



RioTinto

# Nechako Reservoir / River / Freshet Information Sharing – Community Leaders

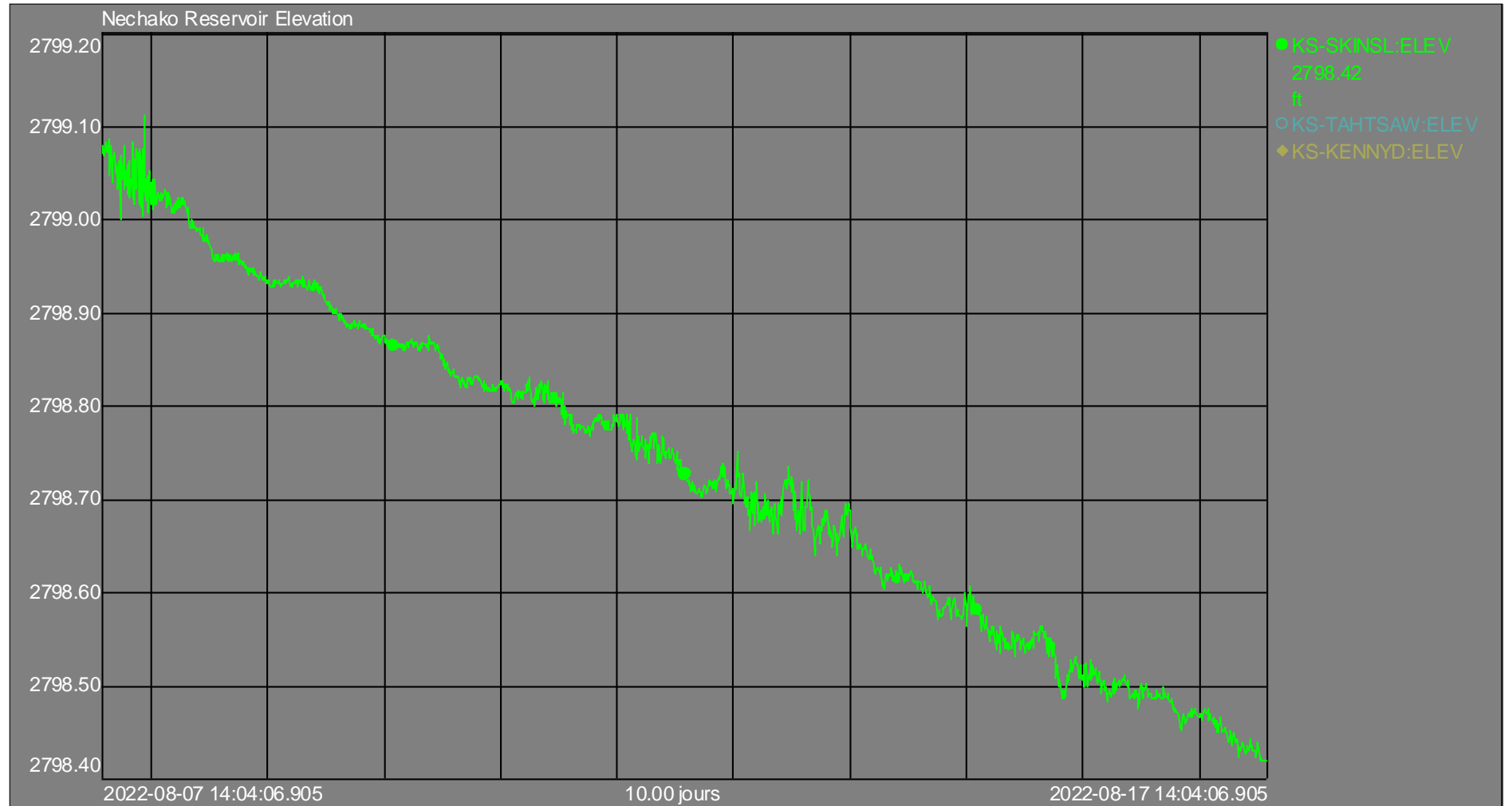
17 August 2022

Prepared by Andrew Czornohalan &  
Gabrielle Dallaire



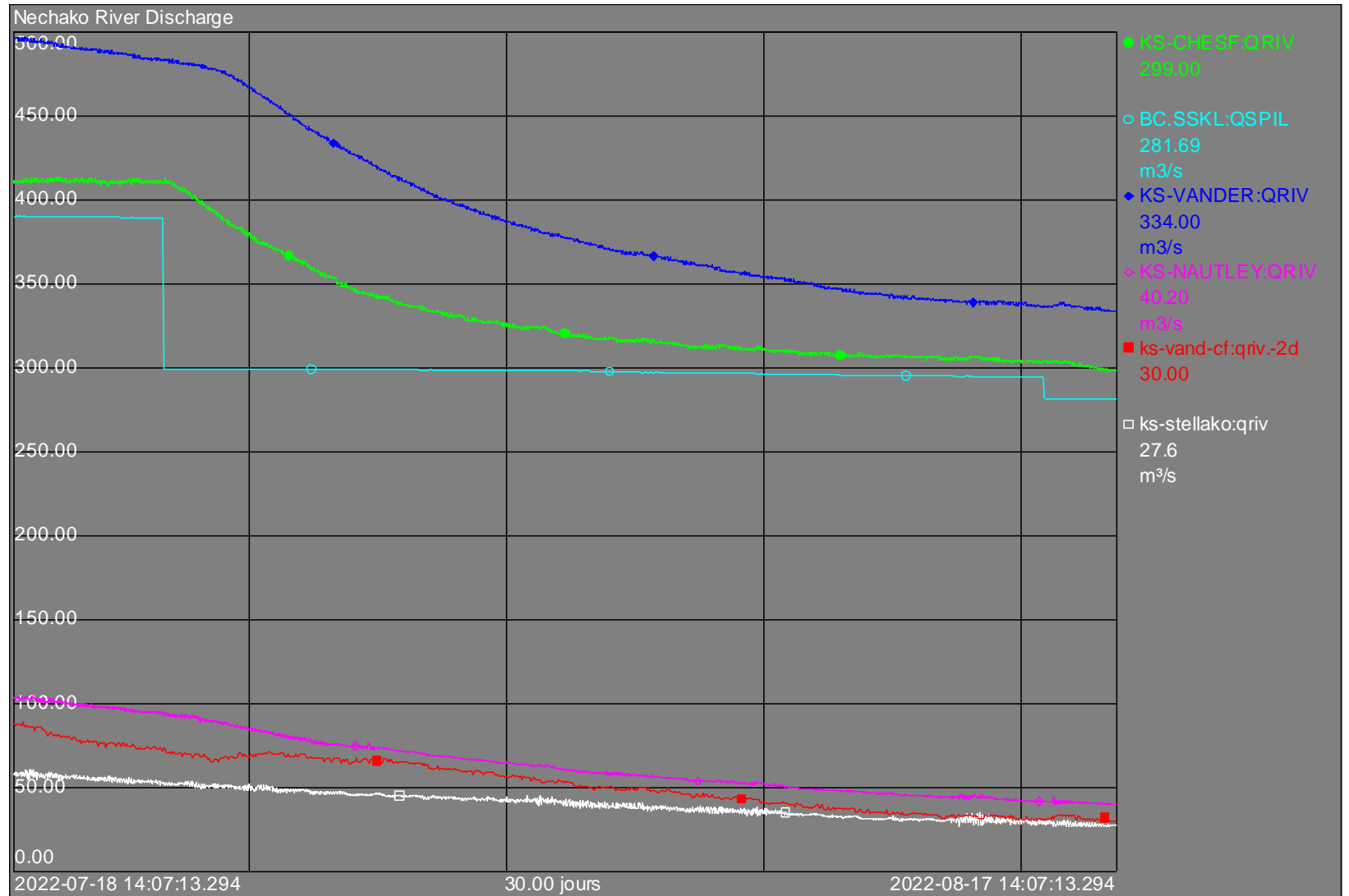
# Reservoir Elevation - Last 20 days

Current reservoir level:  
**2798.42 ft**  
(Maximum: 2800.0 ft)



