

Campbell River System Hydroelectric Operations Update

Liaison Committee Meeting #34
Maritime Heritage Centre, Rotary Room

June 12, 2019

What's coming up!

Weather and Inflow Observations

- Regional weather
- Mountain snowpack
- Reservoir inflow

Future Weather and Climate Variability

- Environment Canada outlook
- Water supply forecast
- Climate change

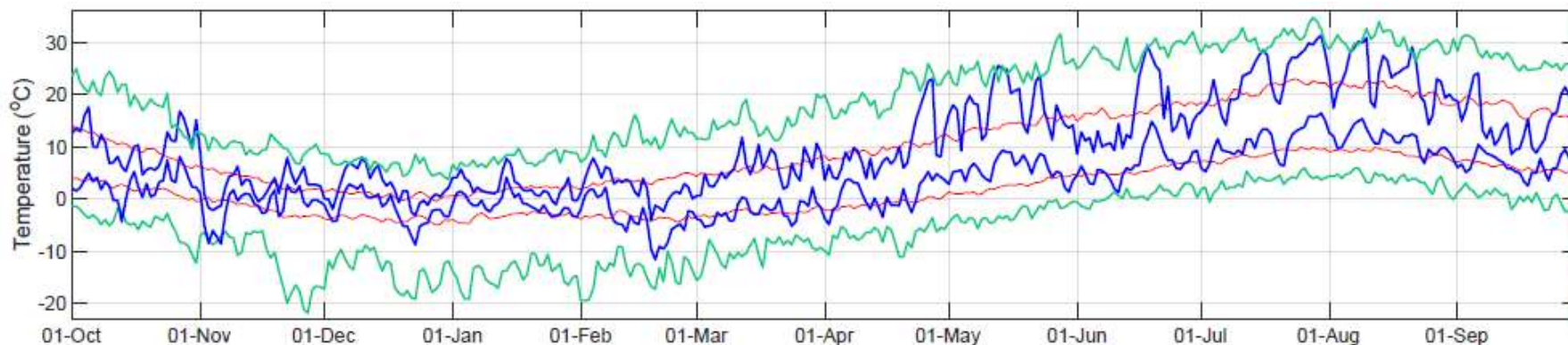
Campbell River Operations



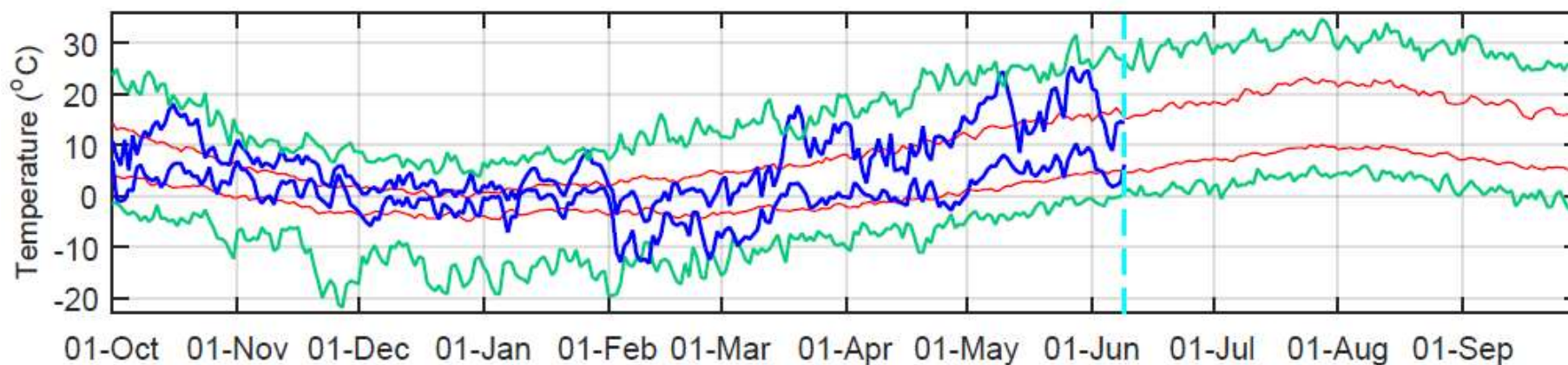
Weather and Inflow Observations

Regional weather conditions: temperature

Strathcona watershed daily max/min temperatures (°C)



2017 / 2018



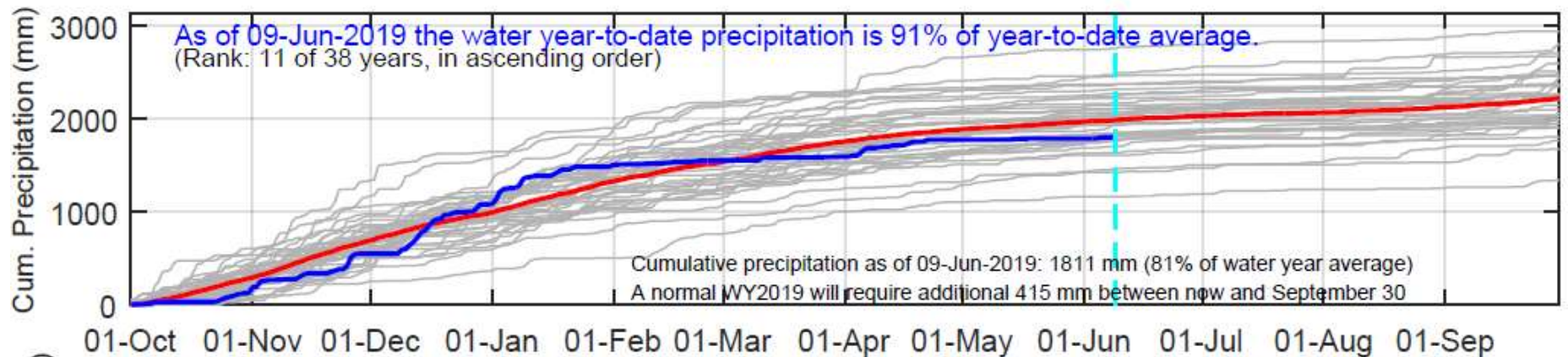
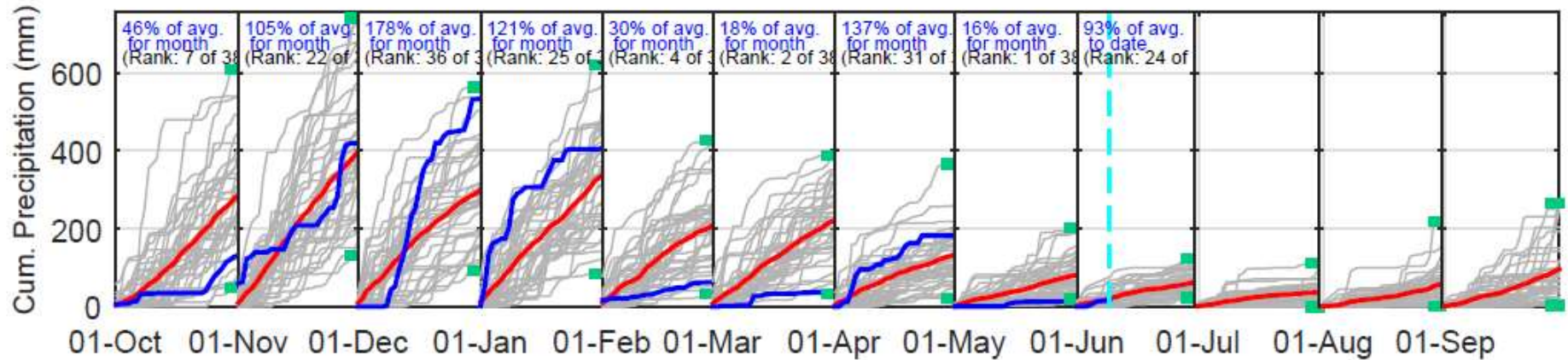
2018 / 2019

