



RioTinto

Nechako Reservoir / River / Freshet Information Sharing – Community Leaders

7 June 2023

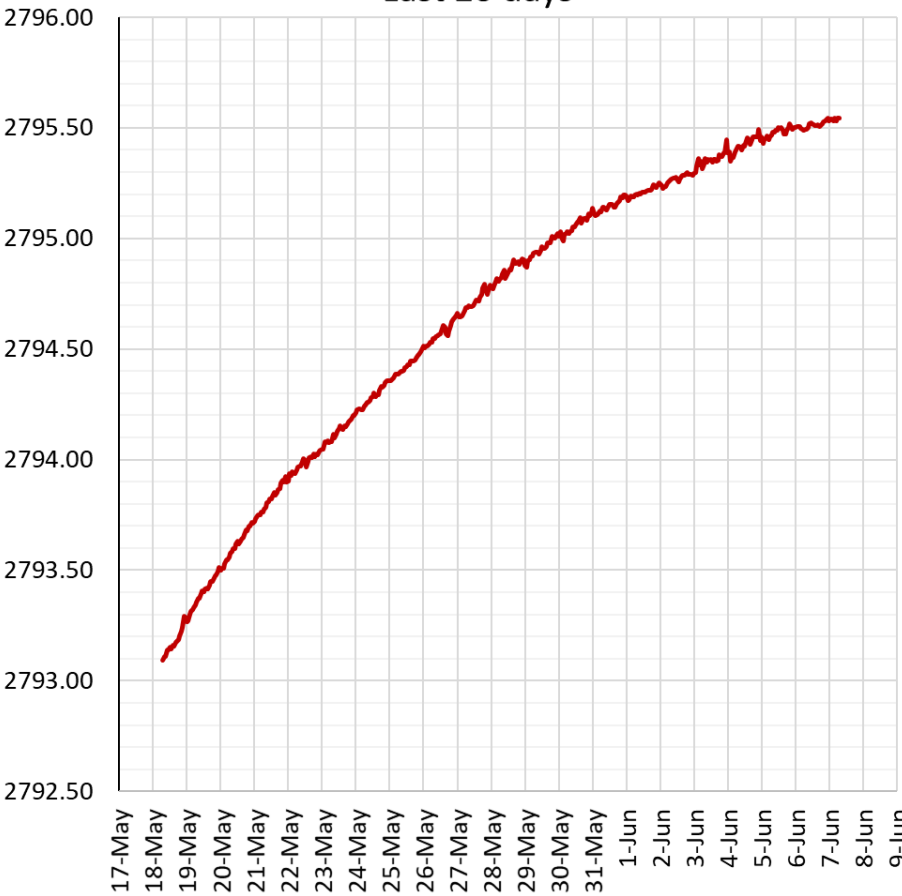
Prepared by Andrew Czornohalan & Simon Matte

