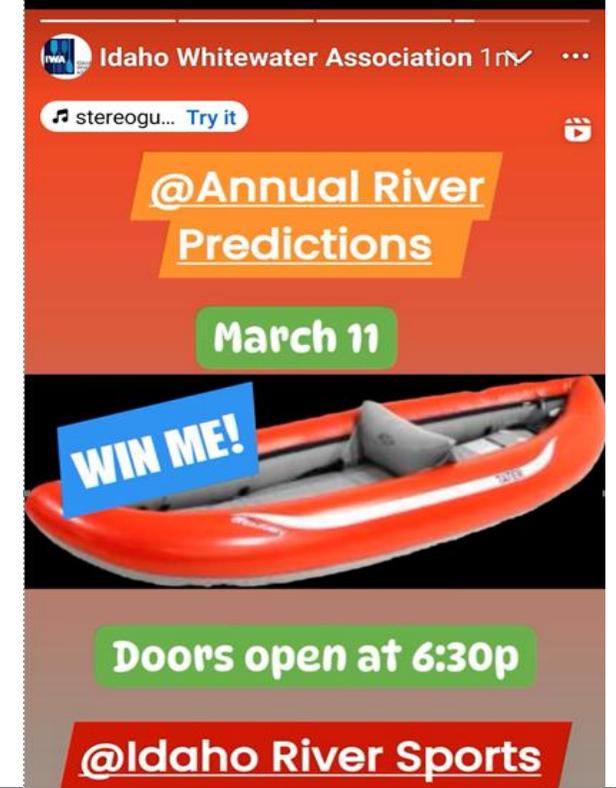


2026 Snow 2 Flow Update & Annual River Predictions

By Ron Abramovich
Mostly Retired...

This talk and more posted here:
<https://snowweatherandflow.blog/>



Idaho Whitewater Association

A Non-profit Organization for Idaho Whitewater Enthusiasts

From the Archives

Let's Go Boating – you better have the boat ready to go this year...



Idaho Whitewater Association

Water Supply Talk March 2, 2005

By Ted Day and Ron Abramovich

April 6, 2026

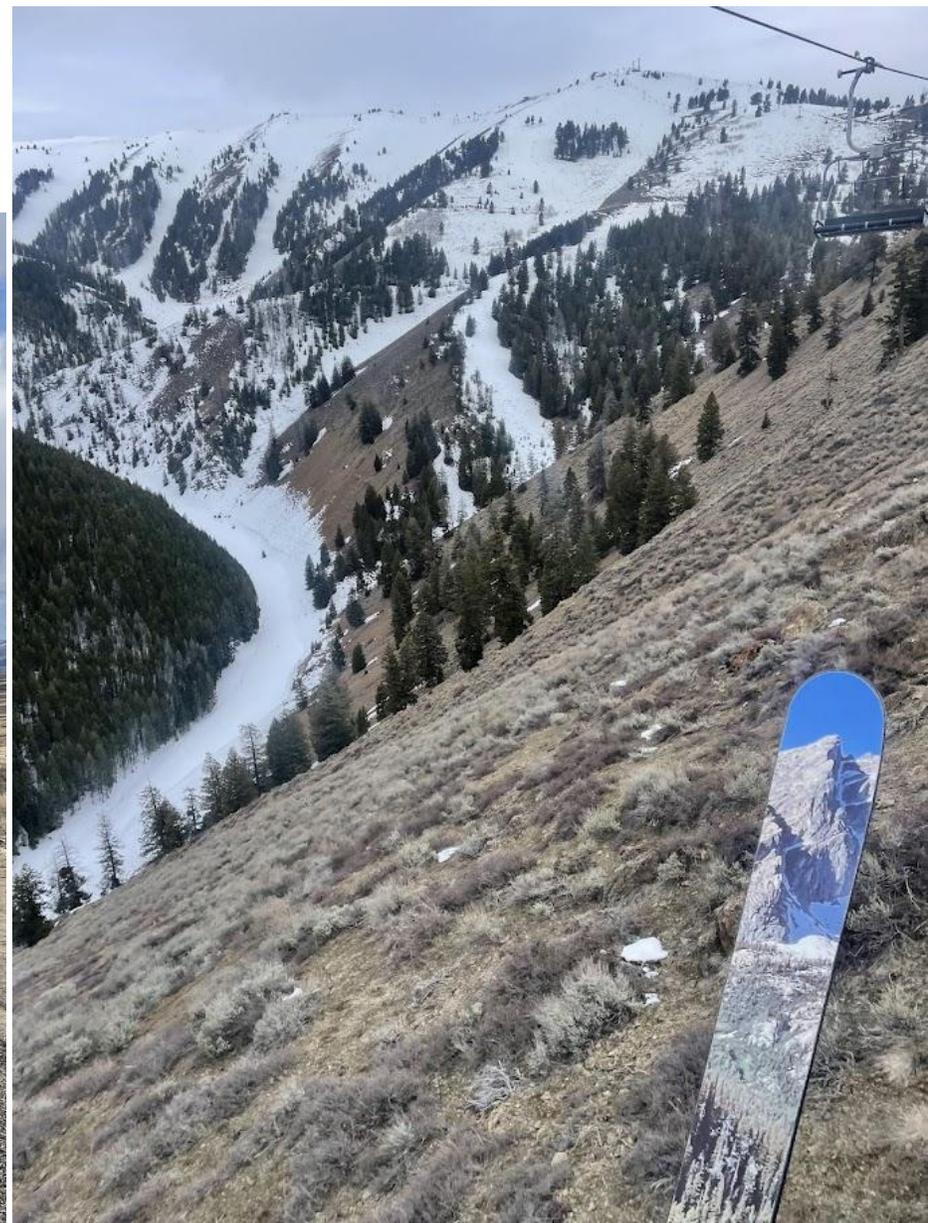


Where's the Snow ?

Cat Creek Summit
Highway 20



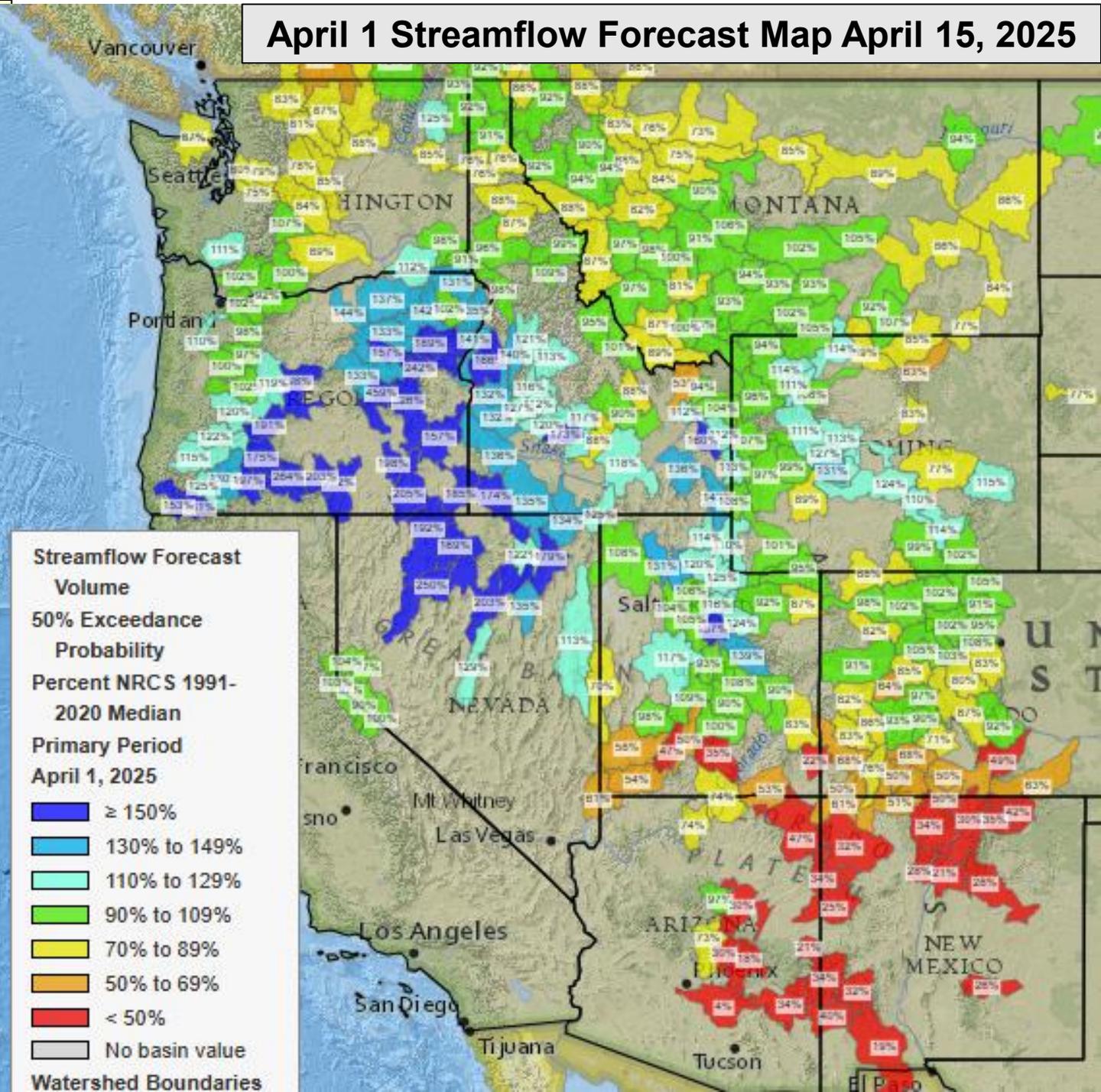
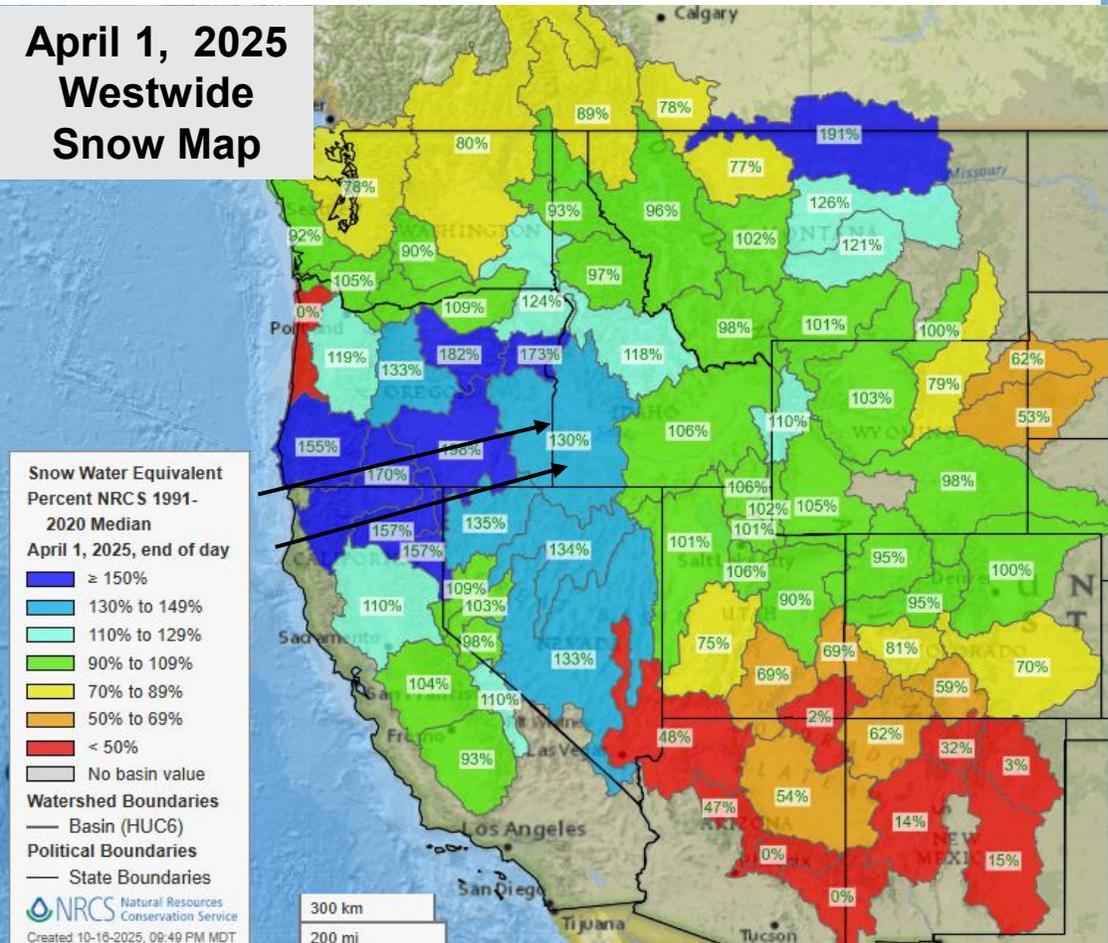
February 8, 2026
Sun Valley Resort



April 1, 2025 – Snow & Water Supply Forecasts were looking promising for PNW

April 1 Streamflow Forecast Map April 15, 2025

April 1, 2025 Westwide Snow Map



Years Following Strong El Nino Events.

2025 Runoff updated in Red box

2025 Runoff - only a few basins had near normal runoff, and a few less than 80% of average.

★ 2025 March Forecasts were looking good ! Now we must wait for another strong El Nino year to share again.

		Streamflow as % of 1991 - 2020 Average								
		Feb-Sep	Apr-Sep	Apr-Sep	Apr-Sep	Apr-Sep	Apr-Sep	Apr-Sep	Apr-Sep	Apr-Sep
Strong & Very Strong El Nino Years	Year Following a Strong & Very Strong El Nino Year	Owyhee River below Dam	Bruneau River	Sorted high to low	Payette River nr Horseshoe Bend	MF Salmon River at MF Lodge	Salmon River at White Bird	Selway River	Spokane River nr Post Falls	
				Boise R nr Boise						
Very Strong	ENSO									
2015-16	2017	LA	155	182	184	164	180	148	104	110
1982-83	1984	LA	363	343	162	146	NA	144	126	109
1997-98	1999	LA	100	116	138	140	121	124	112	126
Strong				Sorted high to low						
1972-73	1974	LA	120	104	185	188	182	164	145	189
1991-92	1993	N	165	125	124	128	NA	107	94	114
1965-66	1967	N	69	93	107	111	NA	119	109	110
1987-88	1989	LA	145	103	99	91	NA	78	102	114
1957-58	1959	EL	20	50	89	99	NA	101	124	136
2023-24	2025	LA	~100	66	90	101	88	84	80	~69
★ Mar 5 NWS 50% Exceedance Forecast			131%	121%	112%	115%	117%	103%	90%	83%
Mar 1 NRCS 50% Exceedance Forecast			127%	107%	117%	112%	104%	90%	108%	75%

Sorted high to low

Color Code for Streamflow as % of Average

- < 80%
- 80-110%
- 110-150%
- > 150%

Good April 1, 2025 Snowpacks

+ Near Record Low Spring Precip

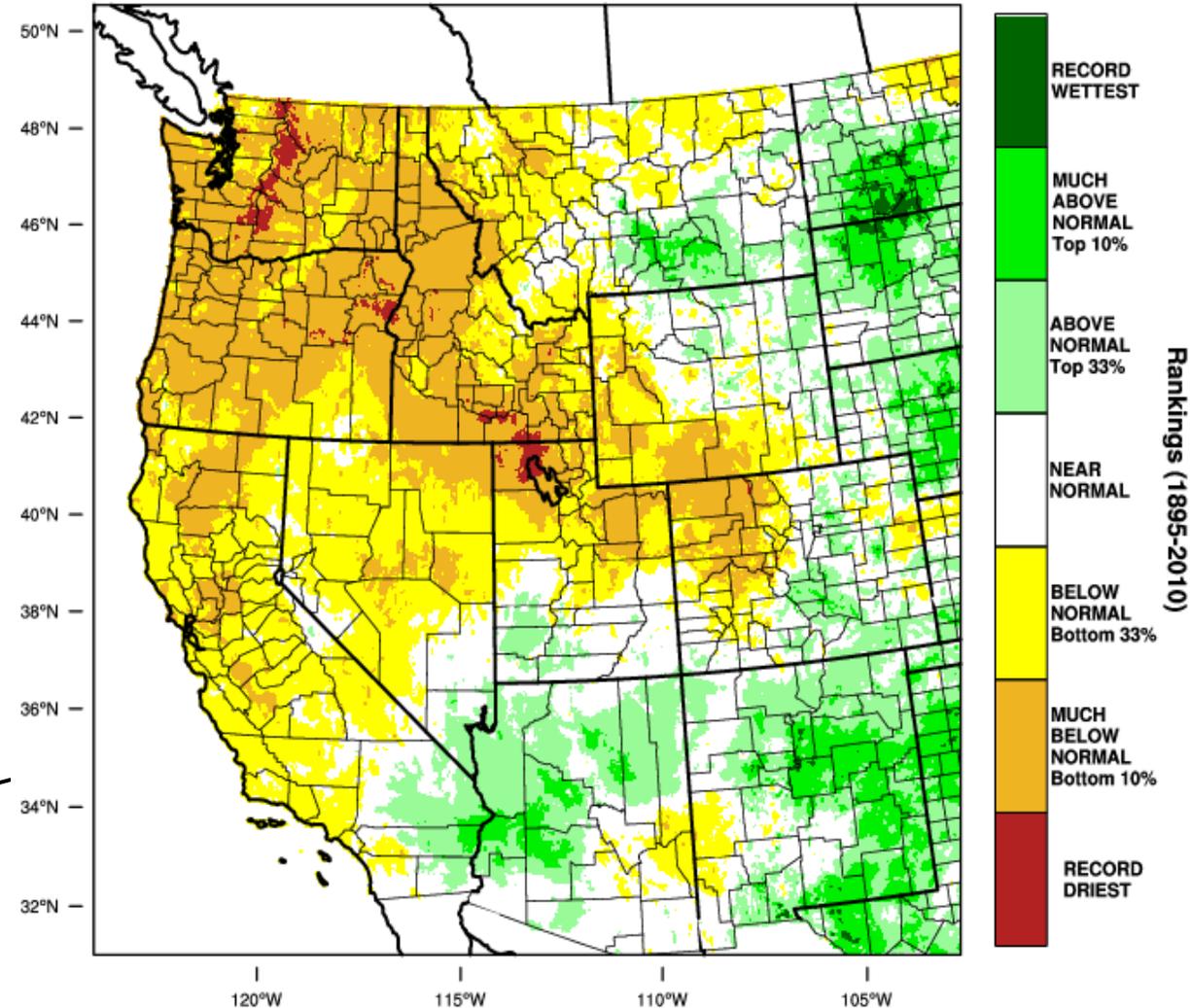
= Much Less Than Expected Runoff

Lesson Learned about Spring Precipitation

Living in the Extremes

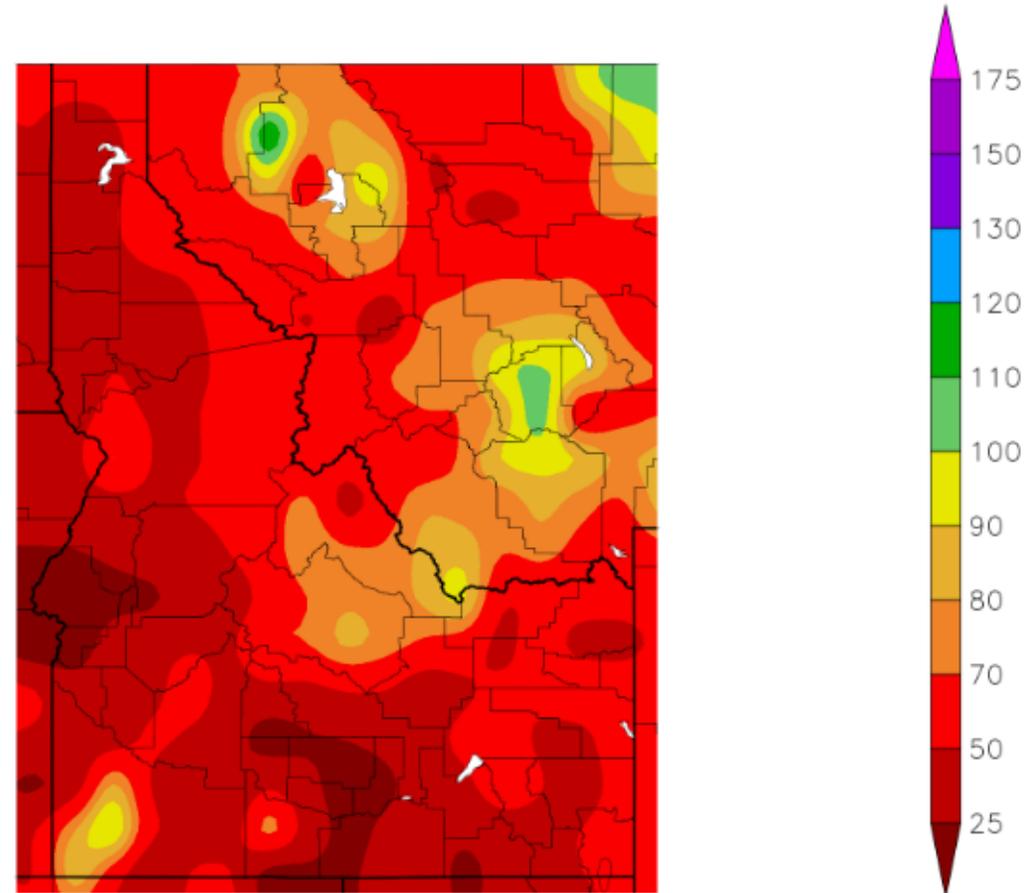
Idaho Apr-Jun precip was only 25 - 90% of average

Western United States - Precipitation
April-June 2025 Percentile



WestWide Drought Tracker, U Idaho/WRCC Data Source: PRISM (Prelim), created 16 JUL 2025

Percent of Normal Precipitation (%)
4/1/2025 - 6/30/2025

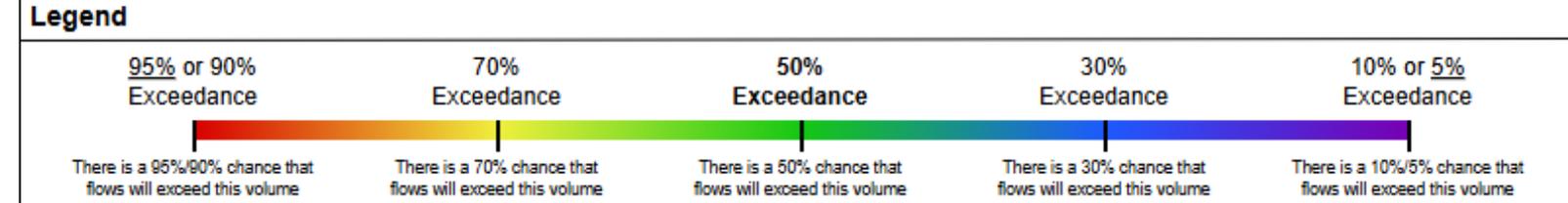
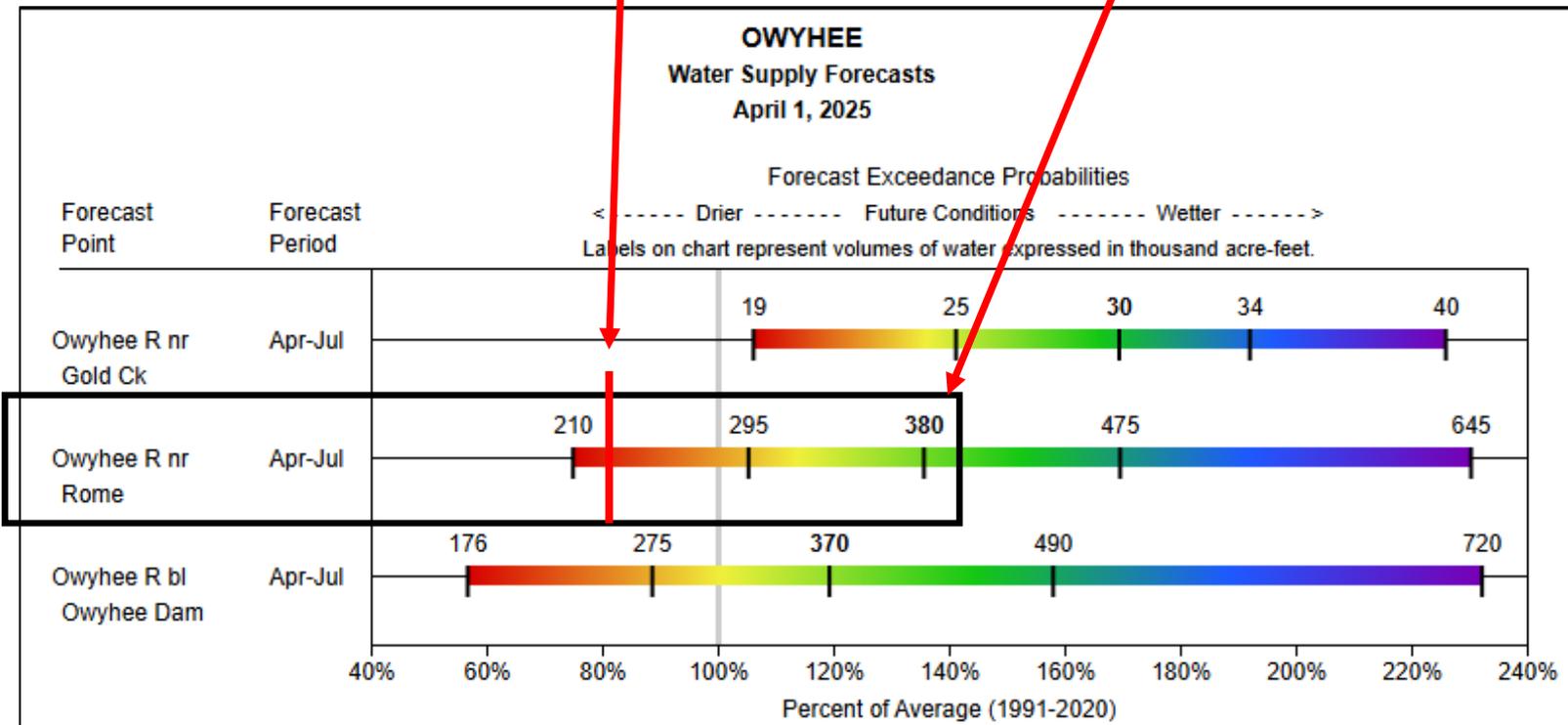
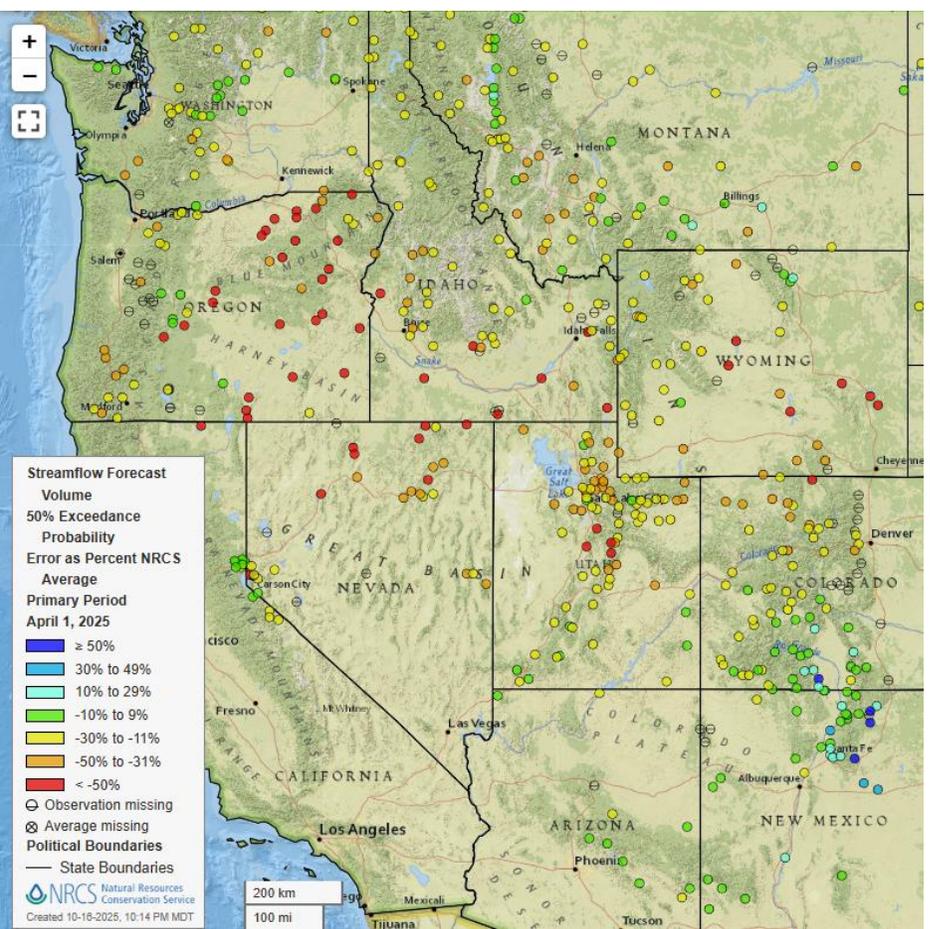


Lessons Known – **Spring Precipitation** can make or break the streamflow runoff forecasts.