Regional weather conditions: precipitation

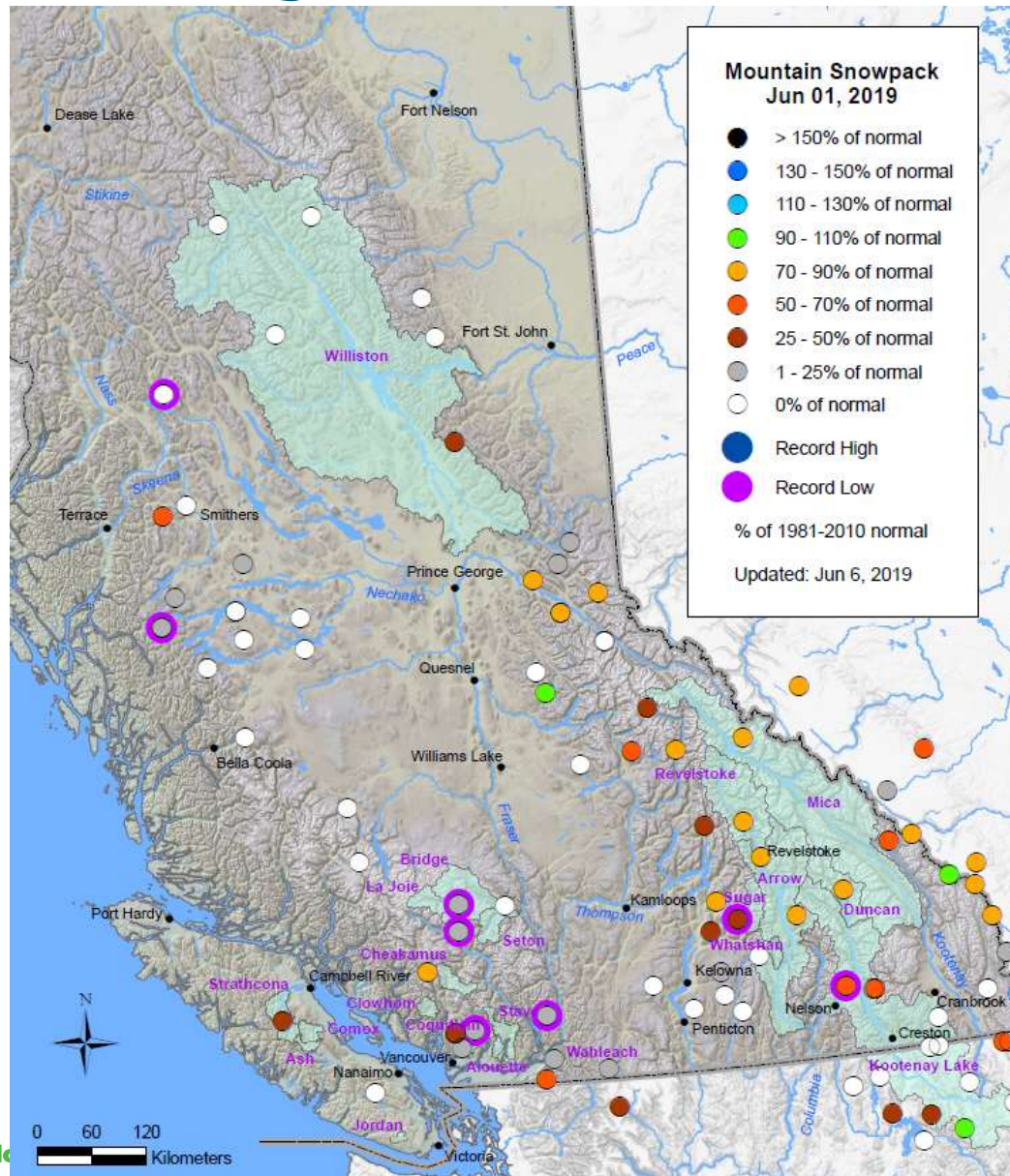
Strathcona

Water Year 2019

Updated 10-Jun-2019 12:11



BC snow survey data



Vancouver Island snowpack

Wolf River Upper – 1,422 m

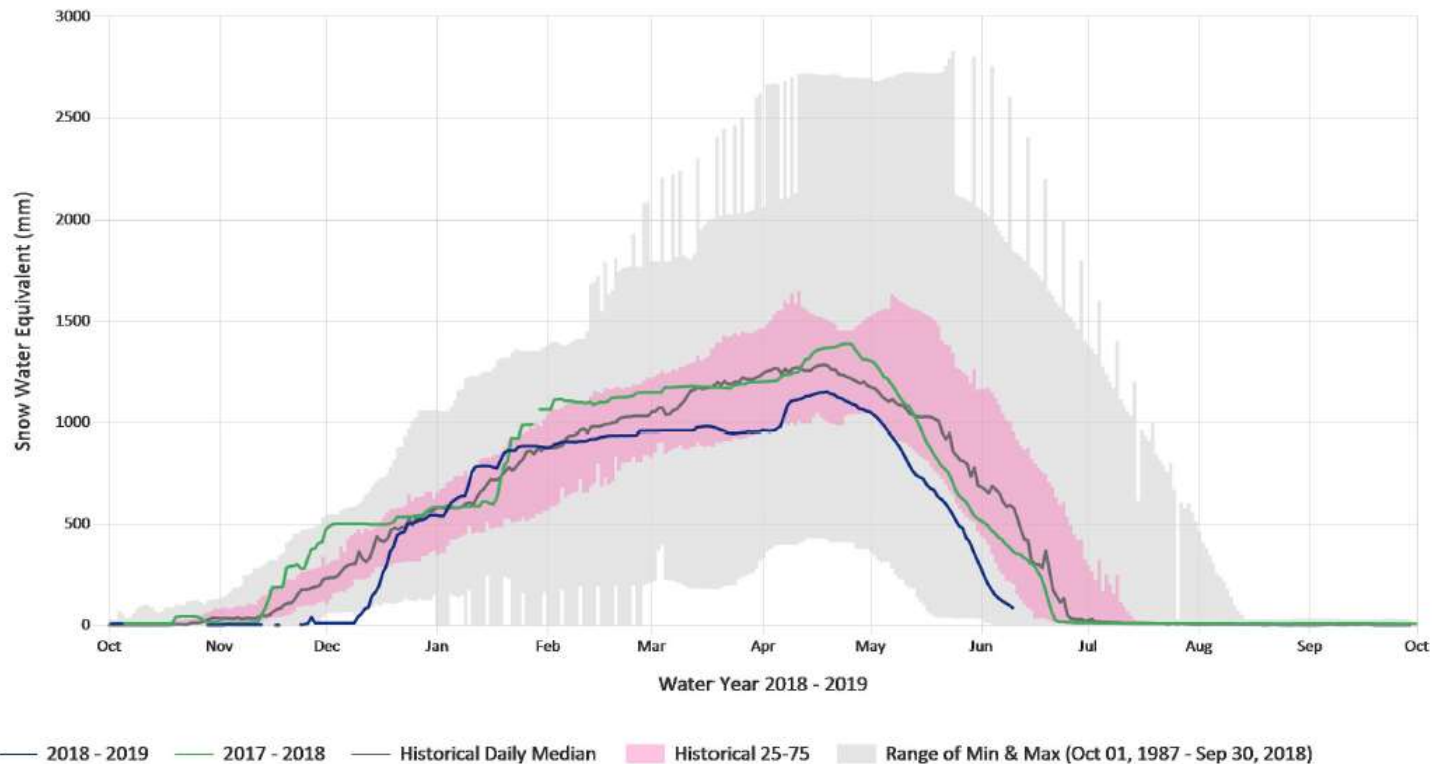


Automated Snow Weather Station Graph

Plot created: June 10, 2019 06:10

SW.Daily@3B17P - Wolf River Upper

Latitude: 49.704139 Longitude: -125.67925 Elevation: 1490 (m)



Statistics are based on the period of record prior to the current Water Year

Statistics are only displayed for locations with at least two years of data

Automated Snow Weather Station Graph is only available for Active locations

Data last appended: June 10, 2019 12:00 UTC

Status: Active

<https://governmentofbc.maps.arcgis.com/apps/webappviewer/index.html?id=c15768bf73494f5da04b1aac6793bd2e>