Reservoir Elevation - Last 20 days

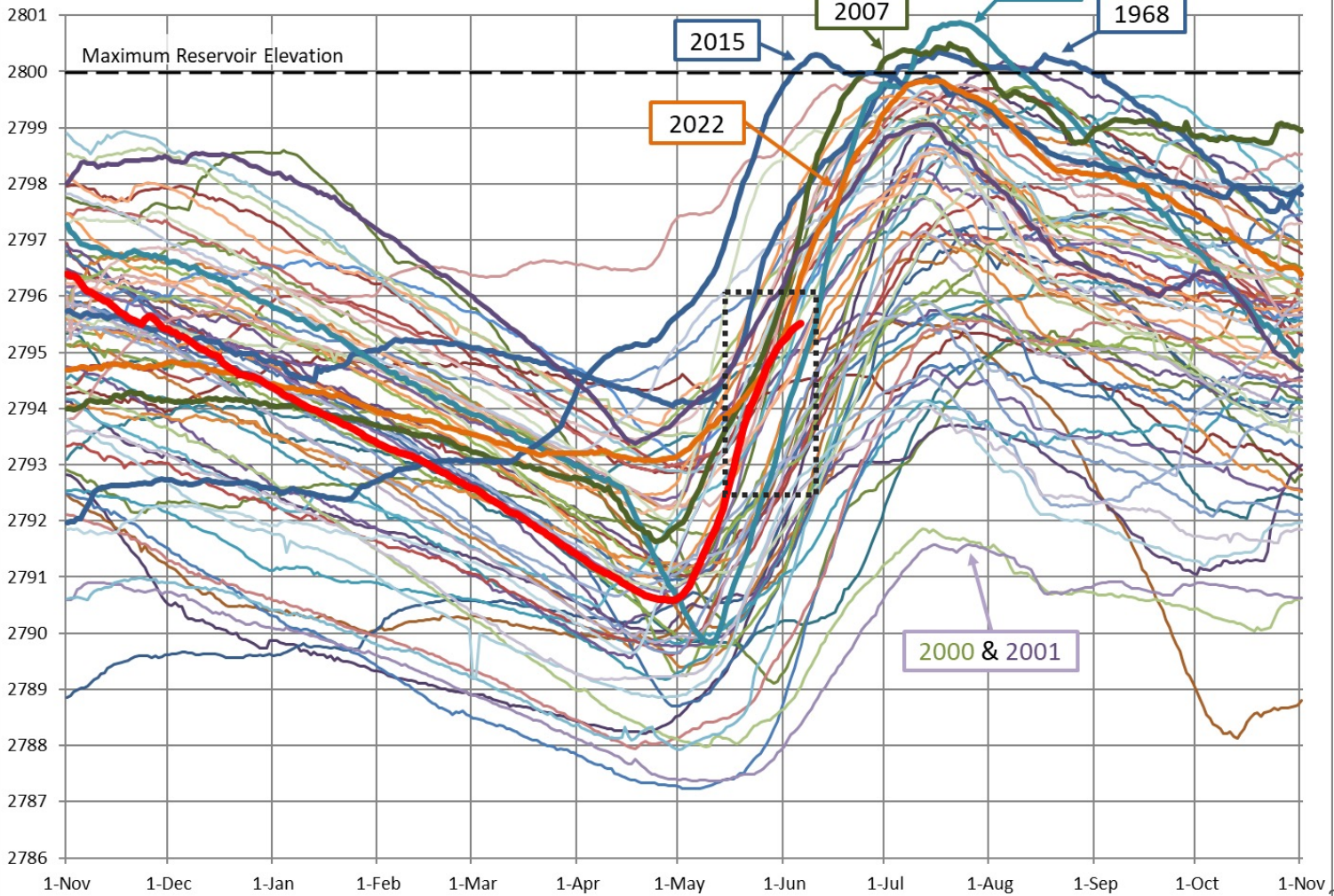
Current reservoir level

2795.55 ft

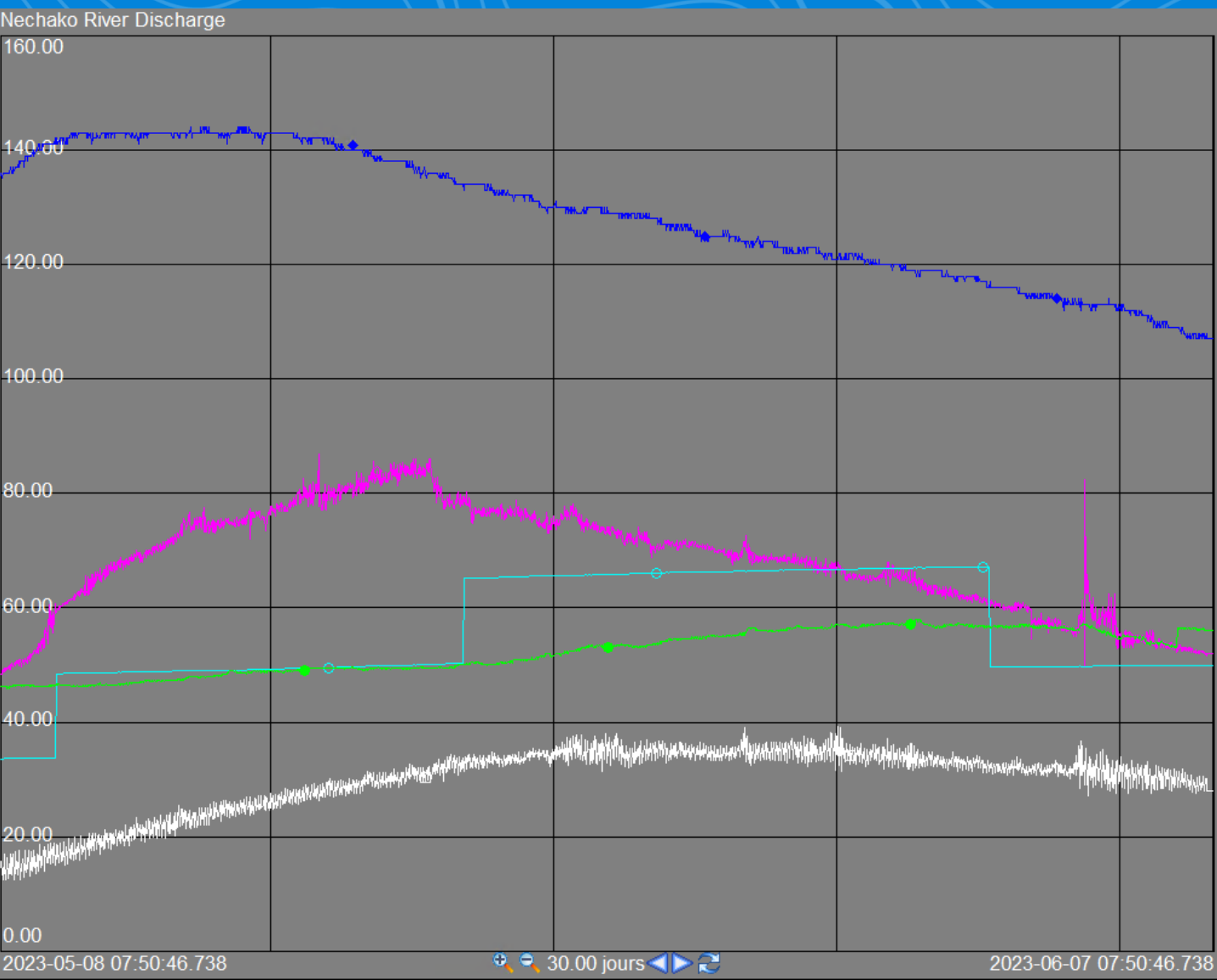
Last 20 days



Nechako Reservoir Historical Elevation since 1957



Flows - Last 30 days

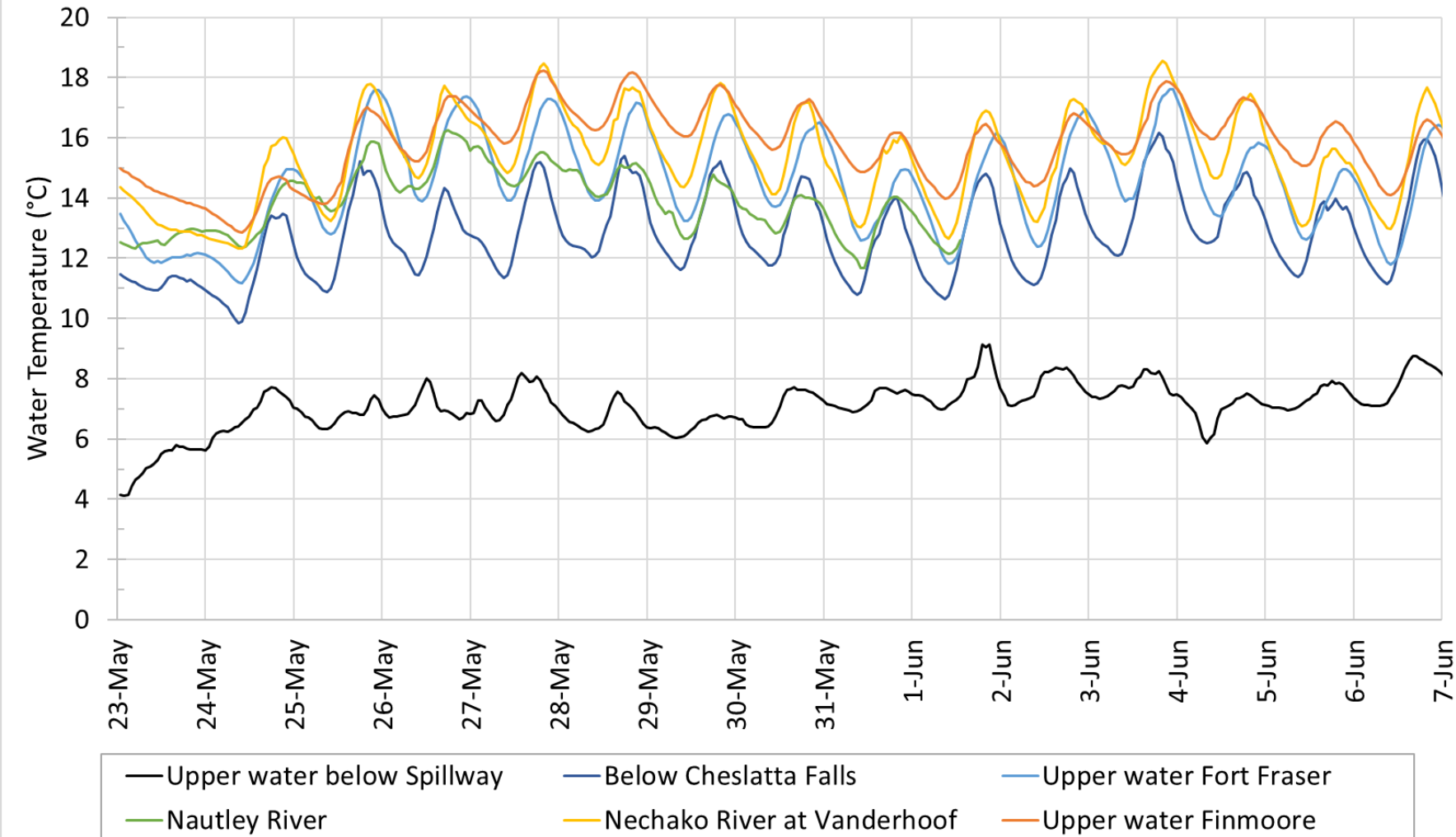


Current values (m³/s)	
Vanderhoof	107
Skins Lake	50
Cheslatta Falls	56*
Nautley	52
Stellako	28

