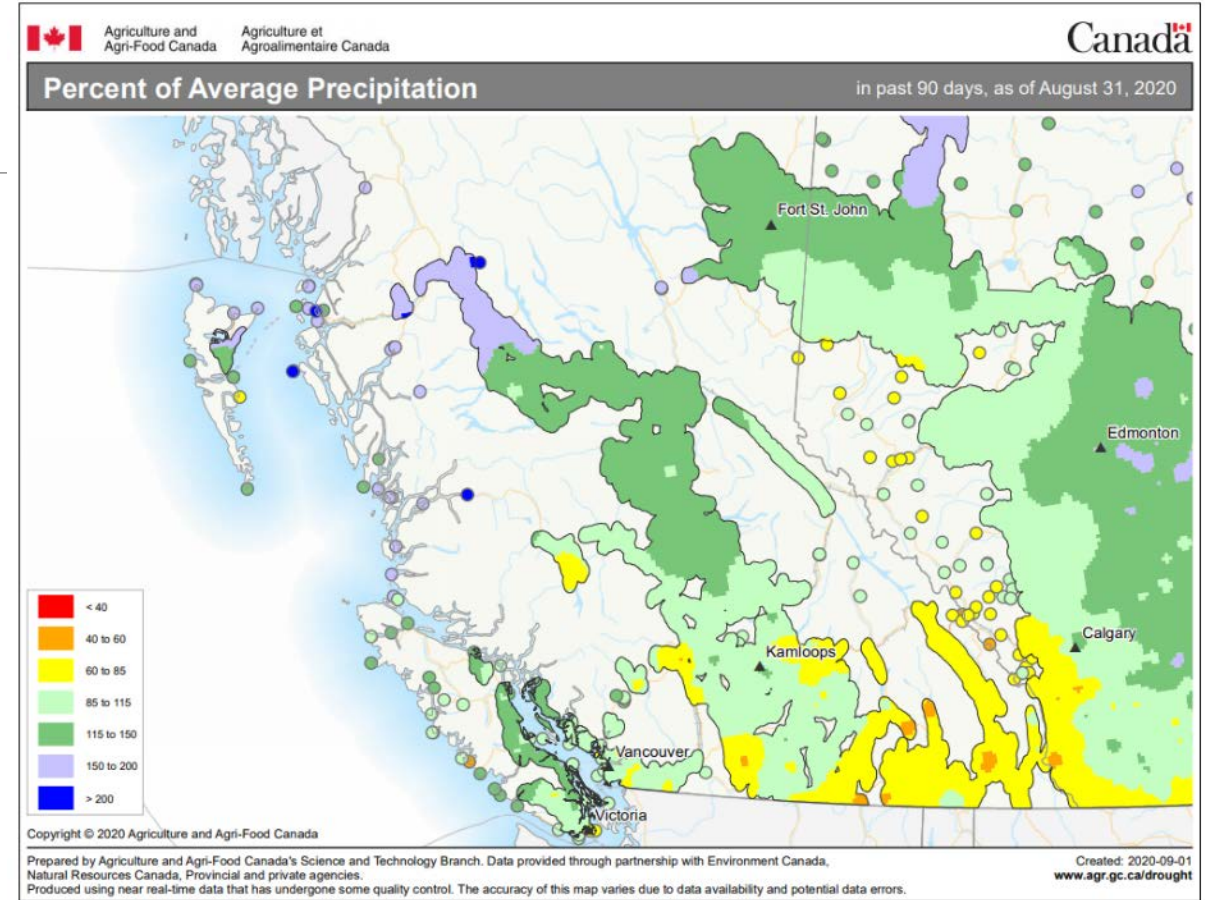
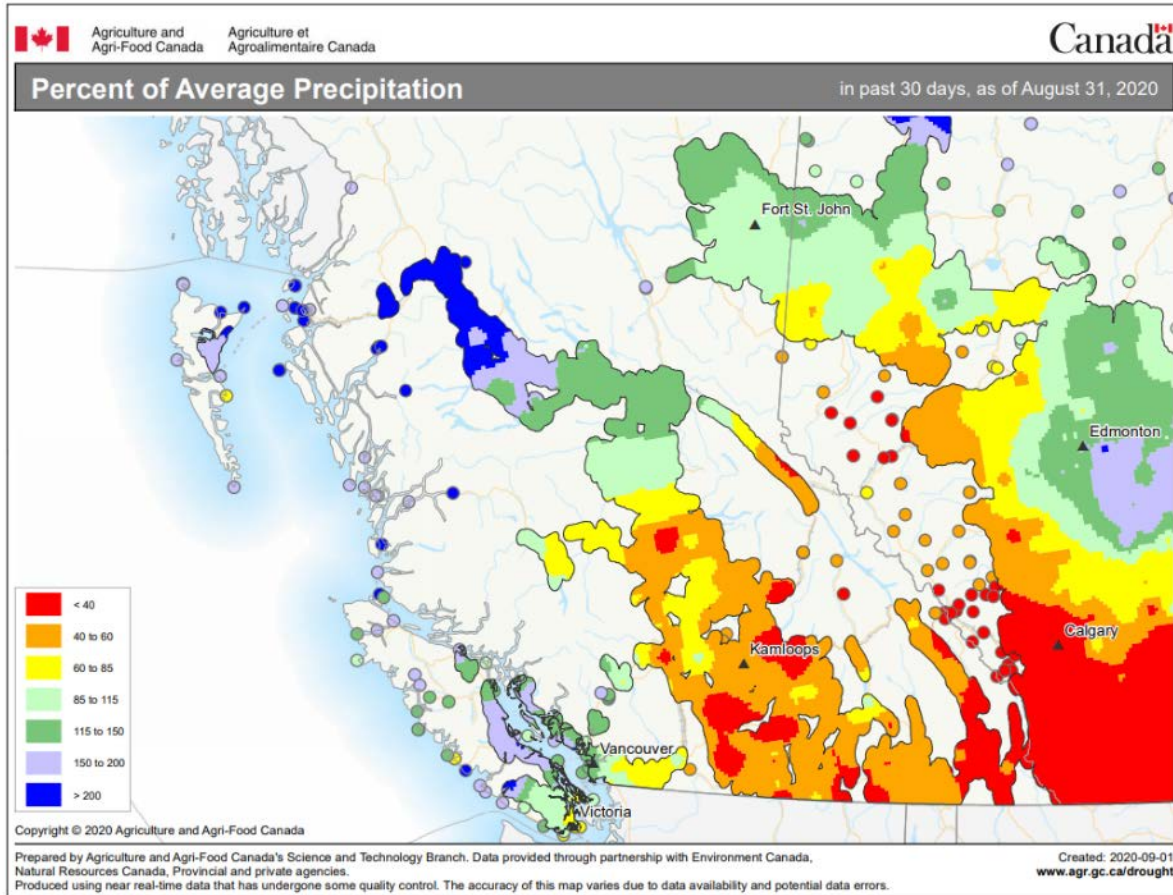