April 1, 2025 Apr-Jul Owyhee River nr Rome
 Volume Forecasts was **380 KAF**
 Min Forecast for **210 KAF**

Lack of Apr-Jun Spring Precipitation pushed runoff volumes to the Minimum Forecast Volumes, **90% Exceedance Levels**.

Observed Runoff was 217 KAF



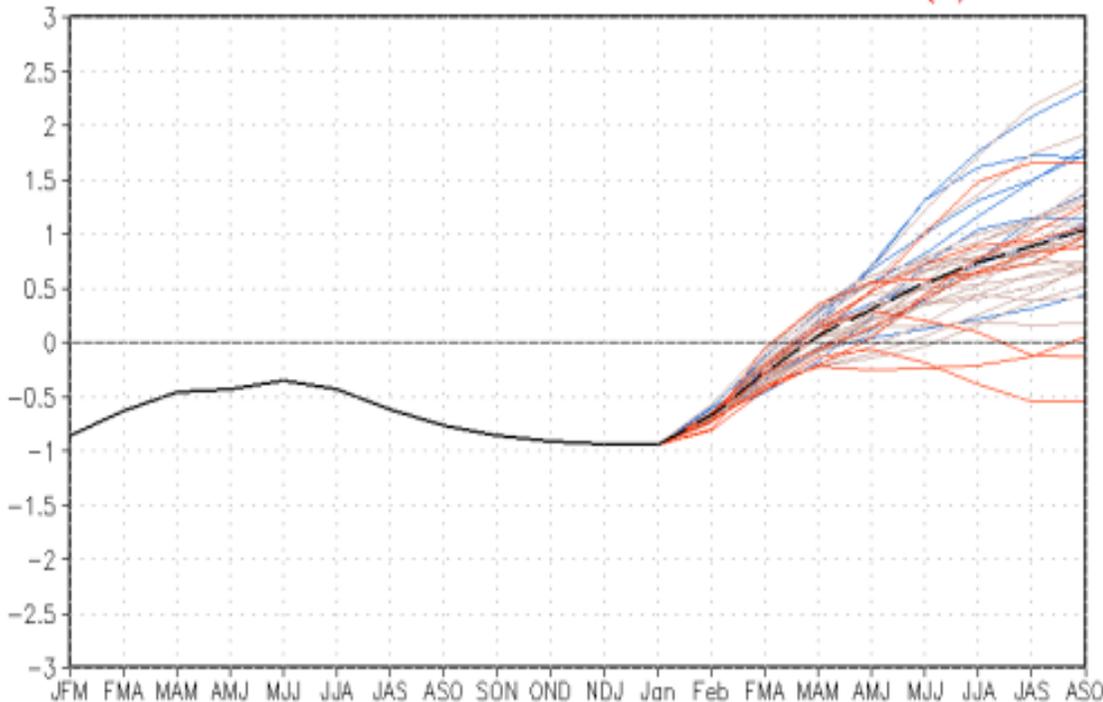
EL NINO 2026 IS COMING

The first hint of a possible El Niño is already visible in the latest extended range ocean forecasts for 2025/2026. These calculations show a rather rapid reversal in the oceans, which is usually fueled by significant global weather changes.

The long-range ensemble forecast below shows the forecast for the main ENSO region. The La Niña conditions (with a value of -0.5 or lower) will begin to dissipate during winter. But the extended forecast shows that most calculations shift into the warm anomalies and are also well above the 0.5 threshold of the El Niño event.



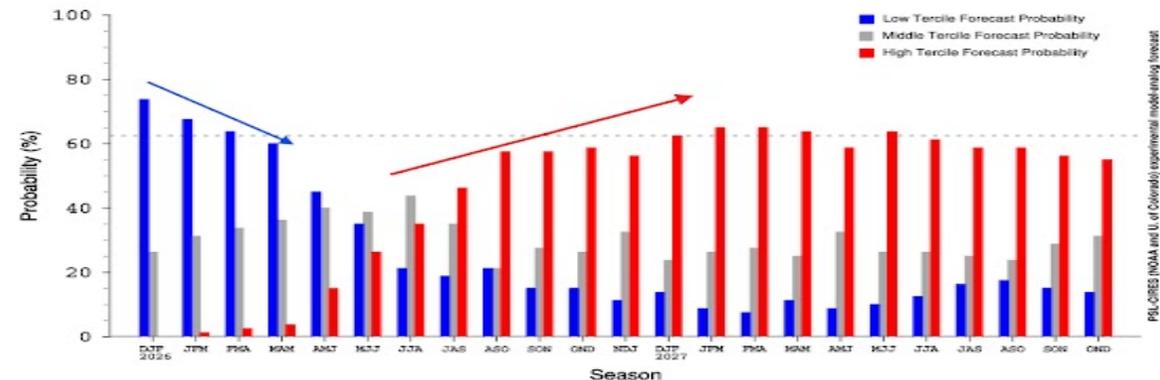
CFSv2 forecast relative Nino3.4 SST anomalies (K)



Sep 2025 - Maybe we'll see an El Niño sooner than later...
El Niño is setting up for Winter 2026-27. I've never seen them calling this out so early, so must be feeling confident.

The CPC official probabilistic ENSO forecast shows a clear shift into El Niño mode for 2026/2027, giving a full El Niño state by early Fall 2026. This shows the event peaking during Winter, potentially lasting for a second year. You can also see the rapid decline of the current La Niña event.

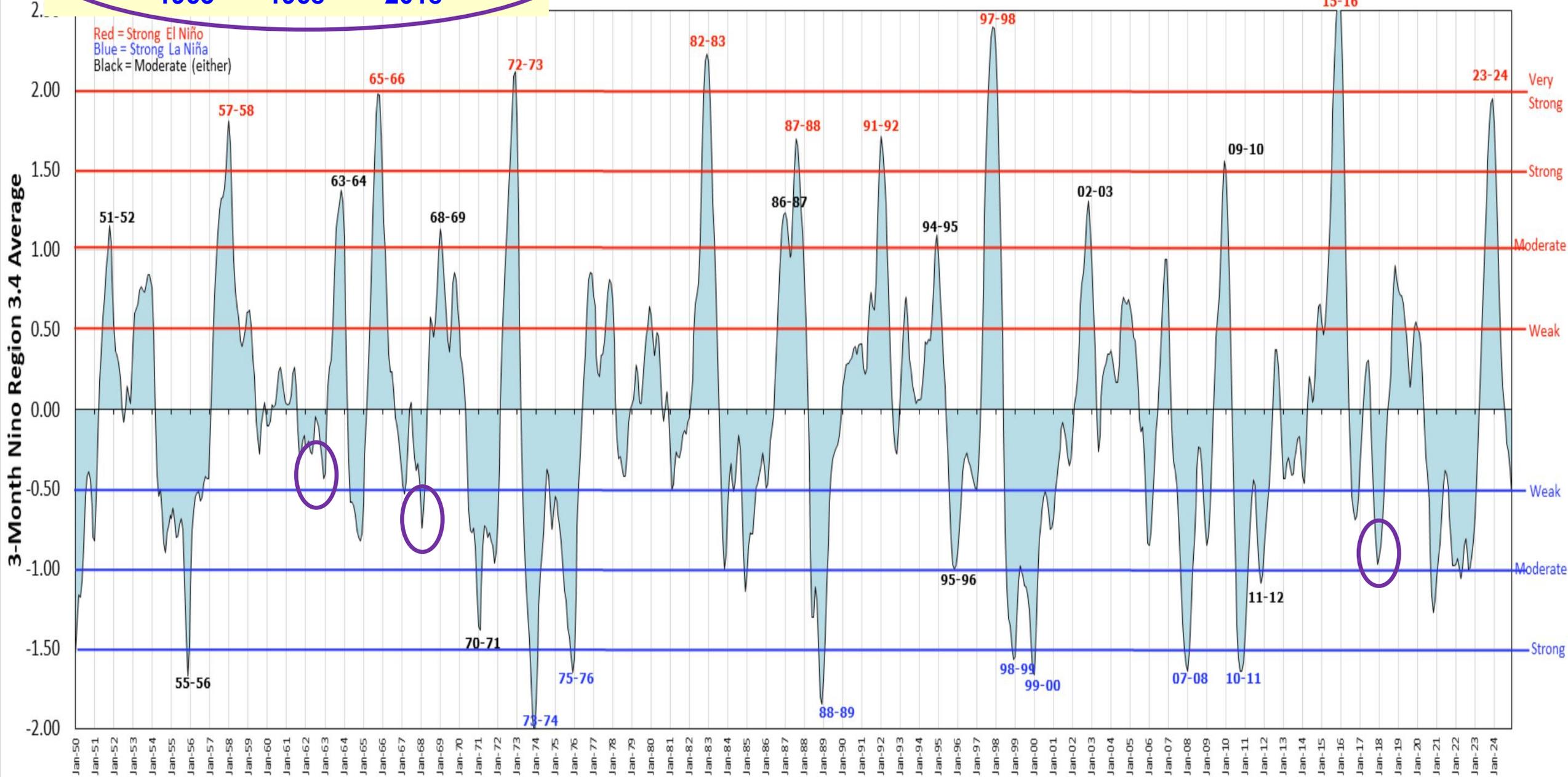
PSL-CIRES model-analog ENSO forecast initialized from DEC 2025
ENSO state based on Niño 3.4 SST Anomaly



Good visual to view analog years strengths and El Niño years:
1963 1968 2018

Oceanic Niño Index (ONI)

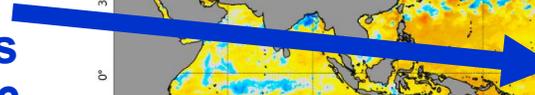
https://origin.cpc.ncep.noaa.gov/products/analysis_monitoring/ensostuff/ONI_v5.php



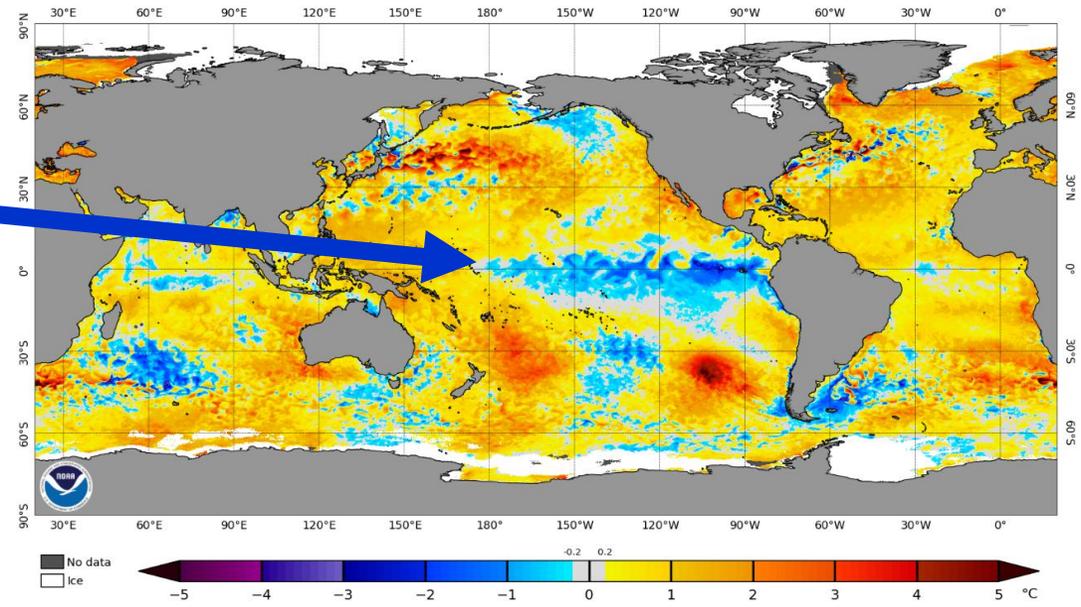


Sea Surface Temperatures

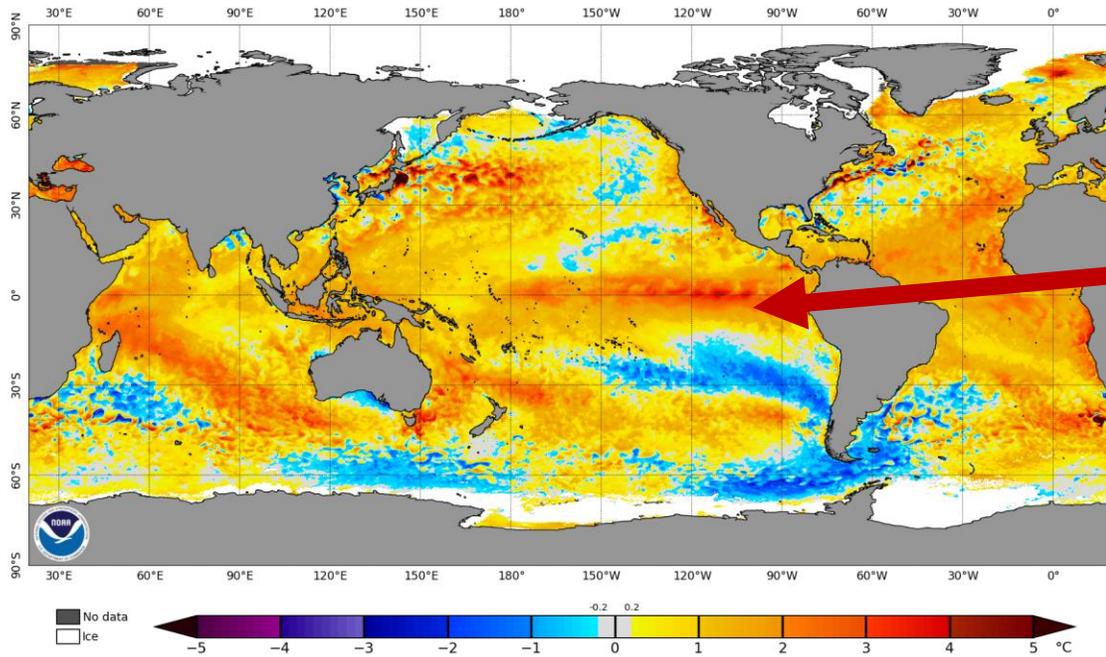
La Nina
Conditions
Jan 4, 2026



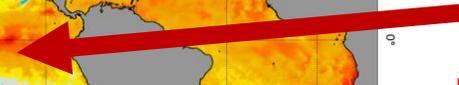
NOAA Coral Reef Watch Daily 5km SST Anomalies (v3.1) 4 Jan 2026



NOAA Coral Reef Watch Daily 5km SST Anomalies (v3.1) 1 Jan 2024

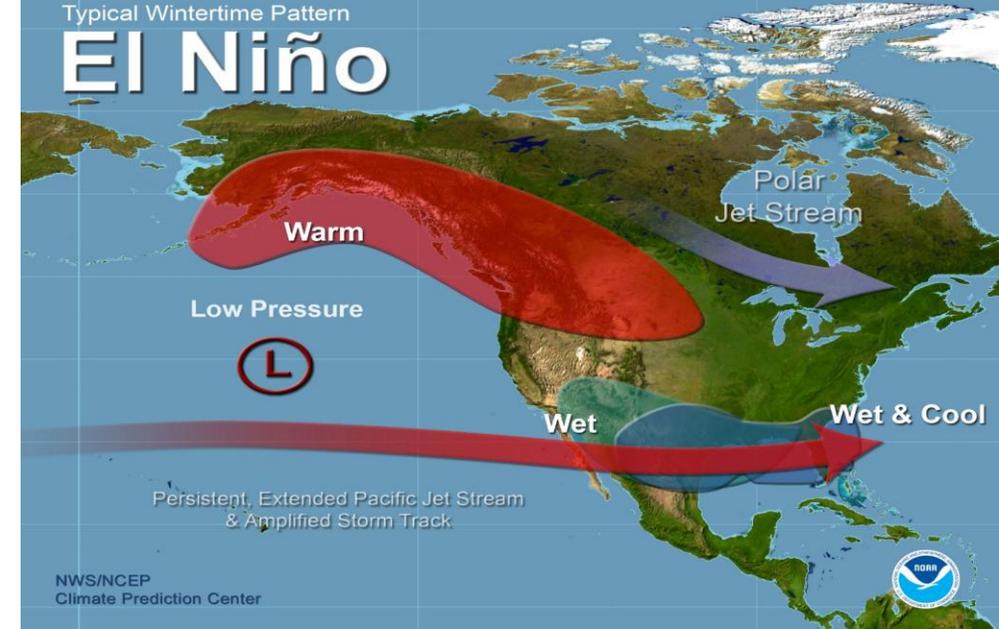


El Nino
Conditions
Jan 1, 2024



El Nino
brewing for
Winter
2026/27 & 28?

SST Anomaly Charts



Forecast Highlights

- This forecast is based on weather that occurred during the 1963, 1968, & 2018 analog years (the 1982 analog was replaced by 1963 this month).
- 3-month signals show near near-average temperatures & precipitation. However, significant monthly departures from average are likely.
- All 3 of the top analog years had below-average peak snowpacks. However, some late-winter and early-spring snowpack recovery, from the current very low levels, is indicated.

Analog Years Based on SOI, ONI and PDO conditions:
1963 1968 2018

Southern Oscillation Index (SOI)

SOI values from the top "analog years" compared with the current period (2025-2026)
(1962-1963; 1967-1968; 2017-2018)



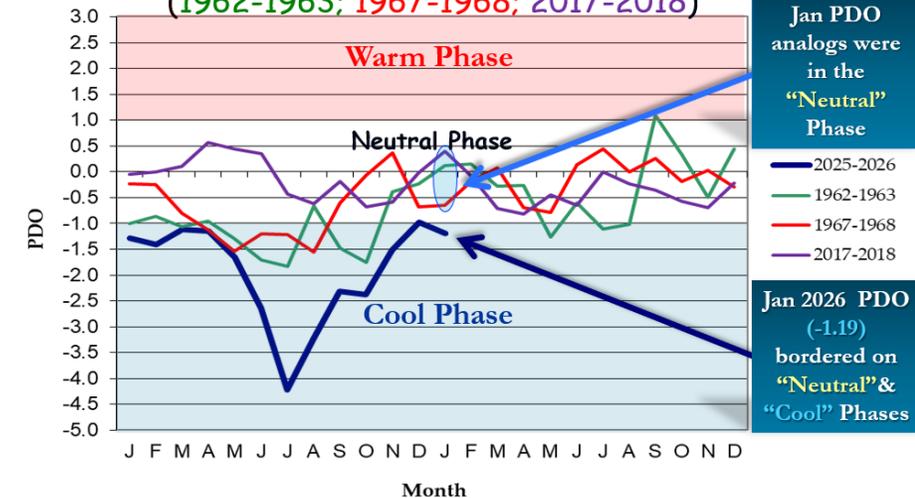
Month

SOI data courtesy <https://www.cpc.ncep.noaa.gov/data/indices/soi>

North Pacific Ocean

(Poleward of 20°N Latitude)

PDO values from the top "analog years" compared with the current period (2025-2026)
(1962-1963; 1967-1968; 2017-2018)

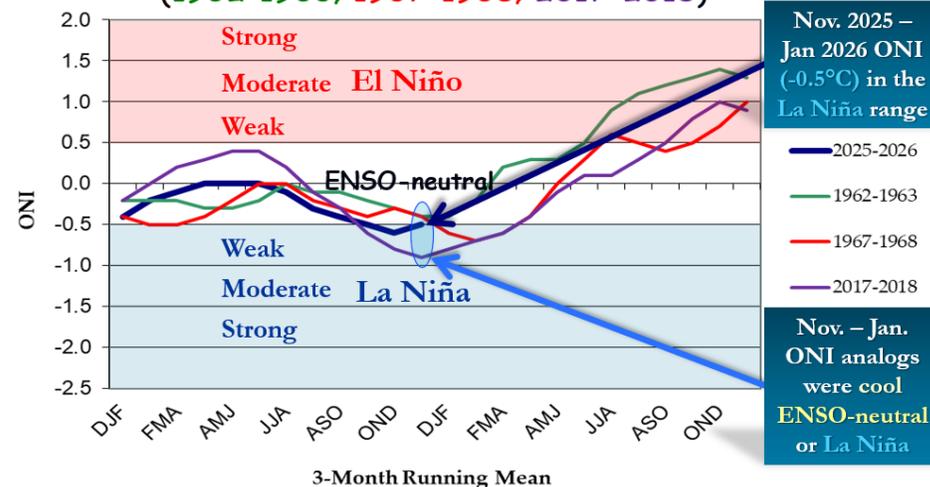


Month

PDO data courtesy <https://www.ncei.noaa.gov/pub/data/cmb/ersst/v5/index/ersst.v5.pdo.dat>

Oceanic Niño Index (ONI)

ONI values from the top "analog years" compared with the current period (2025-2026)
(1962-1963; 1967-1968; 2017-2018)