*Visited by WSC June 5th

Observed Water Temperatures – Last 20 days

Water Temperatures - Last 20 days

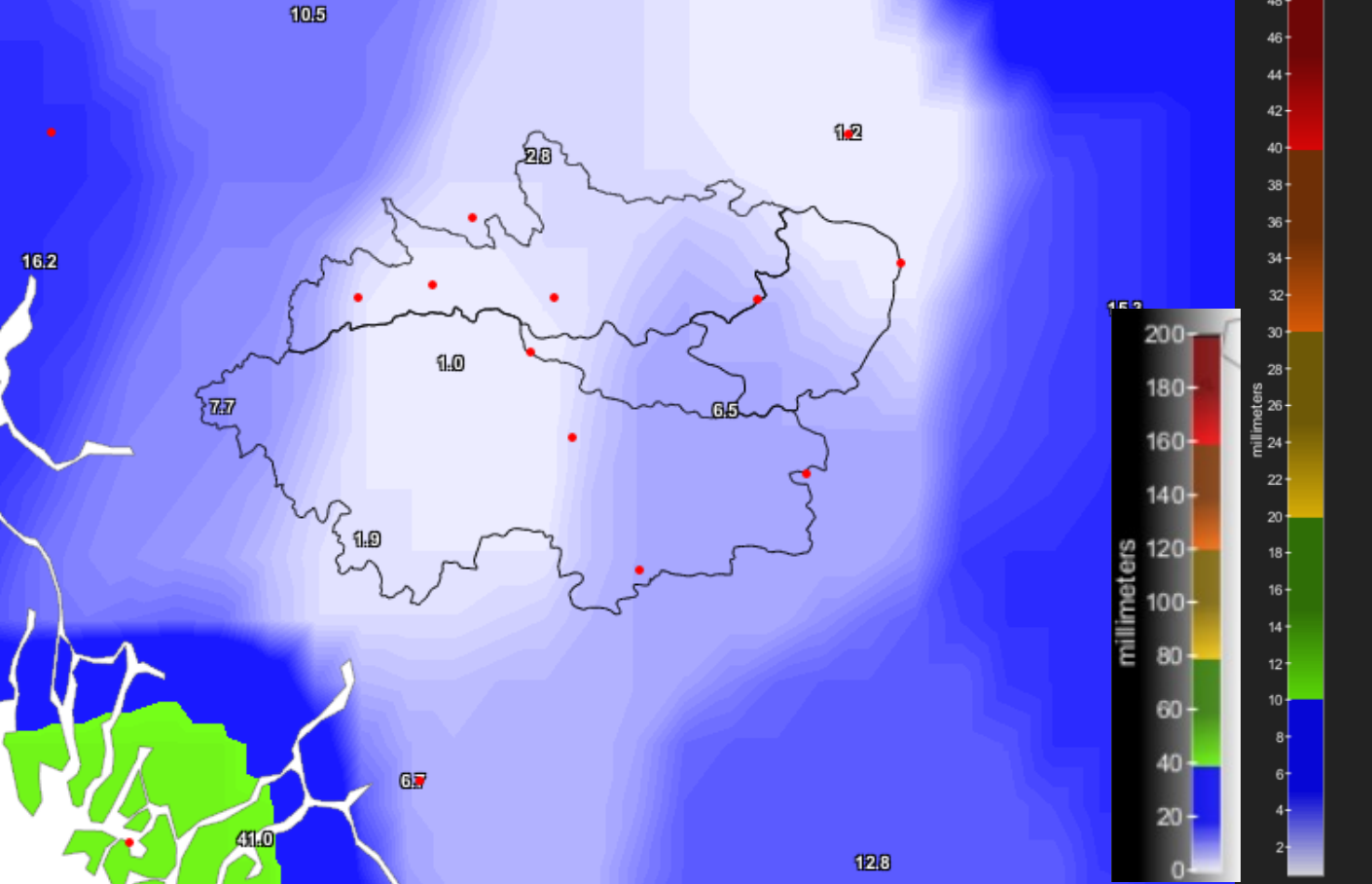


Average – Last 24h (°C)

Upper water below spillway	7.9
Nechako River below Cheslatta Falls	13.3
Upper water Fort Fraser	14.0
Nautley River	N/A
Nechako River at Vanderhoof	15.1
Upper water Finmoore	15.3

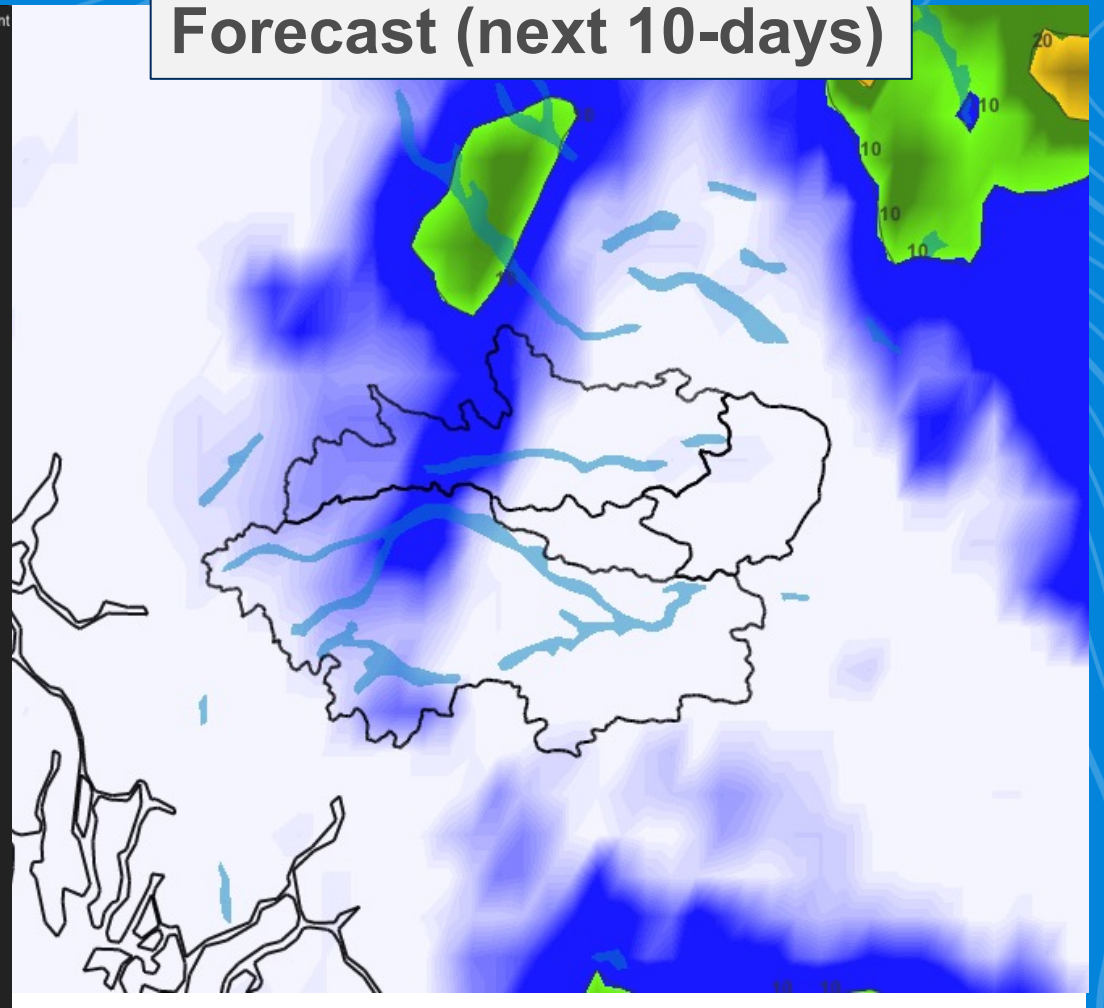
Past & Future cumulative precipitation

Observation (last month)



Nechako Reservoir watershed area-average = 6 mm
Total precipitation for May 2023 = 11m (28% LTA)

