



BUREAU OF
RECLAMATION

Lahontan Basin Area Office Water Supply Outlook

April 11, 2023

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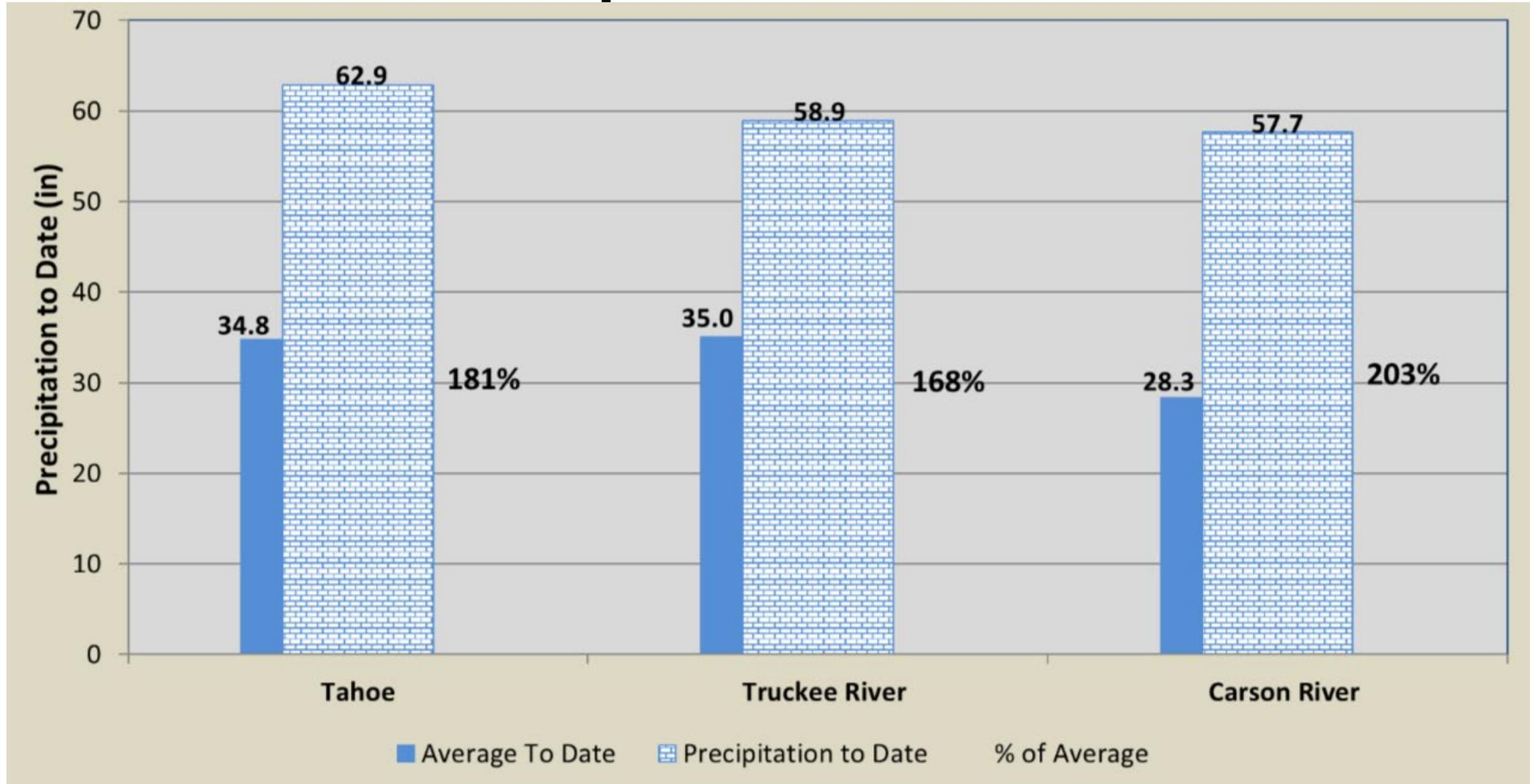
Lahontan Basin Area Office

WY 2023 Outlook

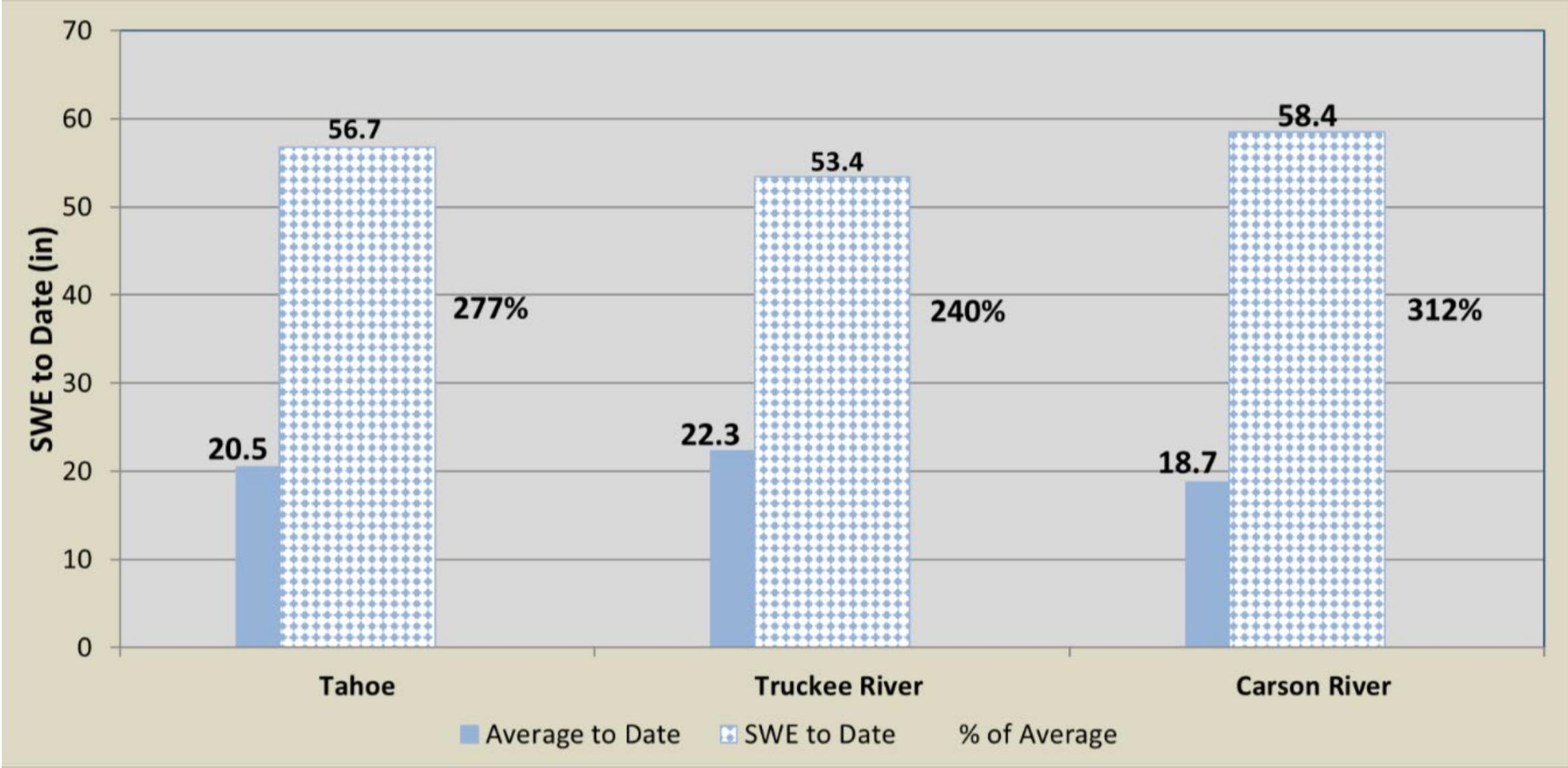
- Current Data
- Forecasted Flows Using NRCS Forecasts
- Forecasted Lahontan Storage
- Airborne Snow Observatory Data
- Projected Operations