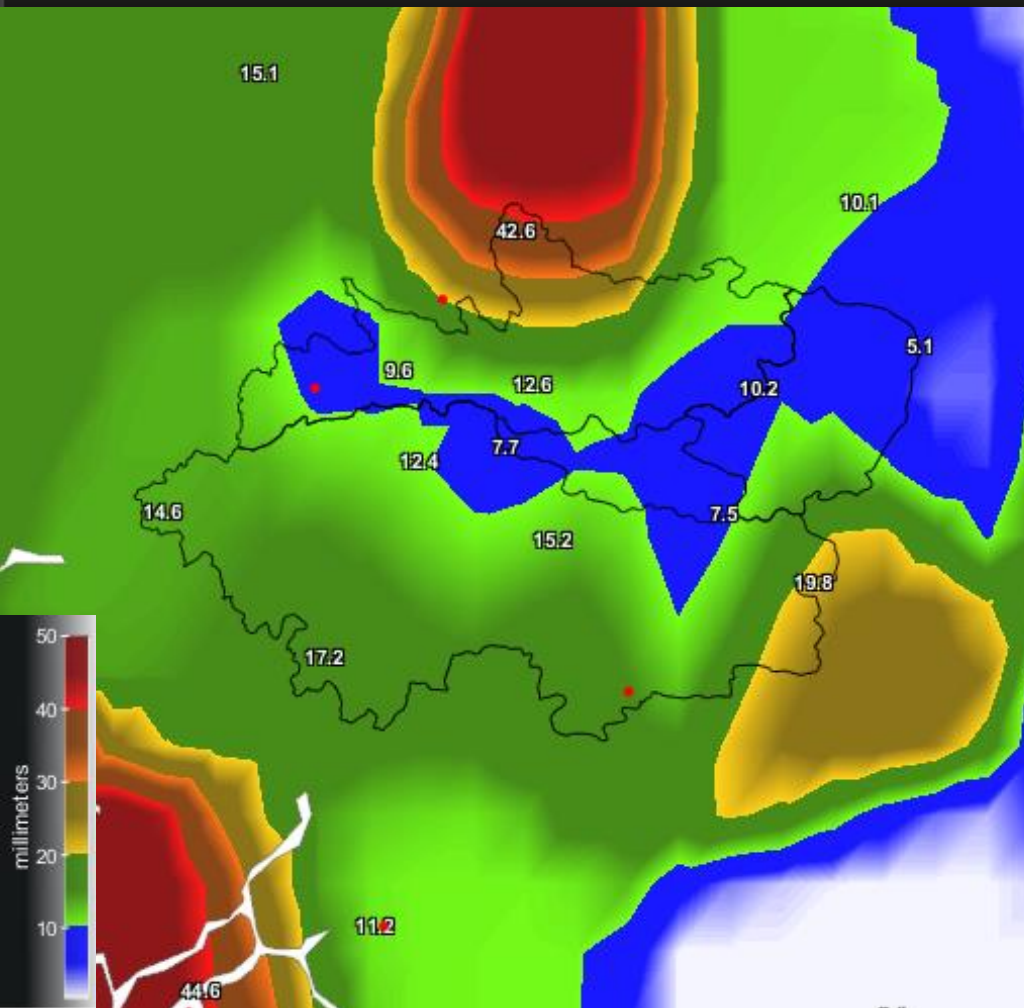
# Flows - Last 30 days

*Skins Lake: 282 cms*  
*Vanderhoof: 334 cms*  
*Cheslatta Falls: 299 cms*  
*Nautley: 40 cms*  
*Stellako: 28 cms*