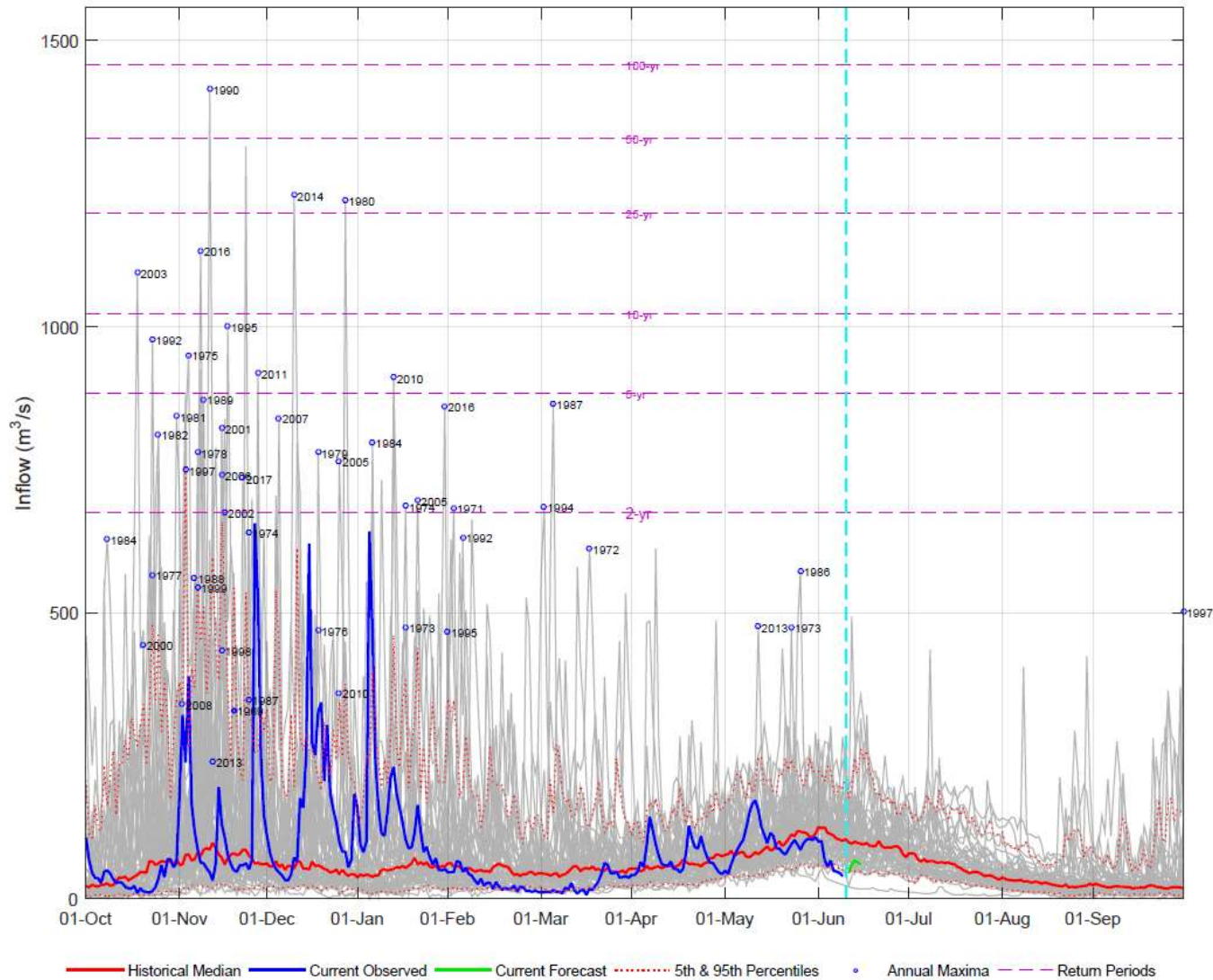
Power smart

Reservoir daily inflow

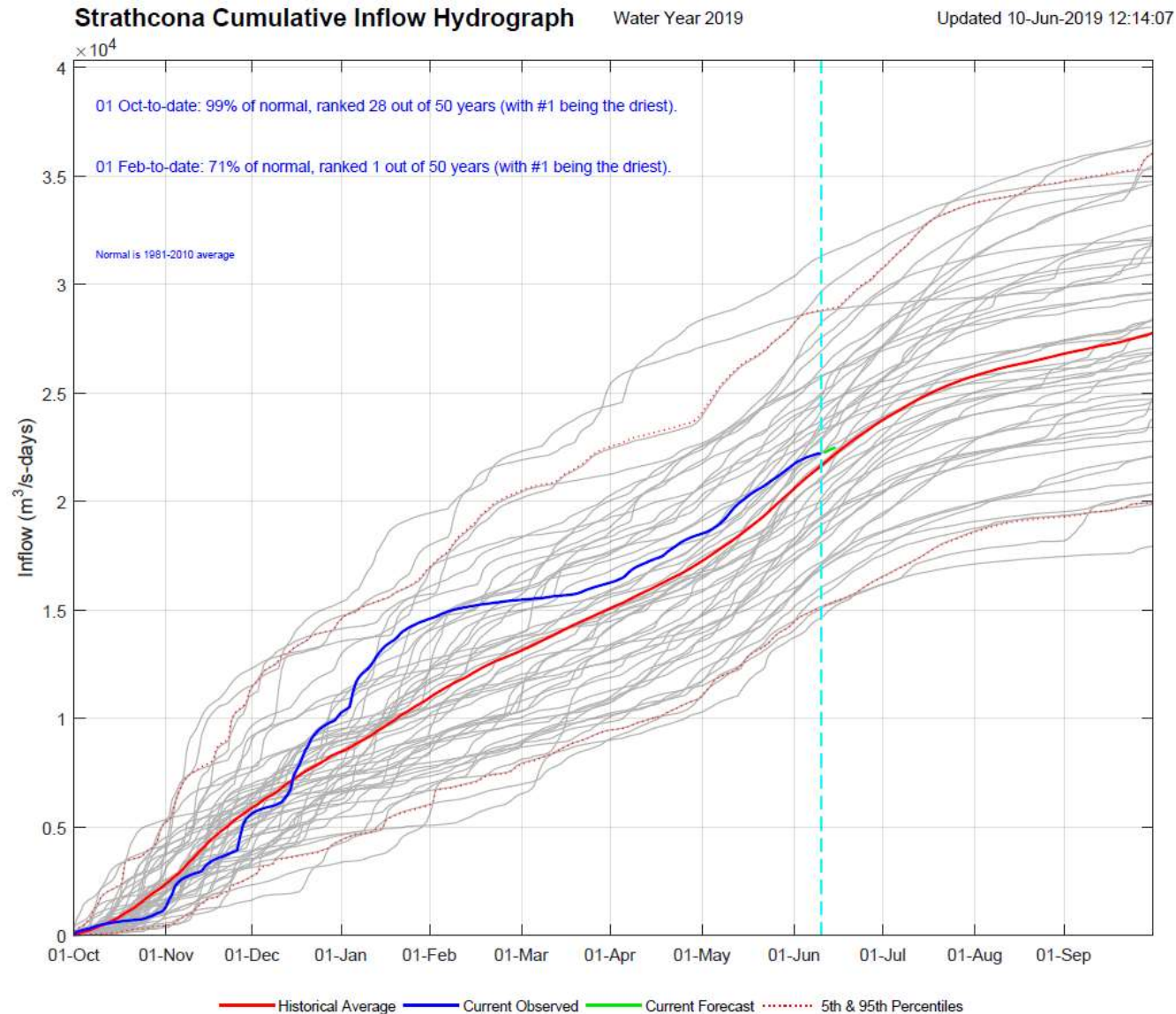
Strathcona Daily Inflow Hydrograph

Water Year 2019

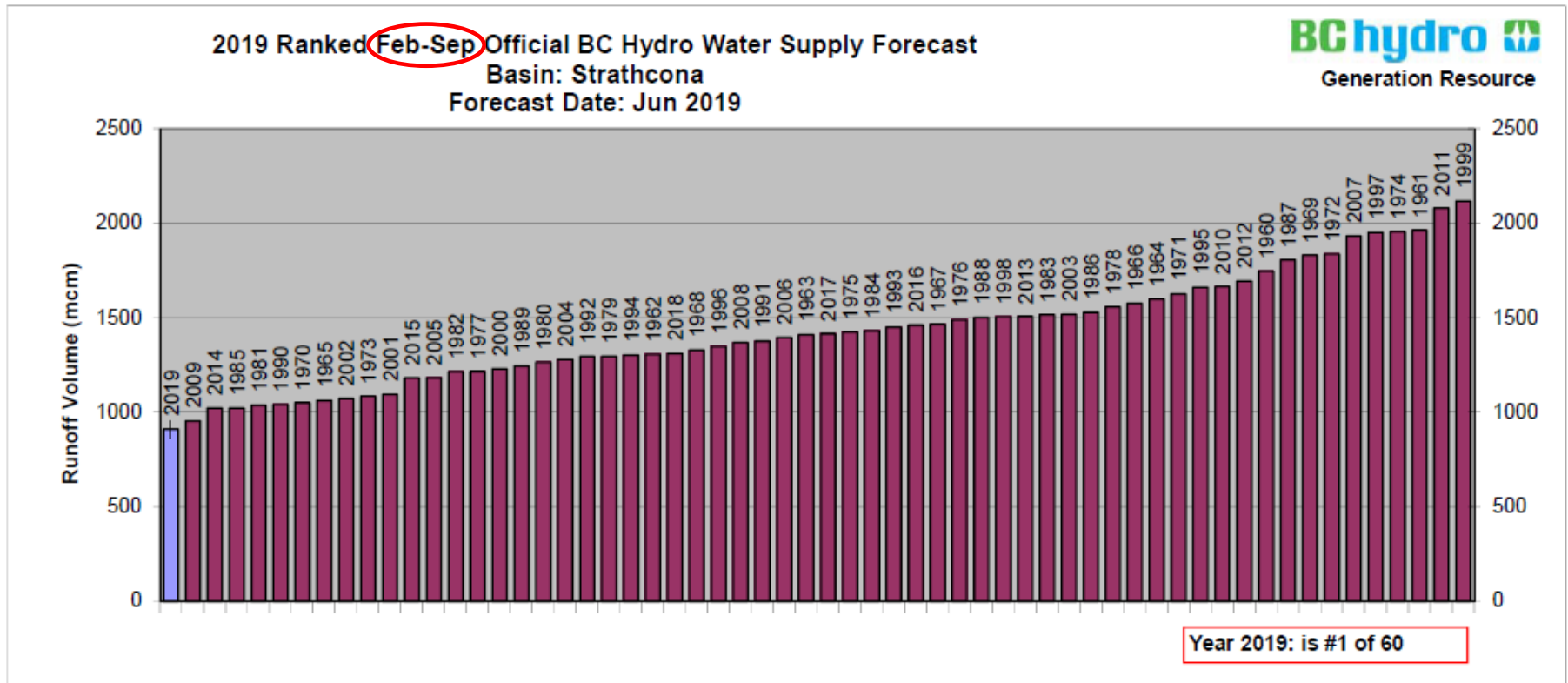
Updated 10-Jun-2019 12:14:06



Reservoir cumulative inflow

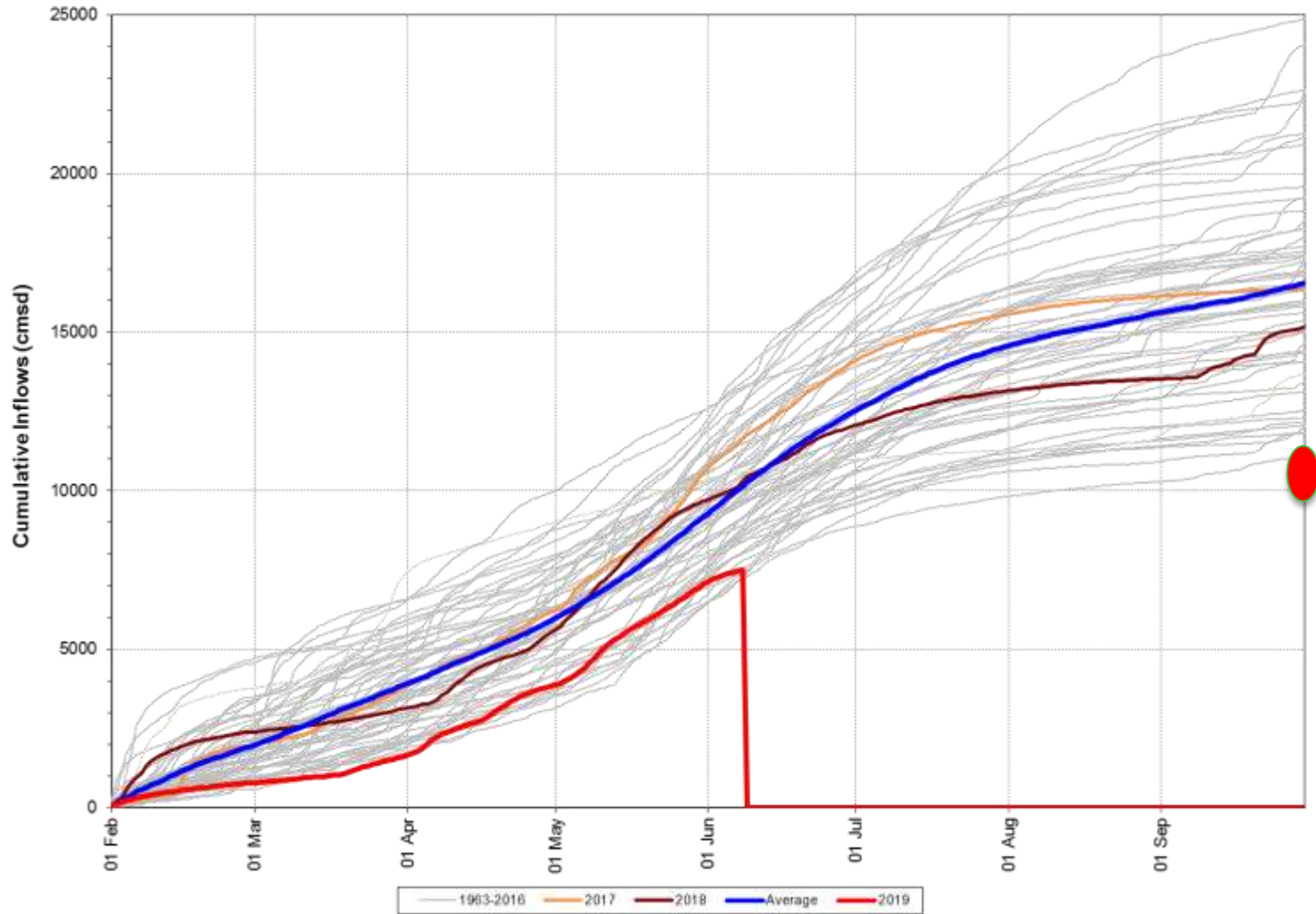


Campbell R. water supply forecast



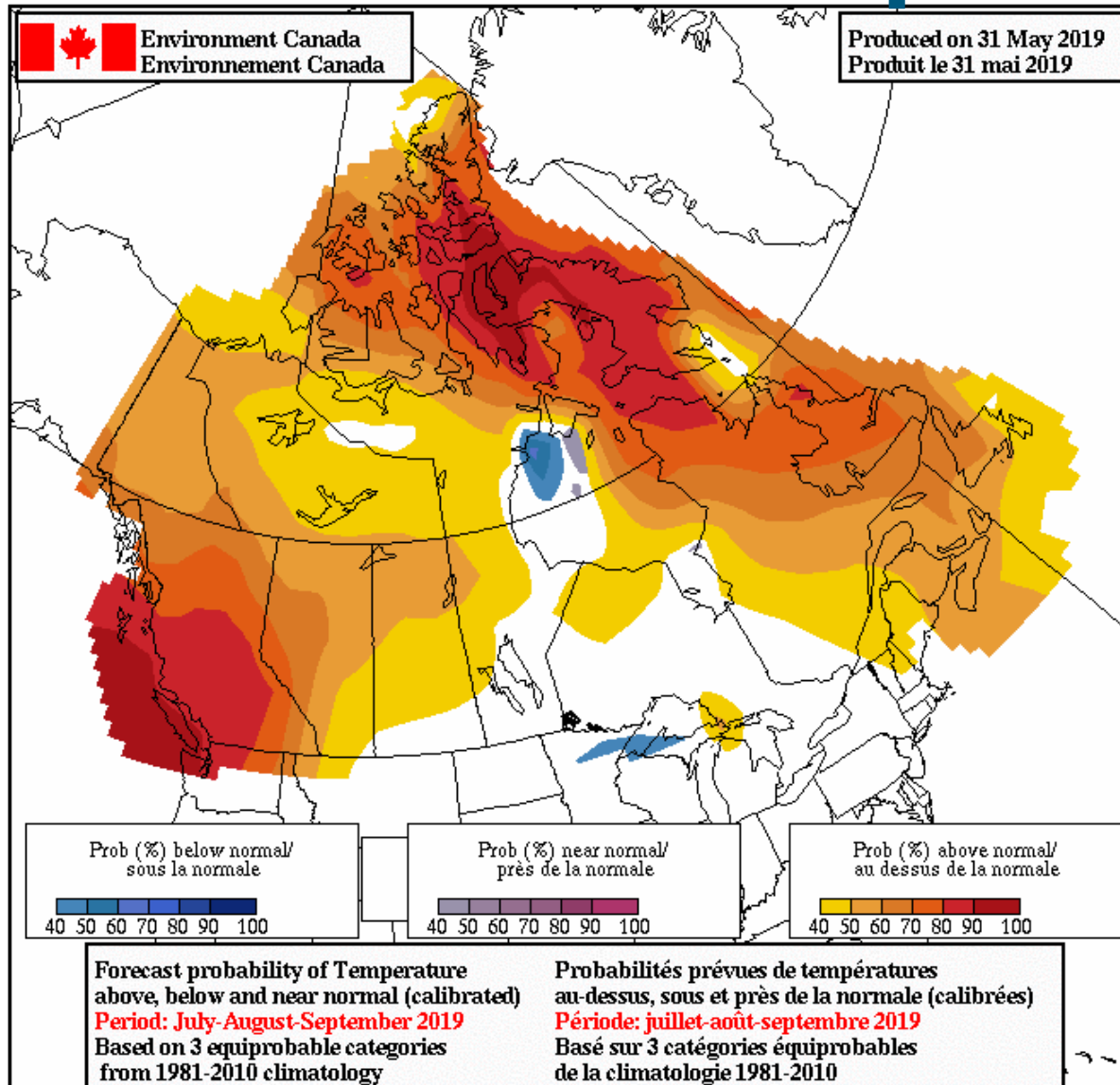
Reservoir cumulative inflow

Strathcona Historical Cumulative Inflows for 1963-2018, 2019



Future Weather and Climate Variability

Canada weather outlook: temperature



Climate change



bc hydro & climate change



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[PDF] Potential Impacts of Climate Change on BC Hydro-Managed Water ...

https://www.bchydro.com/content/dam/hydro/.../climate_change_report_2012.pdf ▼

Global climate change is upon us. Both natural cycles and anthropogenic greenhouse gas emissions influence climate in British Columbia and the river flows that supply the vast majority of power that BC Hydro generates. BC Hydro's climate action strategy addresses both the mitigation of climate change through reducing ...