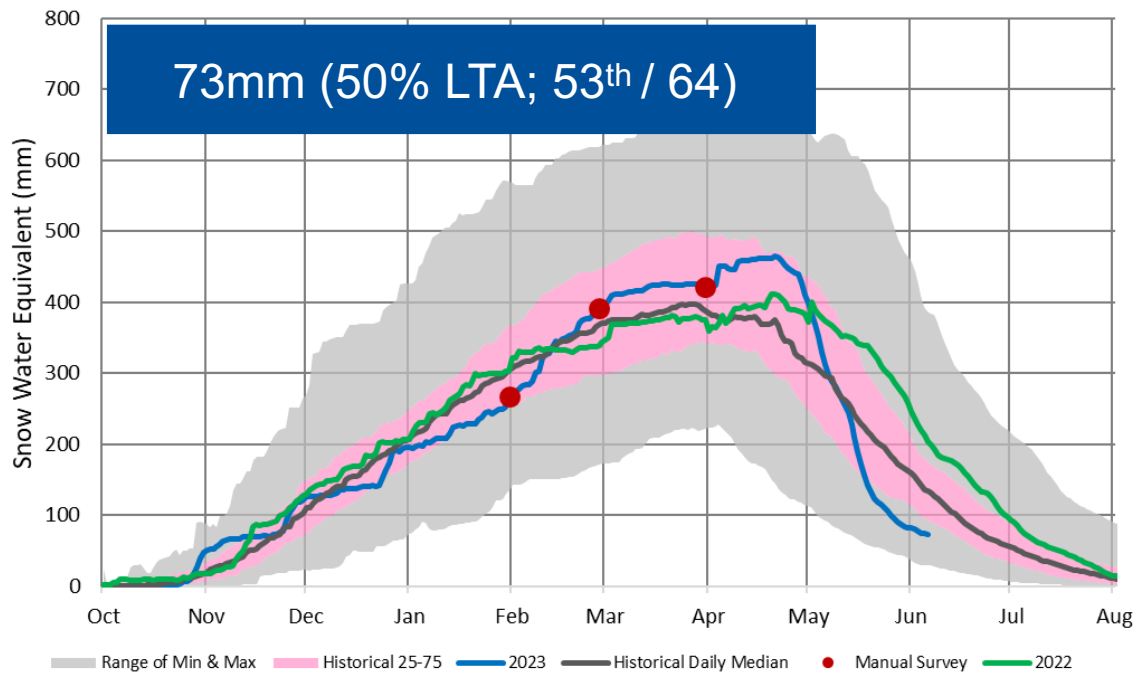
Forecast (next 10-days)



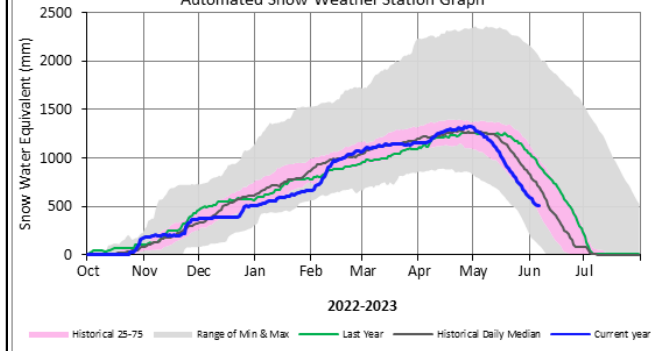
Nechako Reservoir watershed area-average = 0-5 mm

Current Snowpack

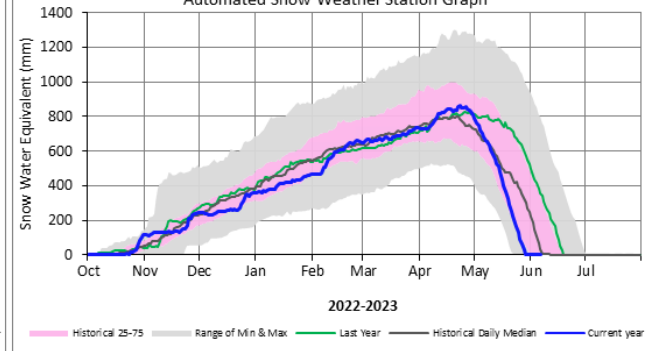
Nechako Reservoir Snowpack



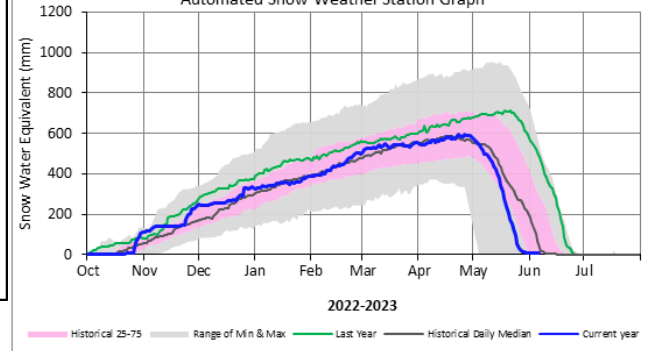
Tahtsa Lake
Automated Snow Weather Station Graph



Mount Pondosy
Automated Snow Weather Station Graph

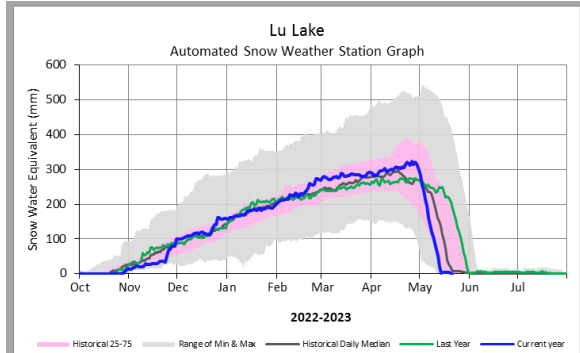


Mount Wells
Automated Snow Weather Station Graph



Station	Current Value (mm)	LTA* (mm)	%LTA*	Percentile Rank*
Tahtsa Lake	507	761	67%	30%
Mount Pondosy	3	173	2%	21%
Mount Wells	7	165	4%	39%

* (1992-2022)



Station	Current Value	%LTA*
Lu Lake	0	0%

* (1997-2022)

Weather Forecast

Marilla Weather



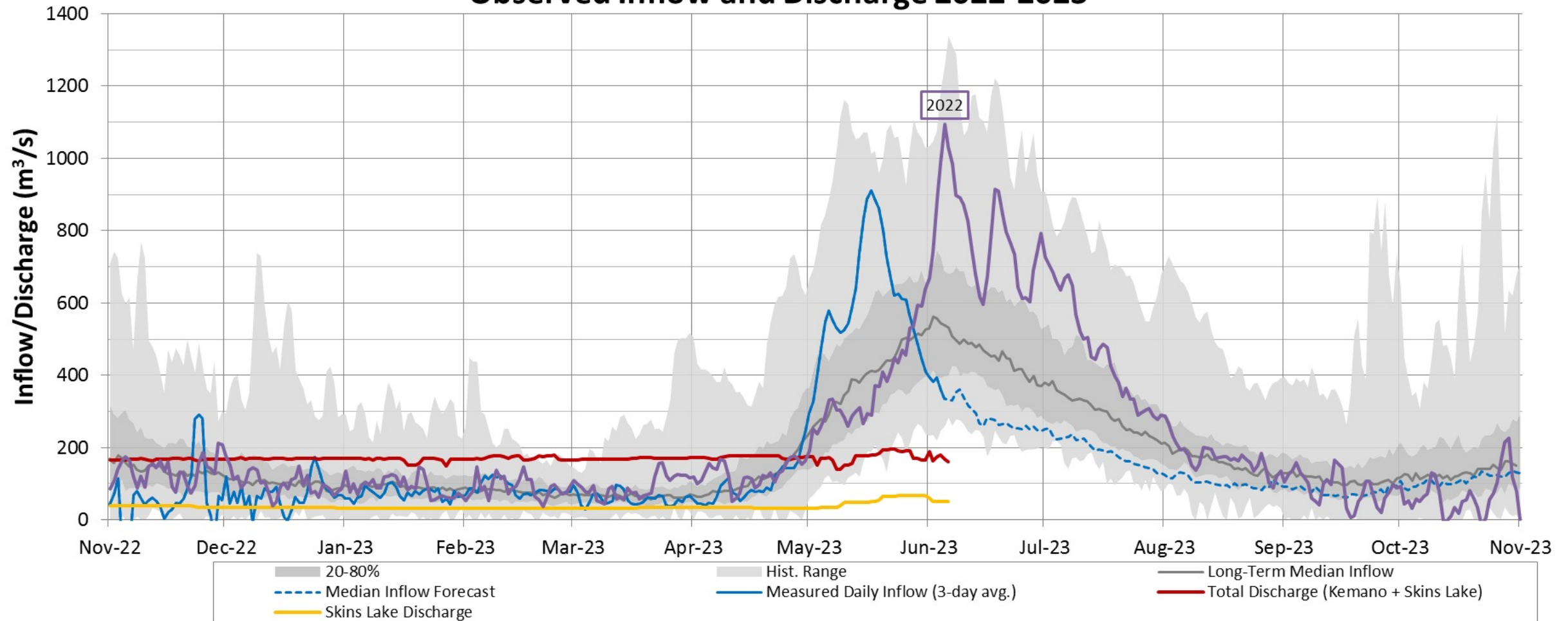
Sources
Base: CanVec 1:250,000, NRCan 2018
Digital elevation model: CDEM, NRCan 2017
Cartographie: GCN, 2019-08