Current WY Precipitation To Date

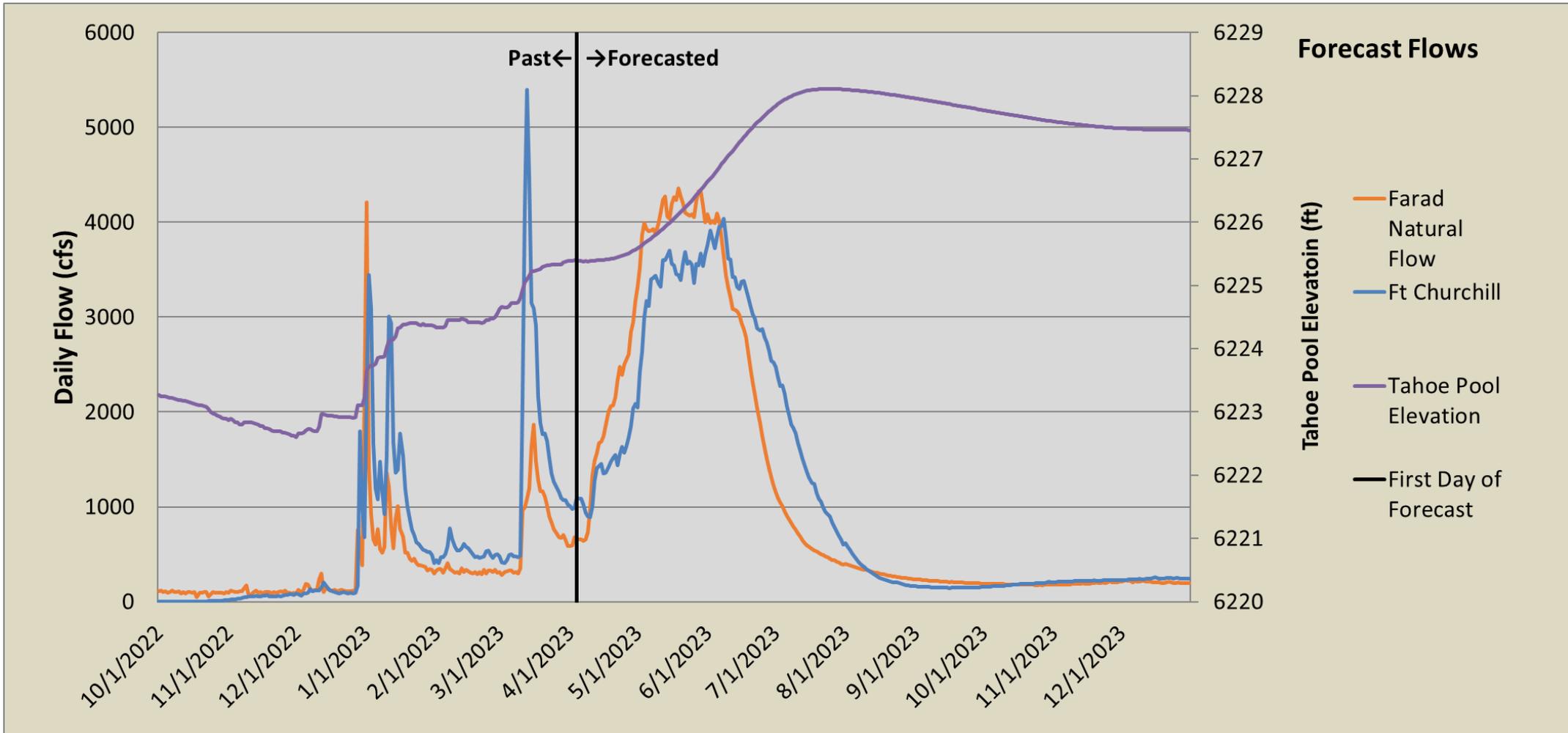


Current Snowpack



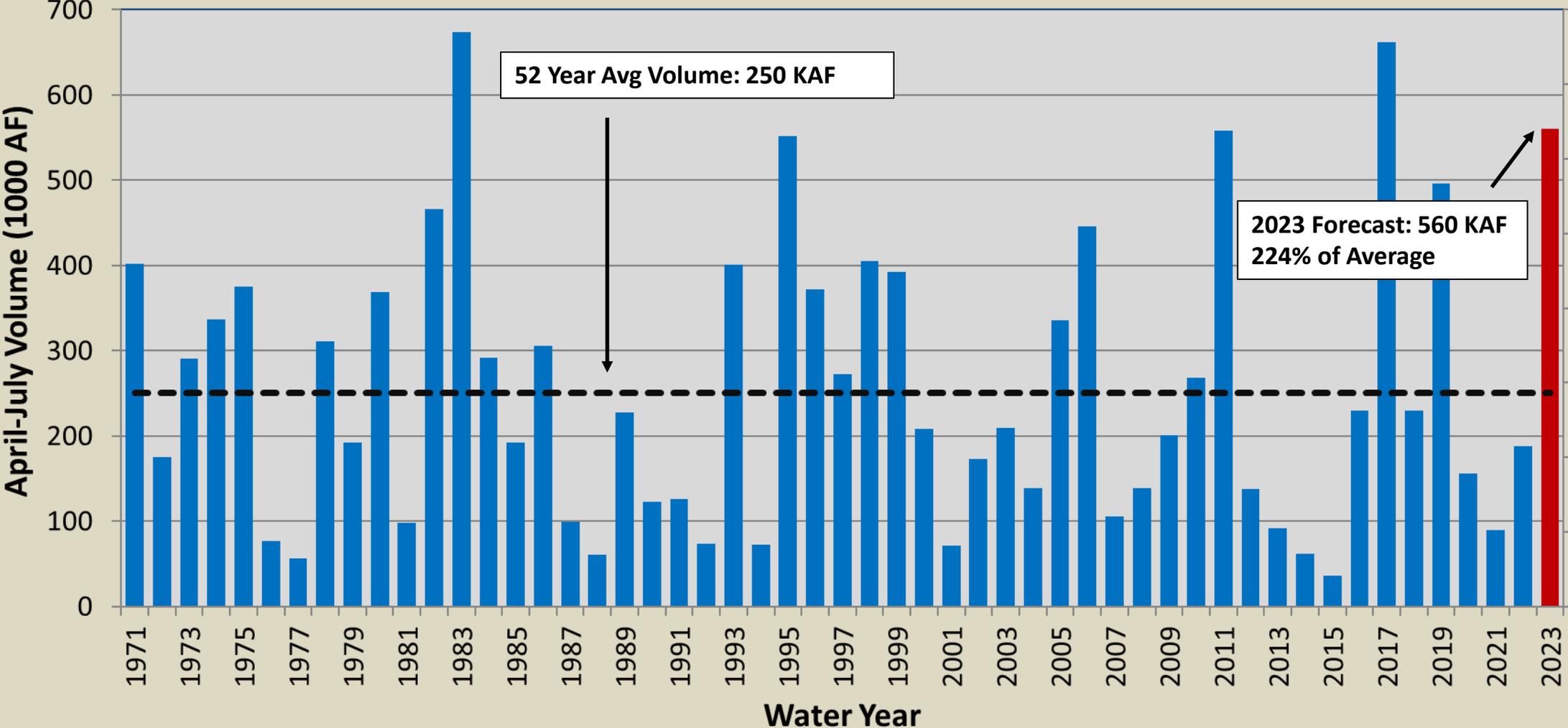
WY 2023 April 5 NRCS Forecast - Hydrograph

	Farad AJ Vol (KAF)	Carson AJ Vol (KAF)	Tahoe Gate Closed Rise (ft.)
30% (W)	660	590	3.20
50% (M)	560	570	2.90
70% (D)	530	550	2.60