Climate change

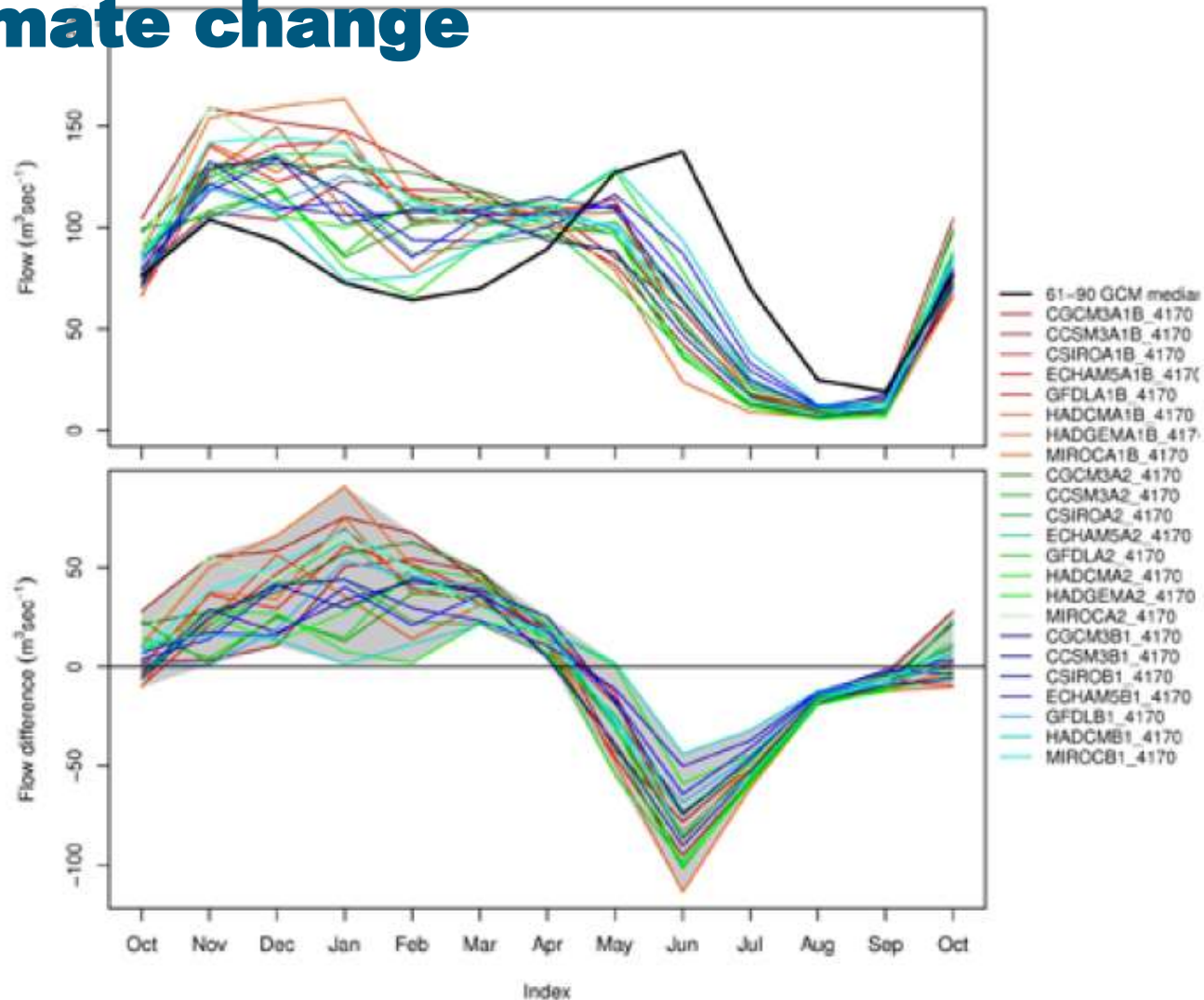
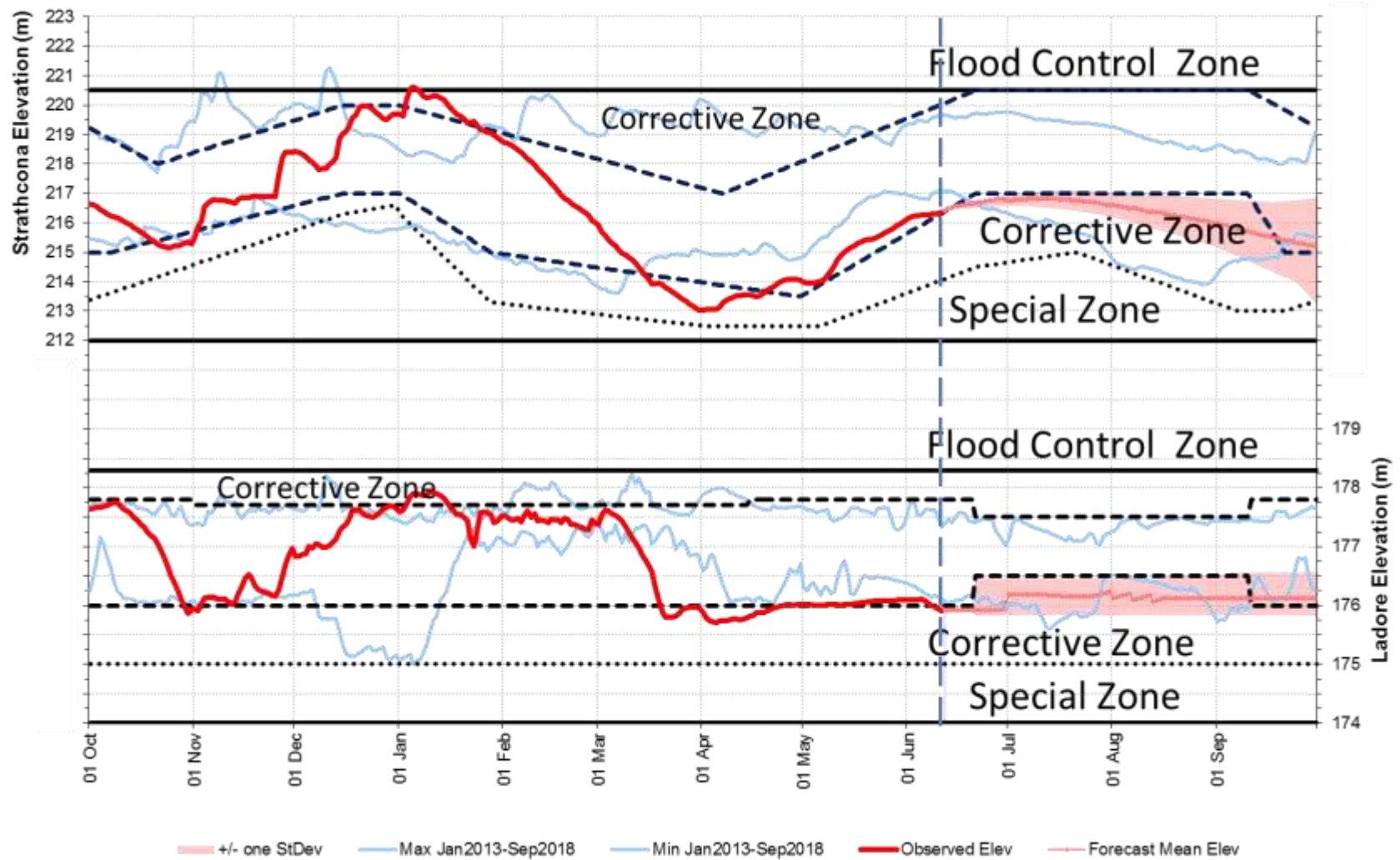


Figure 12: (a) Observed and future 2050s monthly inflow into Campbell River at Strathcona Dam and (b) flow anomalies relative to historical baseline for each study (bold lines). The historic baseline is the median of all historic runs. Future streamflow is shown as the monthly median for each individual GCM/emission scenario combination. [Source: PCIC (Schnorbus et al., 2011)].