	Thu 06/08 Mainly sunny	Fri 06/09 Mainly cloudy	Sat 06/10 Mainly sunny	Sun 06/11 Sunny	Mon 06/12 Mainly sunny	Tue 06/13 Sunny	Wed 06/14 Mainly sunny
	29°	24°	22°	24°	24°	18°	17°
Feels like	29	24	22	24	24	18	17
Night	13°	12°	7°	9°	10°	5°	5°
POP	20 %	30 %	20 %	0 %	20 %	10 %	20 %
24 Hr Rain	-	<1 mm	-	-	-	-	-

	Thu 06/15 A mix of sun and clouds	Fri 06/16 A mix of sun and clouds	Sat 06/17 Cloudy with showers	Sun 06/18 A mix of sun and clouds	Mon 06/19 Mainly cloudy	Tue 06/20 A mix of sun and clouds	Wed 06/21 Mainly sunny
	19°	19°	17°	18°	18°	18°	19°
Feels like	19	19	17	18	18	18	19
Night	6°	6°	7°	7°	7°	7°	8°
POP	30 %	20 %	60 %	30 %	30 %	30 %	10 %
24 Hr Rain	-	<1 mm	<1 mm	-	-	-	-

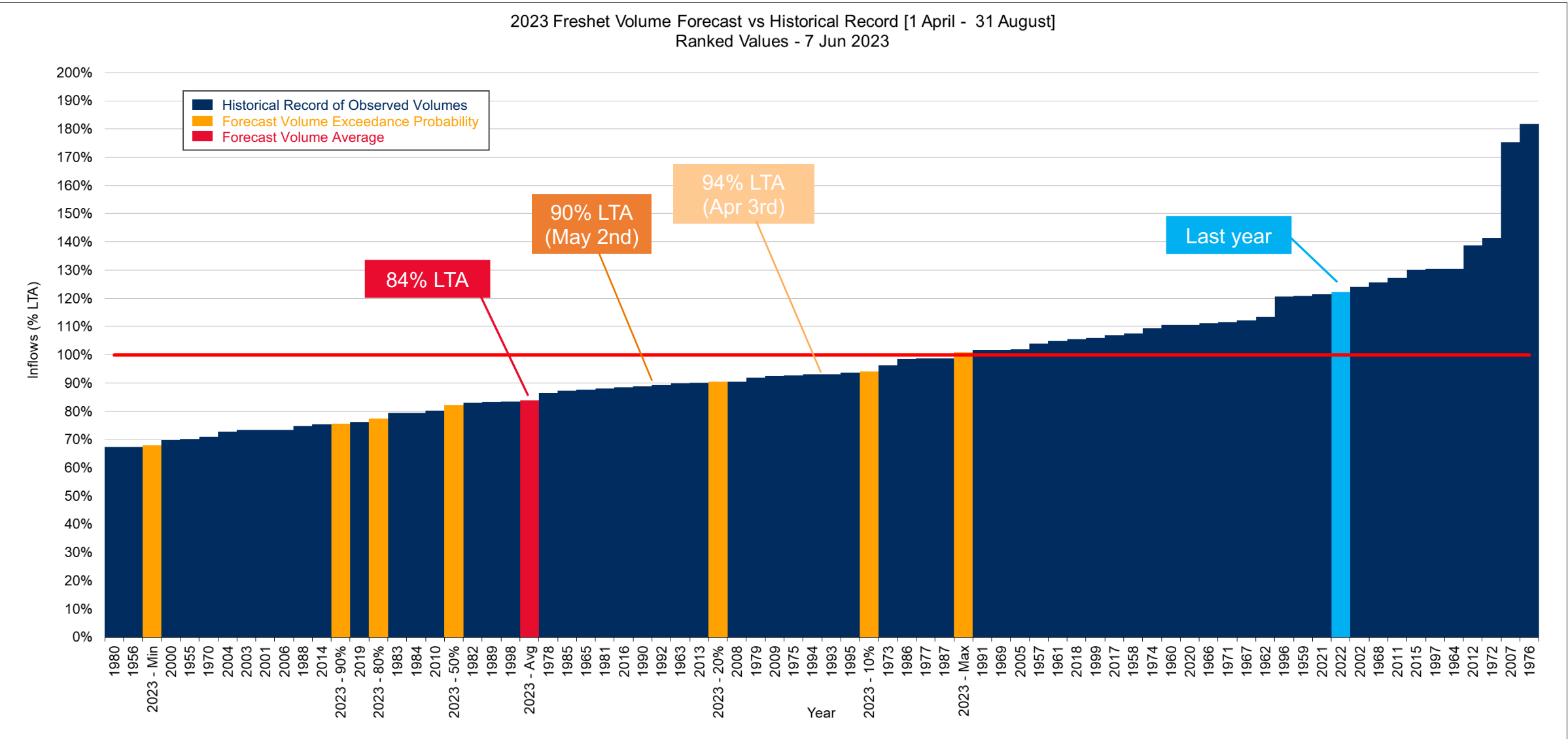
Observed Inflows & Discharge vs Historical