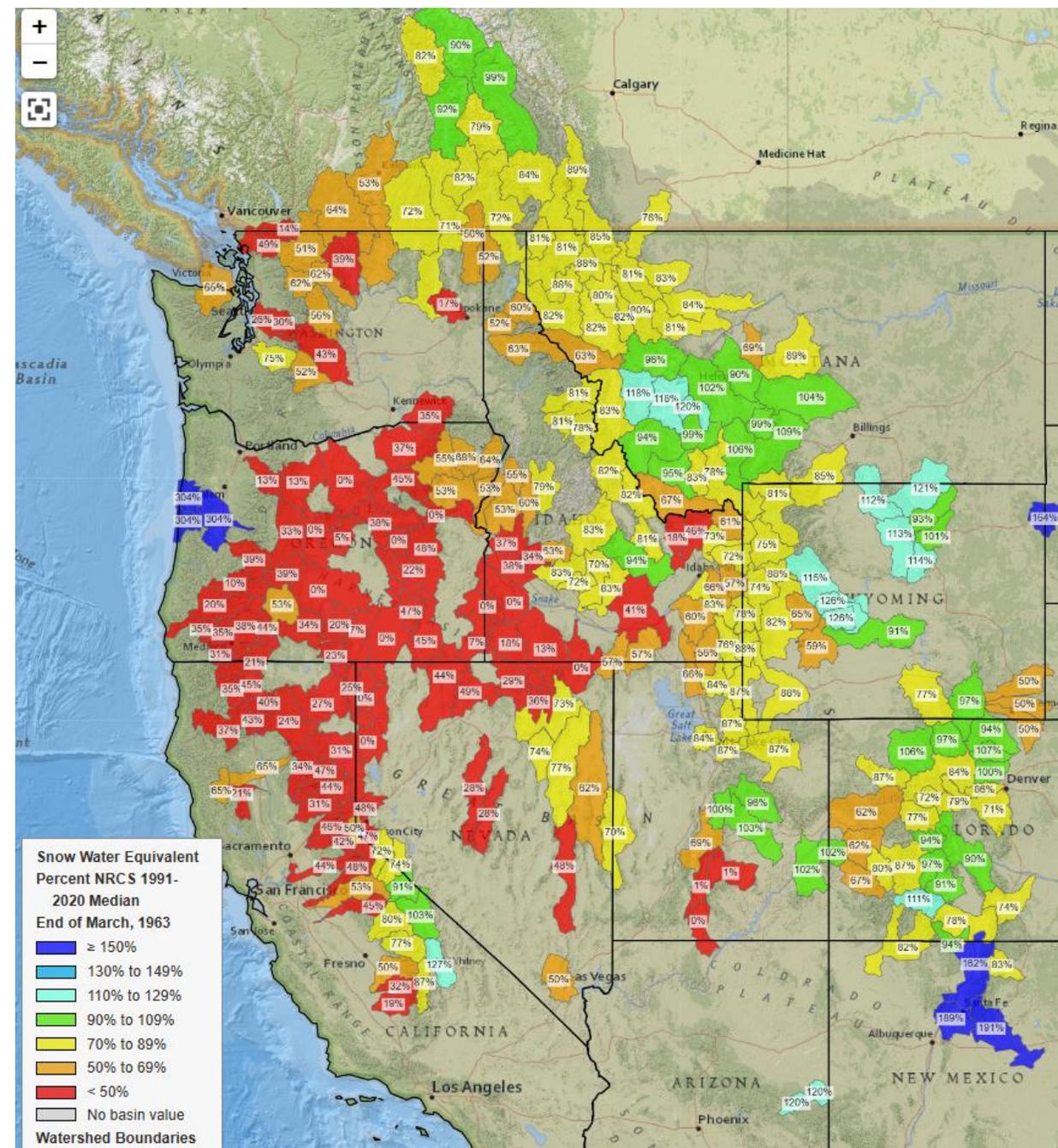
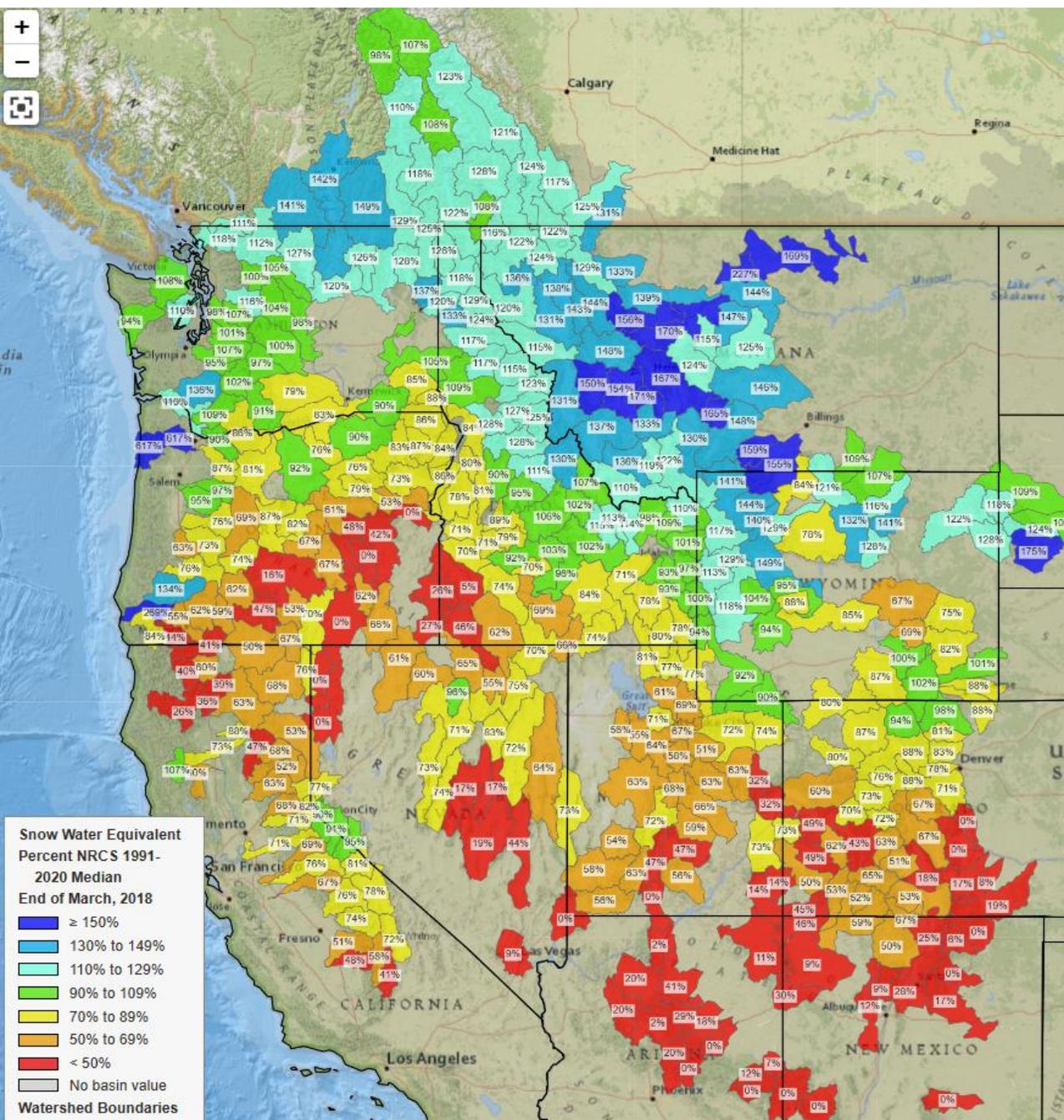
3-Month Running Mean

ONI data courtesy https://www.cpc.ncep.noaa.gov/products/analysis_monitoring/ensostuff/ONI_v5.php

April 1 2018 Snowpack

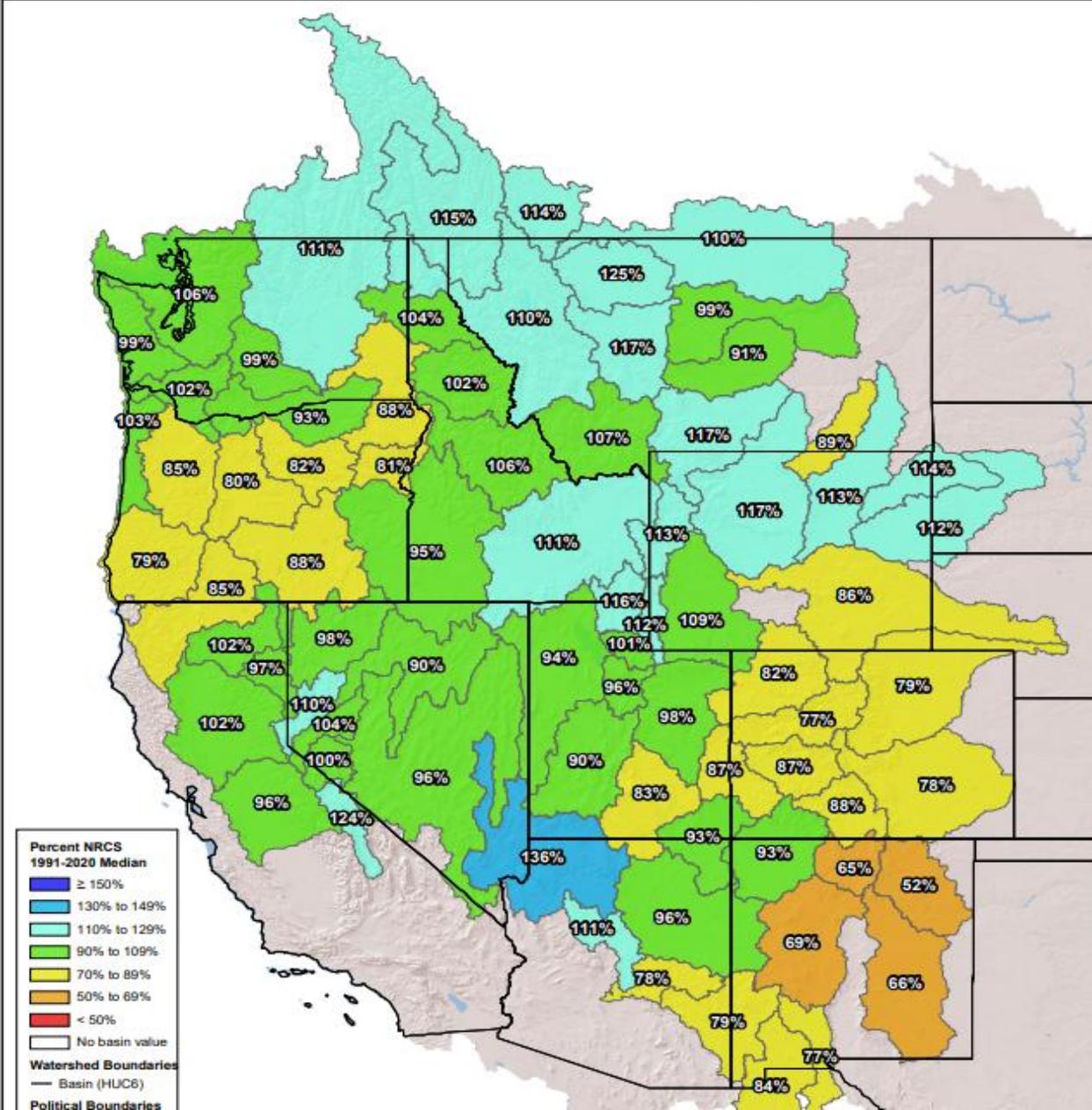
Based on SNOTEL & Snow Course

April 1 1963

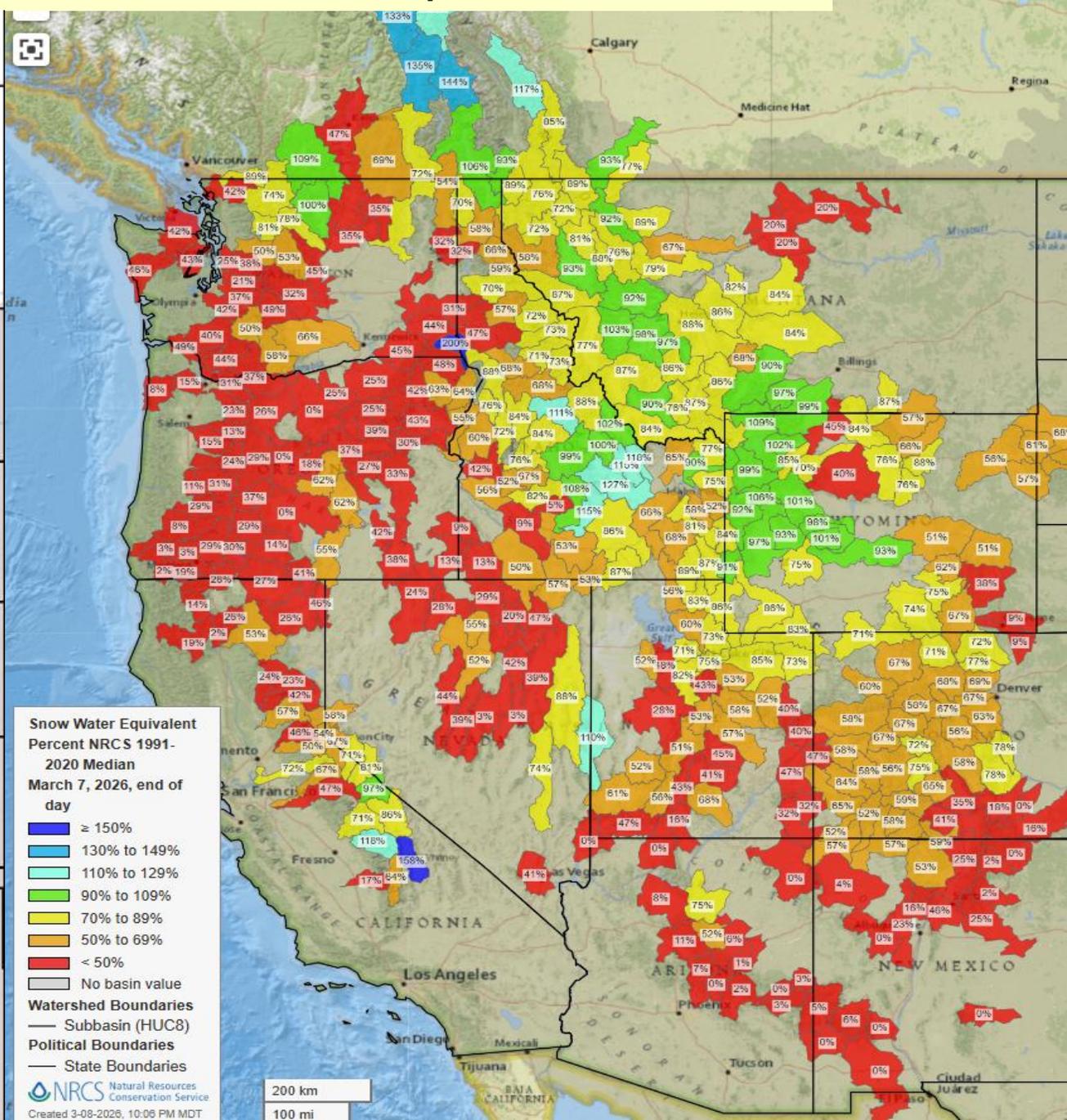


Westwide Water Year to Date Precipitation Oct 1 - Mar 7

Water Year to Date Precipitation **Westwide SNOTEL** October 1, 2025 - March 7, 2026
 Percent NRCS 1991-2020 Median

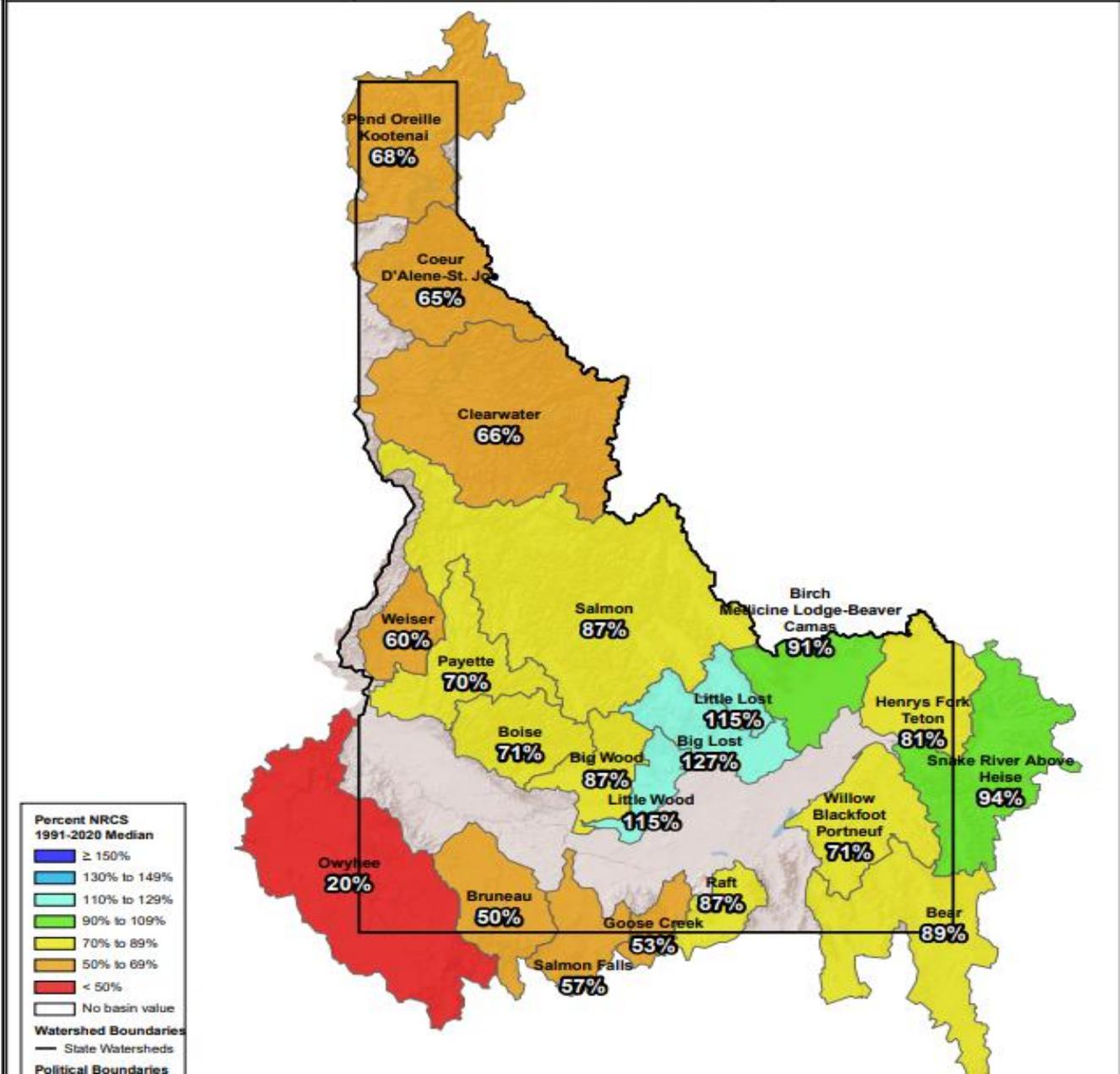
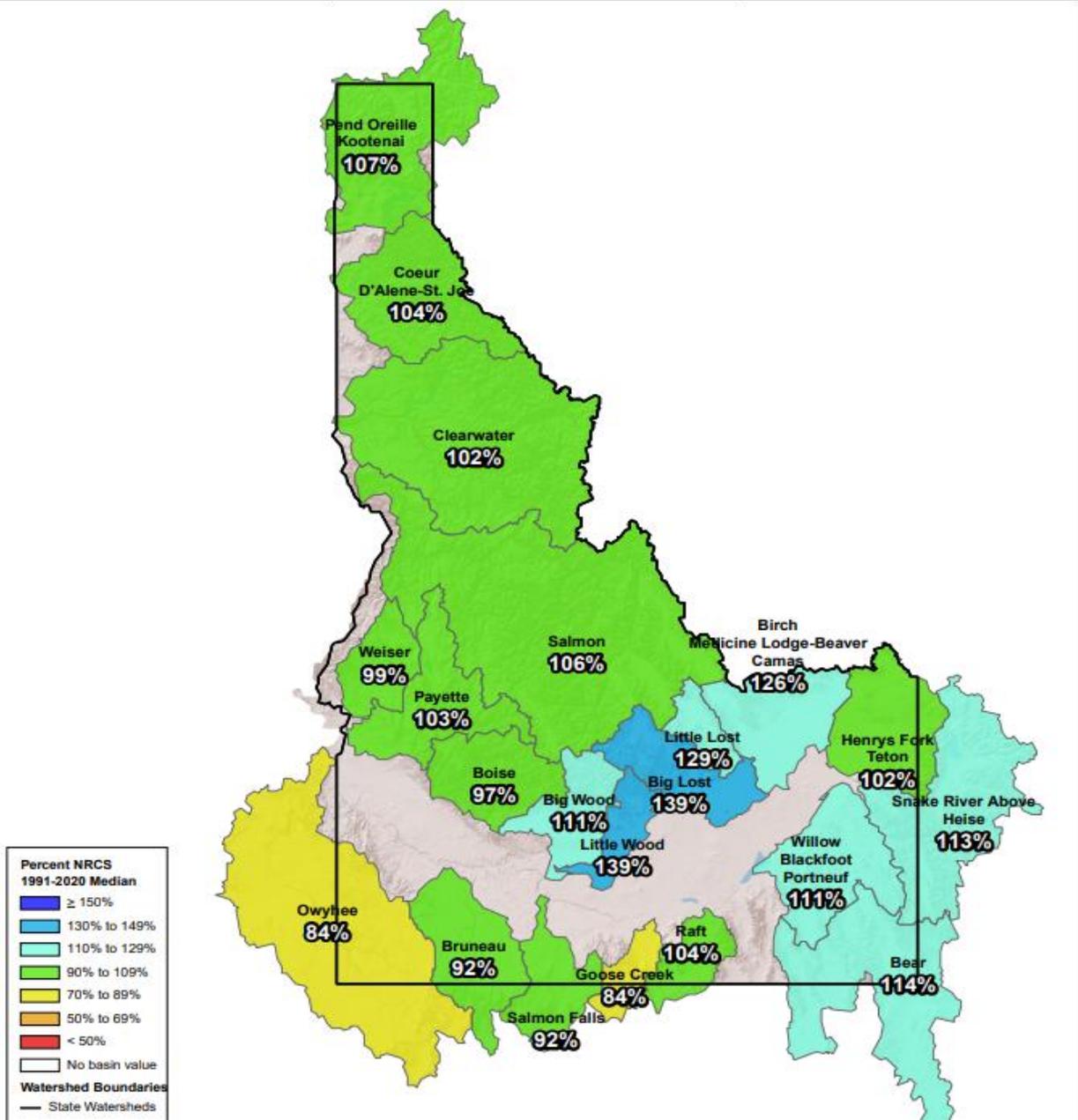


Snowpack Mar 7, 2026



Water Year to Date Precipitation
 Idaho SNOTEL
 Percent NRCS 1991-2020 Median
 October 1, 2025 - March 7, 2026

Snow Water Equivalent
 Idaho SNOTEL
 Percent NRCS 1991-2020 Median
 March 7, 2026, end of day



March 9 Streamflow Forecasts for Apr-Sep as % of Avg

Search
Enter NWS ID:

GO

Map Overlays

- NWRFC Boundary
- NWRFC Basins
- NWS HSAs
- Counties
- States

ESP WS Volumes

- WS Status
- WS % of Normal
- Rank (ASC)
- Rank (DESC)
- Exceedance (%)
- Percentile (%)

Runoff Volumes

- Runoff Status
- Runoff % of Normal

Water Supply Forecast

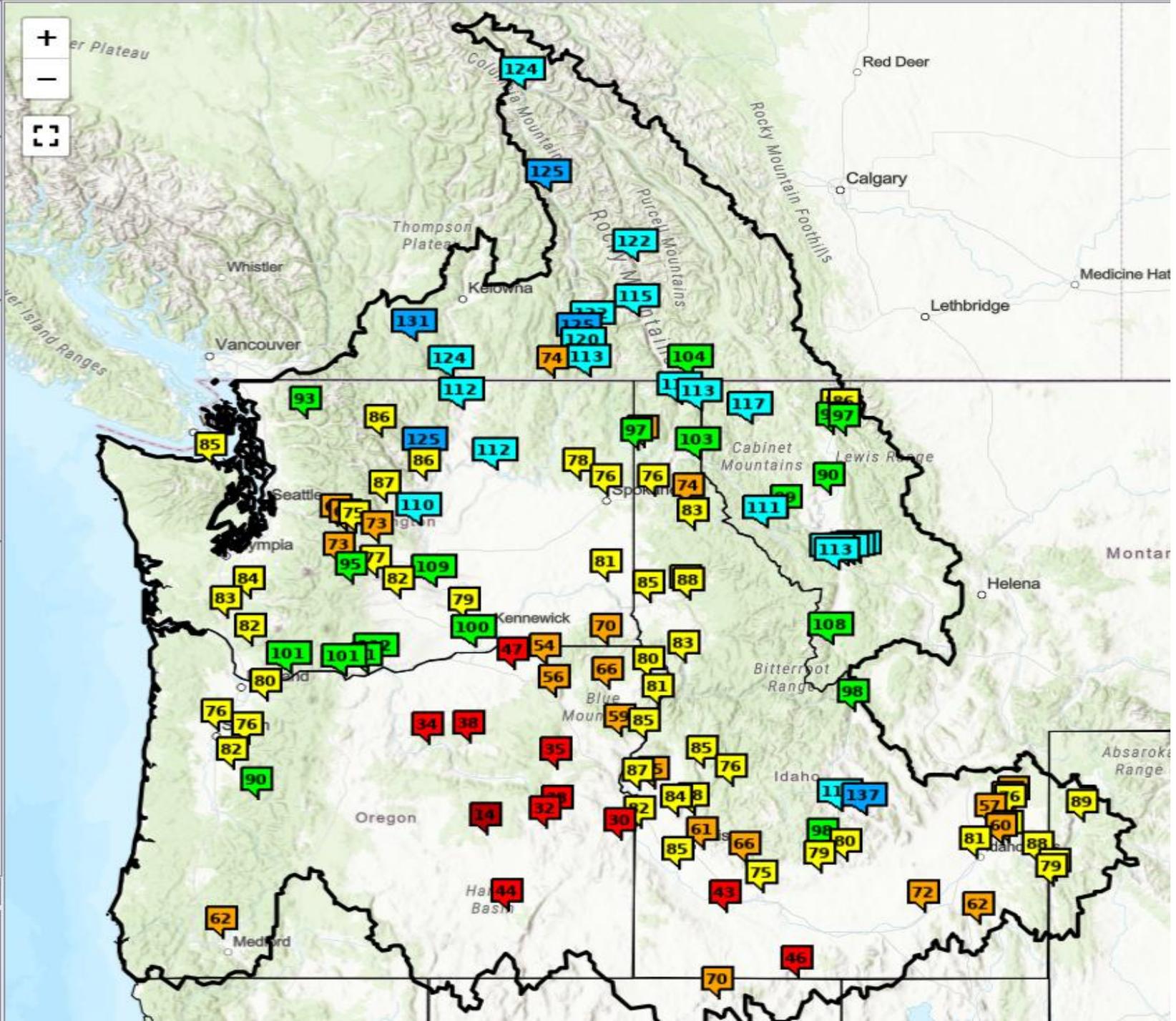
Period: APR-SEP
(% Normal)