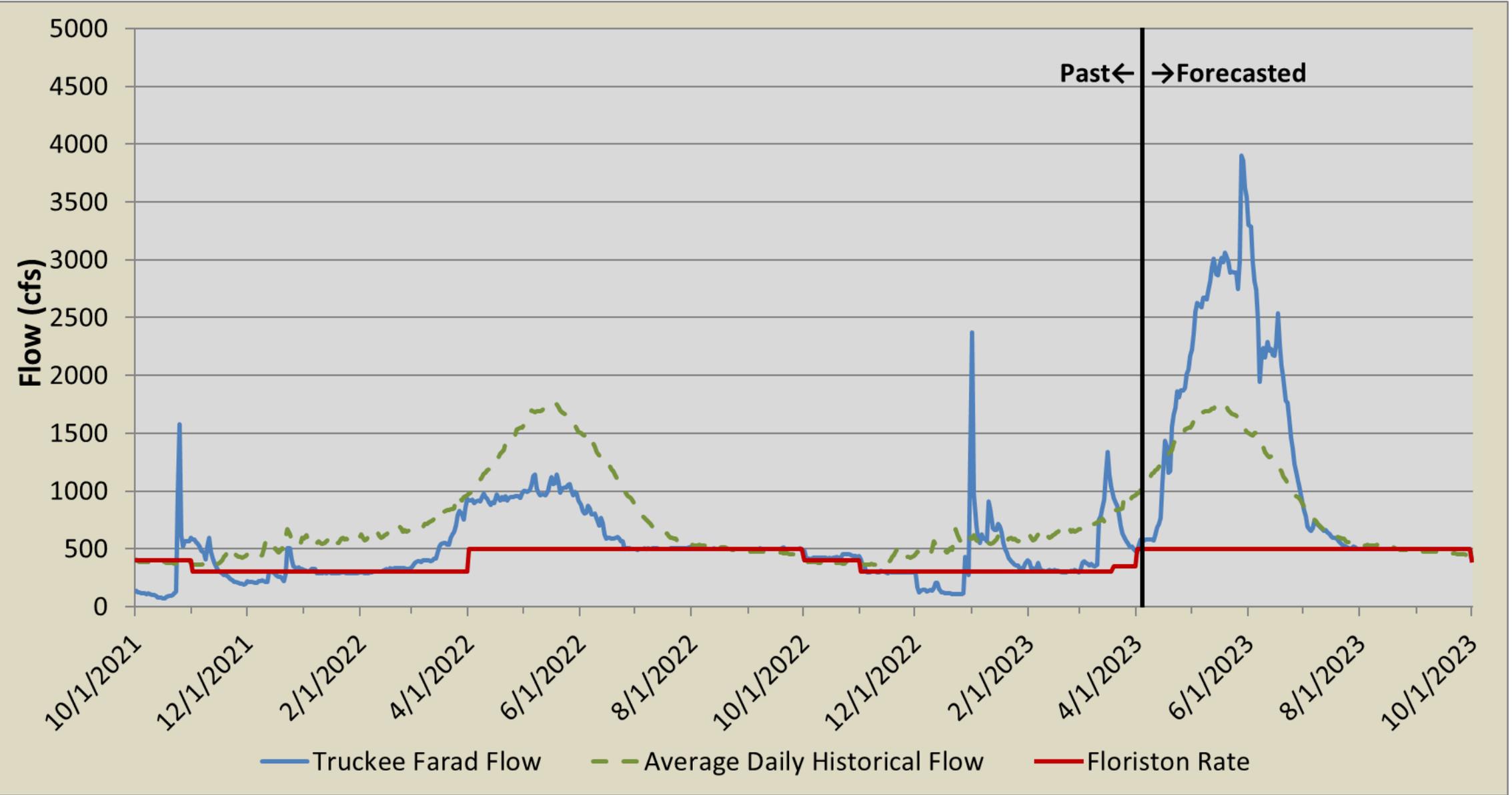


Historical & Forecasted A-J Runoff – Farad

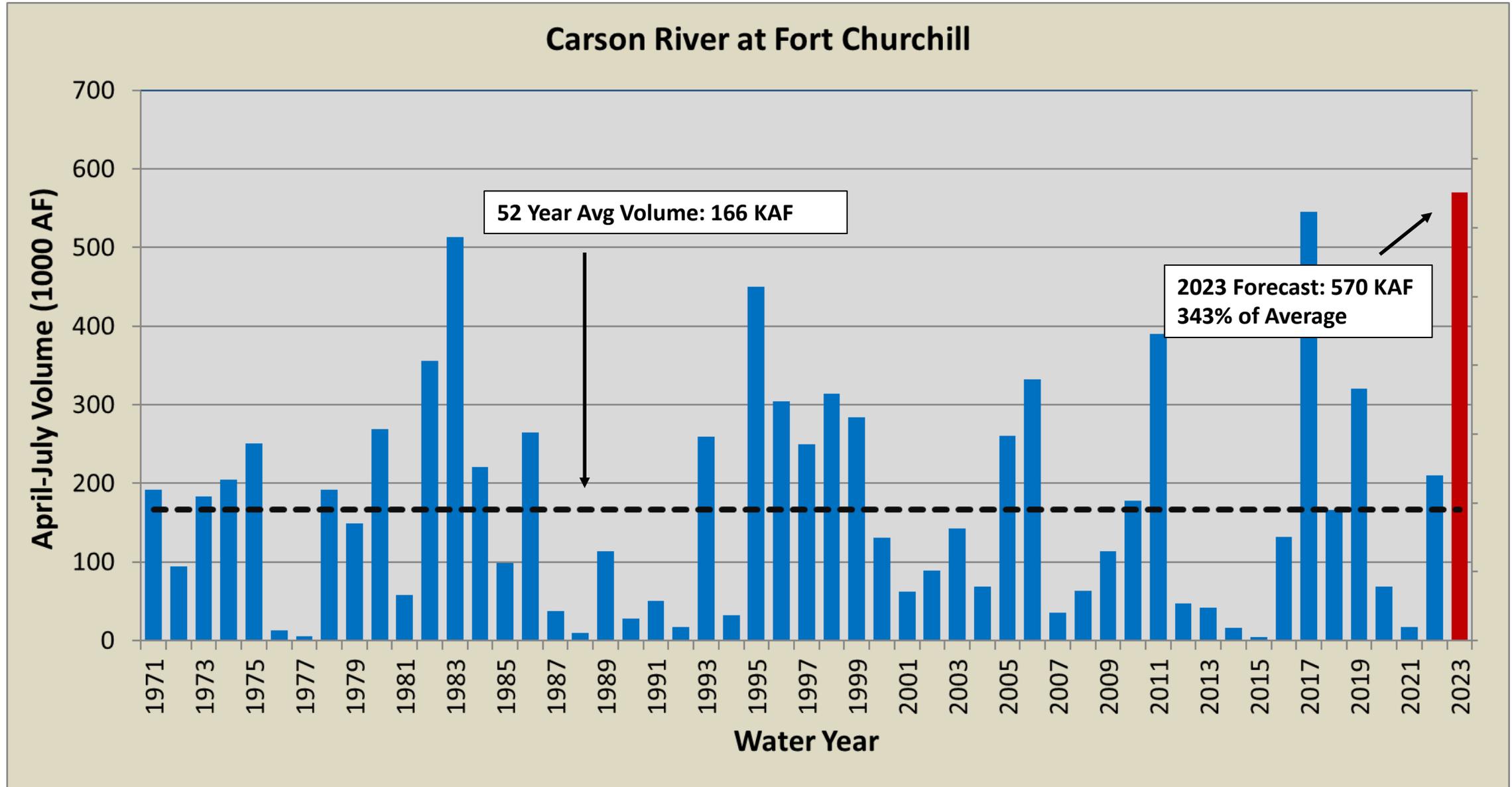
Truckee River at Farad