Nechako Reservoir Operation
Observed Inflow and Discharge 2022-2023



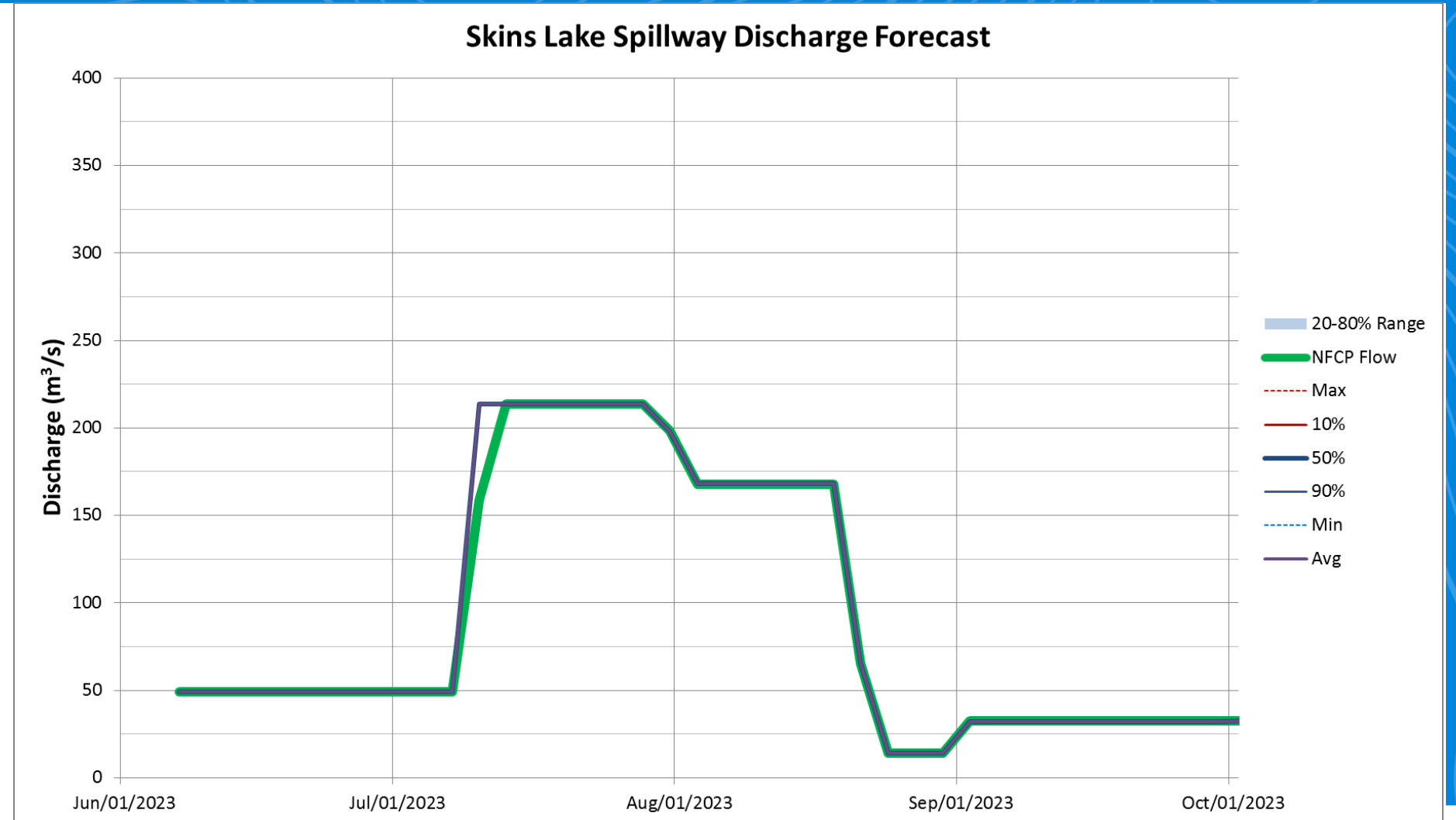
Spring Freshet Inflow Volume

2023 Freshet Volume Forecast vs Historical Record [1 April - 31 August]
Ranked Values - 7 Jun 2023



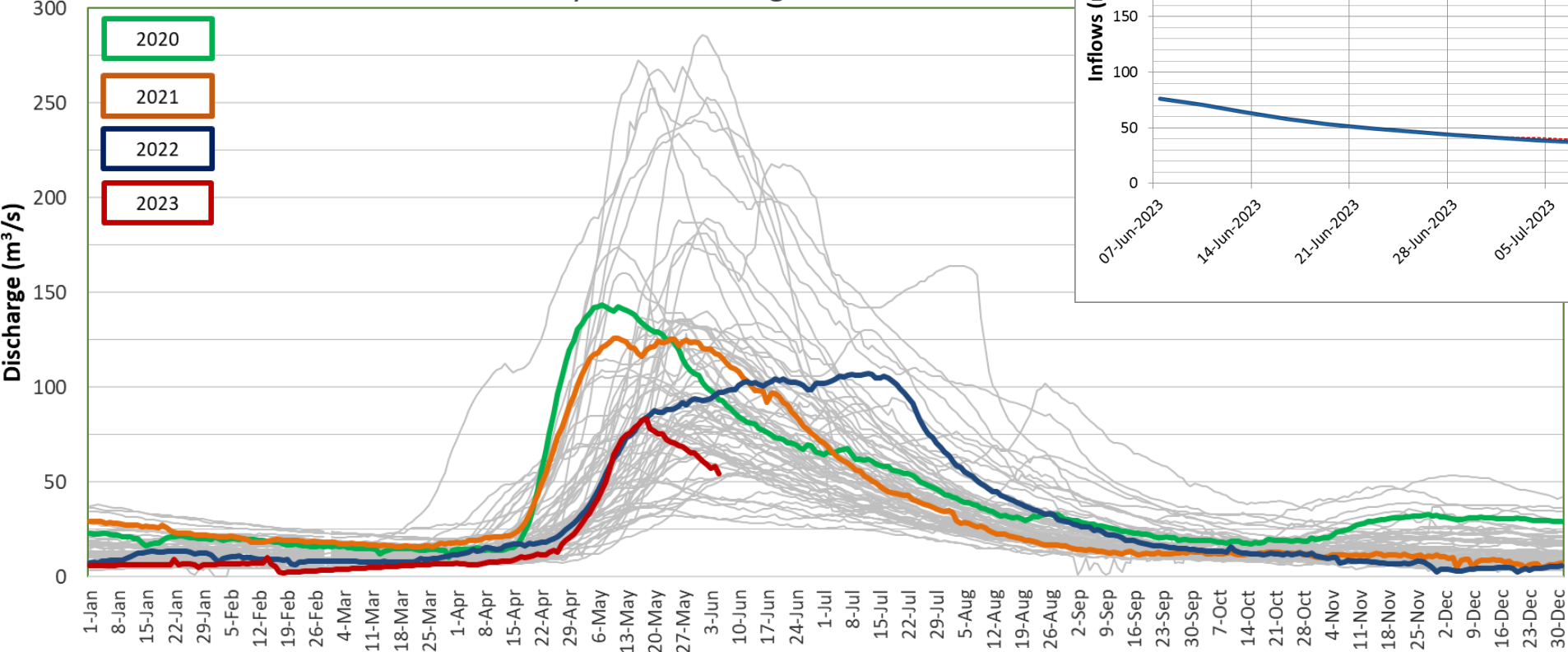
Skins Lake Spillway Release Forecast

- Current = **~50 m³/s**
Minimum = **49 m³/s**
- Change from 67 m³/s to 50 m³/s last Thursday

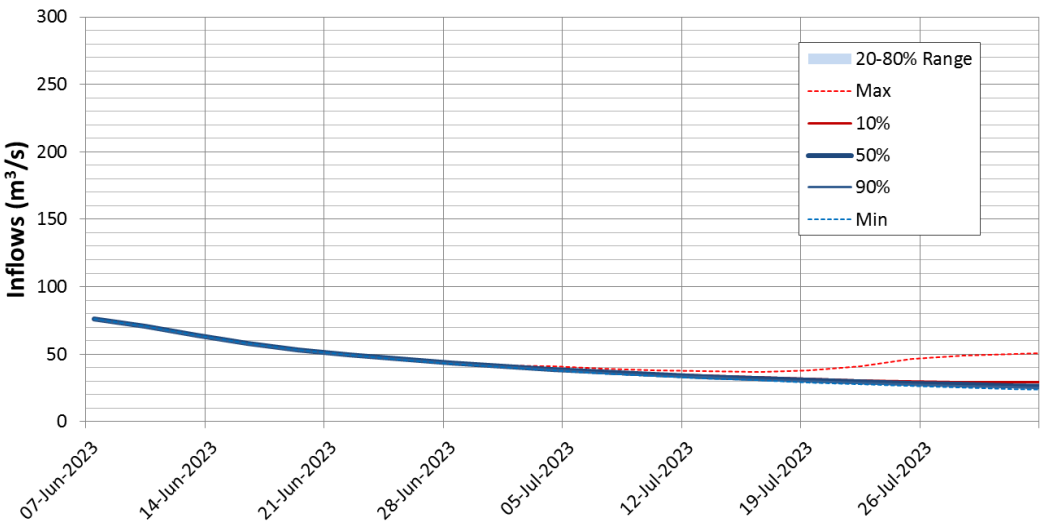


Nautley River Flows, Forecast

Nautley River discharge 1952-2023



Expected Natural Inflow on Nautley/Nechako Rivers at Vanderhoof
(excludes discharge from Nechako Reservoir)