- No Normal, No data
- < 25
- 25-50
- 50-75
- 75-90
- 90-110
- 110-125
- 125-150
- 150-175
- > 175

Stations Displayed: 124

Water Supply Links

- [Forecast Listing](#)
- [Forecast Report](#)
- [Forecast Report CSV](#)
- [Point Metadata CSV](#)



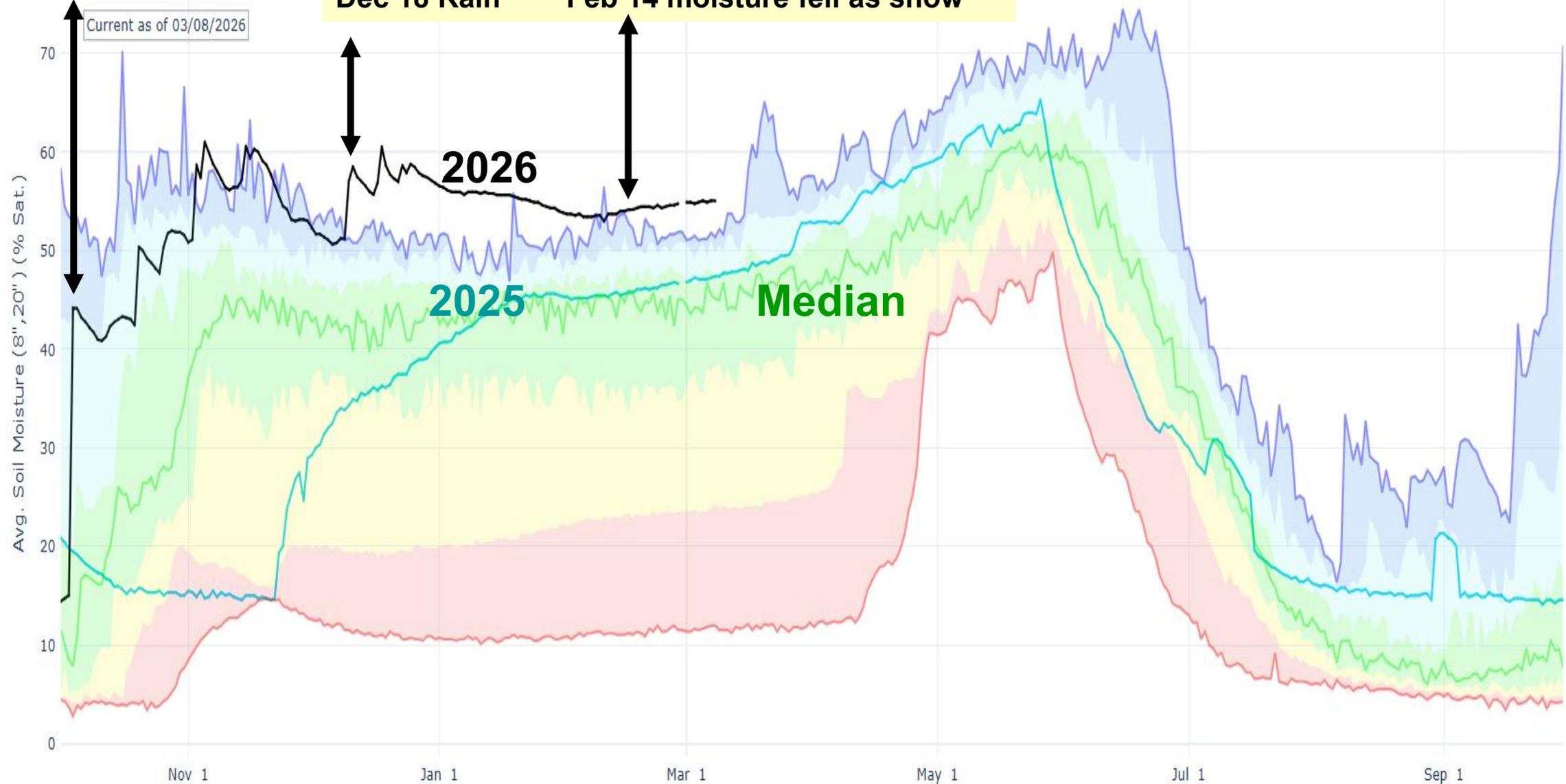
Soil Moisture Increases Oct Rains

BANNER SUMMIT, ID (312) AVG. SOIL MOISTURE (8",20")

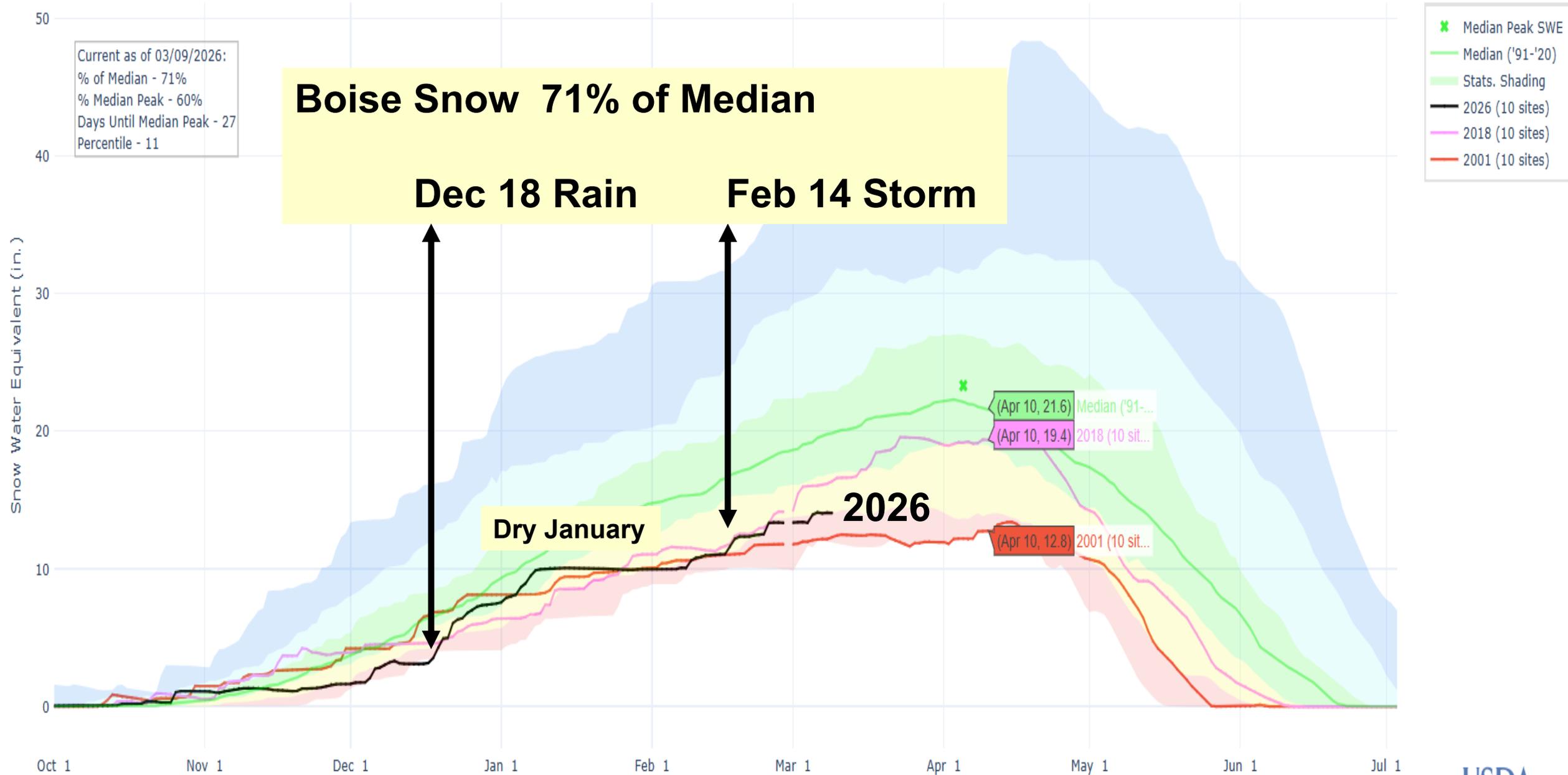
October rains increased soil moisture in mountains around Banner Summit. Good for improving spring runoff conditions.

Oct Rains

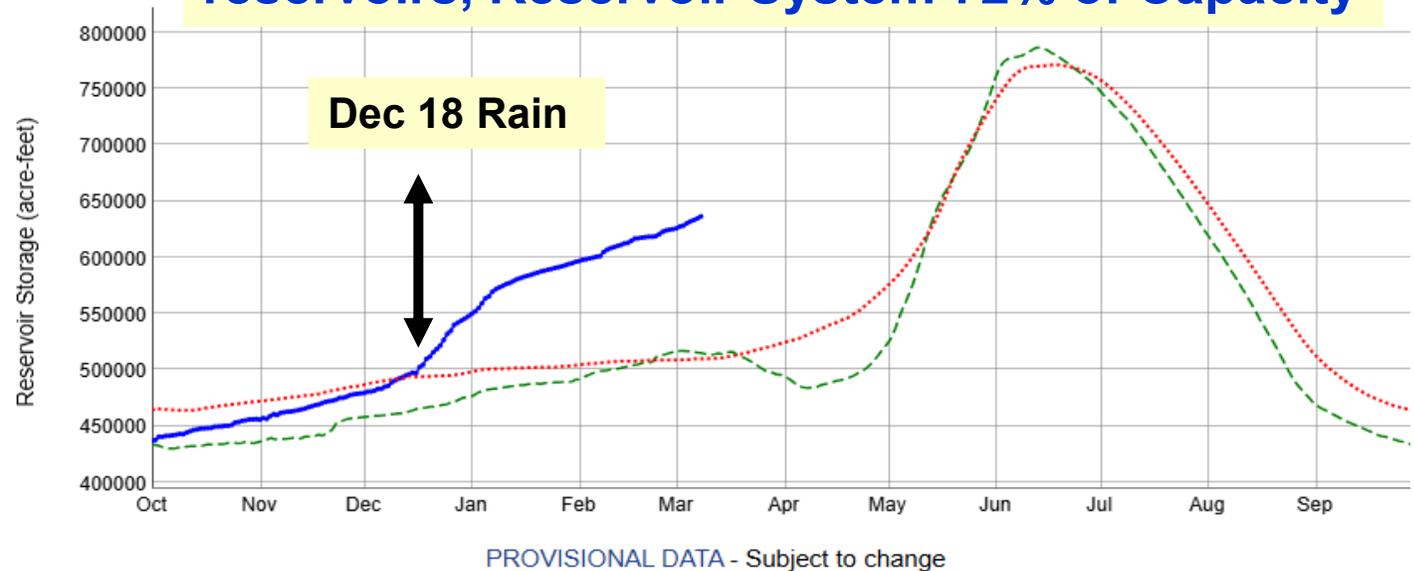
Dec 18 Rain Feb 14 moisture fell as snow



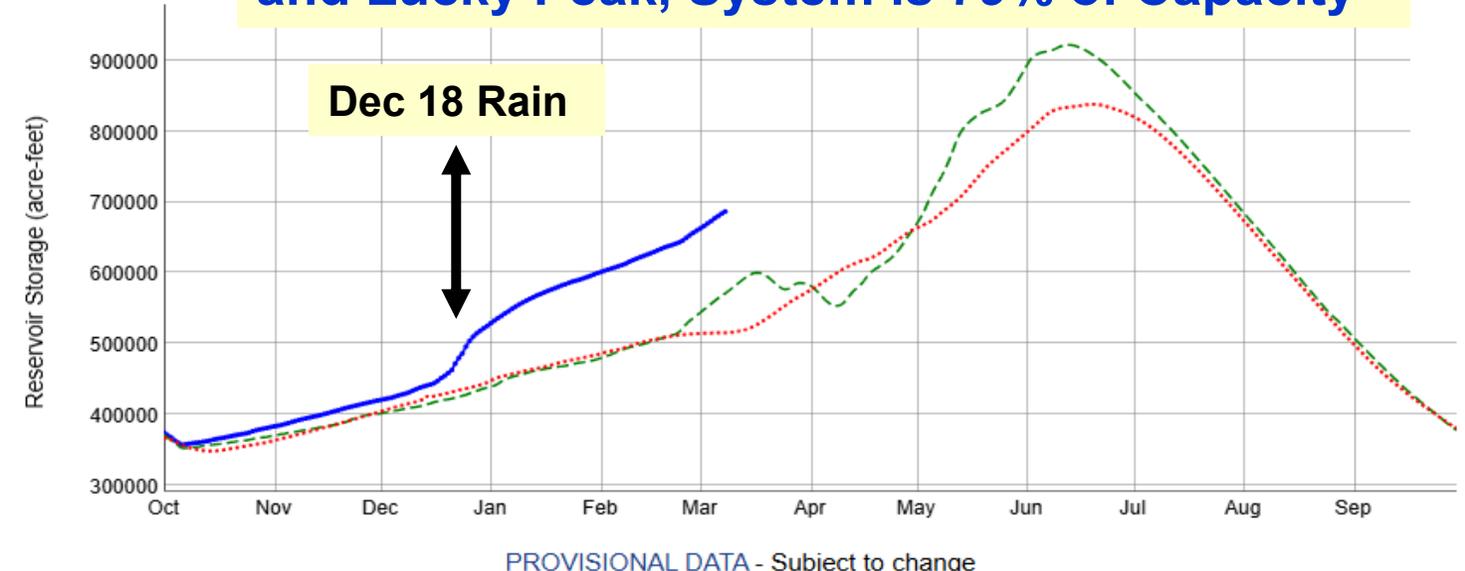
SNOW WATER EQUIVALENT IN BOISE



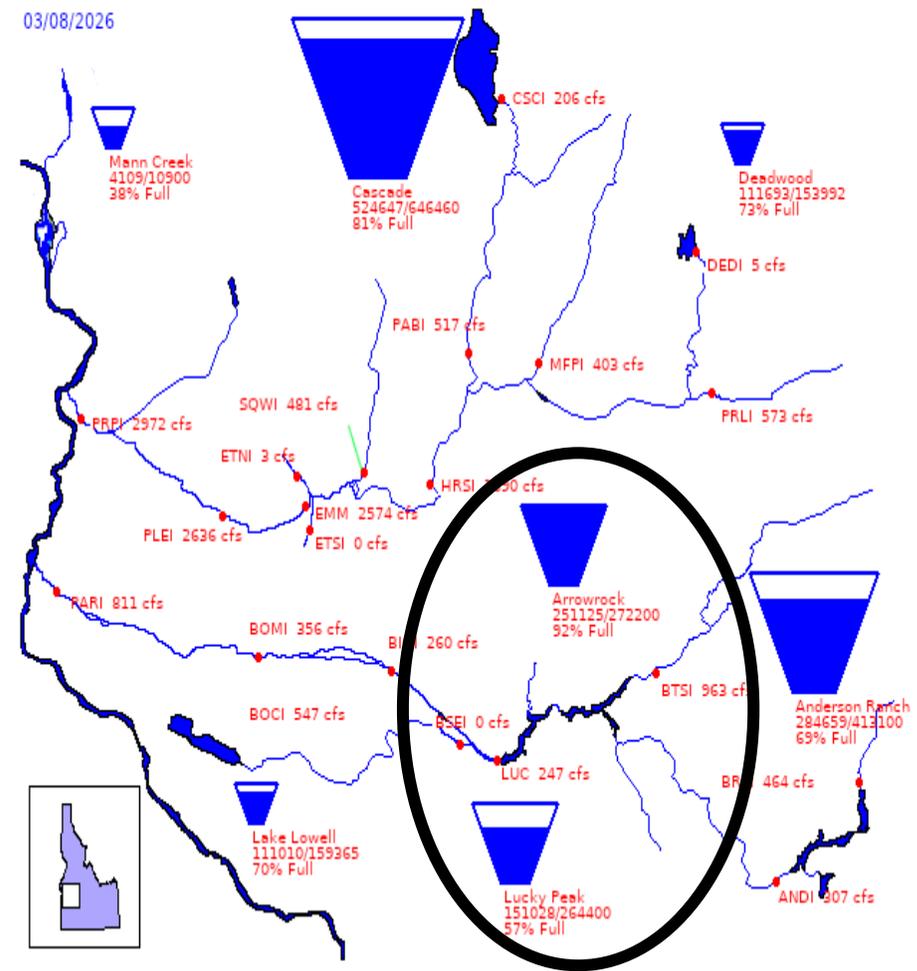
Payette River bump in flows captured in reservoirs, Reservoir System 72% of Capacity



Boise bump in flows captured Arrowrock and Lucky Peak, System is 79% of Capacity

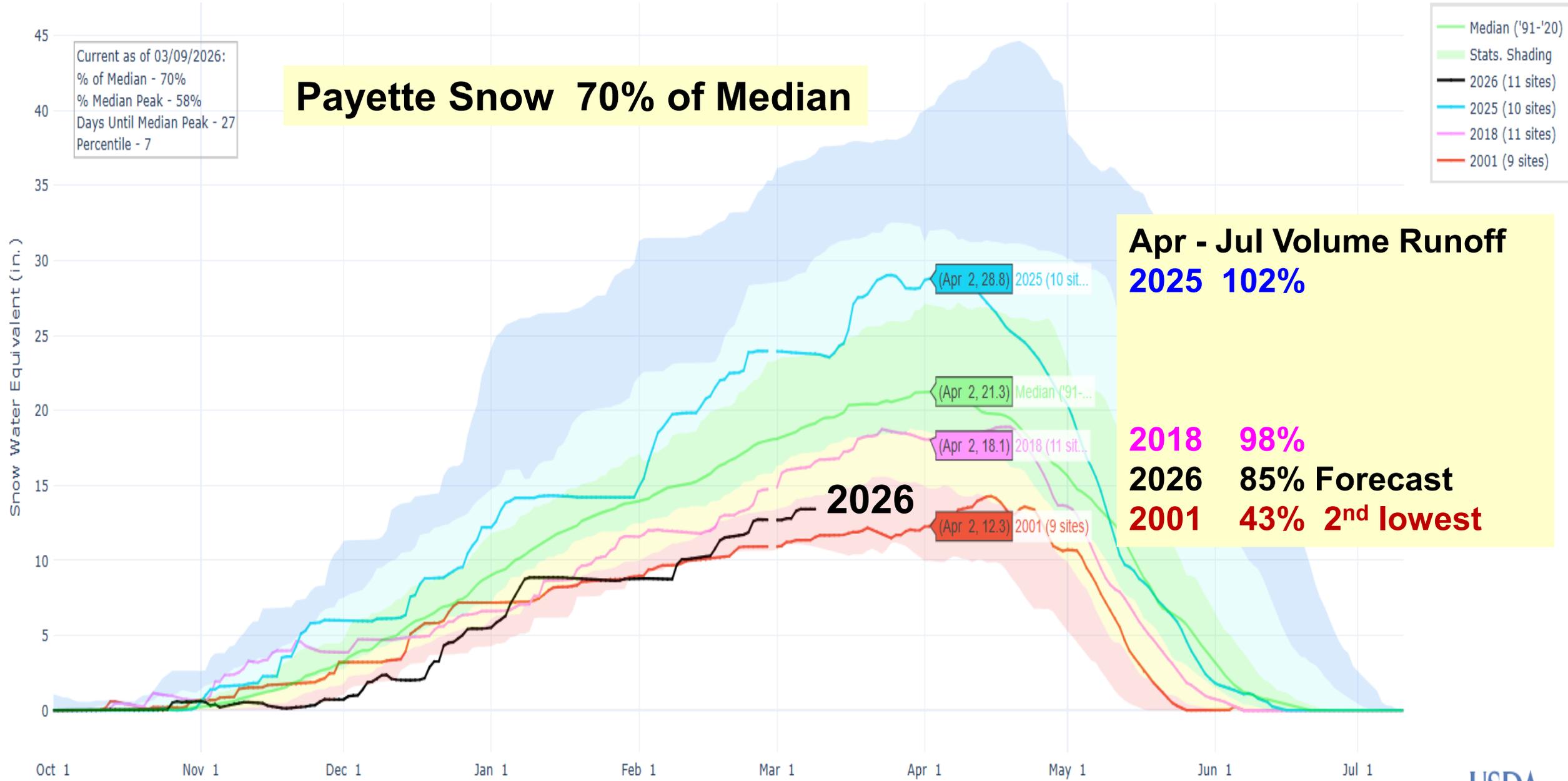


Bureau of Reclamation, Pacific Northwest Region Major Storage Reservoirs in the Boise & Payette River Basins



Right now - Coin Toss for flood control releases in Boise River, NY Canal might pick 'em up.

SNOW WATER EQUIVALENT IN PAYETTE



PAYETTE
Water Supply Forecasts
March 1, 2026

Forecast Exceedance Probabilities

<----- Drier ----- Future Conditions ----- Wetter ----->

Labels on chart represent volumes of water expressed as percent of average (1991-2020 period).

Forecast Point

Forecast Period

SF Payette R at Lowman

APR-JUL

68% 79% 89% 100% 117%

SF Payette R at Lowman Snow to Flow Plot

Payette Reservoirs will fill – either from low/mid-elevation snow/runoff or higher elevation runoff.

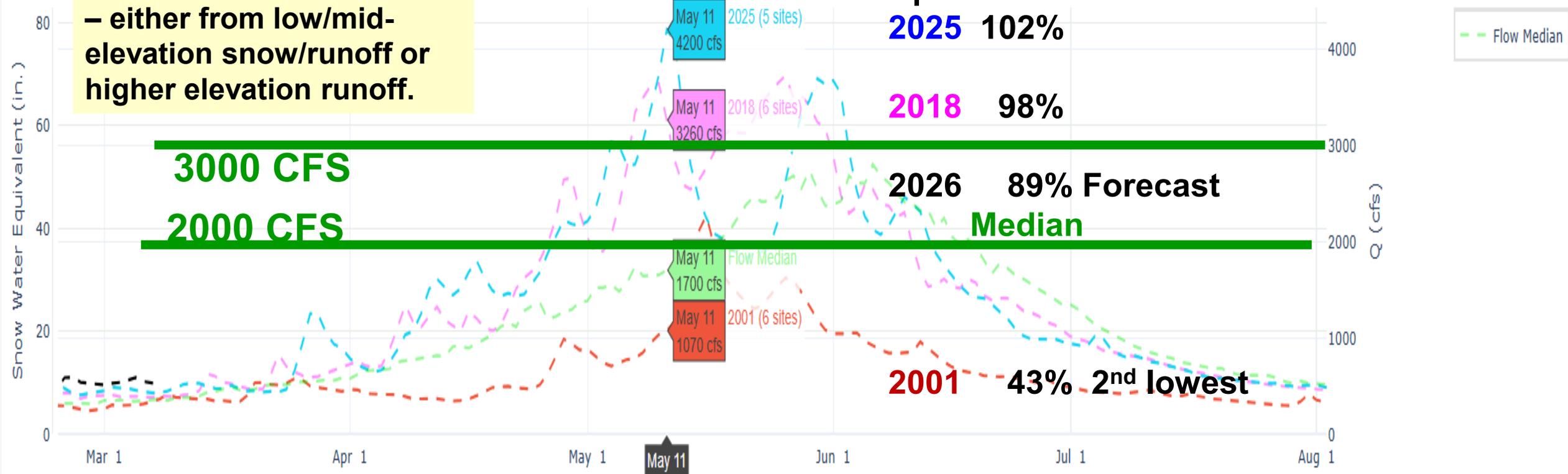
Apr - Jul Volume Runoff

2025 102%

2018 98%

2026 89% Forecast Median

2001 43% 2nd lowest



3000 CFS

2000 CFS

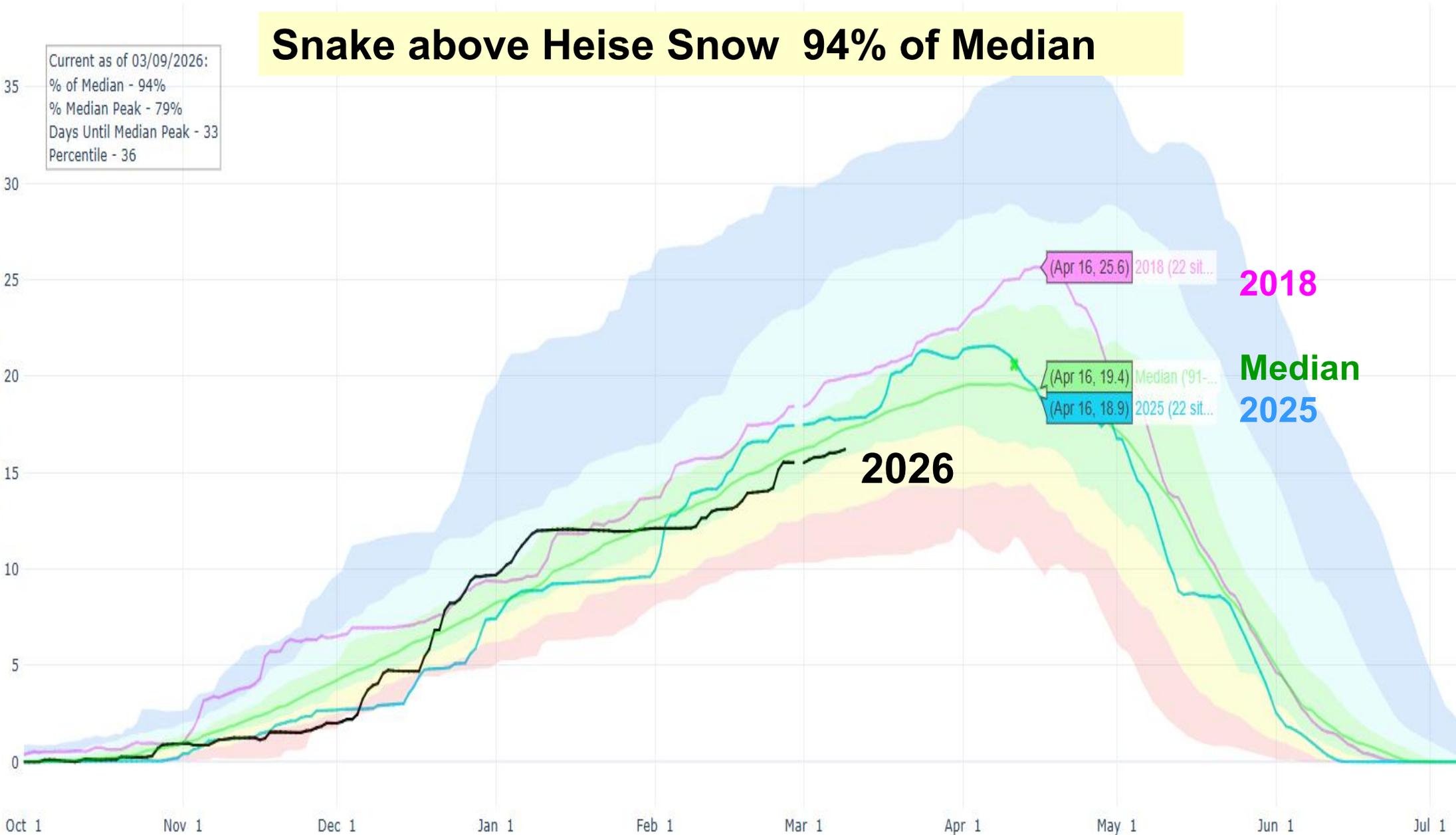
Flow Median

Snake above Heise Snow 94% of Median

Current as of 03/09/2026:
% of Median - 94%
% Median Peak - 79%
Days Until Median Peak - 33
Percentile - 36

- ★ Median Peak SWE
- Median ('91-'20)
- Stats. Shading
- 2026 (22 sites)
- 2025 (22 sites)
- 2018 (22 sites)

Snow Water Equivalent (in.)