Campbell River Operations

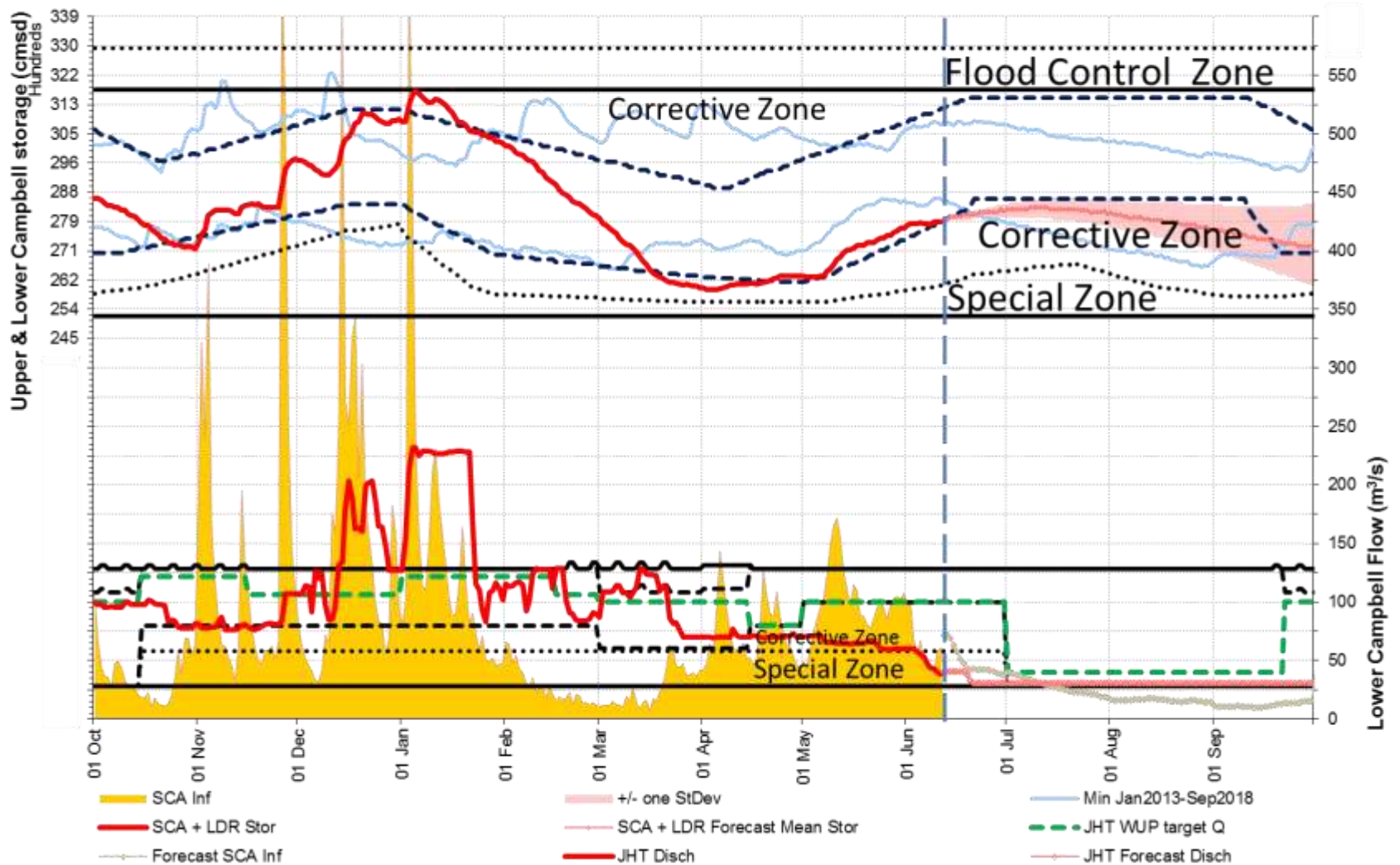
Strathcona and Ladore – June 12th

2018/19 SCA & LDR Elevations



System storage and river flow – June 12th

2018/19 Combined SCA & LDR Storage and JHT Outflows



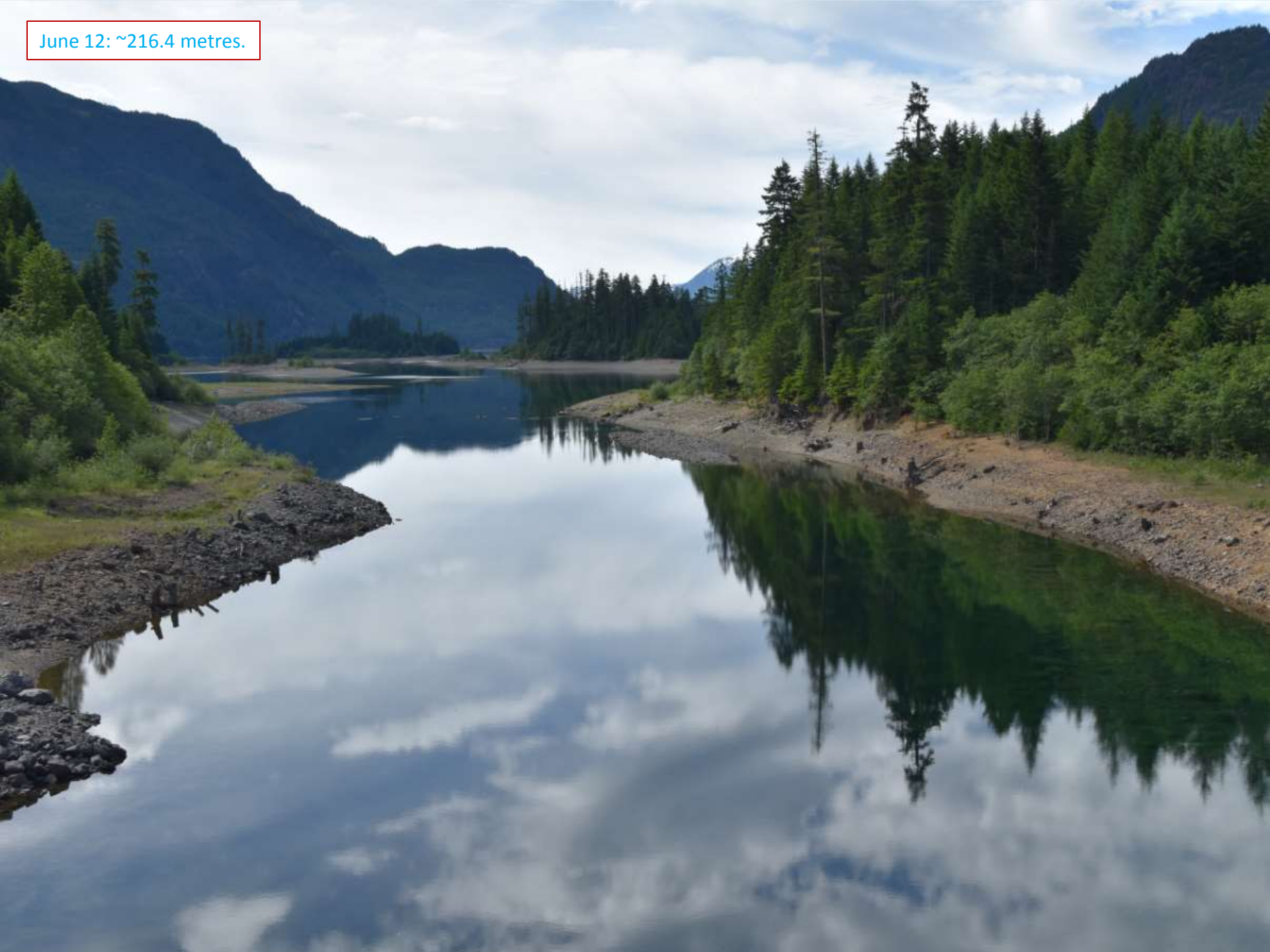
Campbell River System:
Buttle Boat Ramp, Buttle Narrows –
Area Between Buttle Lake And
Upper Campbell Reservoir, Upper
Campbell Reservoir Recreation Area
(PUMA) And Strathcona Dam

Low water level to full pool photo
time lapse – March to June 2019

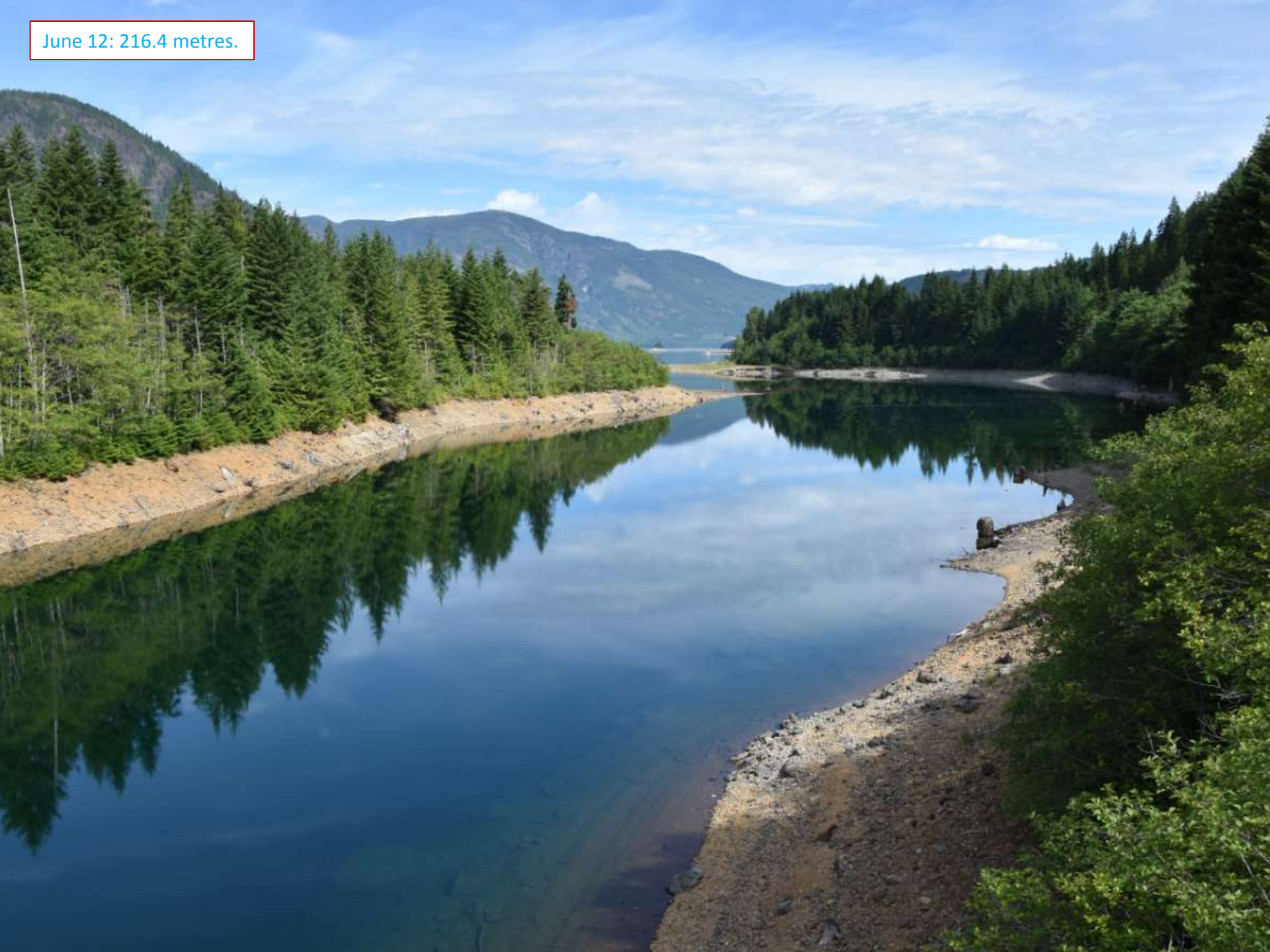
June 12: ~216.4 metres.