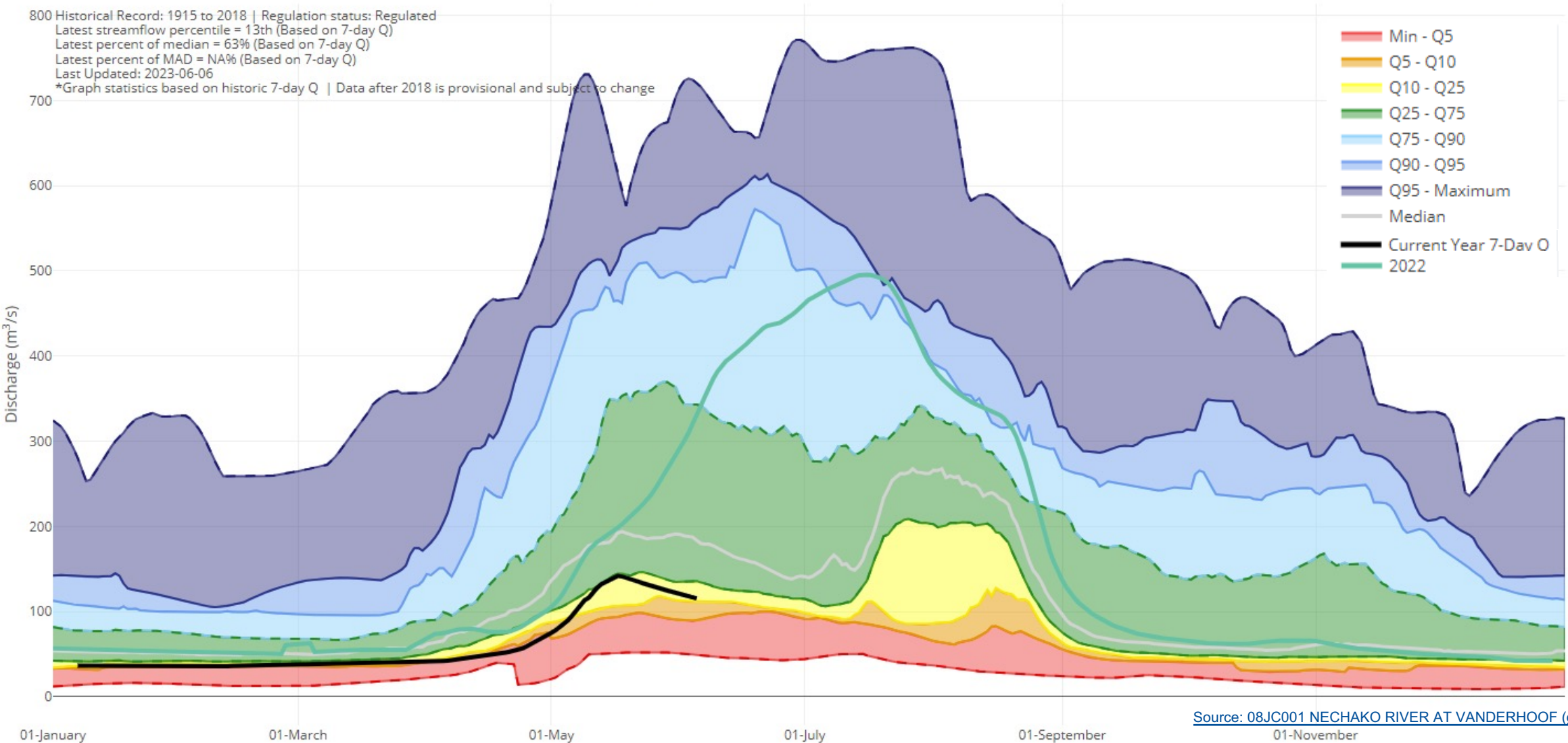


Vanderhoof

Seven Day Mean Streamflow for 08JC001 NECHAKO RIVER AT VANDERHOOF

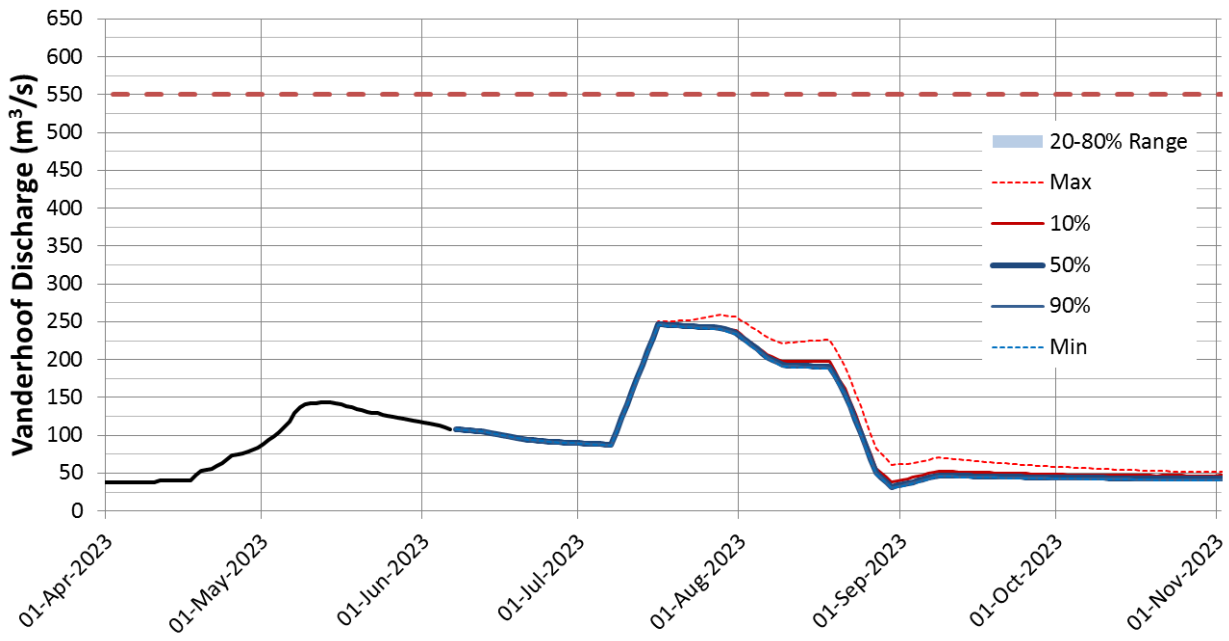
800 Historical Record: 1915 to 2018 | Regulation status: Regulated
Latest streamflow percentile = 13th (Based on 7-day Q)
Latest percent of median = 63% (Based on 7-day Q)
Latest percent of MAD = NA% (Based on 7-day Q)
Last Updated: 2023-06-06

*Graph statistics based on historic 7-day Q | Data after 2018 is provisional and subject to change