Seven Day Mean Streamflow for 08HA003 KOKSILAH RIVER AT COWICHAN STATION



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Precipitation (past 30 days)




- Drought in BC
- BC Drought Map**
- West Coast Stream Watch
- Thompson Okanagan Stream Watch
- Historical BC Drought Information
- 7-Day Average Streamflow Map

Navigation icons: list, grid, edit, print, location, info, search. Search bar: Find address or place



Drought Information Summary

	British Columbia Drought Levels	32
1 - Normal		28
2 - Dry		4

Drought in BC

BC Drought Map

West Coast Stream Watch

Thompson Okanagan Stream Watch

Historical BC Drought Information

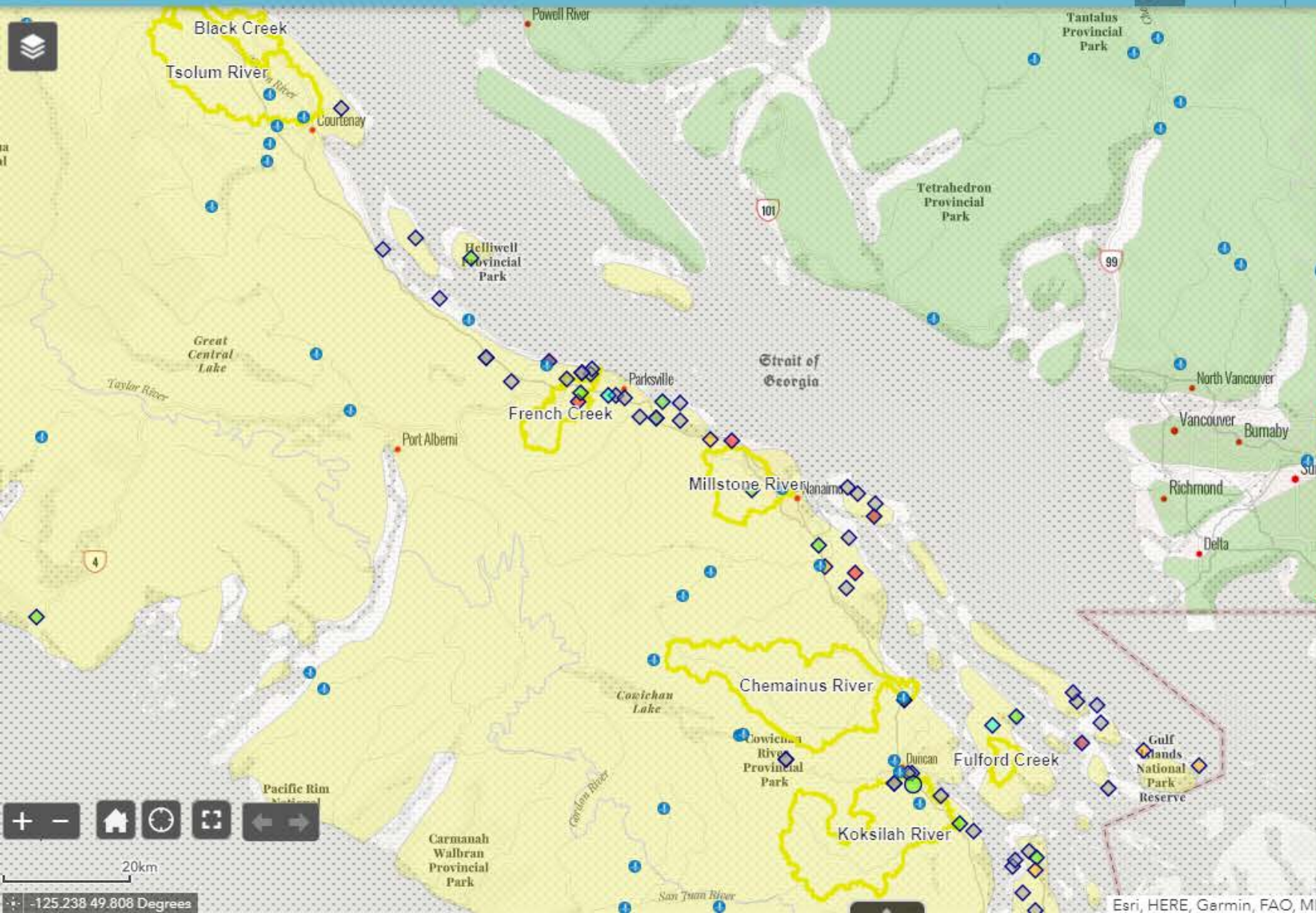
7-Day Average Streamflow Map



BC DIP: West Coast Stream Watch

Drought Information Website

Navigation icons: Home, Layers, Full Screen, Print, Info, Location, Search. Search bar: Find address or place



Legend

- FLNR Real-time Station Discharge**
 - Green circle
- Water Survey of Canada - Water Monitoring Station**
 - Blue circle
- West Coast Stream Watch Groundwater Level Compared to Historic**
 - High (Dark blue diamond)
 - Much Above Normal (Light blue diamond)
 - Above Normal (Medium blue diamond)
 - Normal (Green diamond)
 - Below Normal (Yellow diamond)
 - Much Below Normal (Orange diamond)
 - Low (Red diamond)
 - Not Calculated (White diamond)
- West Coast Stream Watch Watershed Conservation Status**
 - Normal Conservation (Green outline)
 - Voluntary Reduction (Yellow outline)
 - Maximum Conservation (Orange outline)
 - Regulatory Conservation Considered (Red outline)
 - Mandatory Conservation Implemented (Dark red outline)

Map navigation controls: Zoom in (+), Zoom out (-), Home, Refresh, Full Screen, Pan (Left/Right arrows)

20km scale bar

-125.238 49.808 Degrees

Esri, HERE, Garmin, FAO, ME

natural
ons
ment

Water Sustainability Act

Enhanced tools for regulating during drought in BC Water Sustainability Act (came into force Feb 2016)