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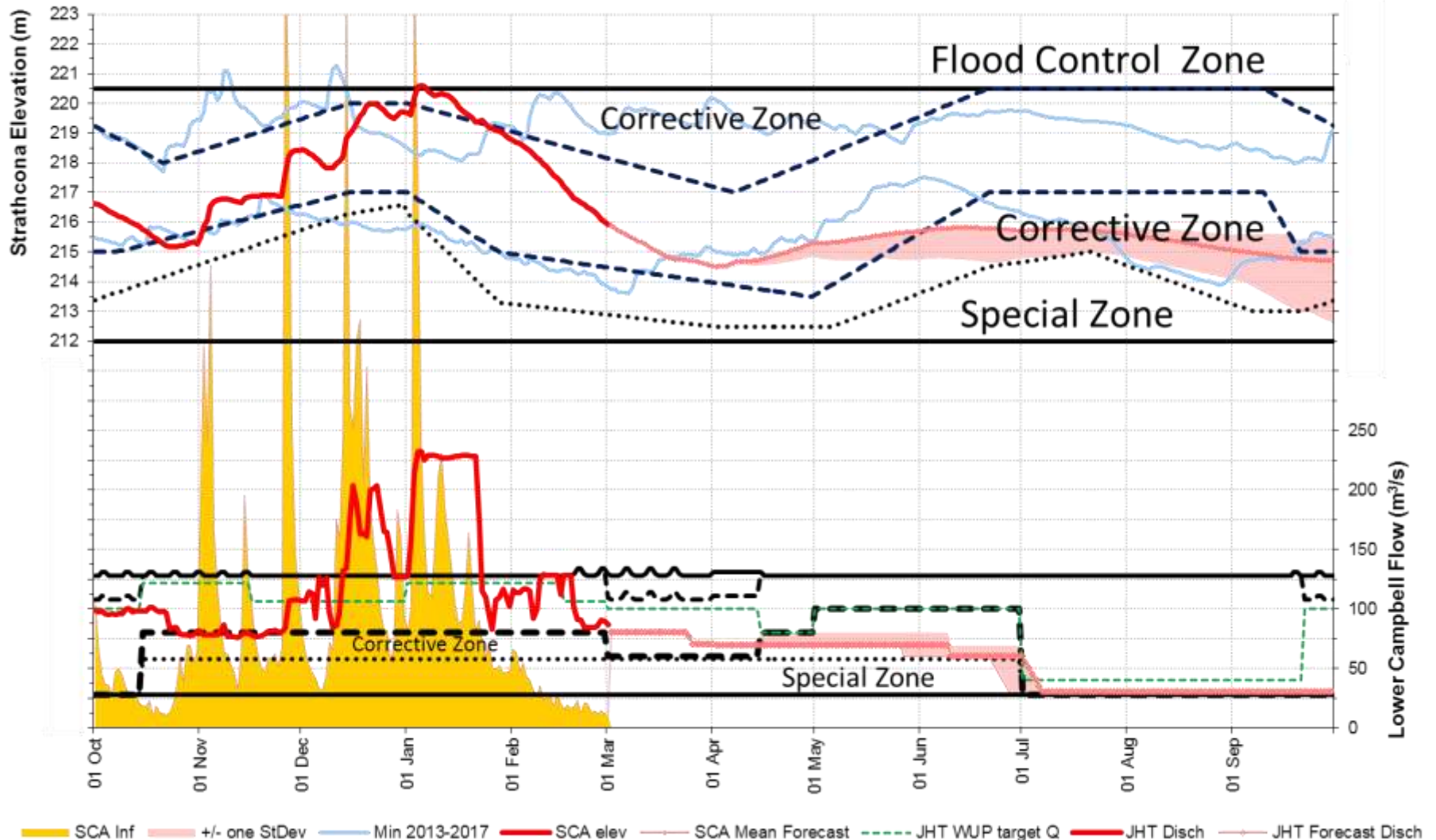
Campbell River Operations

Zoom in to early spring

1. WUP for fish
2. WUP BCH's discretion
3. get a variance

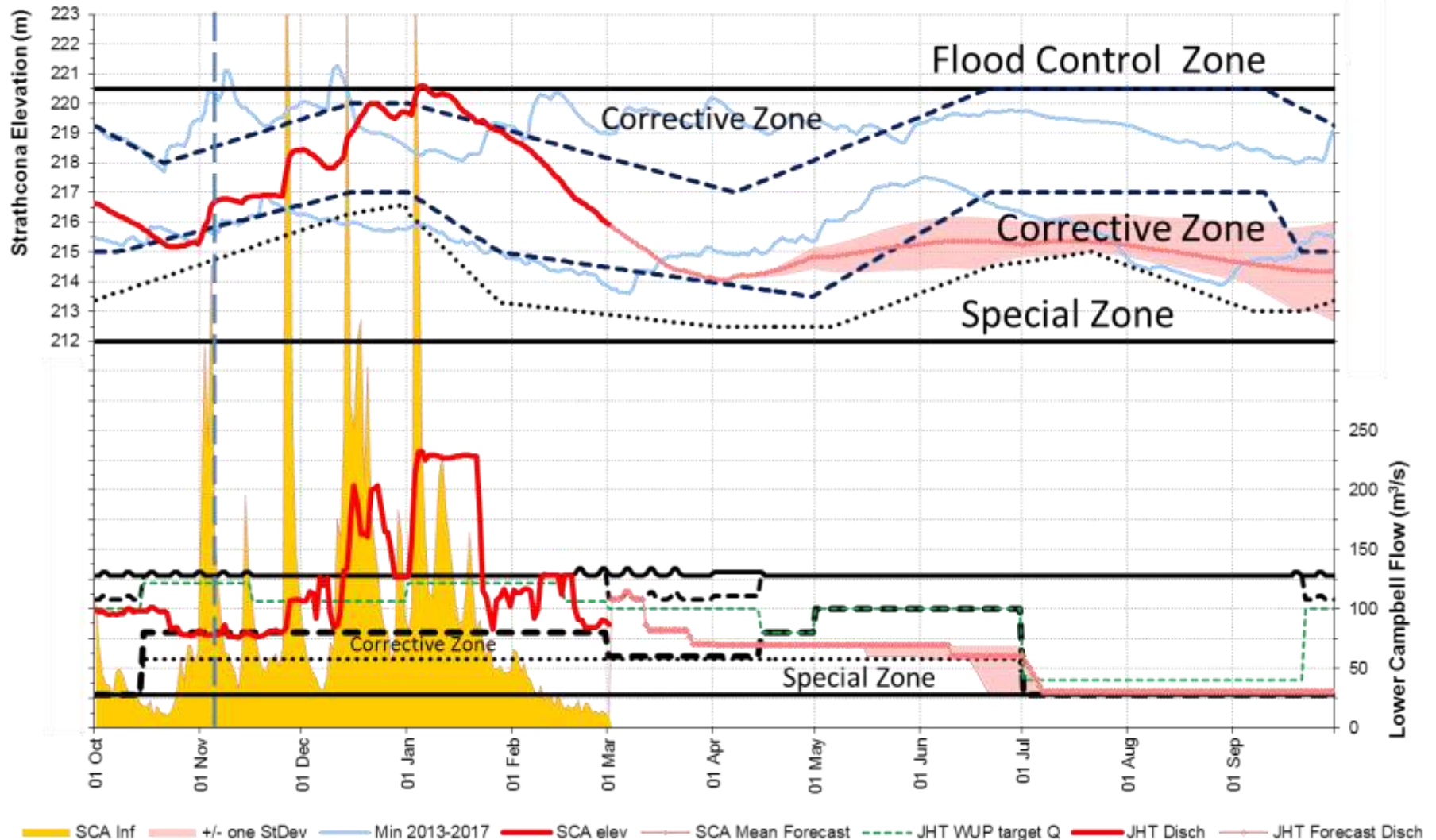
Early Spring forecast, WUP-fish operation

2018/19 SCA Elevation and JHT Outflows



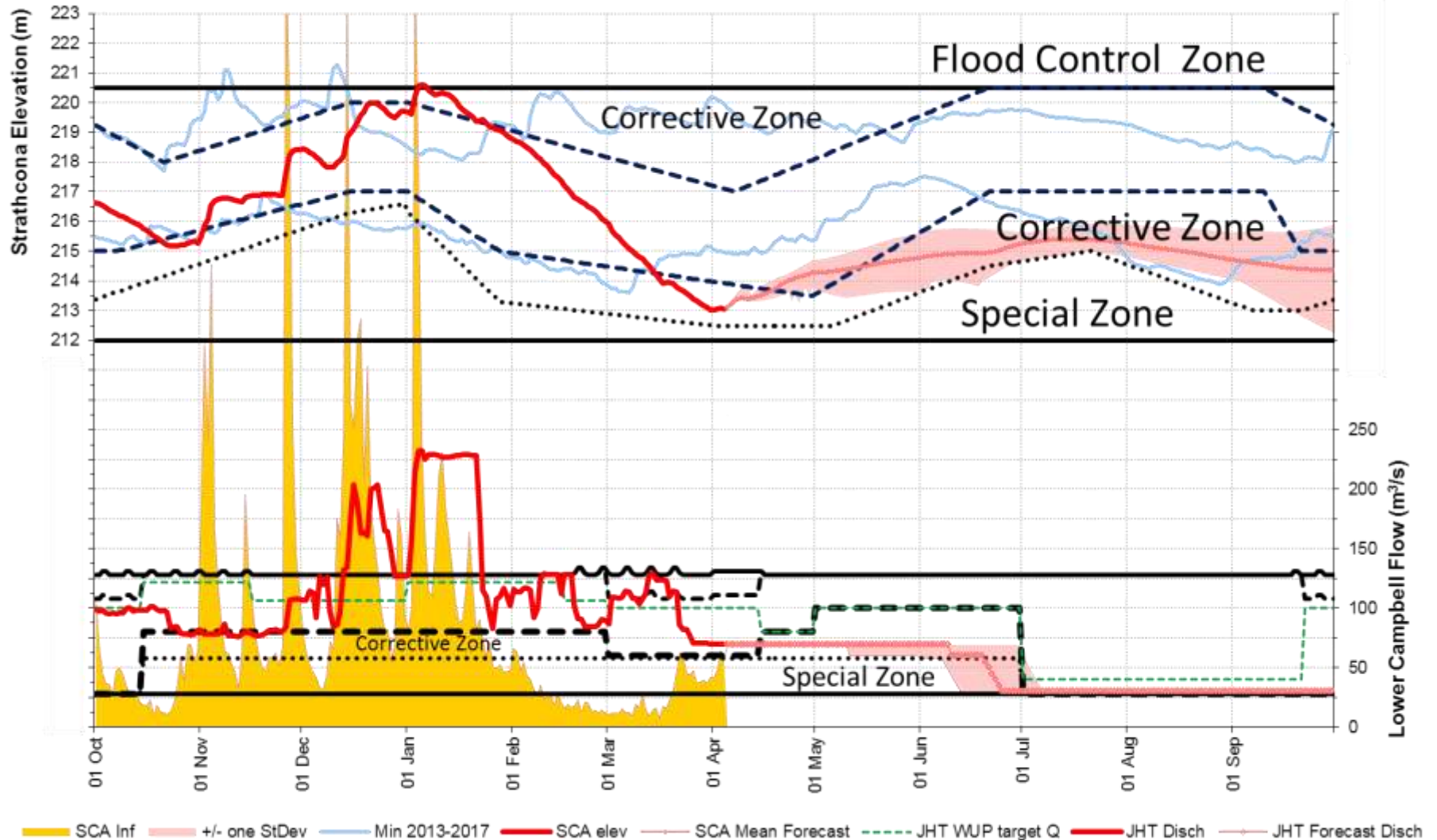
Early Spring forecast, WUP-discretionary