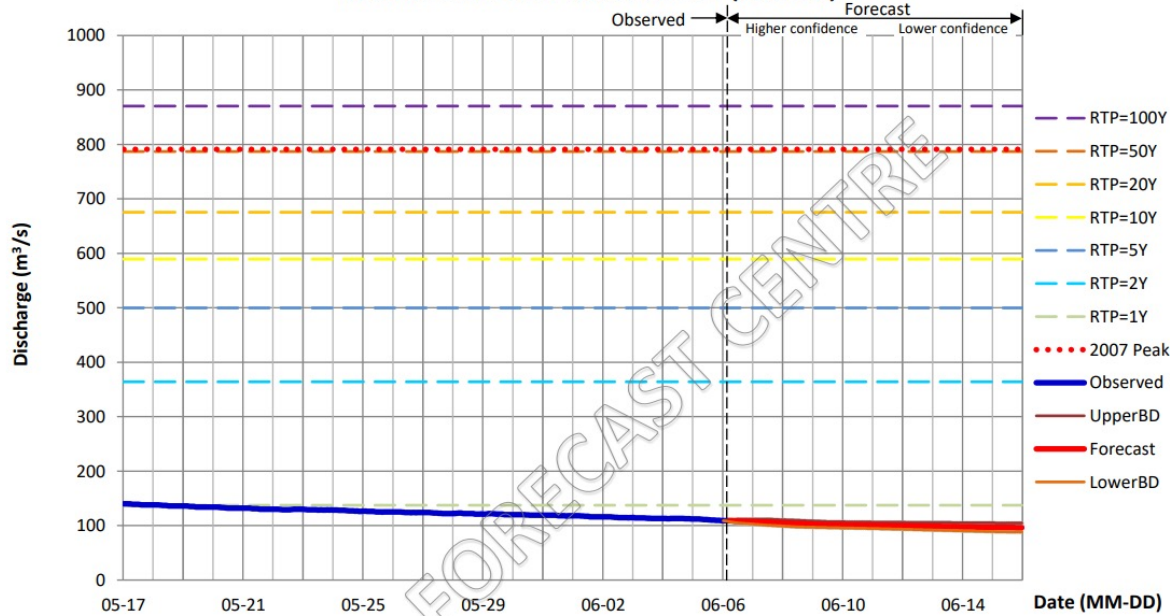


Forecast – Vanderhoof

Expected Total Discharge at Vanderhoof



NECHAKO RIVER AT VANDERHOOF (08JC001)

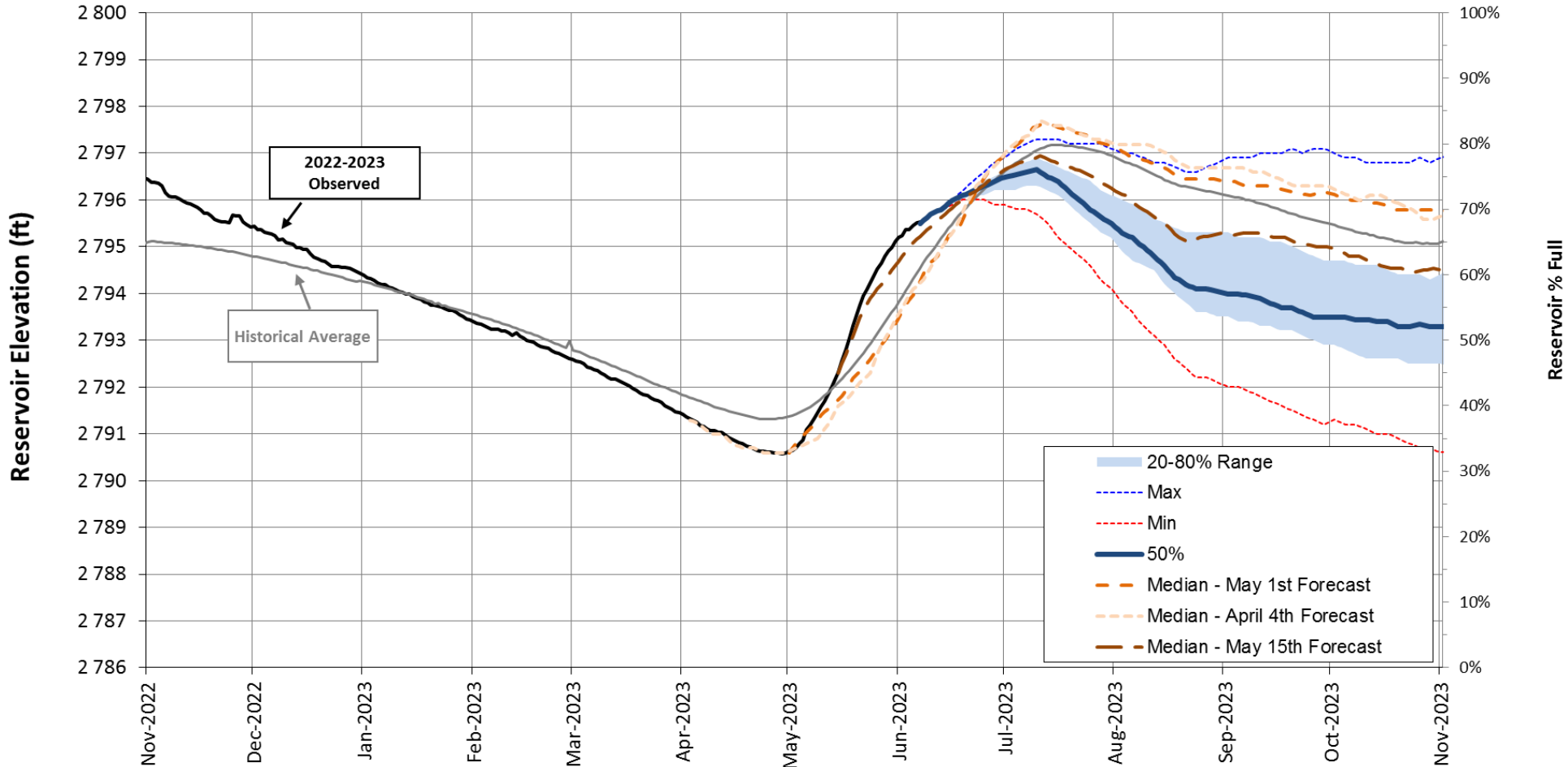


Reading at 06 AM (m³/s) Tue 2023-06-06	Forecast Daily Discharge (m³/s): AVERAGE									
	UPPER BOUND					LOWER BOUND				
	Tue 2023-06-06	Wed 2023-06-07	Thu 2023-06-08	Fri 2023-06-09	Sat 2023-06-10	Sun 2023-06-11	Mon 2023-06-12	Tue 2023-06-13	Wed 2023-06-14	Thu 2023-06-15
109.0	111.6 108.3 105.0	111.7 106.3 100.8	109.6 103.6 97.7	107.3 101.7 96.4	106.6 100.9 95.3	106.2 100.1 94.1	105.7 99.2 92.7	105.4 98.2 91.2	105.1 97.3 89.7	104.8 96.6 88.4
Color Scheme for Return Periods:										
RTP=1Y		RTP=2Y		RTP=5Y		RTP=10Y		RTP=20Y		RTP=50Y
137.4		364.1		499.7		589.4		675.5		786.9
										RTP=100Y
										870.4
										2007 Peak
										791.0
										(m³/s)

Remark: This station is labeled as "regulated", and the forecast is the sum of natural flows and extended regulated flow from 08JA017.

Reservoir Level Projection

NECHAKO RESERVOIR
Observed and Projection 2022-2023
07-Jun-2023 Projection - SDP V7.13



Expected reservoir
peak : 2796.6 ft

Updates - Next Steps – Actions



1. Model update and communications – STMP, Generation etc
2. Monitoring work in the field
3. 2023 7 Yearly Dam Safety Review underway
4. Continue to update on Smelter Re-Start currently at 90% full production
5. Confirm next meeting date & time
– **Propose July 5th**

Presentations are available on the Get Involved Nechako website under 'Our Operations'. Recordings can be requested up to 30 days following the meeting.

Feedback & Reflections

Poll