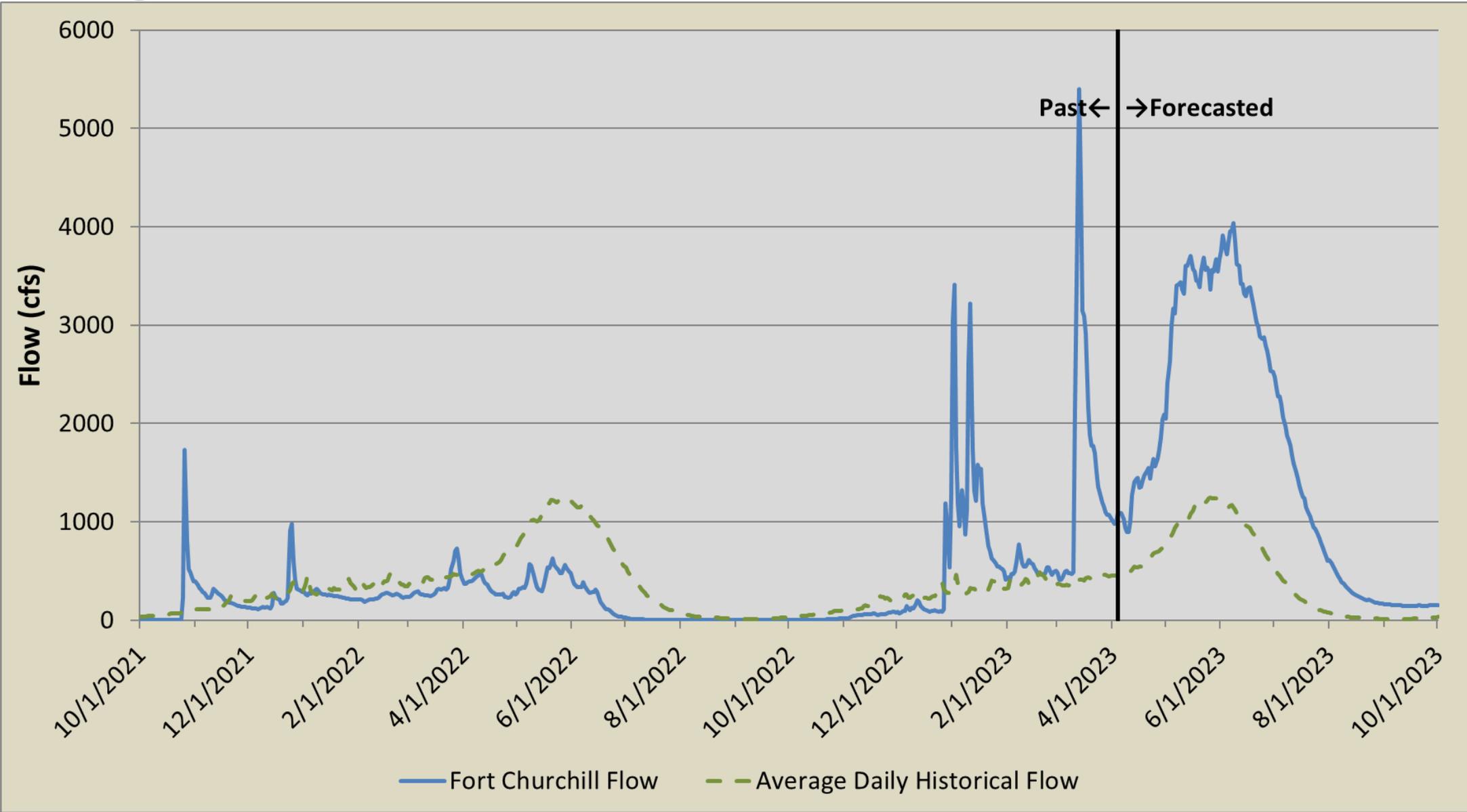
Average, Historic & Forecasted Farad Flow



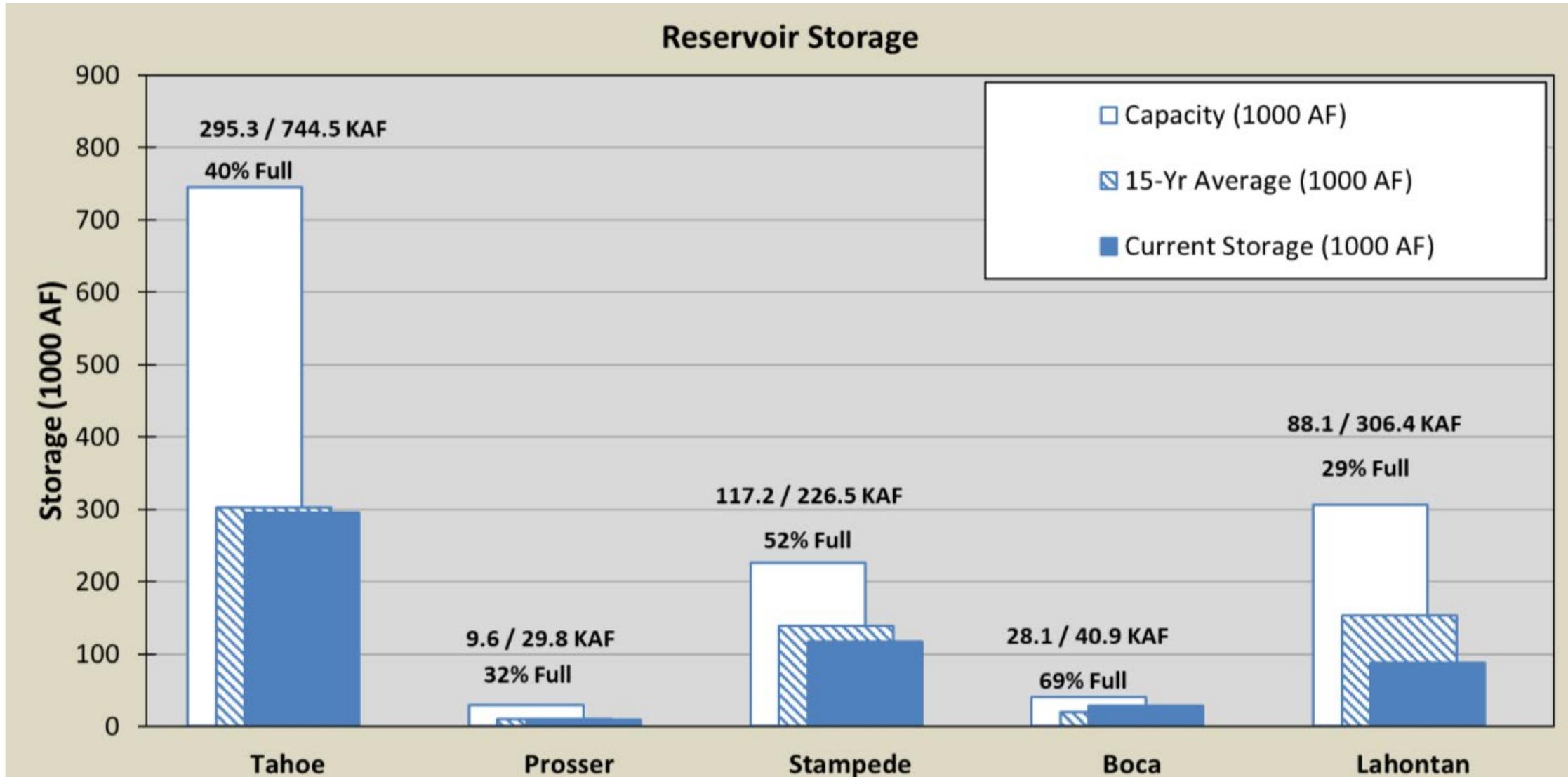
Historical & Forecasted A-J Runoff–Ft Churchill