(Apr 16, 25.6) 2018 (22 sit...

2018

(Apr 16, 19.4) Median ('91-...

Median

(Apr 16, 18.9) 2025 (22 sit...

2025

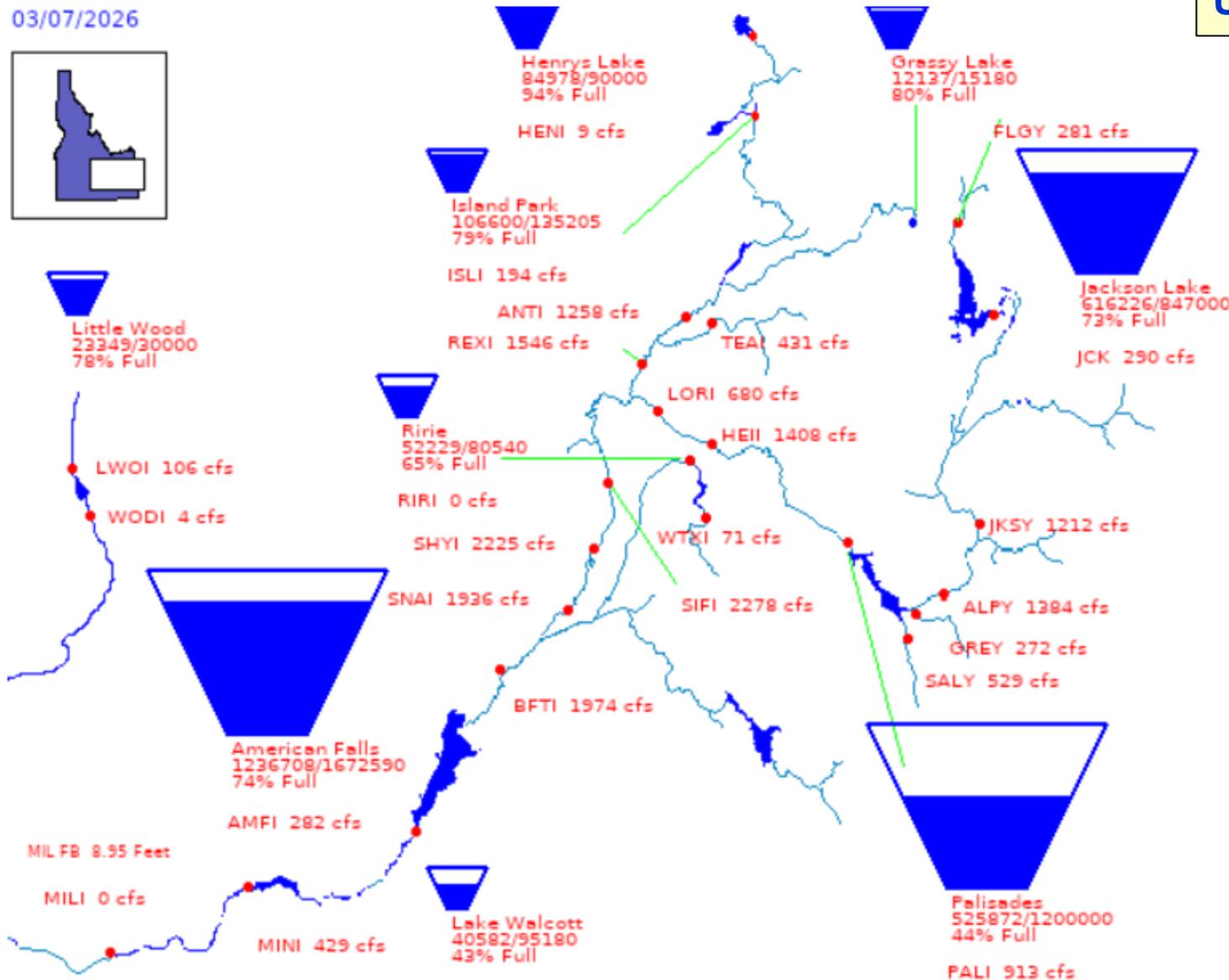
2026

Oct 1 Nov 1 Dec 1 Jan 1 Feb 1 Mar 1 Apr 1 May 1 Jun 1 Jul 1

Bureau of Reclamation, Pacific Northwest Region

Major Storage Reservoirs in the Upper Snake River Basin

03/07/2026



Upper Snake Reservoir System 64% Full

Palisades is only 44% full

Currently not seeing any flood flows passing Milner dam this year at any point.

Potentially a few 1000 cfs for couple of weeks in spring for flow augmentation, and then a few 1000 cfs in summer for Idaho Power storage allocation in American Falls Reservoir.

Potential to fill system is fairly remote at this point, especially with a dry weather outlook. Recreational flows past Milner Dam are looking unlikely.

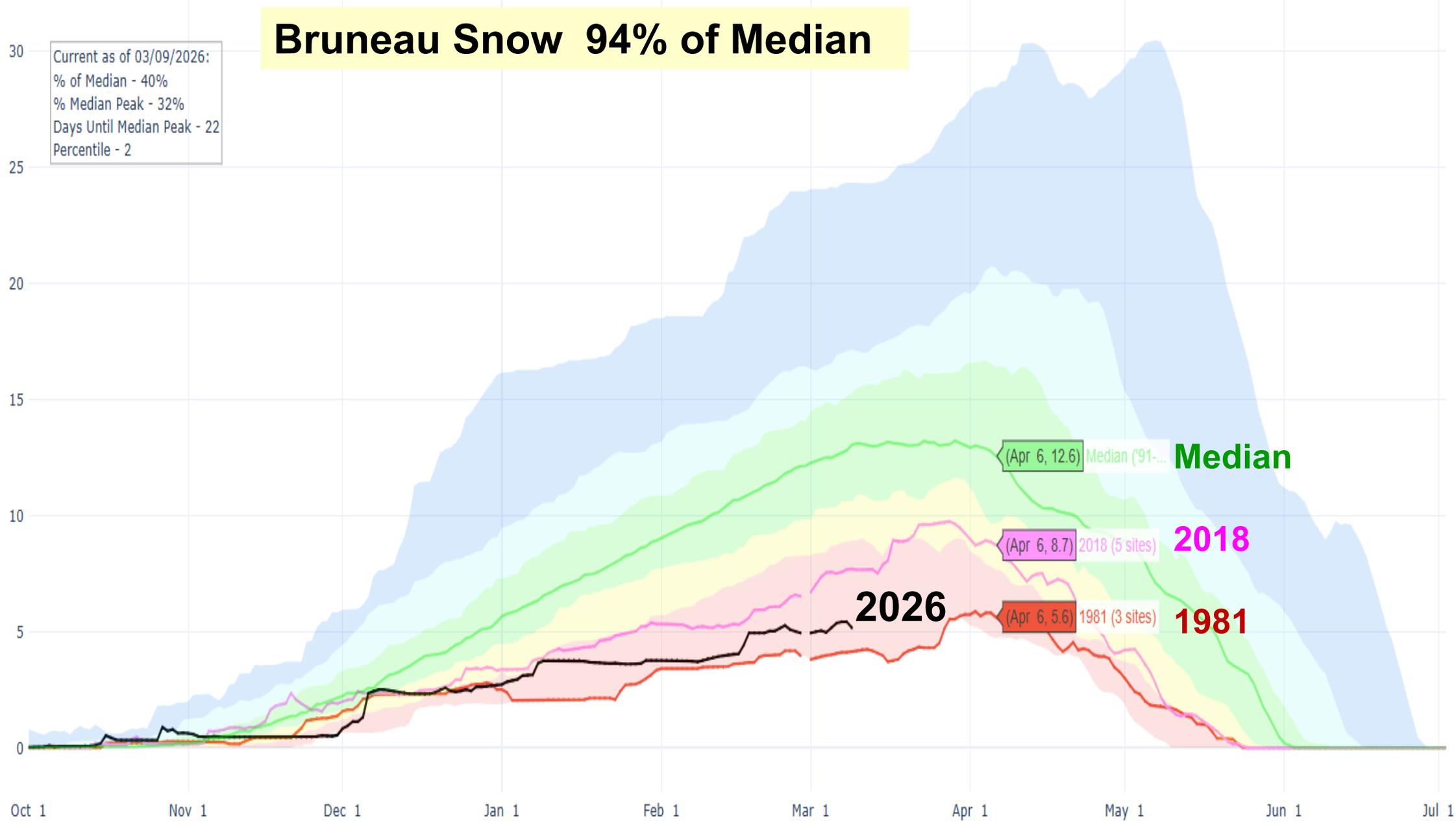
SNOW WATER EQUIVALENT IN BRUNEAU

Bruneau Snow 94% of Median

Current as of 03/09/2026:
% of Median - 40%
% Median Peak - 32%
Days Until Median Peak - 22
Percentile - 2

- Median ('91-'20)
- Stats. Shading
- 2026 (5 sites)
- 2018 (5 sites)
- 1981 (3 sites)

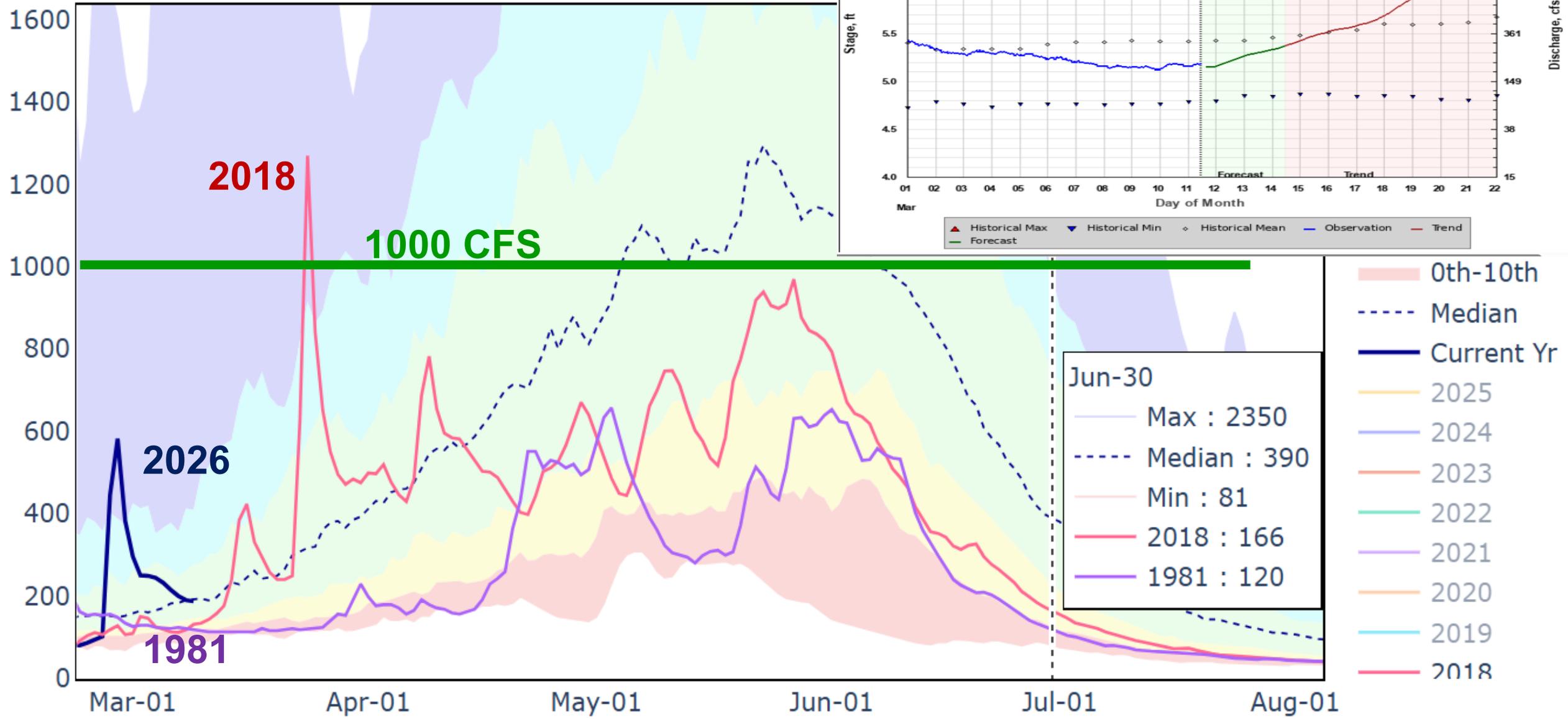
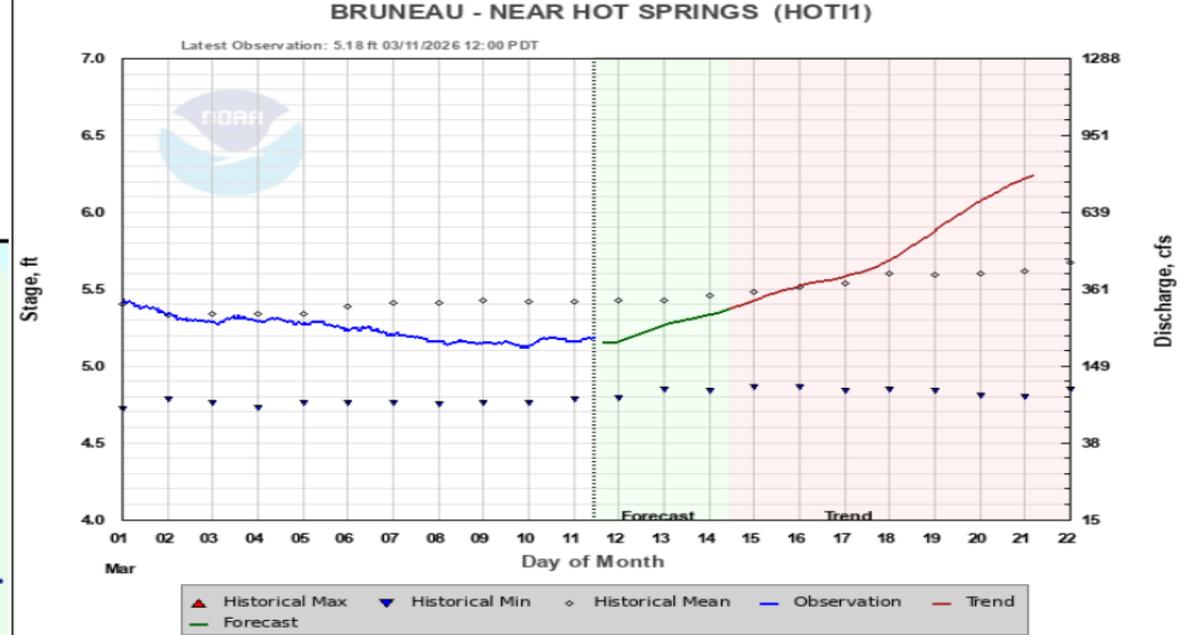
Snow Water Equivalent (in.)



Daily Flow Percentiles 1943-2026

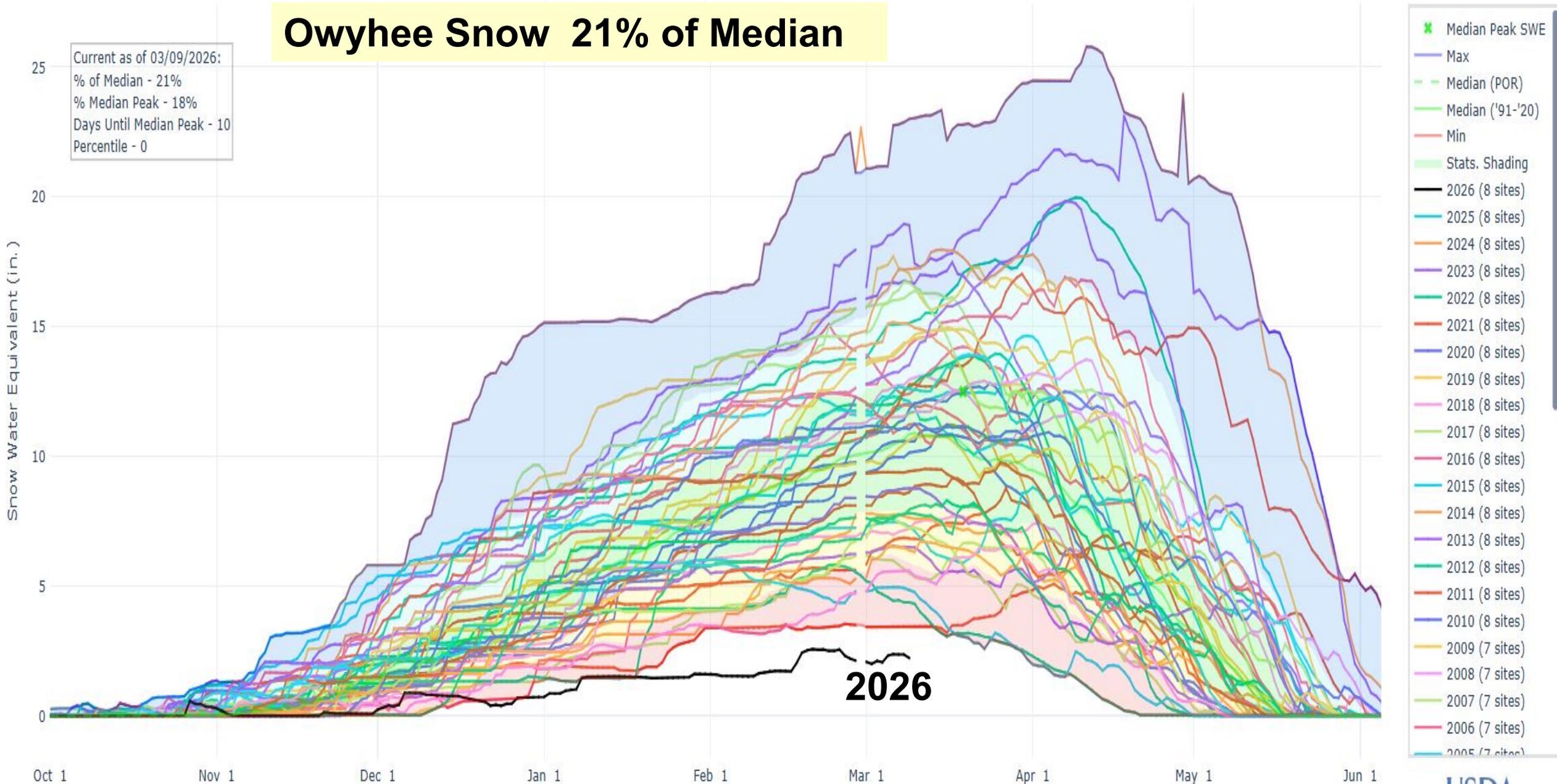
BRUNEAU RIVER NR HOT SPRING ID (13168500)

(mean daily CFS)



Owyhee Snow 21% of Median

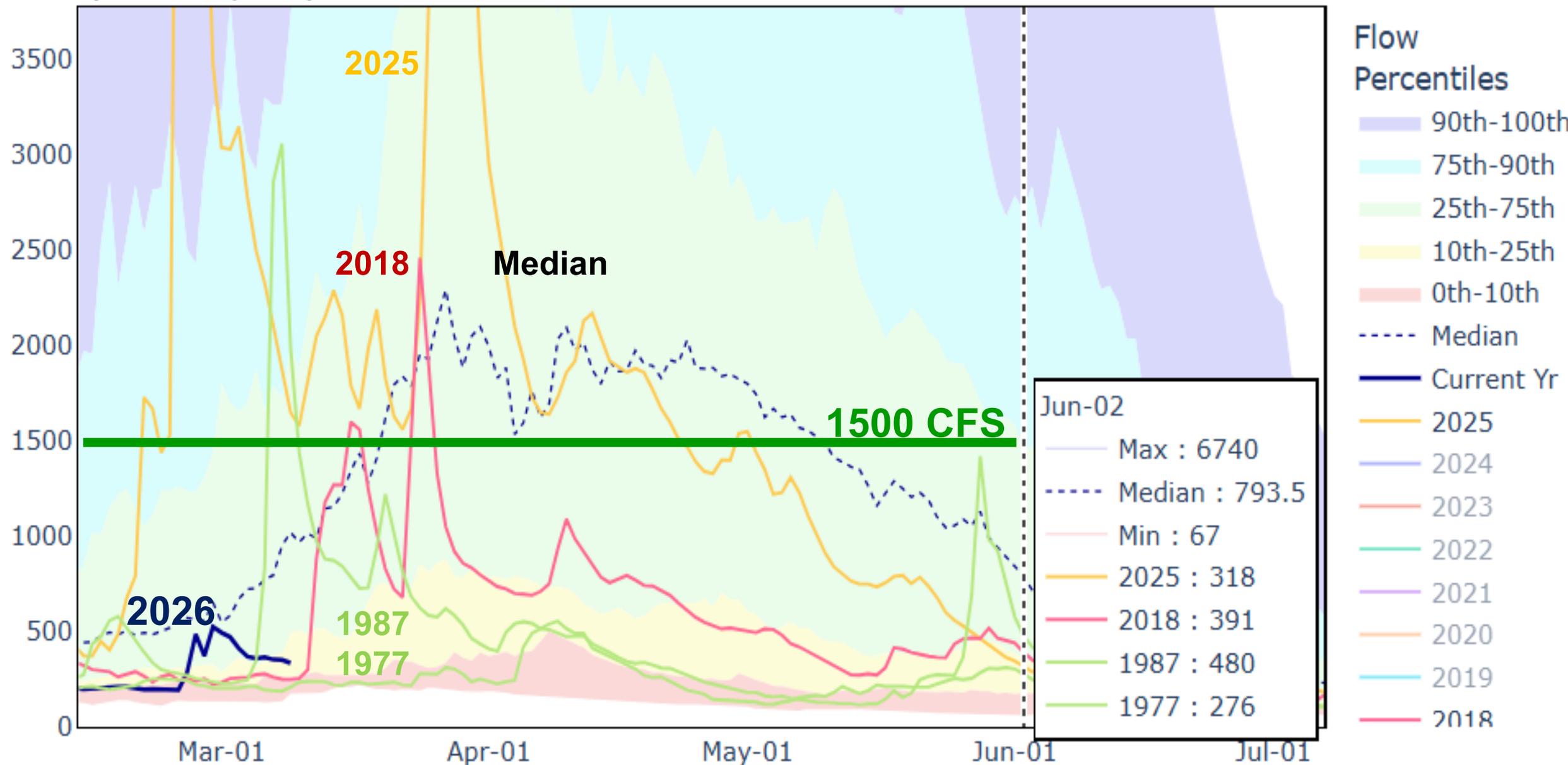
Current as of 03/09/2026:
% of Median - 21%
% Median Peak - 18%
Days Until Median Peak - 10
Percentile - 0