2018/19 SCA Elevation and JHT Outflows



Early Spring forecast, variance operation

2018/19 SCA Elevation and JHT Outflows



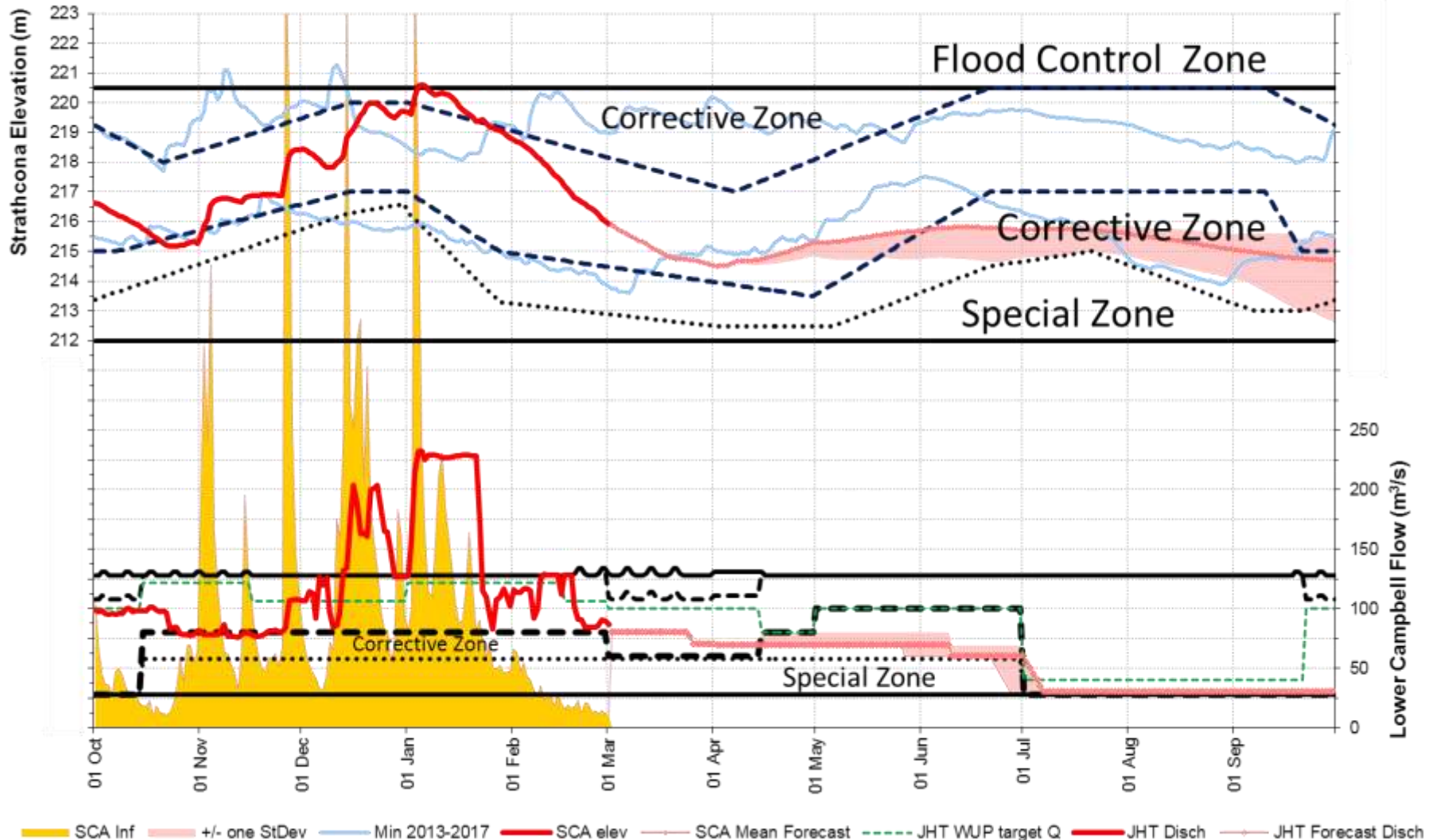
Campbell River Operations

Zoom in to late spring

1. WUP for fish early forecast
2. WUP for fish, actual freshet
3. variance operations

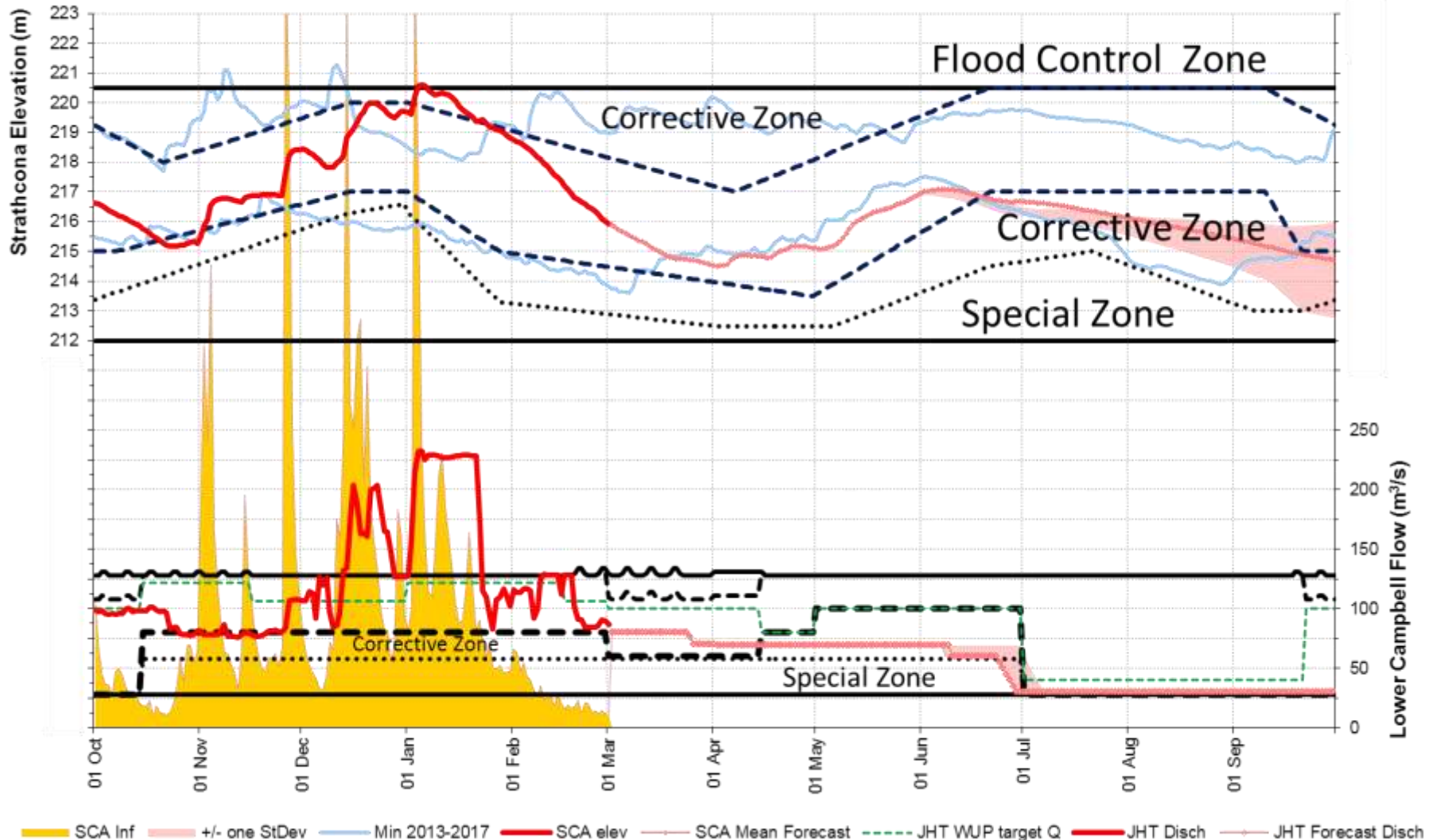
Early Spring forecast, WUP-fish operation

2018/19 SCA Elevation and JHT Outflows



Late Spring forecast, WUP-fish operation

2018/19 SCA Elevation and JHT Outflows



Late Spring forecast, variance operation

2018/19 SCA Elevation and JHT Outflows