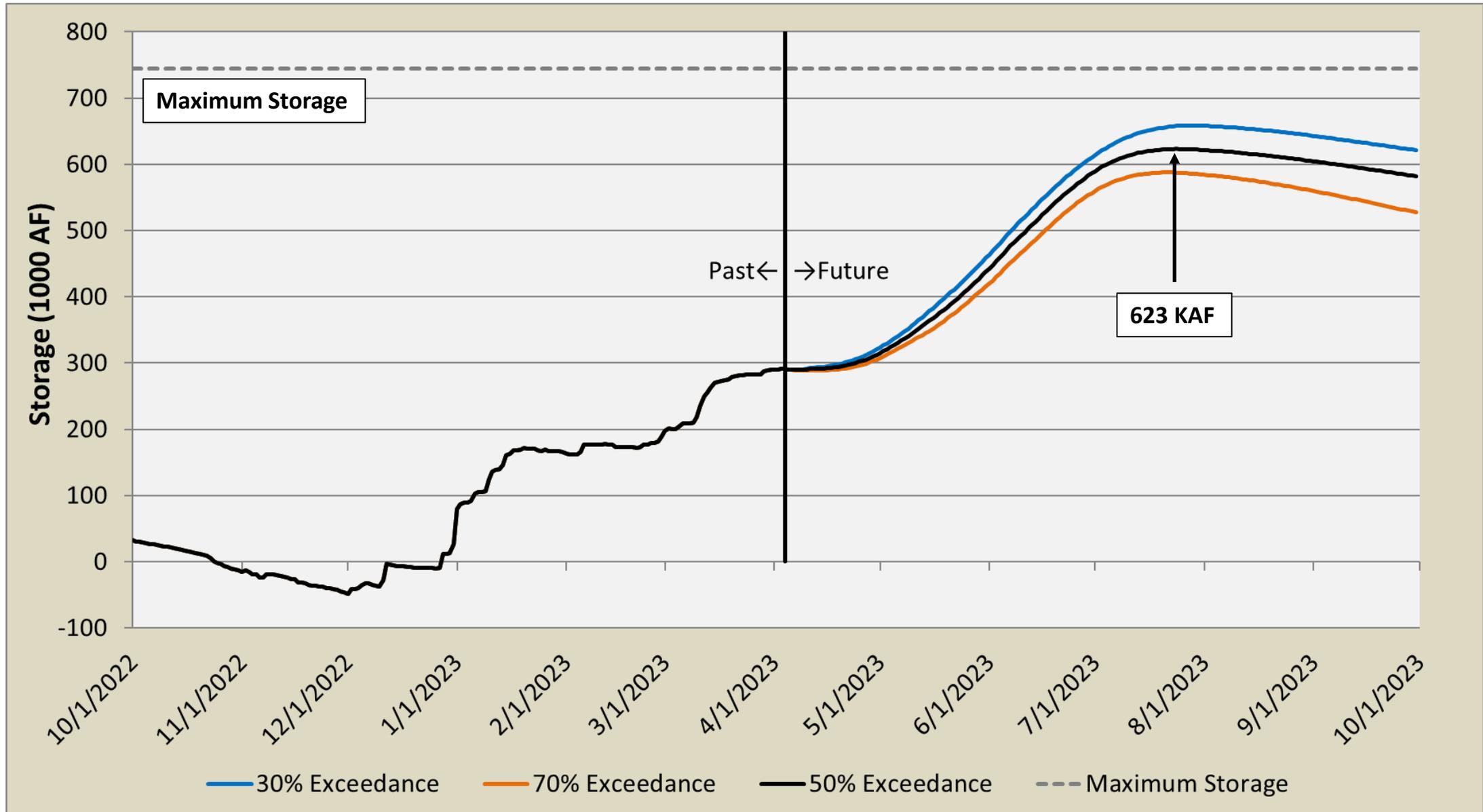
Average & Forecasted Ft. Churchill Flow



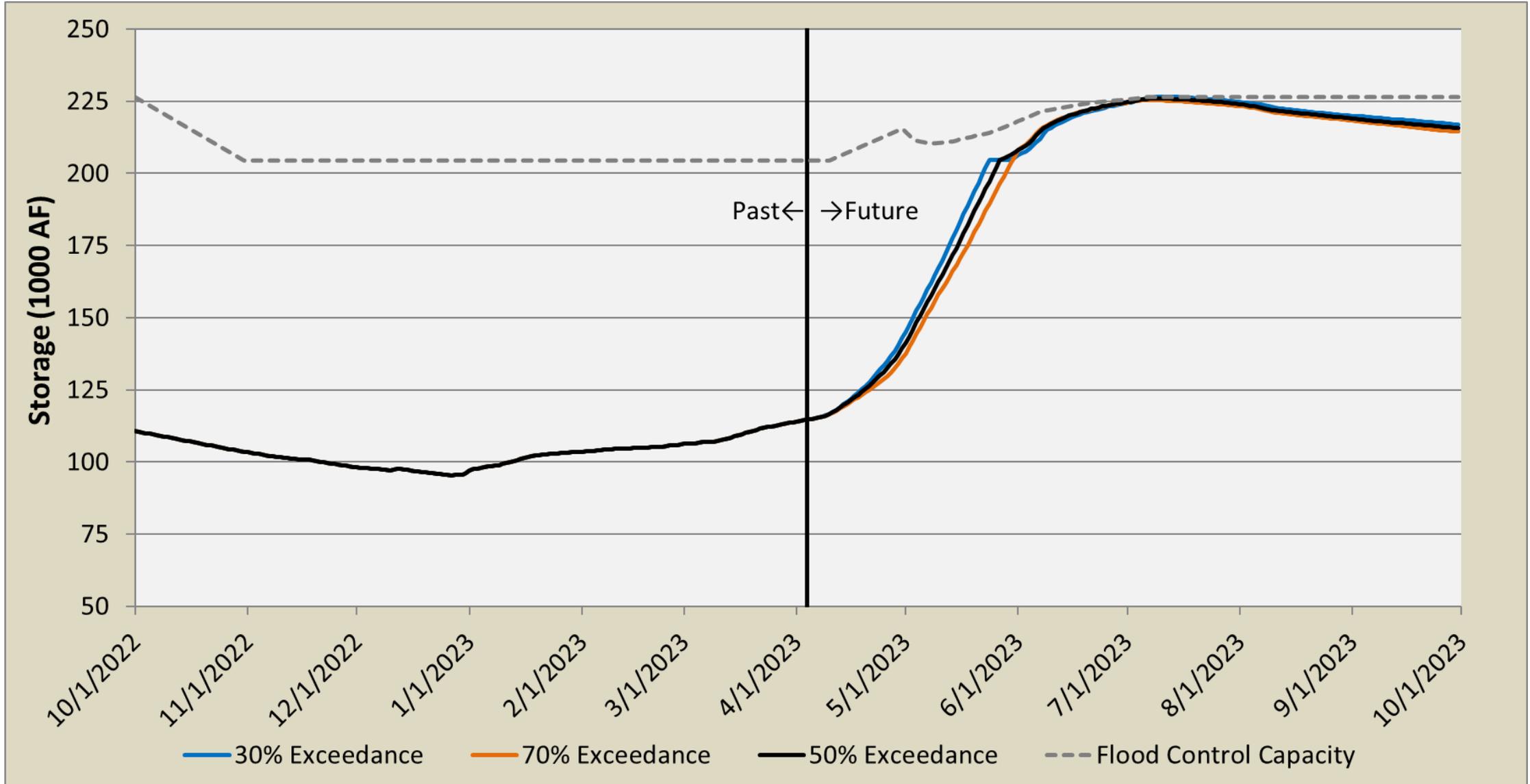
Current Reservoir Storage



Lake Tahoe Storage Forecast



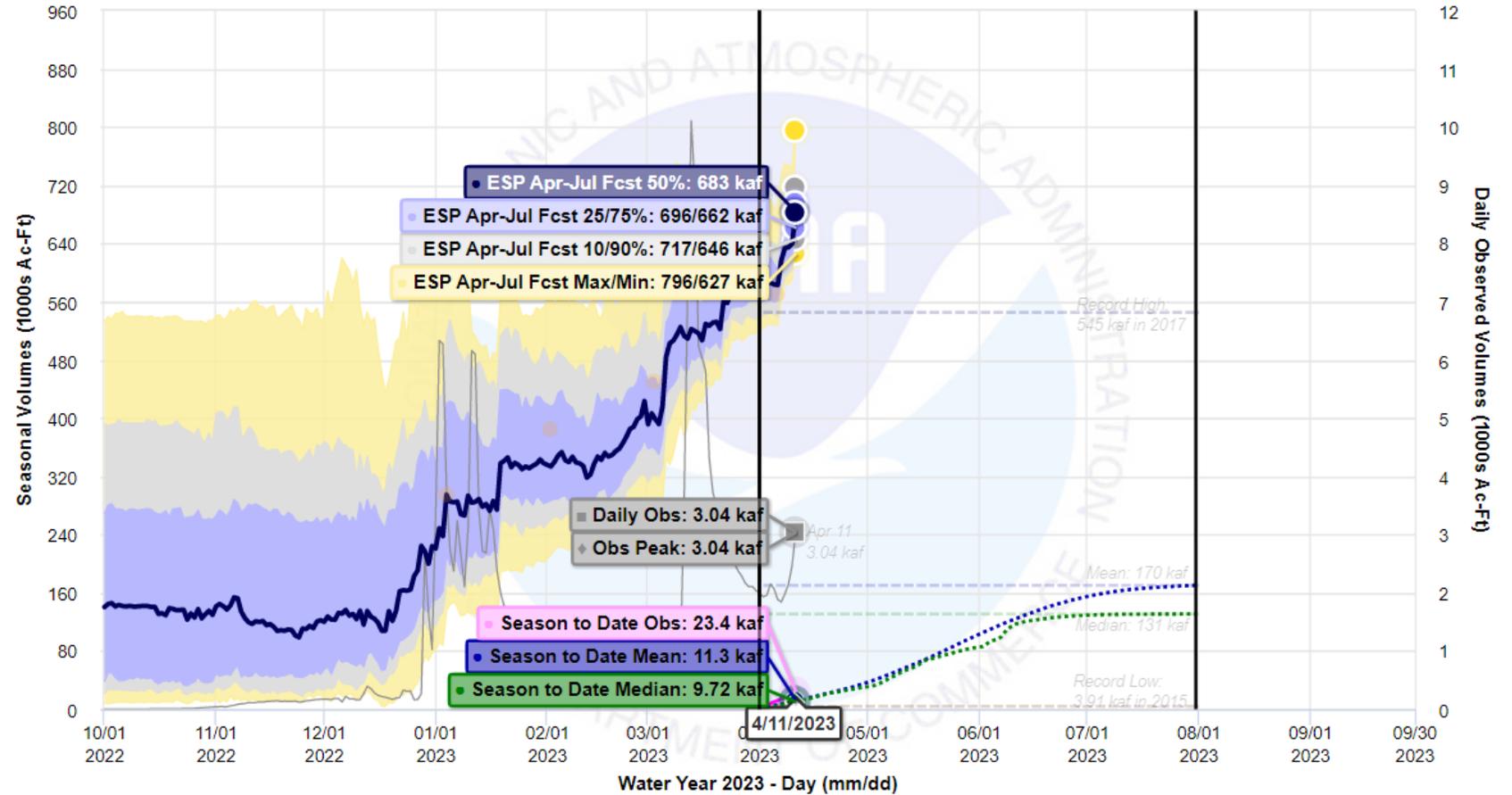
Stampede Reservoir Storage Forecast



Forecasted Lahontan Inflows

CARSON - FORT CHURCHILL, NR (FTCN2) 04/11/2023