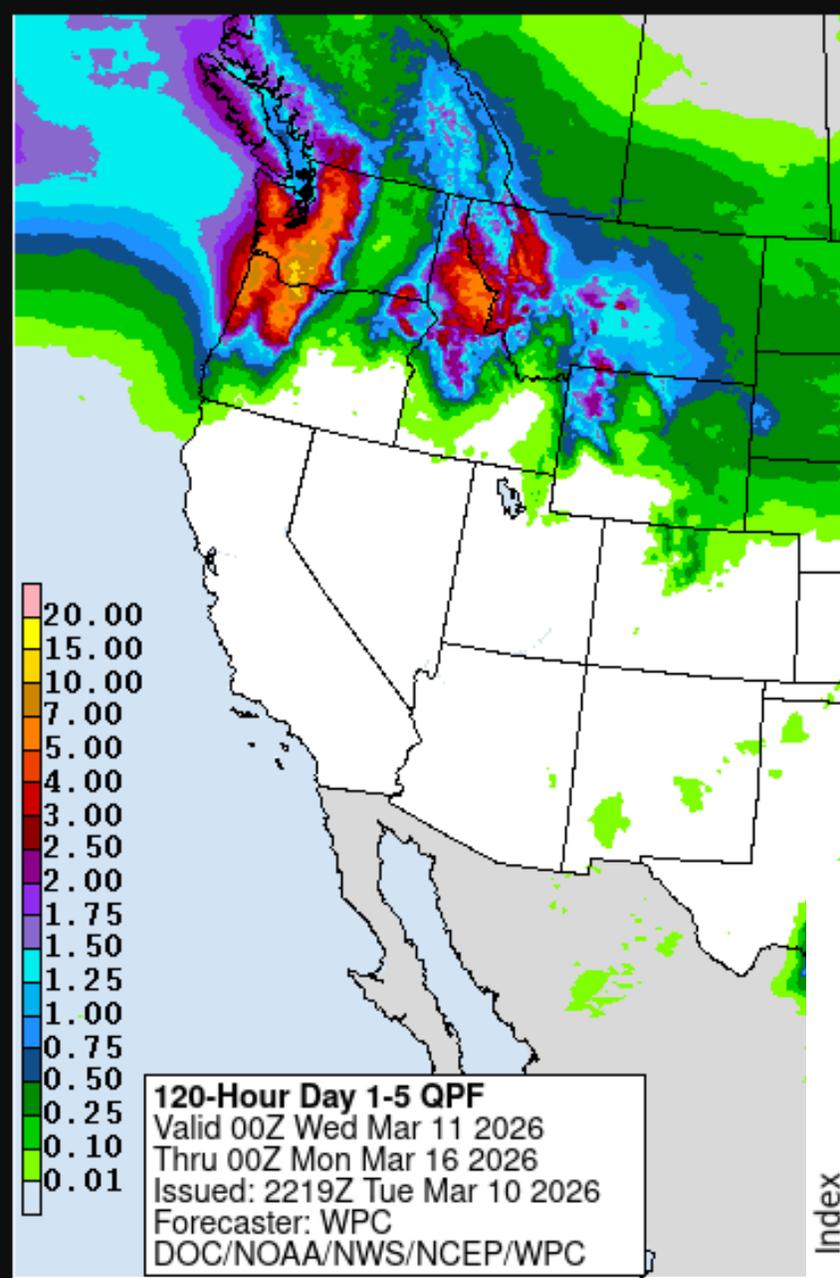


2026

- Median Peak SWE
- Max
- Median (POR)
- Median ('91-'20)
- Min
- Stats. Shading
- 2026 (8 sites)
- 2025 (8 sites)
- 2024 (8 sites)
- 2023 (8 sites)
- 2022 (8 sites)
- 2021 (8 sites)
- 2020 (8 sites)
- 2019 (8 sites)
- 2018 (8 sites)
- 2017 (8 sites)
- 2016 (8 sites)
- 2015 (8 sites)
- 2014 (8 sites)
- 2013 (8 sites)
- 2012 (8 sites)
- 2011 (8 sites)
- 2010 (8 sites)
- 2009 (7 sites)
- 2008 (7 sites)
- 2007 (7 sites)
- 2006 (7 sites)
- 2005 (7 sites)

Daily Flow Percentiles 1949-2026
 OWYHEE RIVER NR ROME OR (13181000)
 (mean daily CFS)





Some Good News

**5-Day Total Precip
Mar 11-16**

**Bouy is popping
for potential storm
Mar 24 & 28**

**PNA is trending
Negative which
often means
weather in PNW.**



The Powder Buoy is in Park City, UT.

1h · 🌐

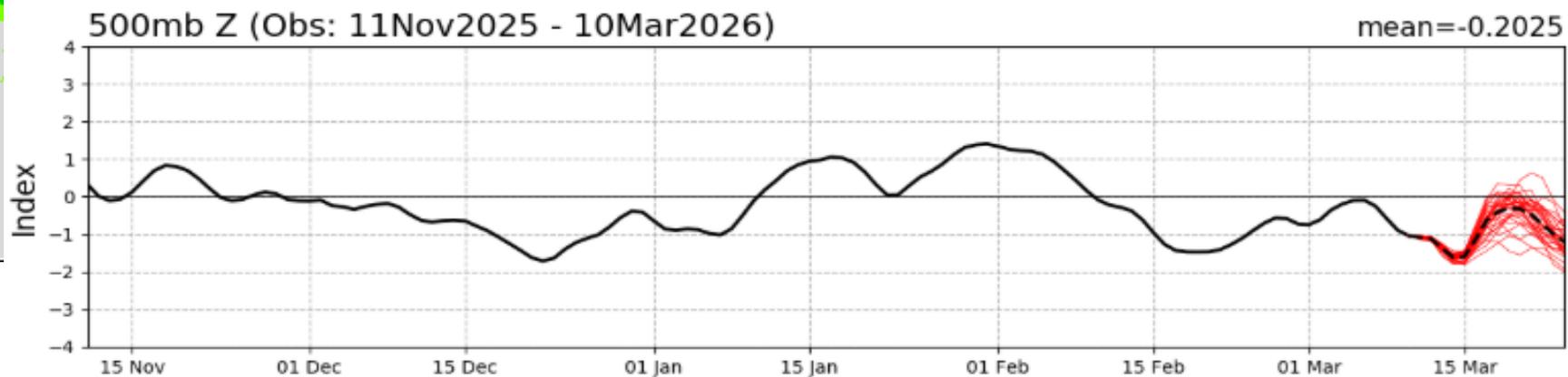
This is the next potential shot for a storm around the 24th and then another one looks to be on deck for the 28th, slim pickins out there

Station 51001 Significant Wave Height

Image Credit: NOAA/NWS/NDBC



PNA Index: Observed & GEFS Forecasts



Winter is not over this week

Total Snowfall thru Tues Mar 17

GFS

Global

Ensemble

Hurricane

Mesoscale

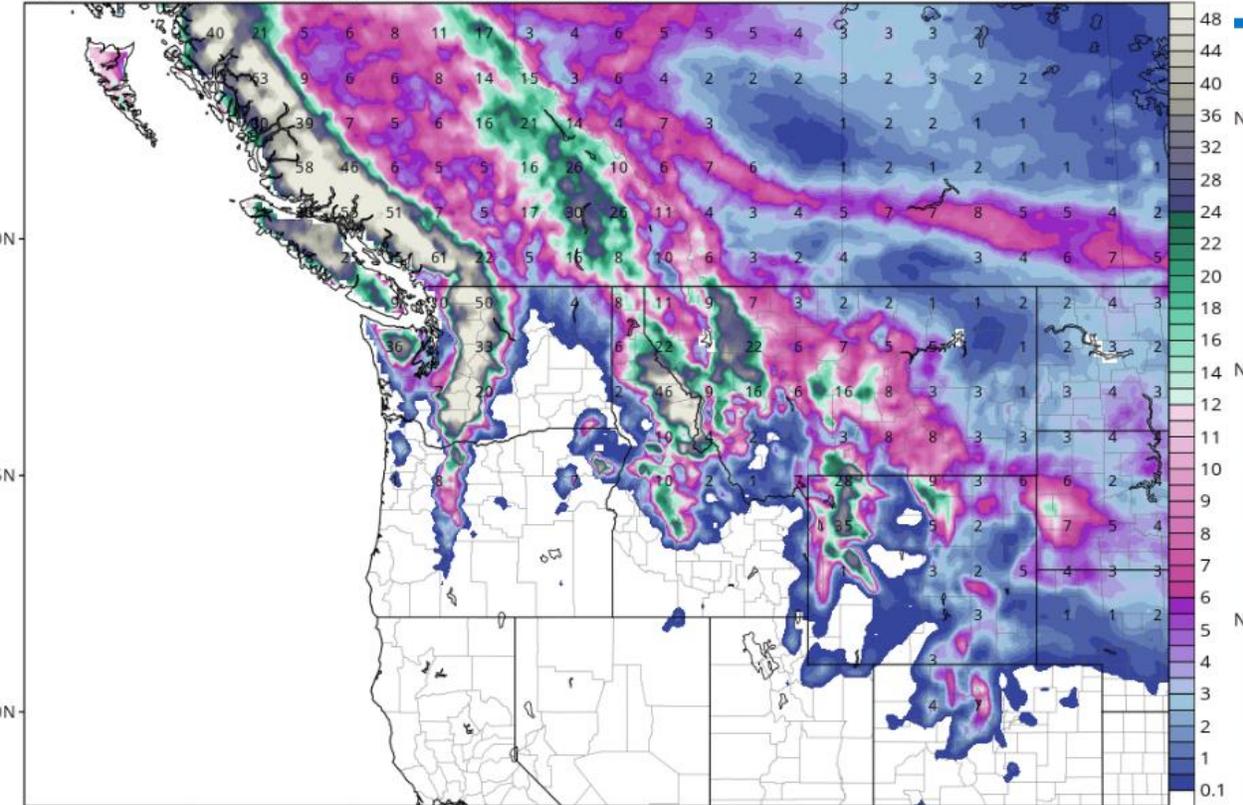
RUN TIME: 18Z MAR 10



GFS Total Snowfall [*includes sleet*] (inches) (assuming 10:1 snow:liquid ratio)

Init: 18z Mar 10 2026 Forecast Hour: [168] valid at 18z Tue, Mar 17 2026

TROPICALTIDBITS.COM



Total Rainfall thru Mar 26

GFS

Global

Ensemble

Hurricane

Mesoscale

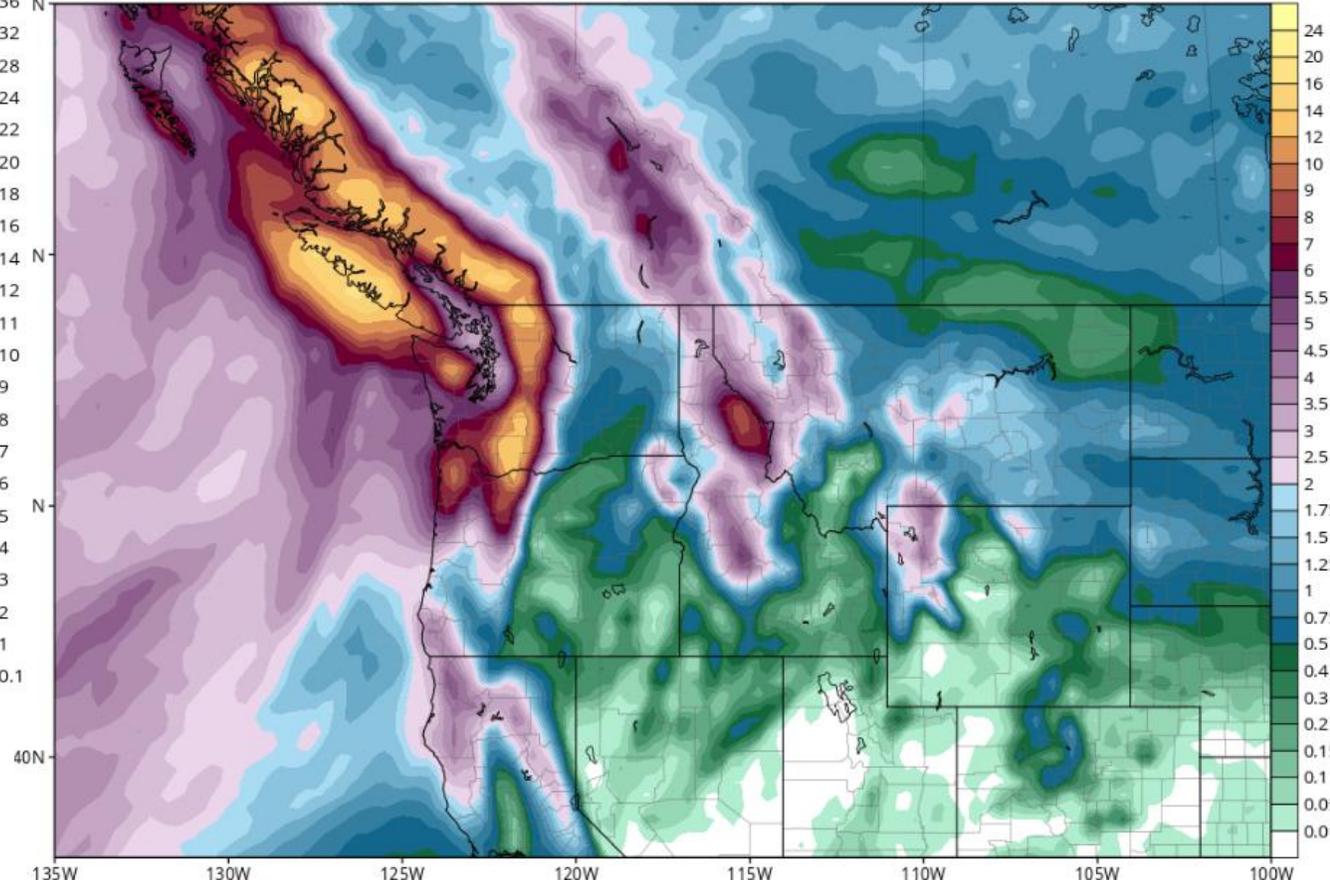
RUN TIME: 18Z MAR 10

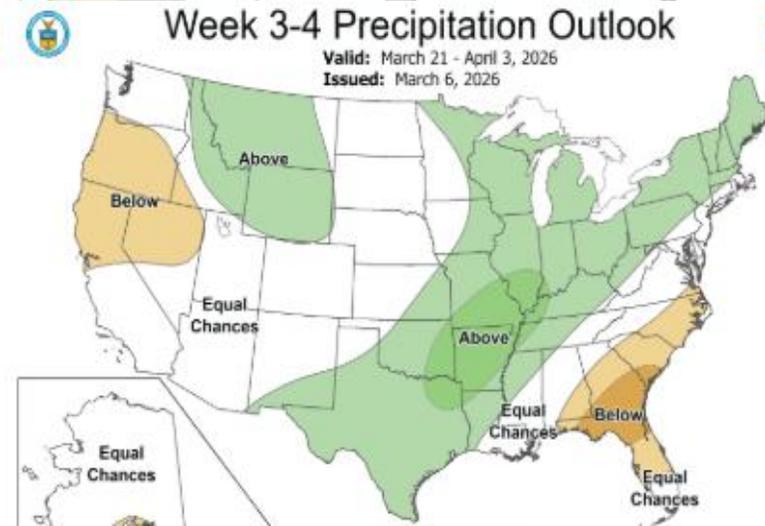
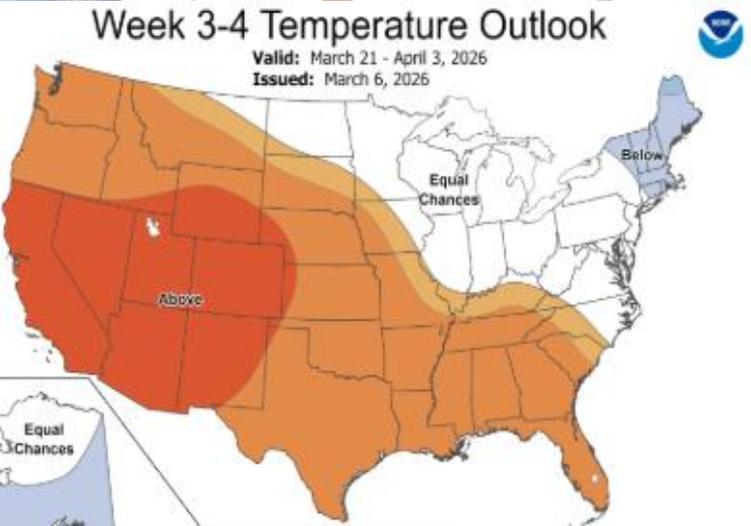
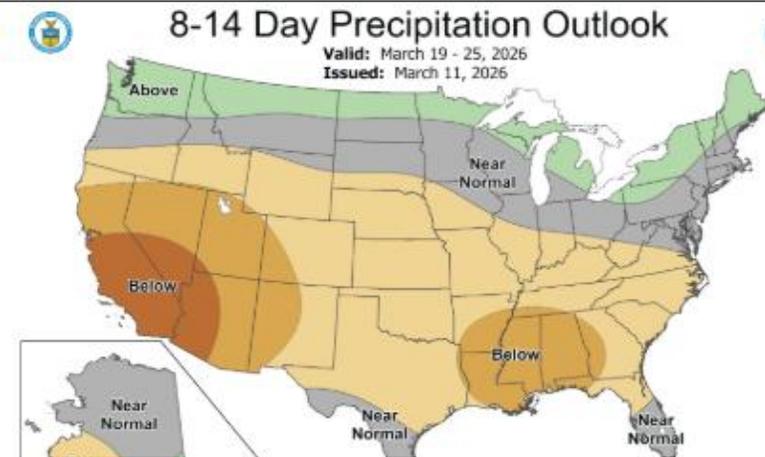
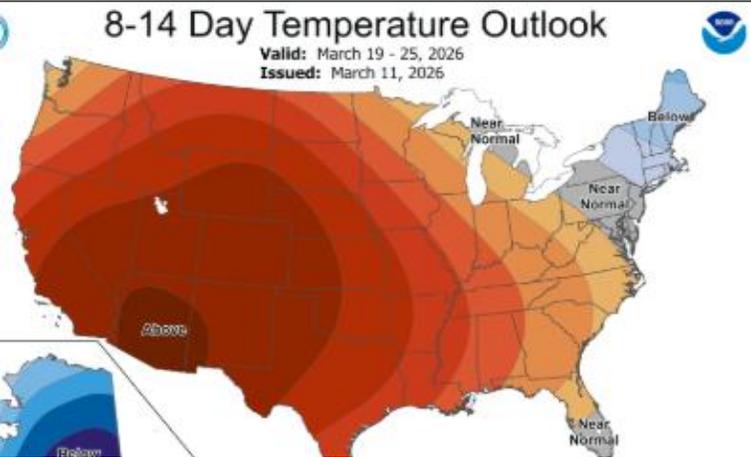
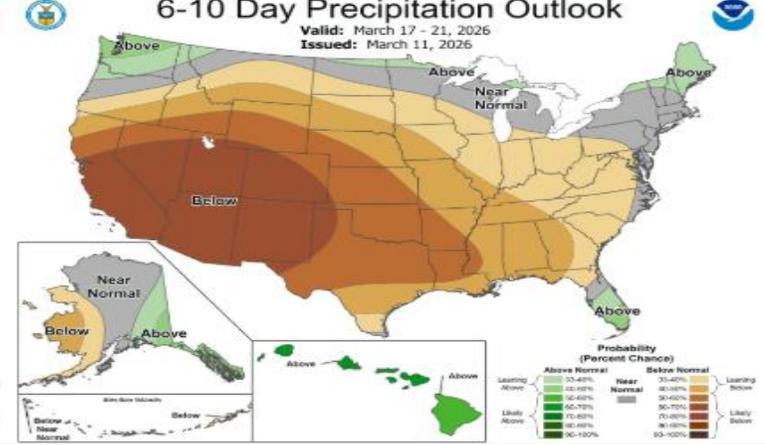
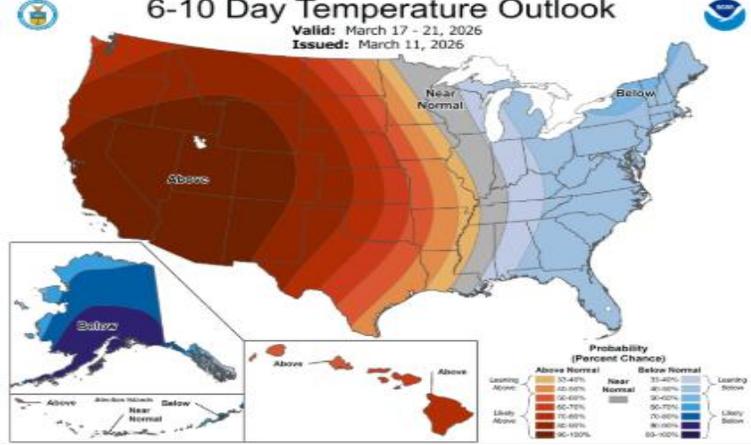


GFS Total Accumulated Precipitation (inches) from 18z10Mar2026 to 18z26Mar2026

Init: 18z Mar 10 2026 Forecast Hour: [384] valid at 18z Thu, Mar 26 2026

TROPICALTIDBITS.COM





Winter will feel like its over next week.