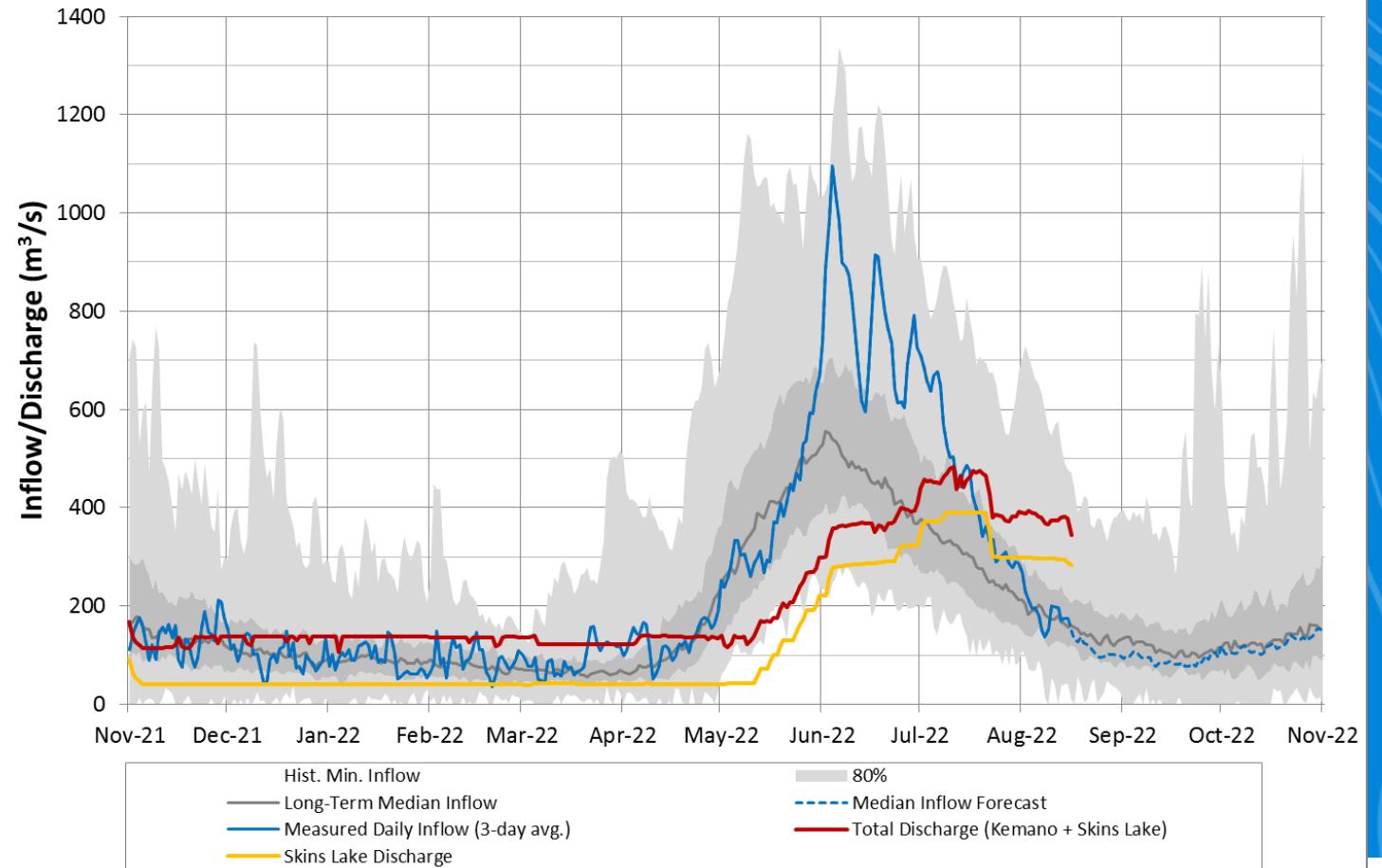


# Observed Precipitation, Inflows vs Historical

7-day cumulative rainfall



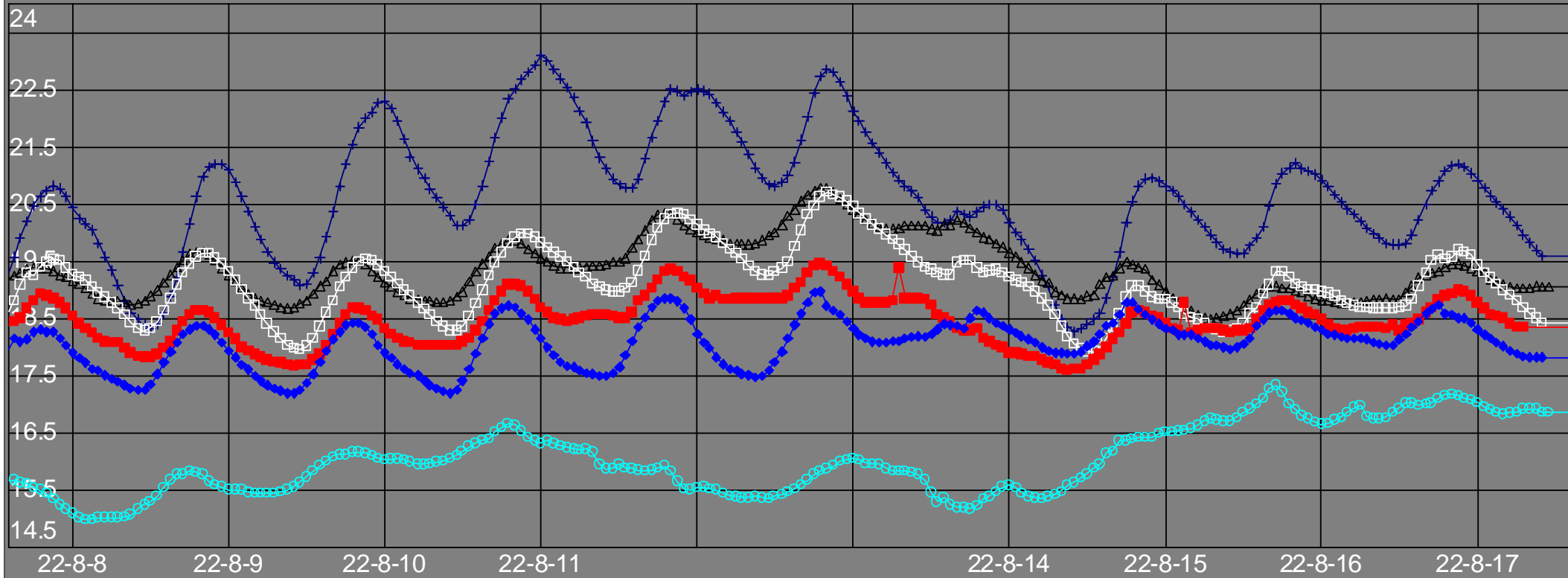
Nechako Reservoir Operation  
Observed Inflow and Discharge 2021-2022