 Median Forecast: **683 kaf** | 401% of Mean | 522% of Median

Created: 04/11/2023 at 09:20 AM PDT

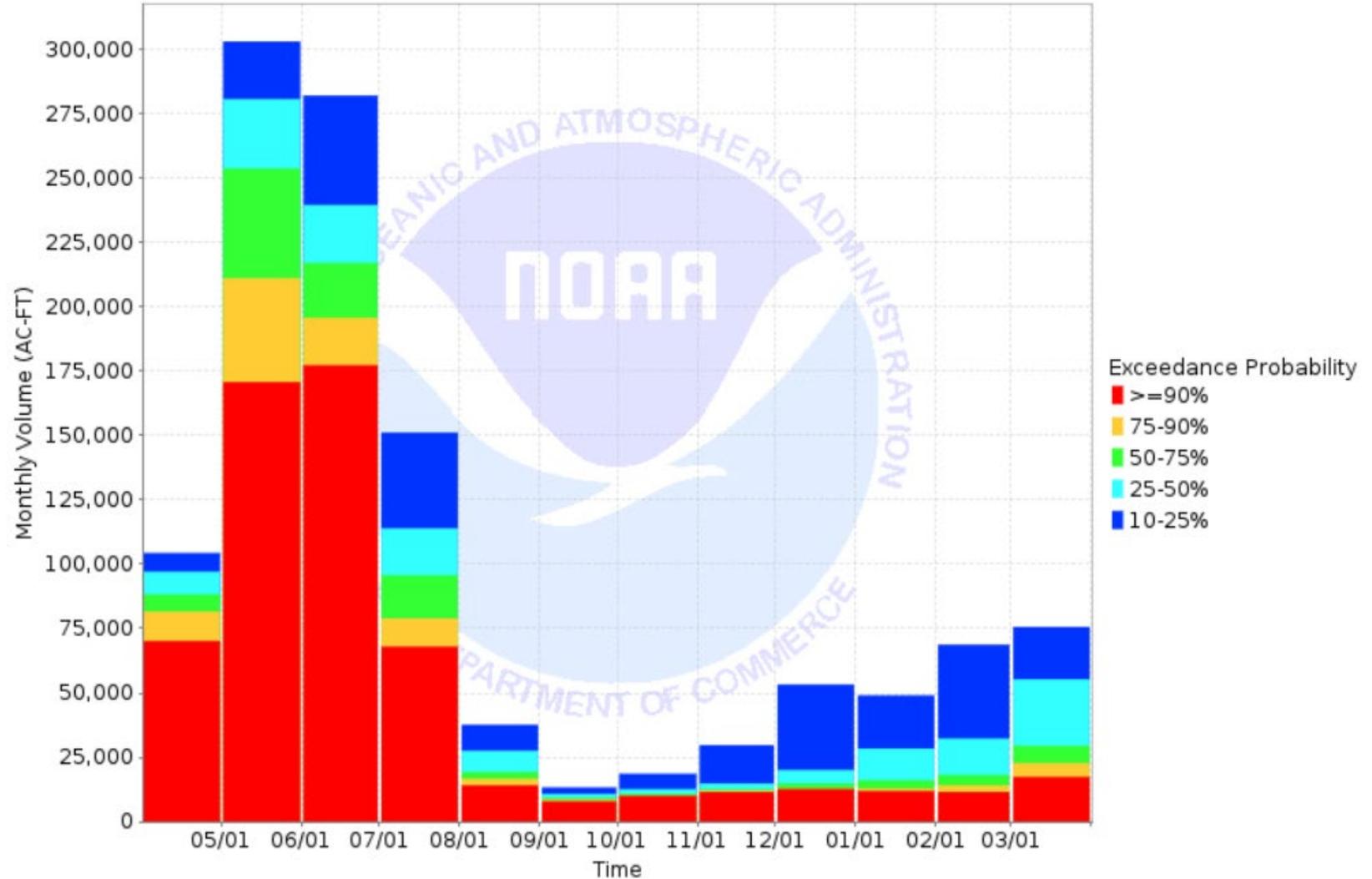


Observed Season to Date Percent of Mean: 207% (23.5 kaf) Season to Date Mean: 11.3 kaf
 Historical Apr-Jul Vol Max: 545 kaf in 2017 Historical Apr-Jul Vol Min: 3.91 kaf in 2015