NWS Temp & Precip OutlookS

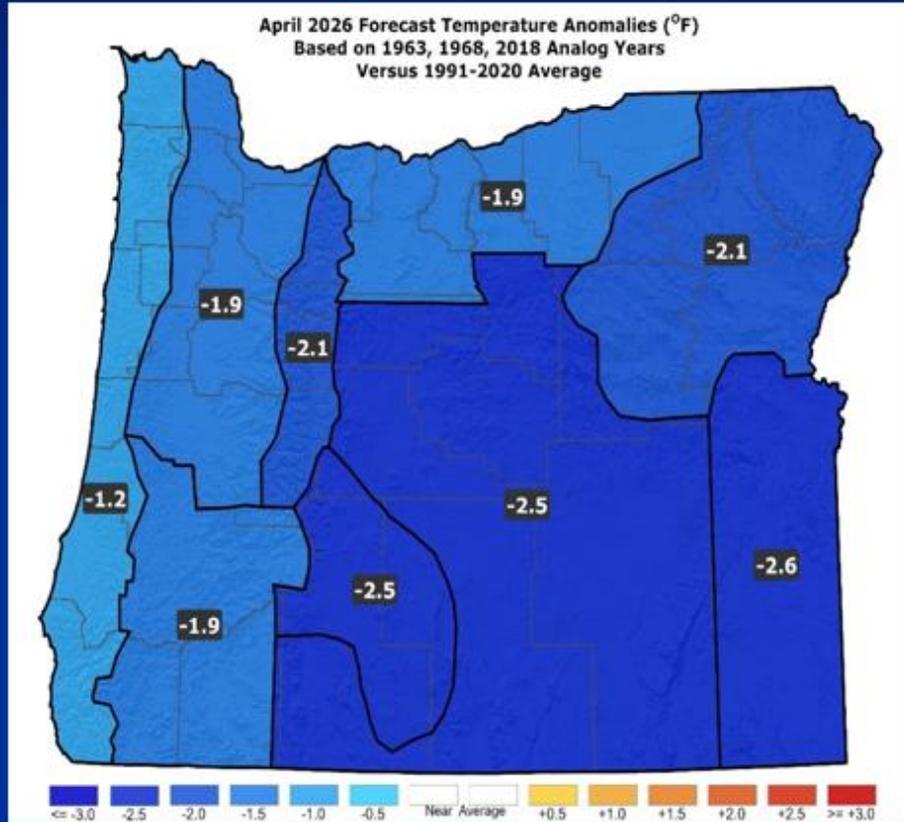
Mar 17-21

Mar 19-25

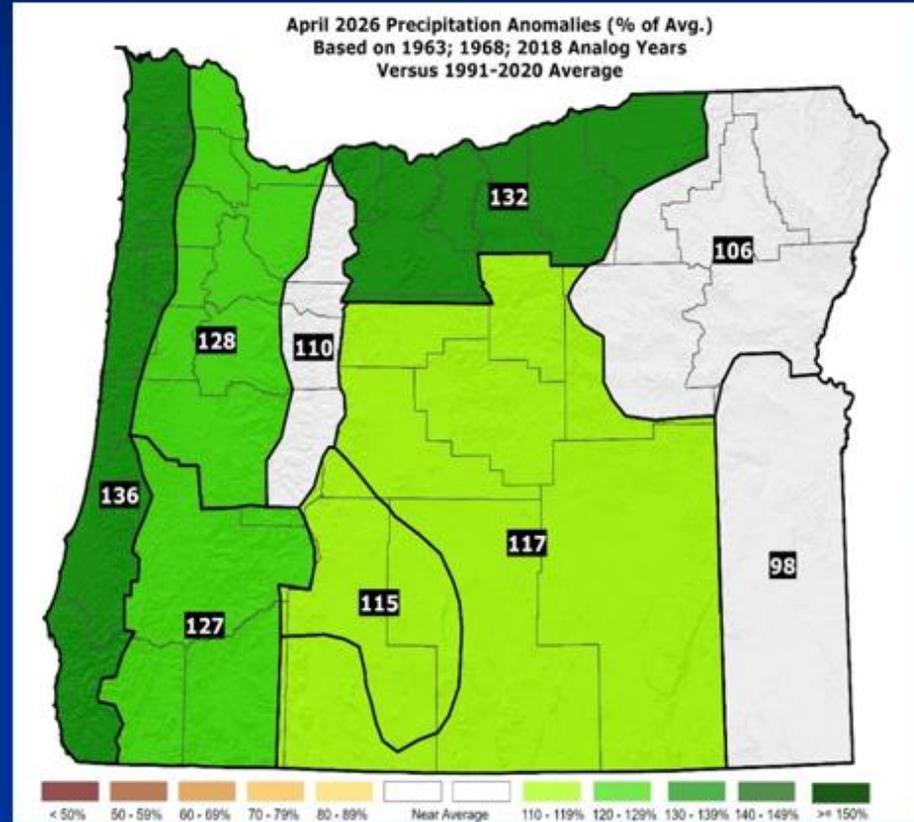
Mar 21-Apr3

April 2026 Forecast

Temperatures



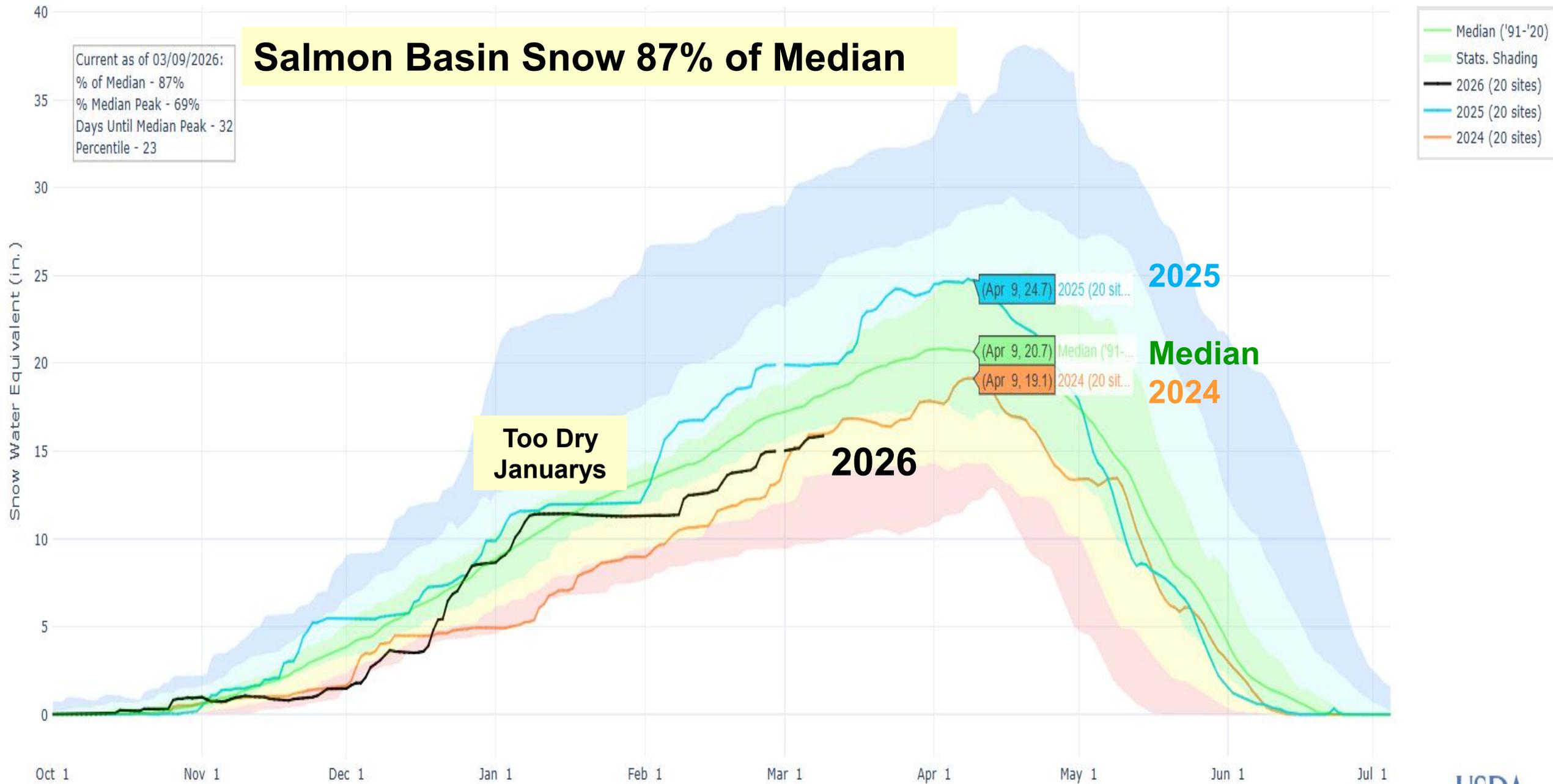
Precipitation



- Quite cool 1963 & 1968 analog years sharply contrasted with a mild 2018 analog. Their blend (left) skews colder than average.
- 1963 and 2018 skewed wet, while 1968 was abnormally dry. Mountain snowpacks peaked below average in all 3 analog years.



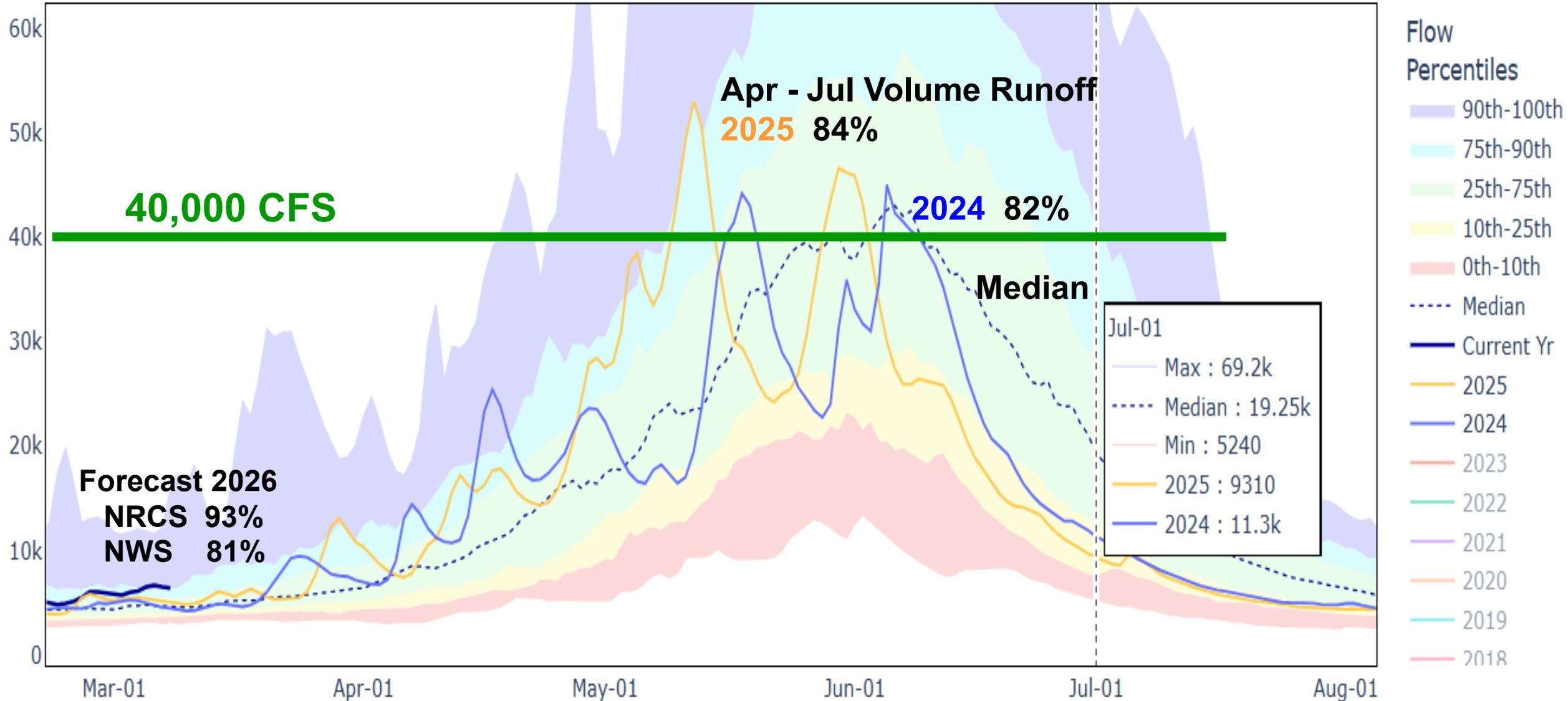
SNOW WATER EQUIVALENT IN SALMON



Daily Flow Percentiles 1926-2026

SALMON RIVER AT WHITE BIRD ID (13317000)

(mean daily CFS)

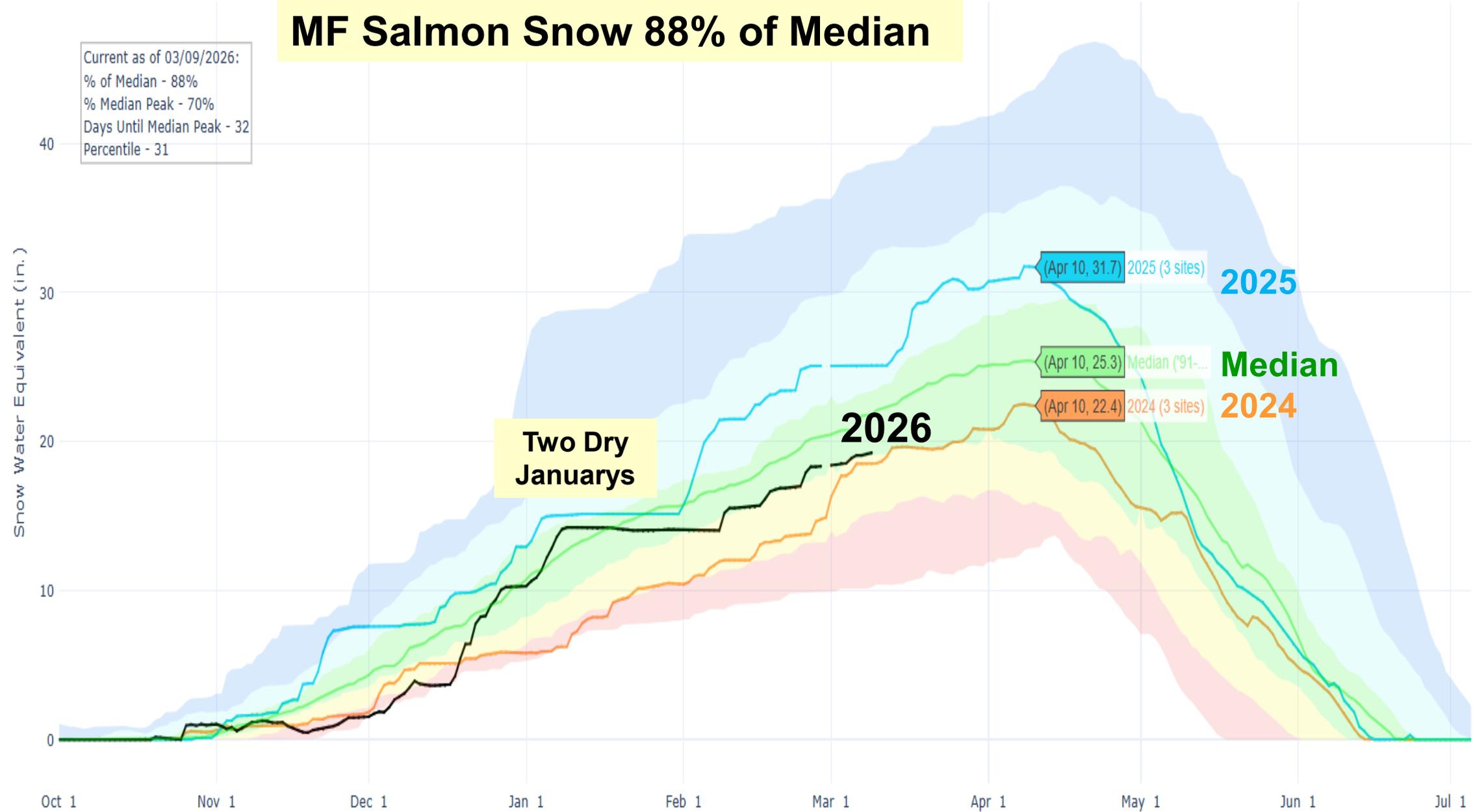




MF Salmon Snow 88% of Median

Current as of 03/09/2026:
% of Median - 88%
% Median Peak - 70%
Days Until Median Peak - 32
Percentile - 31

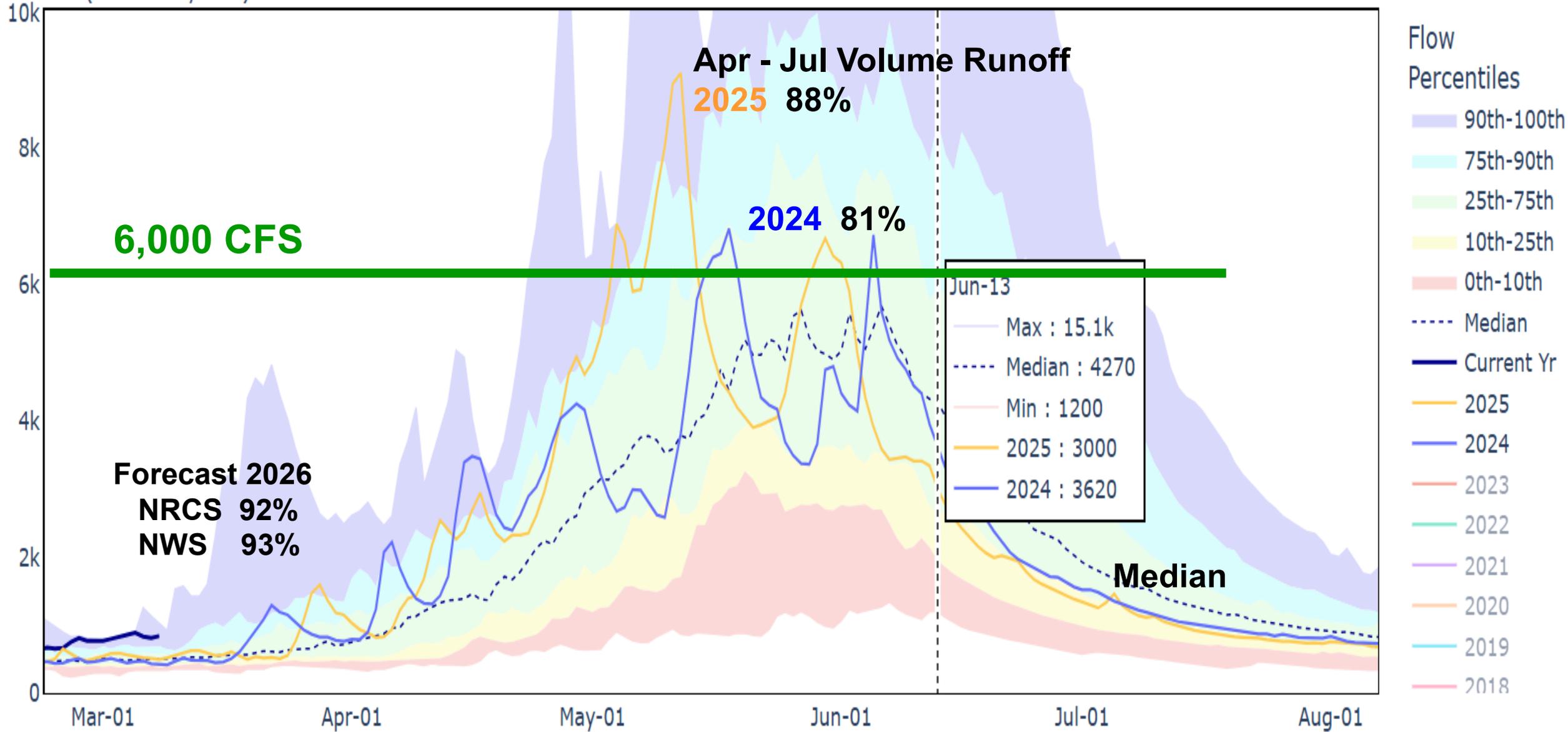
- Median ('91-'20)
- Stats. Shading
- 2026 (3 sites)
- 2025 (3 sites)
- 2024 (3 sites)



Daily Flow Percentiles 1973-2026

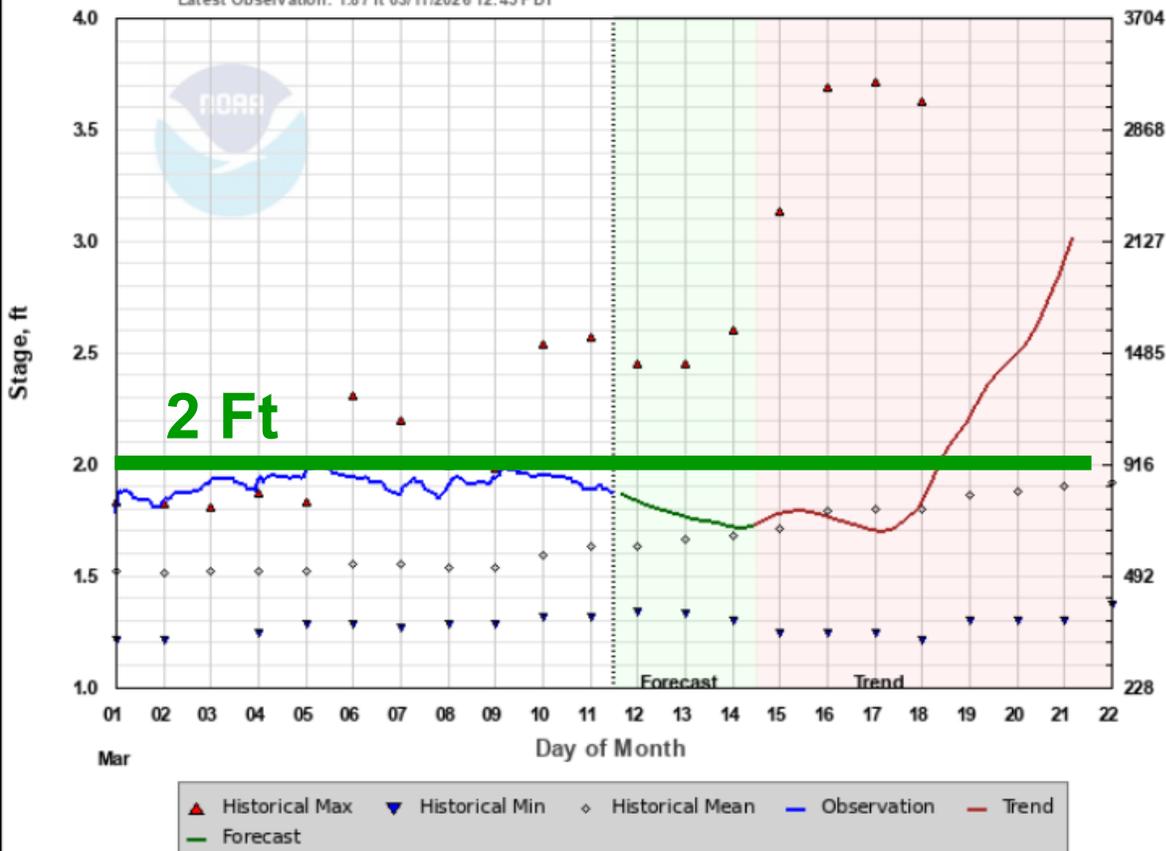
MF SALMON RIVER AT MF LODGE NR YELLOW PINE ID (13309220)

(mean daily CFS)



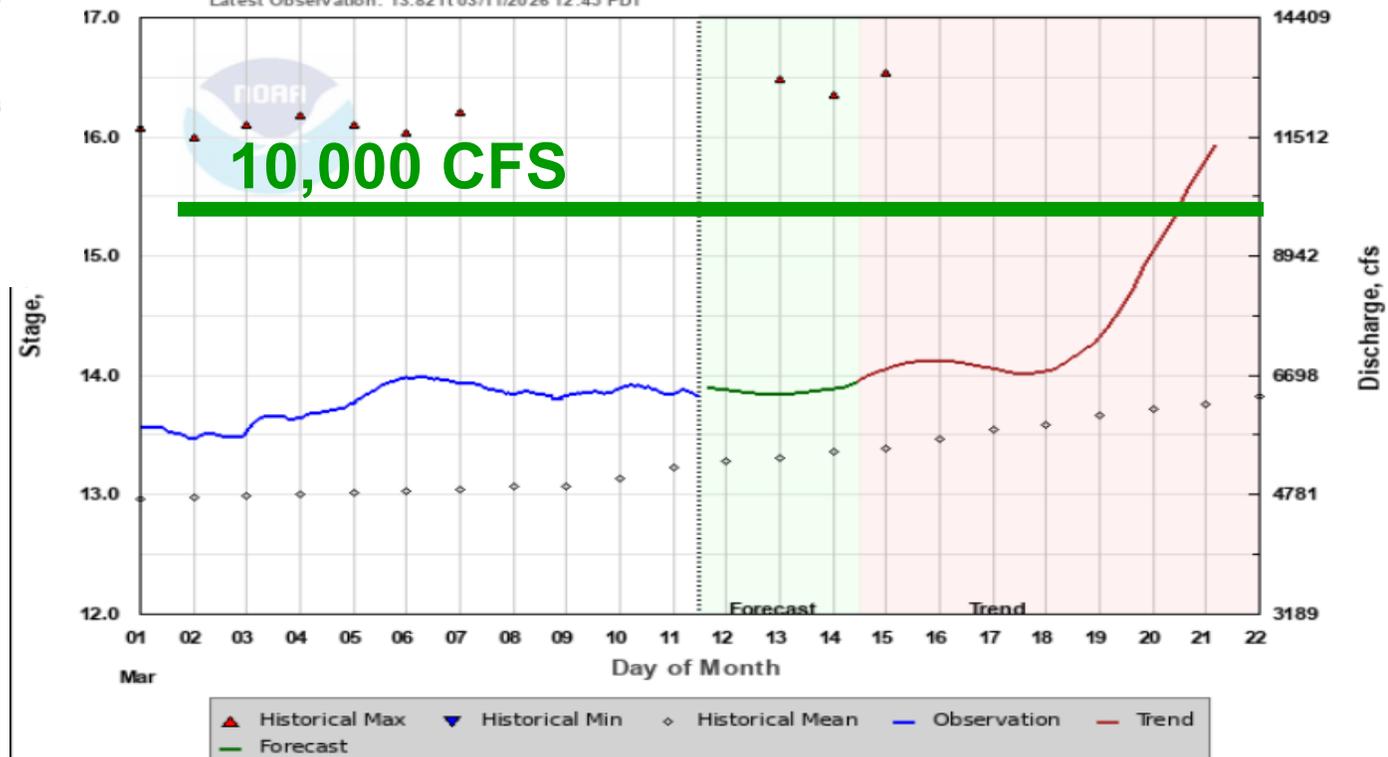
MF SALMON - MIDDLE FORK LODGE (MIDI1)

Latest Observation: 1.87 ft 03/11/2026 12:45 PDT



SALMON - AT WHITEBIRD (WHBI1)

Latest Observation: 13.82 ft 03/11/2026 12:45 PDT



Snow2Flow Verification Banner Summit & MF Salmon River

MF SALMON RIVER AND BANNER SUMMIT SNOTEL SITE

Discharge Data Years used in analysis: 1981, 1999 - 2016
 Gage Height Data Years used in analysis: 1982 -1984, 1986, 1988 -1998

Using combined DISCHARGE and GAGE HEIGHT years, on average, peak streamflow for the MF Salmon at MF Lodge near Yellow Pine Idaho occurs when Banner Summit SNOTEL is between **66 and 90%** melted.

Summary of combined DISCHARGE and GAGE HEIGHT years categorized by max SWE magnitude.

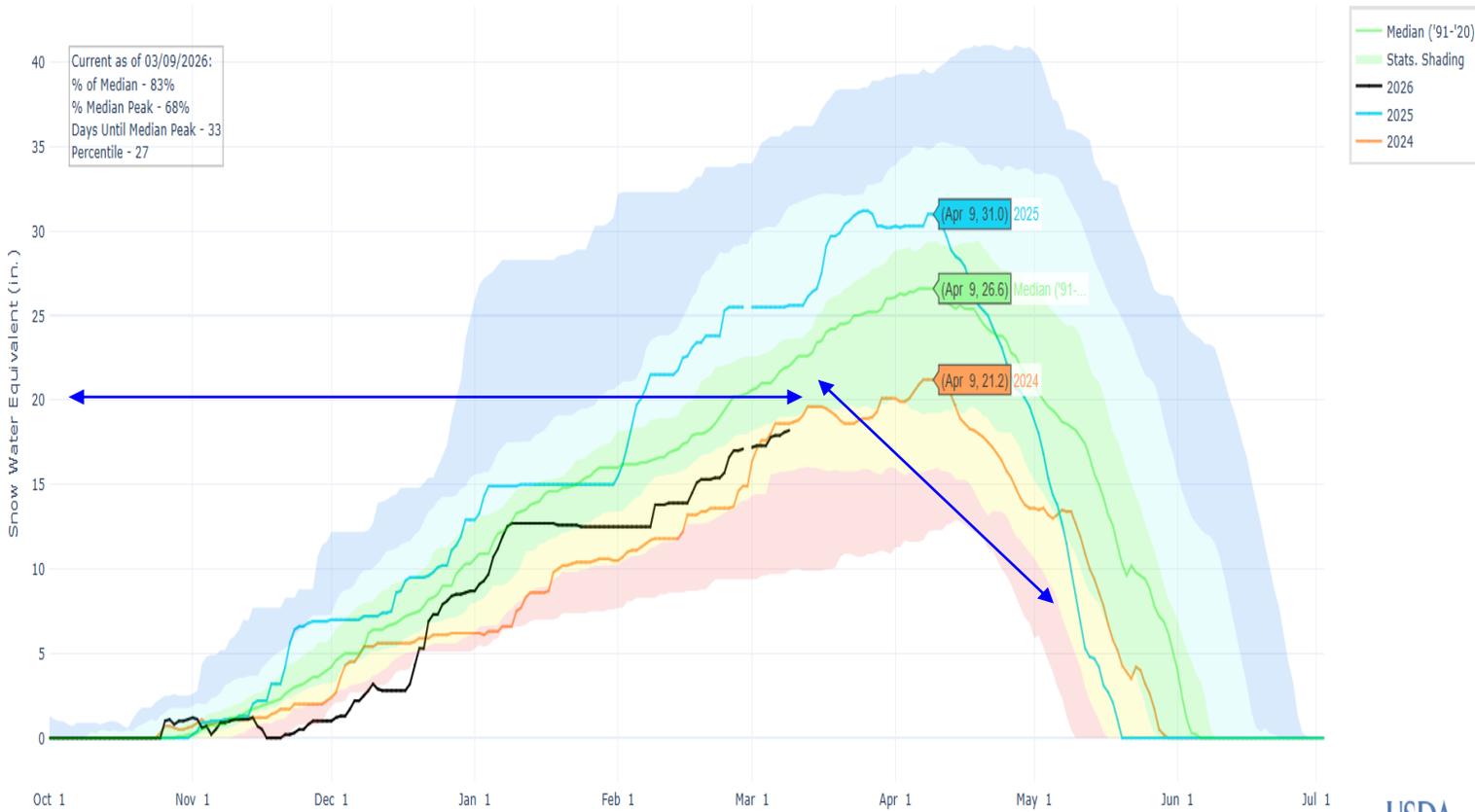
Max SWE Category	Max SWE Magnitude (inches)	Number of Years in Analysis	Average percent melted at time of peak streamflow
Below average	<21	9	90
Average	20 – 31	16	61
Above average	>30	9	66

Note - this analysis uses all years available and did not eliminate potential non-snowmelt peaks

Using DISCHARGE ONLY years, on average, peak streamflow for the MF Salmon at MF Lodge near Yellow Pine Idaho occurs when Banner Summit SNOTEL is between **64 and 81%** melted.