# Observed Water Temperatures

Nechako River Water Temperature

2022-08-17 14:08:43

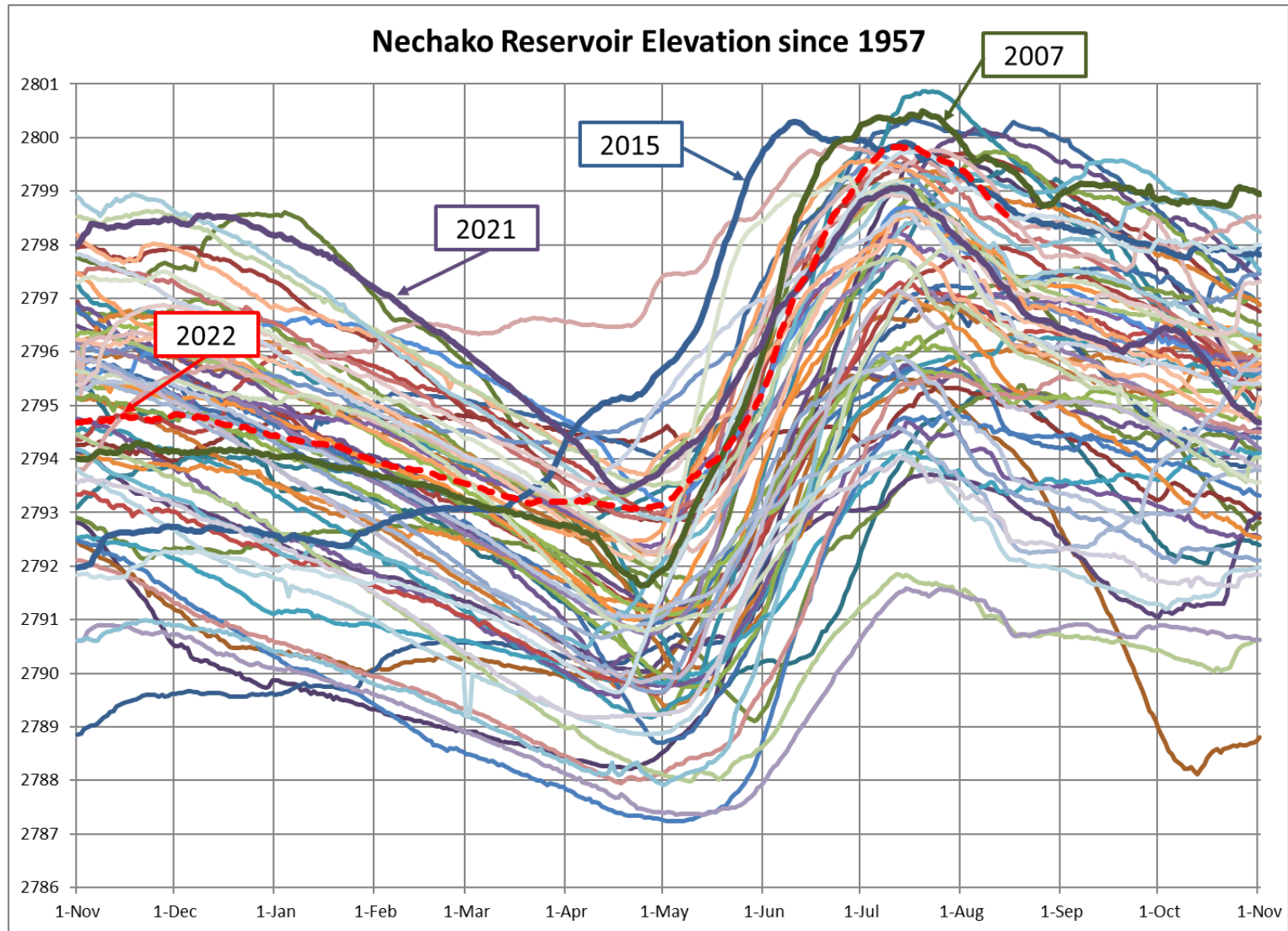


- Temp. Moy. 15 min Upper water bellow spillway
- ◆ Nechako River below Cheslatta Falls - water temperature
- Temp. Moy. 15 min Upper water Fort Fraser
- Nechako River at Vanderhoof - water temperature
- ▲ Temp. Moy. 15 min Upper water Finmoore
- + Nautley River - water temperature