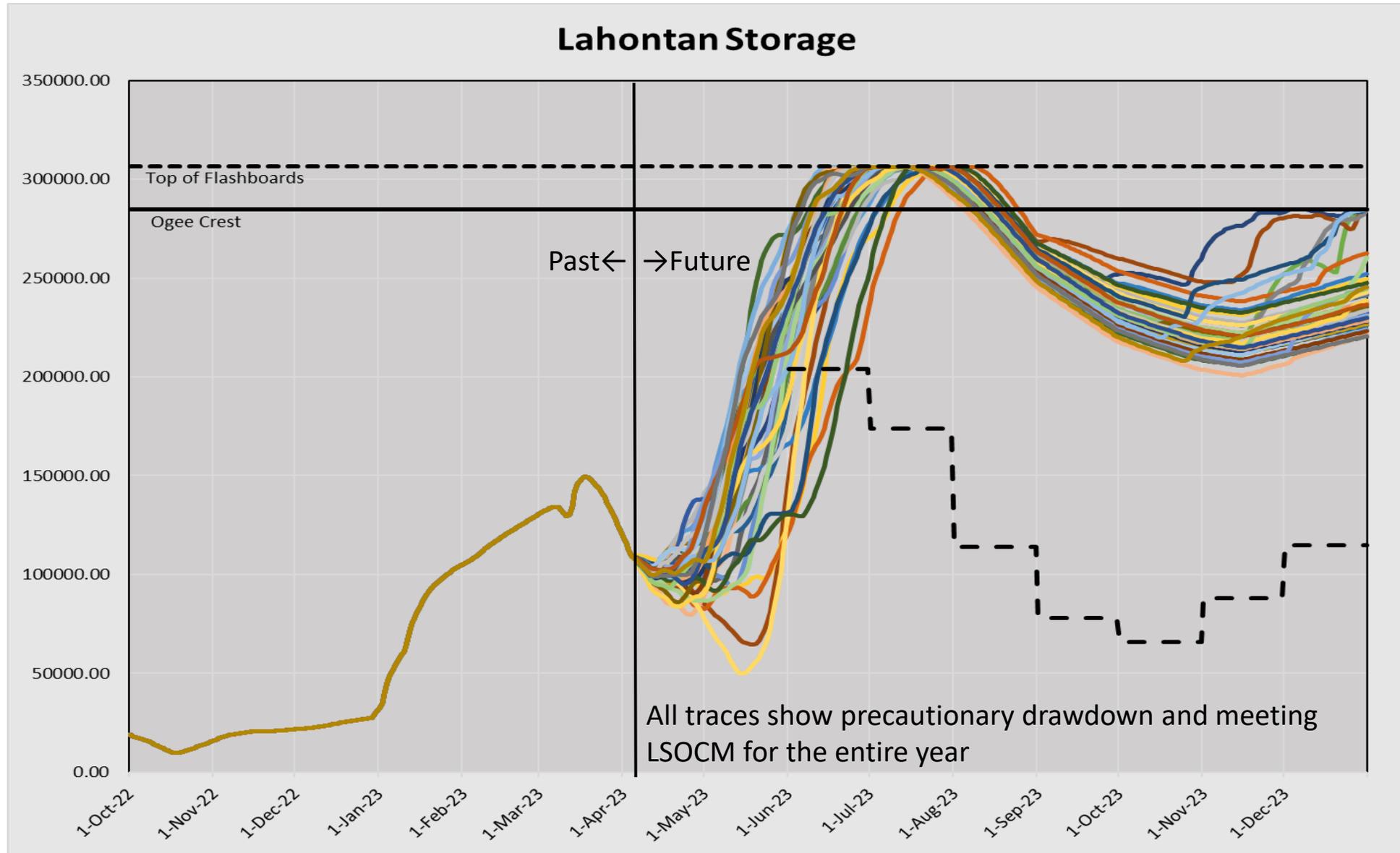


Forecasted Lahontan Inflows

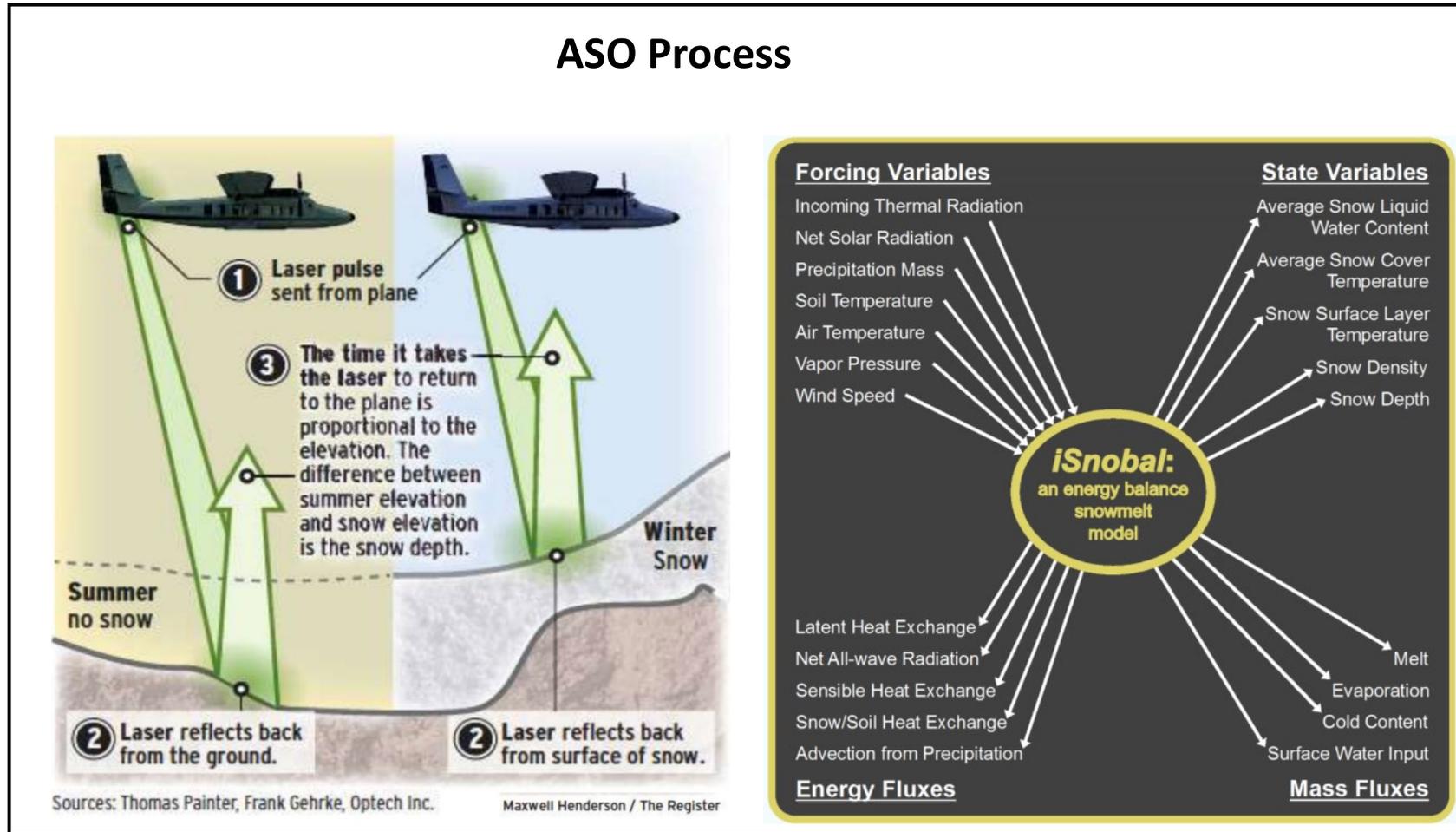
Monthly Volume Exceedance Values on the CARSON - FORT CHURCHILL,
Latitude: 39.291668 Longitude: -119.31111
Forecast for the period 04/11/2023 - 04/01/2024
This is a conditional simulation based on the current conditions as of 04/11/2023
(src=D)



Lahontan Reservoir Storage Forecast (RFC Traces Scaled to NRCS)



Airborne Snow Observatory in the Carson Basin



- Flights/Modeling will provide spatially distributed estimates of SWE
- Purchased in 2023 by CA DWR



Carson Airborne Snow Observatory Flight

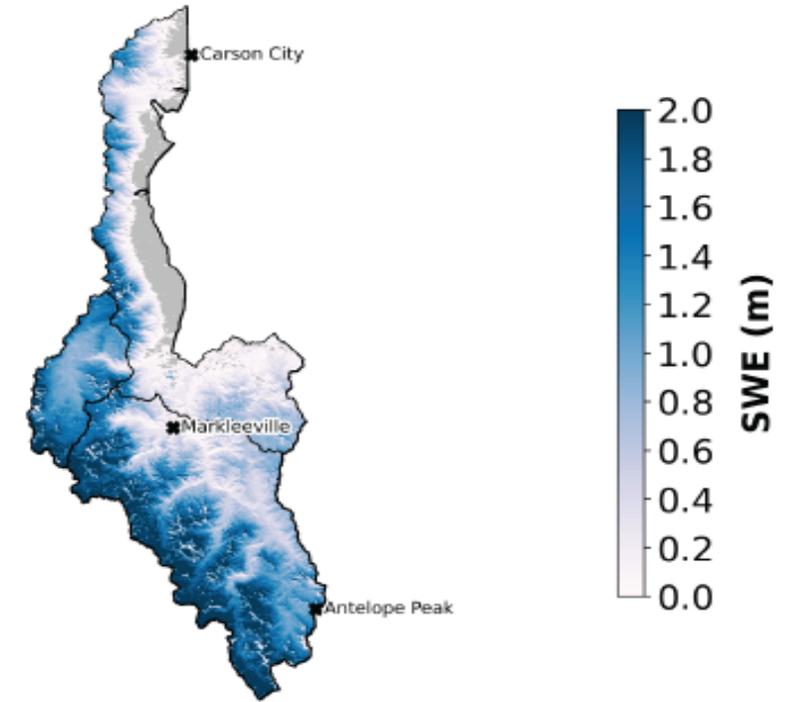


Figure 1. Spatial distribution of SWE depth (m).