Whose use can be restricted under FITFIR

- [Section 22, Water Sustainability Act](#)

Protection of Critical Environmental Flow Thresholds

A critical environmental flow threshold is a short-term flow threshold, below which significant or irreversible harm to the stream's aquatic ecosystem is likely to occur.

Once a declaration under s. 86 of WSA of a significant water shortage (SWS) is in place for a designated area, and a critical environmental flow threshold (CEFT) order under s.87 of the WSA is in place for an identified water source within that area, CEFT has precedence over water rights (other than for essential household use as noted below).

- [Section 1 definition of Critical Environmental Flow Protection Orders](#)
- [Sections 86 and 87, Water Sustainability Act](#)

Future works

3 - PROPOSED 6 Total Levels

Level	Conditions	Significance	Objective
0	Normal Conditions	There is sufficient water to meet human and ecosystem needs	Preparedness
1	Dry Conditions	First indications of drought conditions relevant to water supply for human and ecosystem needs; human and ecosystem impacts still unlikely at this stage.	Voluntary conservation
2	Moderately Dry	Moderate ecosystem or socioeconomic impacts possible due to dry conditions	Voluntary conservation with restrictions where appropriate
3	Severely Dry	Potentially serious ecosystem or socioeconomic impacts are possible	Voluntary conservation and restrictions
4	Extremely Dry Conditions	Water supply insufficient to meet socio-economic and ecosystem needs	Voluntary conservation and restrictions coupled with regulatory action within extremely dry watersheds
5	Exceptionally Dry Conditions	Water supply insufficient to meet socio-economic and ecosystem needs; historically low conditions in streams	Voluntary conservation and restrictions coupled with regulatory action within extremely dry watersheds



Thank you and questions!