<b>Current values</b>	
16.87	
17.8	
18.36	
18.4	
19.05	
19.6	

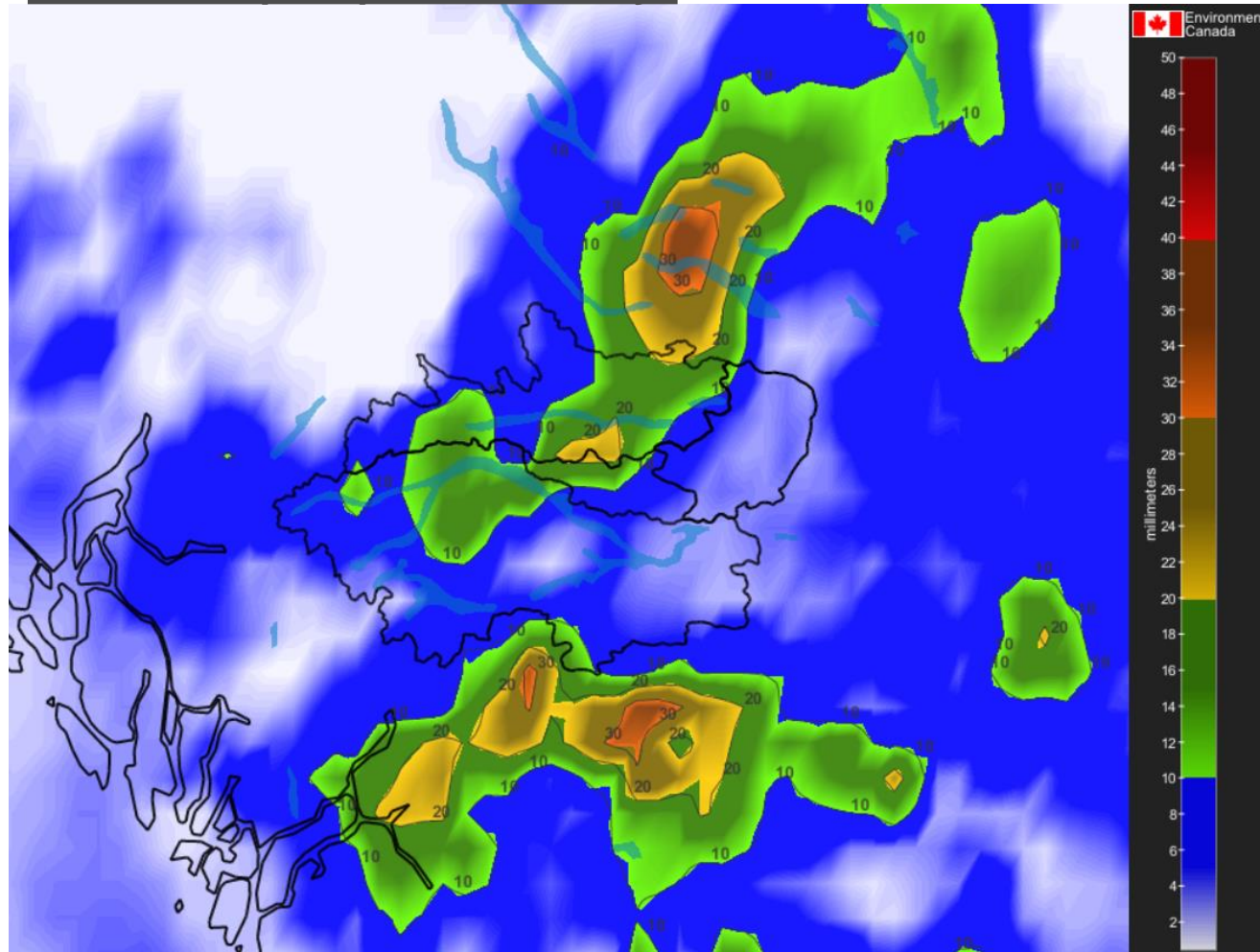


# Historical Reservoir Elevation



# 7 Day Weather Forecast

## Cumulative precipitation – 7 days



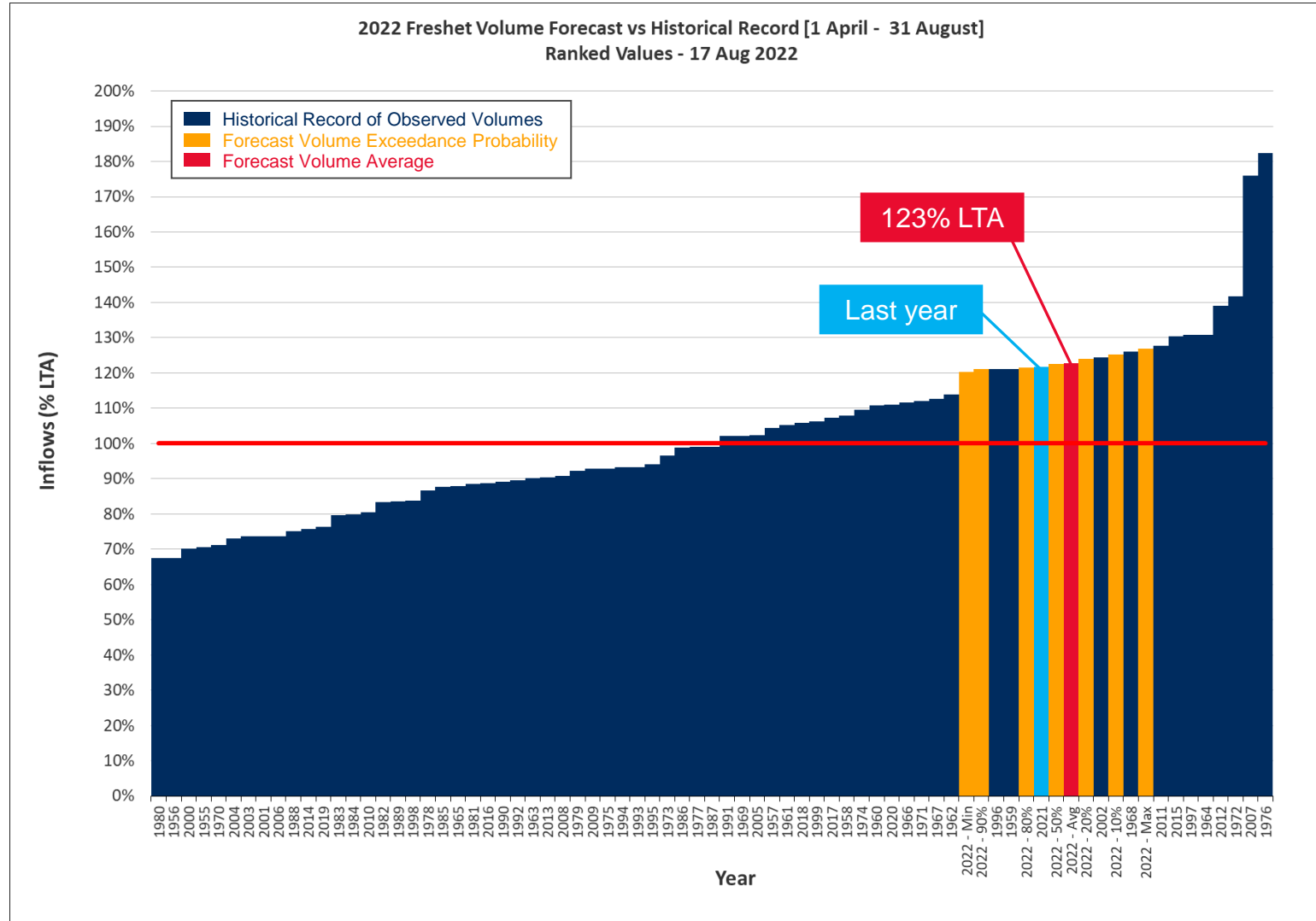
## Next 7 Days

## Burns Lake Weather



	Thu 08/18	Fri 08/19	Sat 08/20	Sun 08/21	Mon 08/22	Tue 08/23	Wed 08/24
	Sunny	Risk of a thunderstorm	Mainly sunny	Cloudy with showers	A mix of sun and clouds	A mix of sun and clouds	Mainly sunny
	29°	25°	25°	24°	24°	25°	26°
Feels like	32	29	28	27	26	27	28
Night	15°	14°	14°	13°	13°	14°	15°
POP	0 %	40 %	10 %	60 %	30 %	30 %	20 %
Wind (km/h)	7 SE	10 W	4 NW	6 SE	9 SW	6 SW	8 SW
Wind gust (km/h)	11	15	6	9	14	9	12
Hrs Of Sun	14 h	8 h	12 h	3 h	4 h	5 h	10 h
24 Hr Rain	-	~1 mm	-	~1 mm	-	-	-