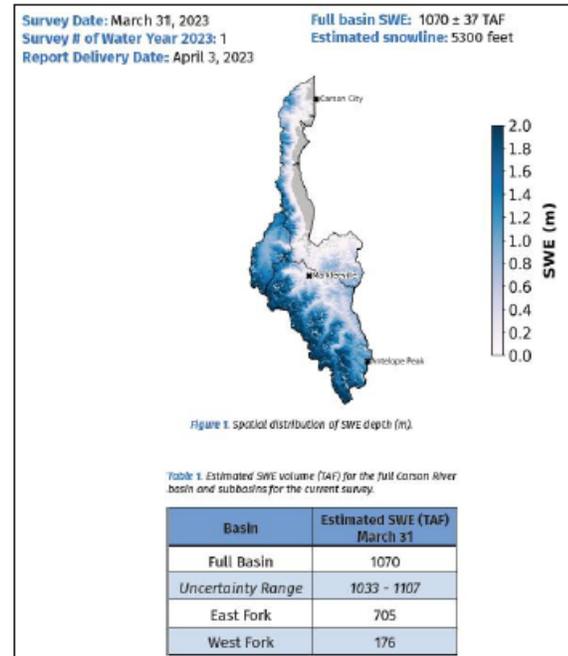
Table 1. Estimated SWE volume (TAF) for the full Carson River basin and subbasins for the current survey.

Basin	Estimated SWE (TAF) March 31
Full Basin	1070
<i>Uncertainty Range</i>	<i>1033 - 1107</i>
East Fork	705
West Fork	176

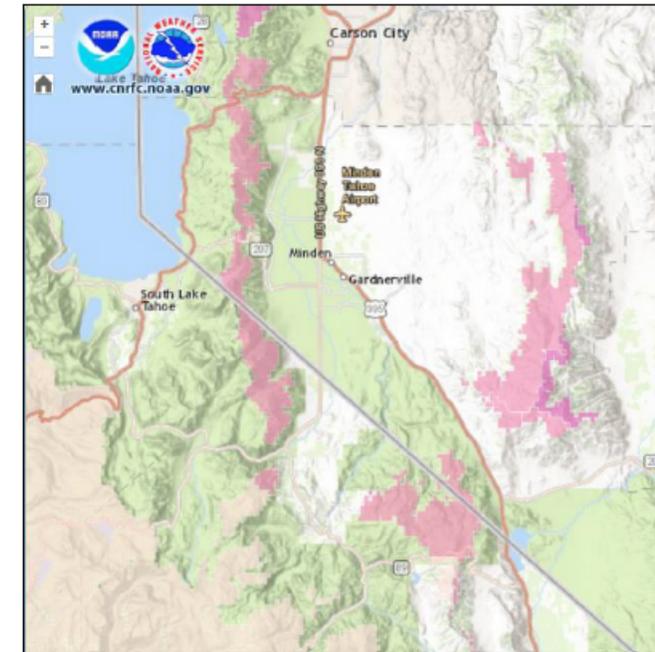
Current Conditions—Snow Models 4/1

Model	3/24	4/1	4/4
iSnobal Sierras Only	1,107 kaf	1,070 kaf	-
Snow-17 Sierras and Pine Nuts	948 kaf	966 kaf	963 kaf
Difference	160 kaf ; 15%	104 kaf; 10%	-

iSnobal

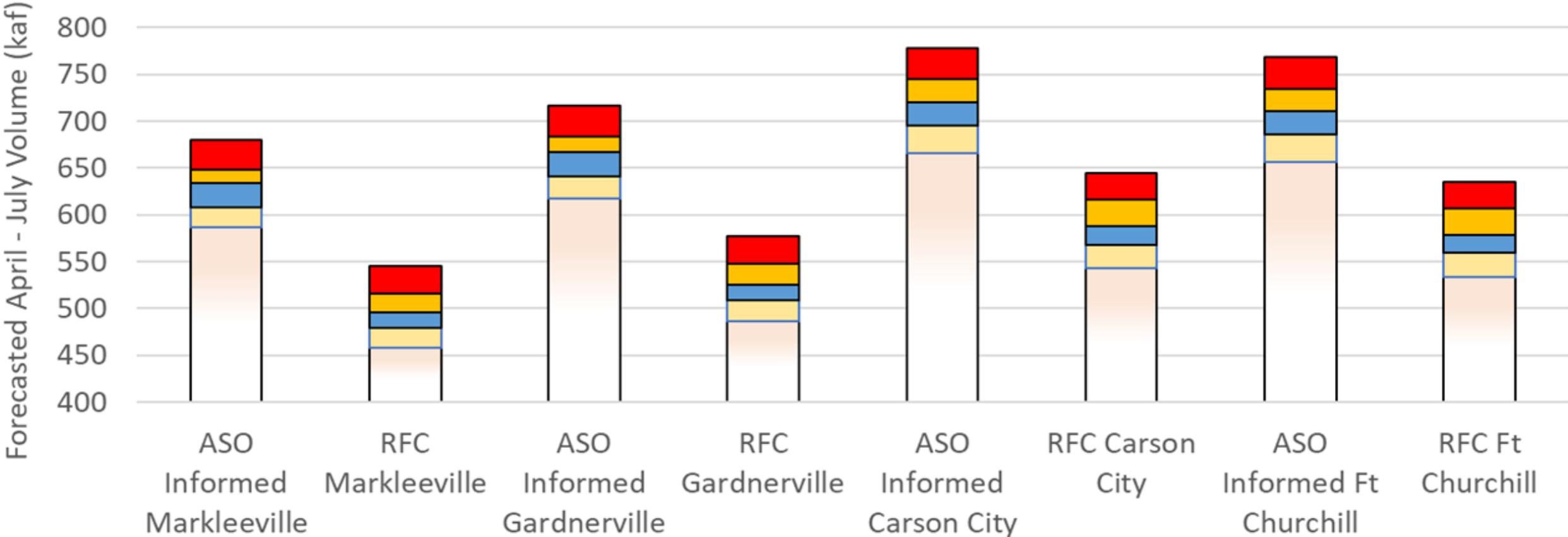


Snow-17



Comparison of RFC's Forecasted April July Volumes with and without ASO Data

100% to 95%
 95% to 75%
 75% to 50%
 50% to 25%
 25% to 5%



Fort Churchill April-July Forecasts

	Carson AJ Vol (KAF)
30% (W)	590
50% (M)	570
70% (D)	550

NRCS April 1

RFC

	RFC 4/10 (KAF)	ASO Informed RFC (KAF)*
25% (W)	647	734
50% (M)	635	706
70% (D)	616	676

*not official, experimental



Flood Operations



- Established Emergency Operations Center with stakeholders
- Discharges out of V-Line Weir to Carson Lake and Pasture → Big Berm → Big Dig
- Flow Measurements in Carson River and V-Line
- Snowpack monitoring and runoff modeling





WY2023 Summary

- Record snowpack in Carson basin is expected to extend flood operations through July
- Truckee Canal Public Safety Improvement Project outage is expected to last through the end of the water year
- ASO data will improve estimates of Truckee-Carson Snowpack







Comments or Questions?

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