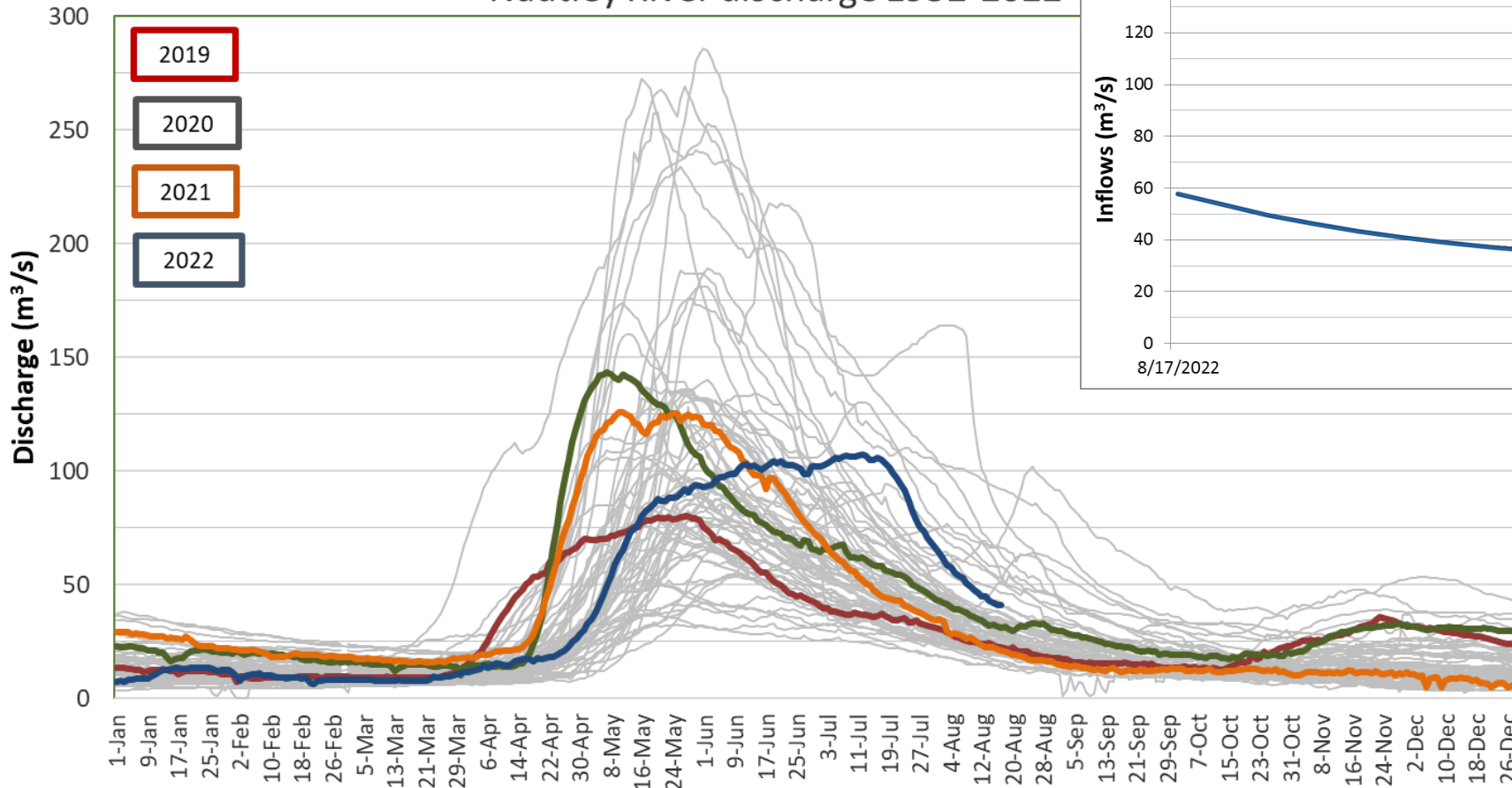
# Spring Freshet Inflow Forecast





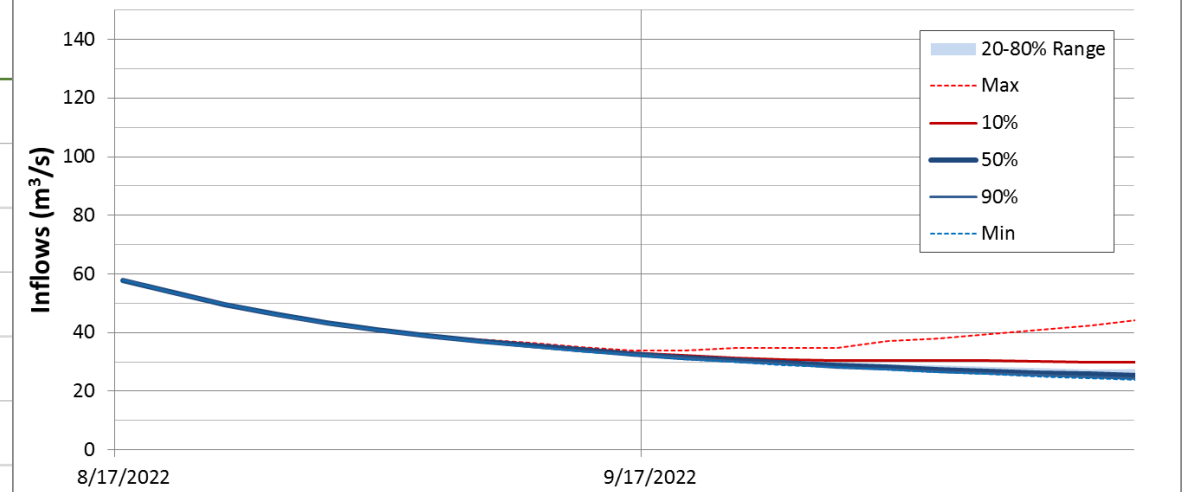
# Nautley River Flows, Forecast

Nautley River discharge 1952-2022



Expected Natural Inflow on Nautley/Nechako Rivers at Vanderhoof

(excludes discharge from Nechako Reservoir)



# SLS – Resulting Flows at Cheslatta Falls

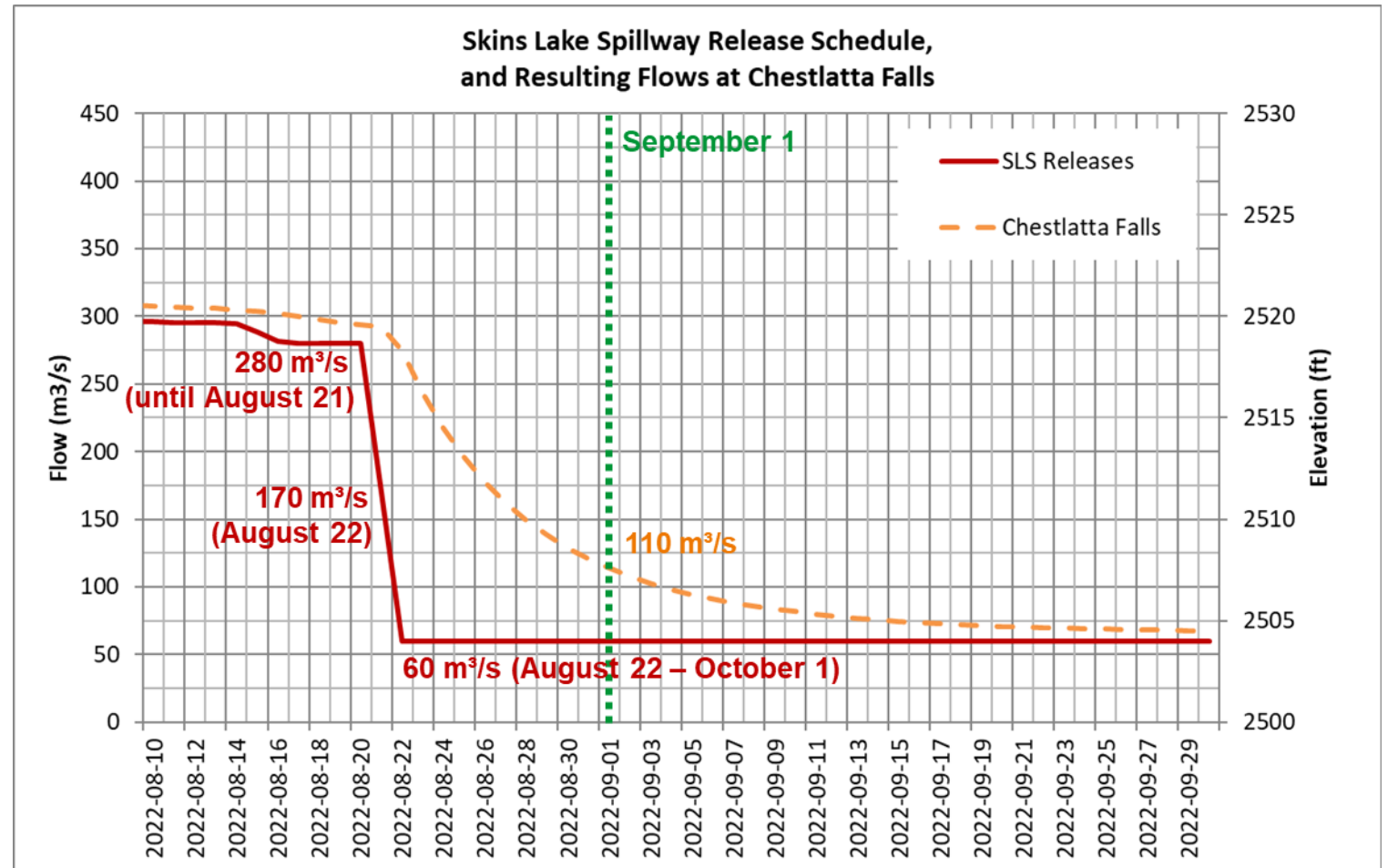
*At the end of STMP on August 20 :*

- 280 m<sup>3</sup>/s to 170 m<sup>3</sup>/s (August 20)
- 170 m<sup>3</sup>/s to **60 m<sup>3</sup>/s** (August 21 to October 1)
- Follow the same *step down* profile as 2021

September flow = **60 m<sup>3</sup>/s**

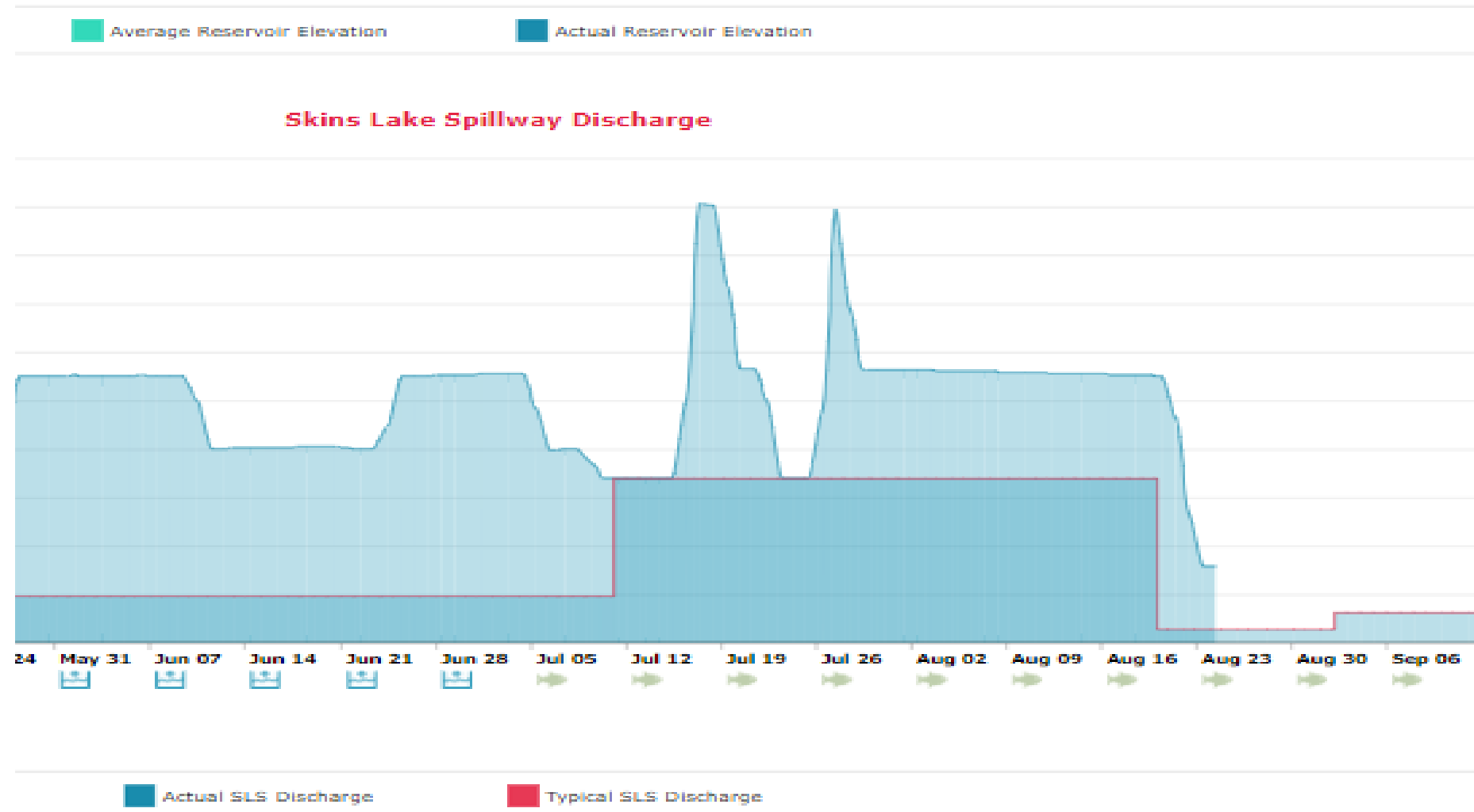
**Remainder of Fall and Winter flows to be determined in real time**

Winter minimum = **32 m<sup>3</sup>/s**



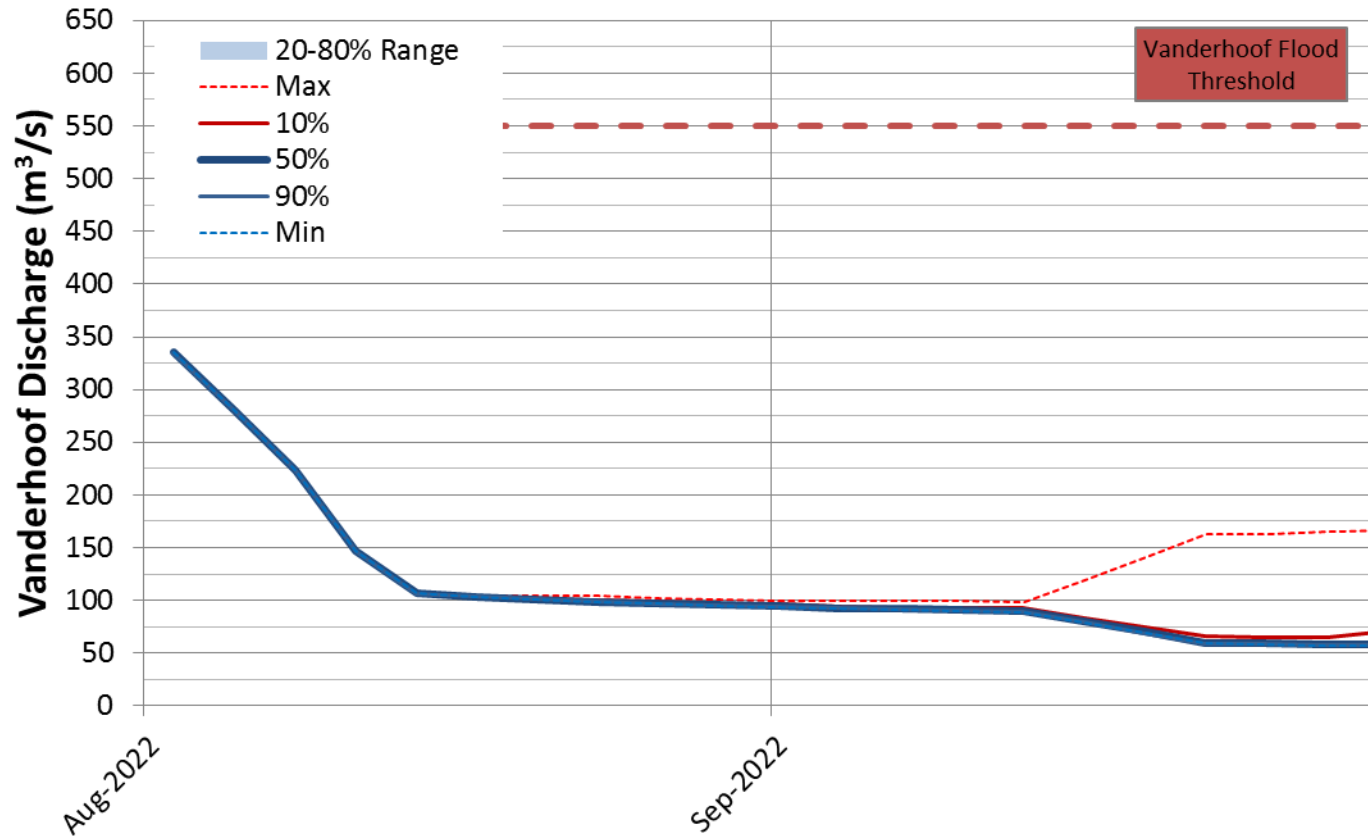


# 2022 Review

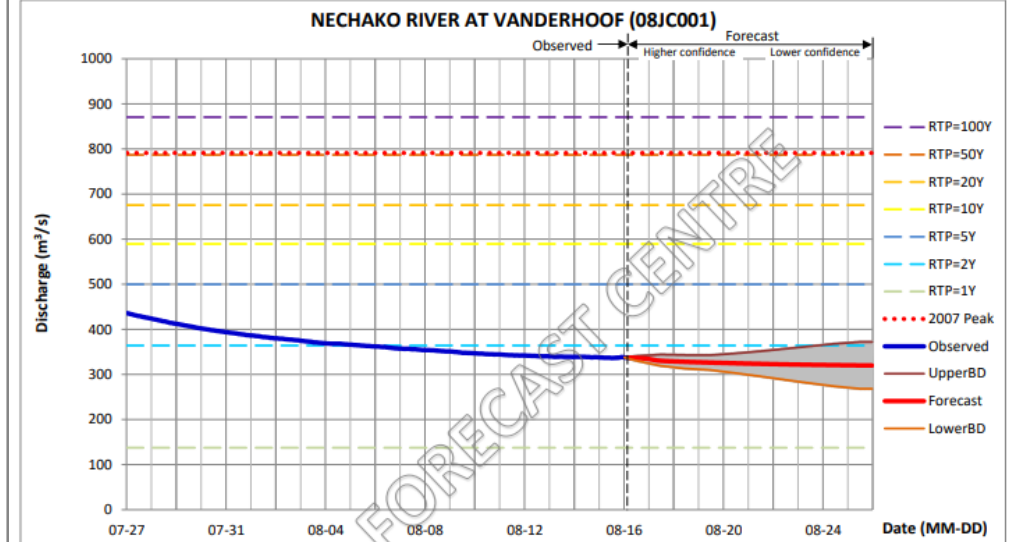


# Forecast – Vanderhoof

## Expected Total Discharge at Vanderhoof



Note: Set "Check for newer version of stored pages" to "Every time I visit the webpage" and refresh browser frequently to view latest forecast.



Reading at 06 AM (m³/s)	Forecast Daily Discharge (m³/s): AVERAGE									
	UPPER BOUND					LOWER BOUND				
Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	
2022-08-16	2022-08-16	2022-08-17	2022-08-18	2022-08-19	2022-08-20	2022-08-21	2022-08-22	2022-08-23	2022-08-24	2022-08-25
337.0	335.9	330.6	327.9	326.2	324.7	323.4	322.3	321.4	320.7	320.0
	340.6	344.0	342.9	342.6	346.5	351.2	356.7	362.4	367.9	371.9
	330.6	319.0	312.9	309.8	303.0	295.8	288.1	280.6	273.6	268.2

RTP=1Y	RTP=2Y	RTP=5Y	RTP=10Y	RTP=20Y	RTP=50Y	RTP=100Y	2007 Peak
137.4	364.1	499.7	589.4	675.5	786.9	870.4	791.0

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



# SLS - Reservoir Level Projection

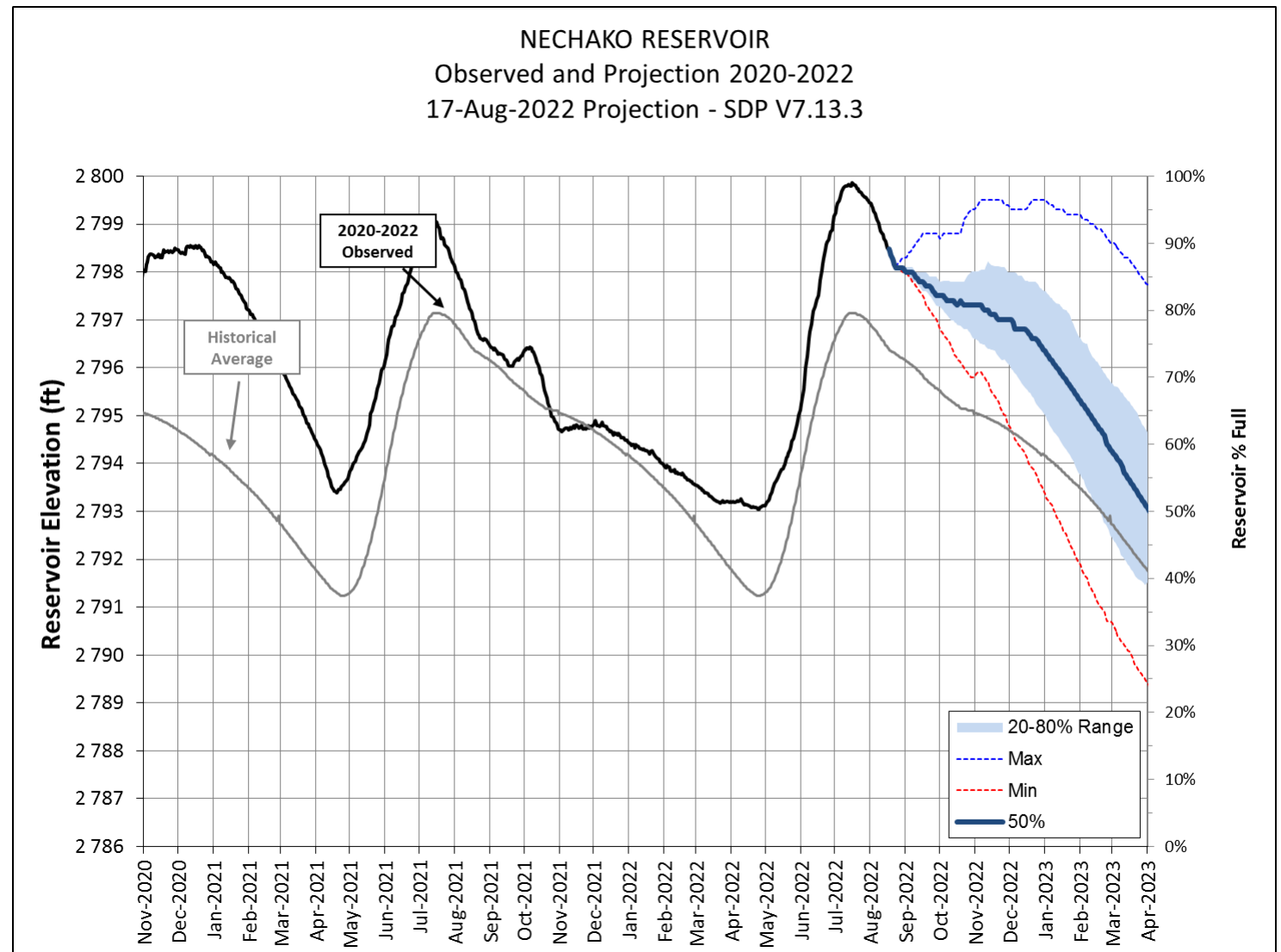
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**Remainder of Fall and Winter flows to be determined in real time**

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# Next Steps – Actions



1. Model update and communications.
2. Monitoring work to learn from 2022 release
3. Continue to update on Smelter Re-Start
4. Confirm next meeting date – **31 August**

*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