MF Snowmelt Peak occurs when Banner is about 61% melted - currently almost 20" of SWE so peak would be when 8" of SWE remains without additional SWE increase.

BANNER SUMMIT, ID (312) SNOW WATER EQUIVALENT



Snow2Flow Verification Banner Summit & MF Salmon River

MF SALMON RIVER AND BANNER SUMMIT SNOTEL SITE

Discharge Data Years used in analysis: 1981, 1999 - 2016
 Gage Height Data Years used in analysis: 1982 -1984, 1986, 1988 -1998

Using combined DISCHARGE and GAGE HEIGHT years, on average, peak streamflow for the MF Salmon at MF Lodge near Yellow Pine Idaho occurs when Banner Summit SNOTEL is between **66 and 90%** melted.

Summary of combined DISCHARGE and GAGE HEIGHT years categorized by max SWE magnitude.

Max SWE Category	Max SWE Magnitude (inches)	Number of Years in Analysis	Average percent melted at time of peak streamflow
Below average	<21	9	90
Average	20 – 31	16	61
Above average	>30	9	66

Note - this analysis uses all years available and did not eliminate potential non-snowmelt

Using DISCHARGE ONLY years, on average, peak streamflow for the MF Salmon at MI near Yellow Pine Idaho occurs when Banner Summit SNOTEL is between **64 and 81%** melted.

Summary of DISCHARGE ONLY years categorized by max SWE magnitude.

Max SWE Category	Max SWE Magnitude (inches)	Number of Years in Analysis	MEDIAN percent melted at time of peak streamflow
Below average	<21	5	81
Average	20 – 30	8	71
Above average	>29	5	64

Note - this analysis uses all years available and did not eliminate potential non-snowmelt peaks

Snow2Flow Verification for Years 2023, 24 & 25

ON JANUARY 22, 2026 / BY RON ABRAMOVICH / EDIT

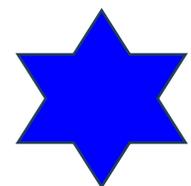
It's always good to verify forecasts to better understand what works, and why or why not. This provides a better understanding of the relationship, other climate influencers that may have impacted the outcome and when works best. Following is a summary of Snow2Flow relationships used to predict date of peak flows, range of dates, and if the potential for additional snowmelt peaks has past or is decreasing

<https://snowweatherandflow.blog/2026/01/22/snow2flow-verification-for-years-2023-24-25/>

Peak SWE for all 3 years were in the 20-31" range that shows peak flow occurs when 61% of the SWE is melted.

MF Salmon River Snow2 Flow Verification for Years 2023, 24, 25

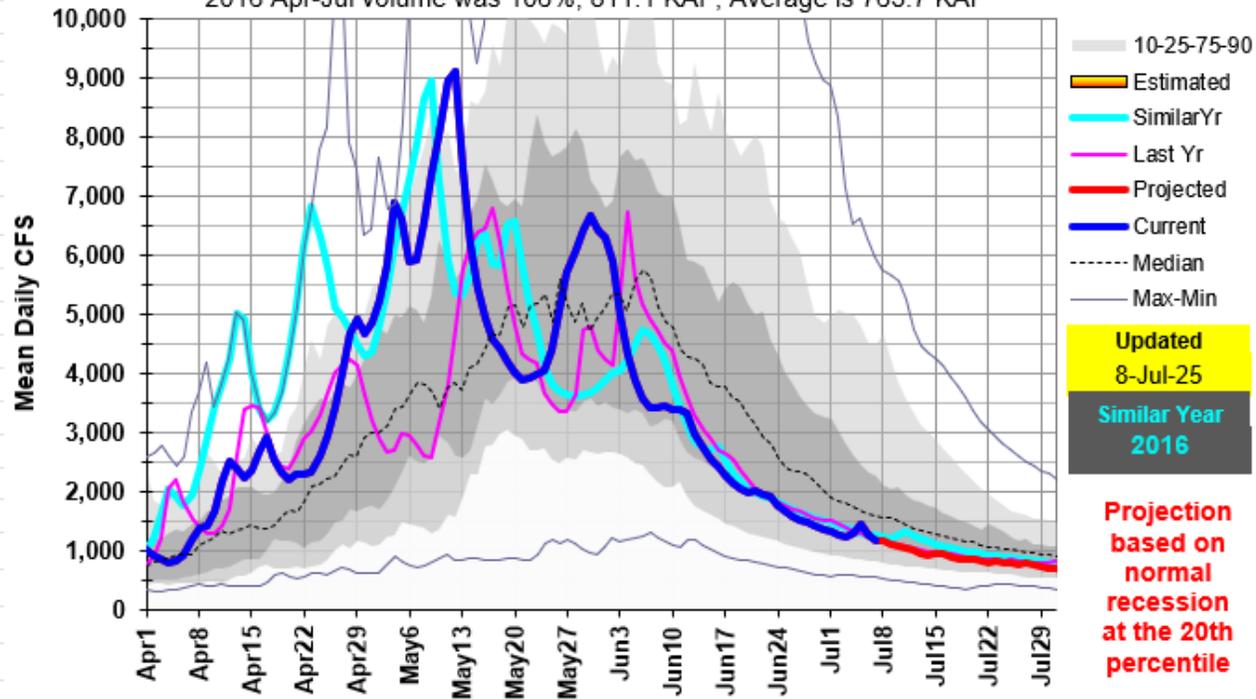
Year	Peak SWE	SWE when 61% Melted	Date when 61% Melted	Date of Peak Flow
2025	31.0	12.1	May 7/8	May 12.
2024	21.2	8.3	May 15/16	May 17 and Jun 4
2023	31.4	12.2	May 21/22	May 22.



Peak projection was correct for 2024 and 2023 and 4 days early for 2025.

13309220: MF Salmon R at MF Lodge near Yellow Pine, ID

2016 Apr-Jul volume was 106%, 811.1 KAF, Average is 763.7 KAF



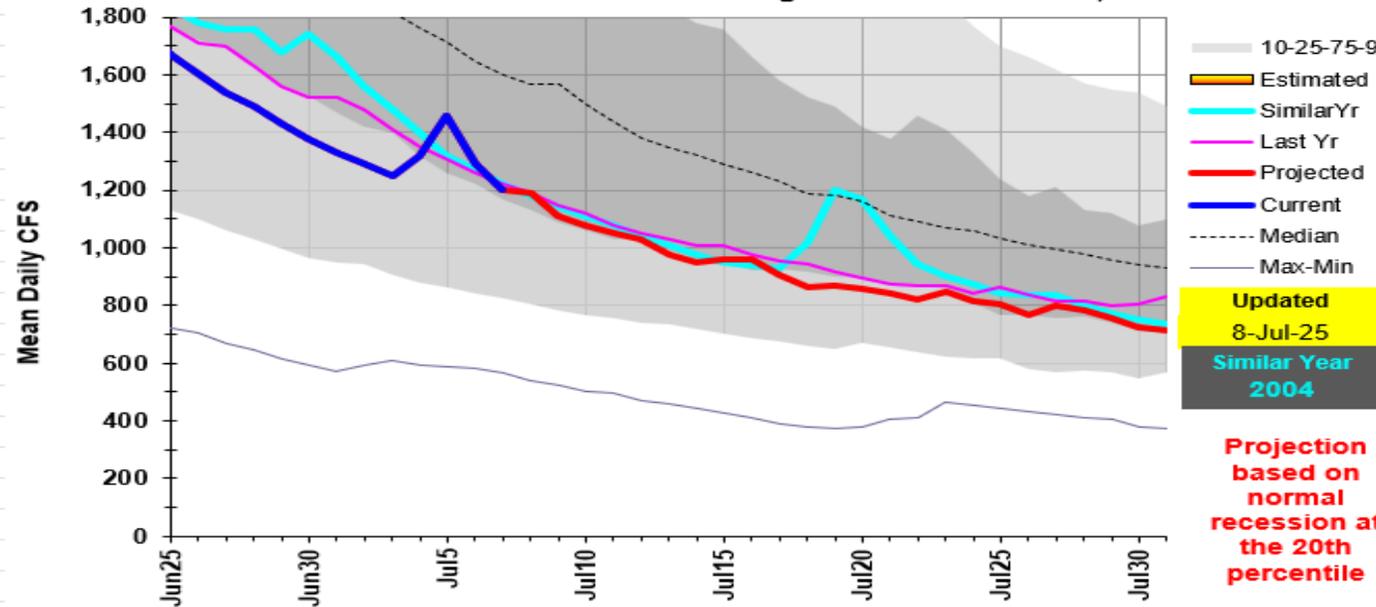
**Remember these Flow Projections ?
Dr Tom Pagano wrote this amazing Excel Spreadsheet
back in the summer of 2006 !**

**It's been an amazing spreadsheet and run using it.
BUT - Sep 2, 2025 changes on USGS data platform
caused the spreadsheet to cease working.**

**It was an amazing tool that quickly did the analysis.
Now I'm feeling like a Salmon
on its last stretch going up Marsh Creek.**

**We were able to educate many along the way
and even save a few lives.**

13309220: MF Salmon R at MF Lodge near Yellow Pine, ID



Here's another tool and not AI !

Current stream flows for your favorite rivers

Find your flow with real-time river reports

Flows Key Too Low Running Optimal High V. High

- Arkansas ▼
- Colorado, Headwaters - Blue ▼
- Colorado, Upper Colorado - Eagle ▼
- Colorado, Lower Colorado ▼
- Front Range North ▼
- Front Range South ▼
- Gunnison ▼
- Roaring Fork ▼
- San Juan - Animas ▼
- Cache la Poudre ▼
- Yampa - White - Green ▼
- Rio Grande ▼
- Dolores - San Miguel ▼
- Western Classics - Lotteries and Multidays ▼
- SW Utah ▼
- New Mexico ▼

<https://www.boaterbetaco.com/>

Dolores - San Miguel					
Western Classics - Lotteries and Multidays					
River	Section	cfs	Last Obs	Plots	Class
Colorado	Grand Canyon <i>Lees Ferry - Pearce Ferry</i>	8700	2026-03-09 20:00	 7d  Full	3/4-
Middle Fork Salmon	Middle Fork Salmon <i>Boundary Creek - Cache Bar</i>	859	2026-03-09 20:45	 7d  Full	3/4-
Salmon	Main Salmon <i>Corn Creek - Carey Creek</i>	6390	2026-03-09 19:45	 7d  Full	3+ (4)
Snake	Hells Canyon <i>Hells Canyon Dam - Heller Bar</i>	12700	2010-09-30 23:45	 7d  Full	3+
Green	Gates of Lodore <i>Browns Park - Echo Park</i>	834	2026-03-09 21:30	 7d  Full	2+/4
Yampa	Yampa in Dinosaur NP <i>Deerlodge Park - Echo Park</i>	586	2026-03-09 21:15	 7d  Full	2/3 (4)
Green	Desolation - Grays Canyon <i>Ouray UT - Green River UT</i>	2080	2026-03-09 21:30	 7d  Full	2+/3
Green	Labyrinth / Stillwater Canyon <i>Green River UT / Mineral Bottom - Spanish Bottom</i>	2080	2026-03-09 21:30	 7d  Full	1
Colorado	Moab Daily / Canyonlands <i>Dewey Bridge - Moab</i>	2540	2026-03-09 21:00	 7d  Full	2+
Colorado	Cataract Canyon <i>Potash - North Wash /Hite</i>	4480	2026-03-09 20:45	 7d  Full	3/4-
Salt	Salt River <i>US 60 - Hwy 288</i>	218	2026-03-09 20:30	 7d  Full	2+/4
Selway	Selway <i>Paradise - Selway Falls</i>	2640	2026-03-09 20:00	 7d  Full	4

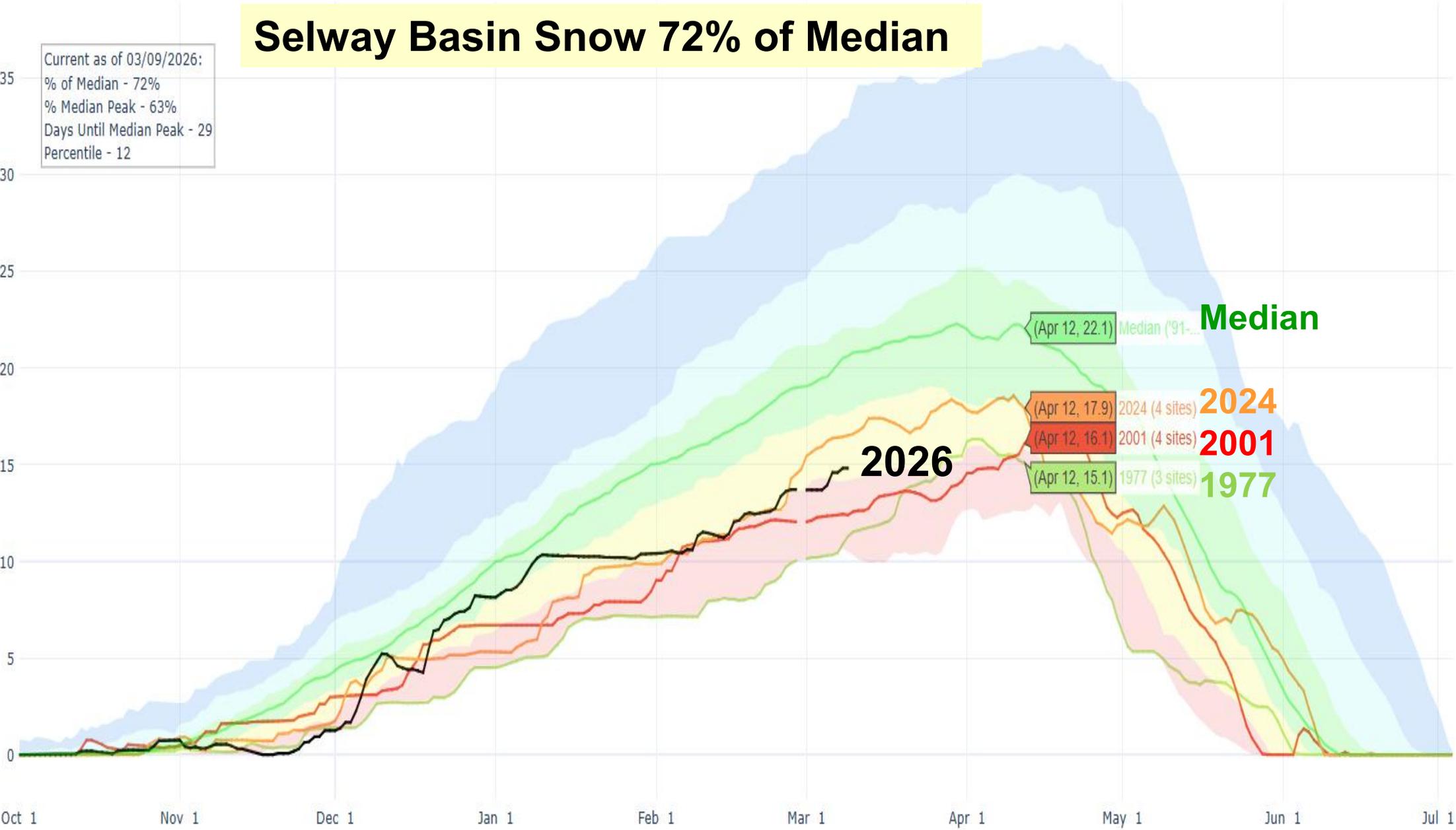


Selway Basin Snow 72% of Median

Current as of 03/09/2026:
% of Median - 72%
% Median Peak - 63%
Days Until Median Peak - 29
Percentile - 12

- Median ('91-'20)
- Stats. Shading
- 2026 (4 sites)
- 2024 (4 sites)
- 2001 (4 sites)
- 1977 (3 sites)

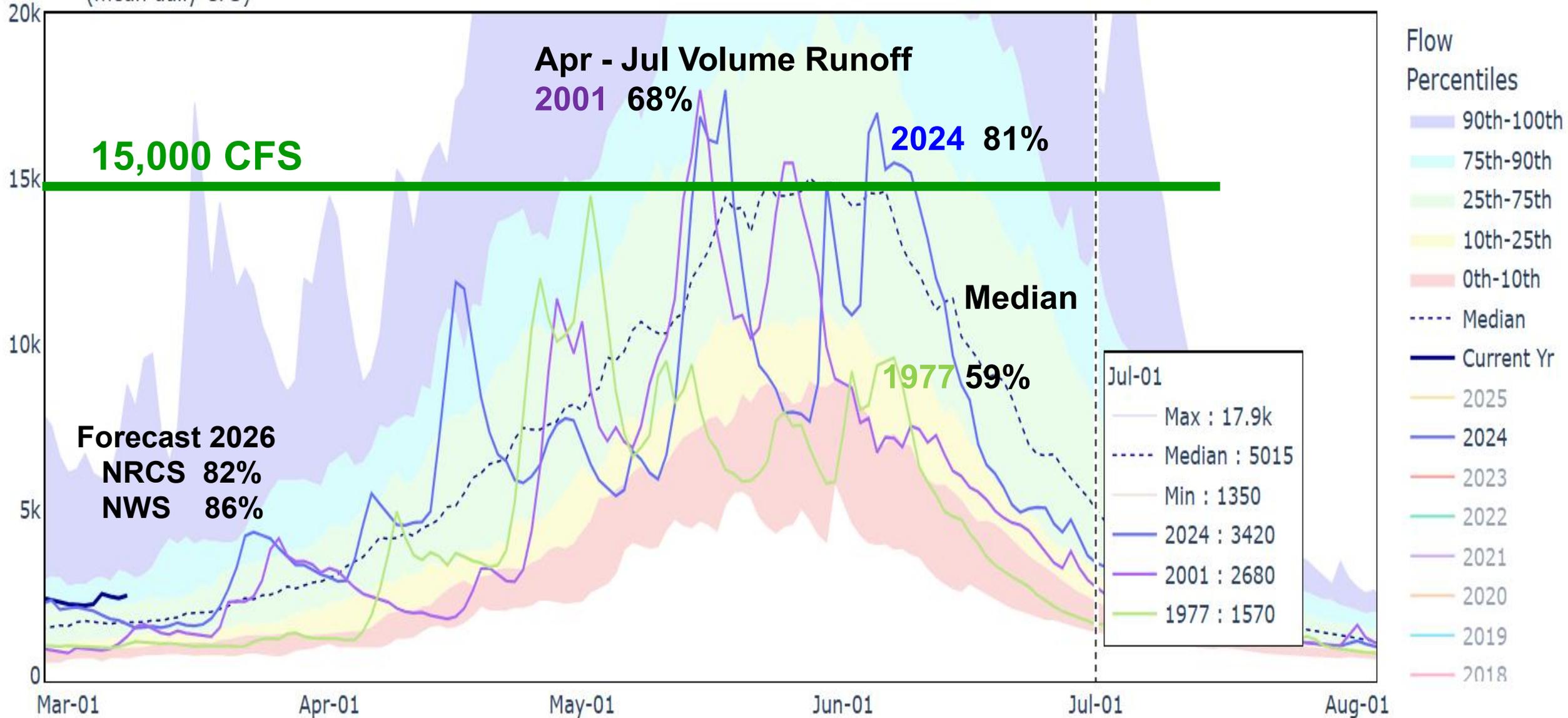
Snow Water Equivalent (in.)



Daily Flow Percentiles 1929-2026

SELWAY RIVER NR LOWELL ID (13336500)

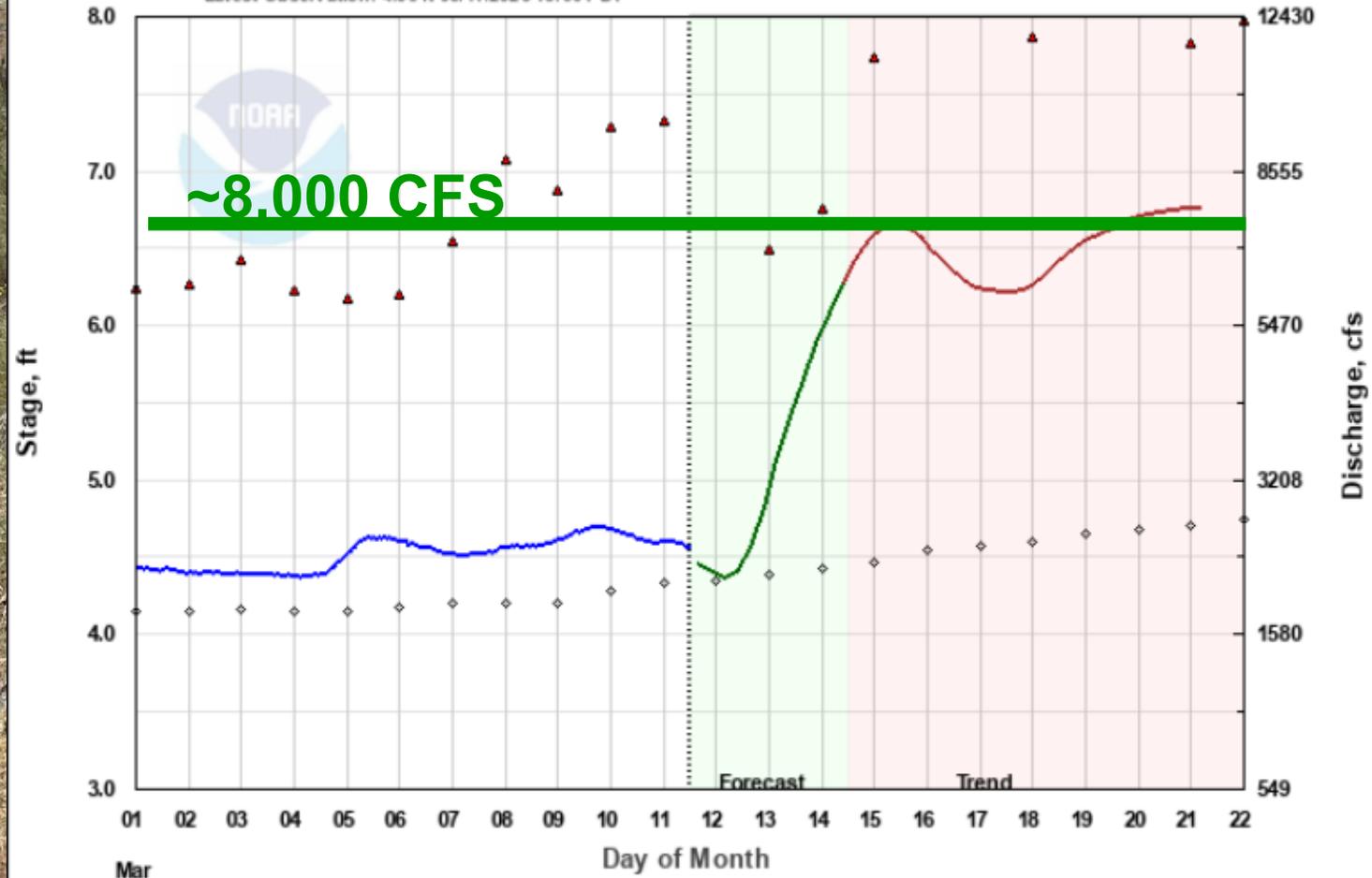
(mean daily CFS)



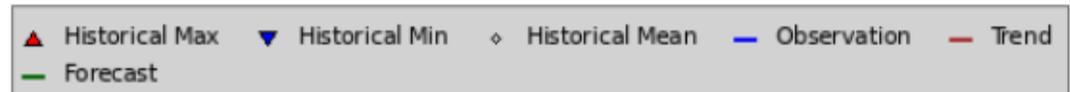


SELWAY - NEAR LOWELL (SEL1)

Latest Observation: 4.55 ft 03/11/2026 13:00 PDT



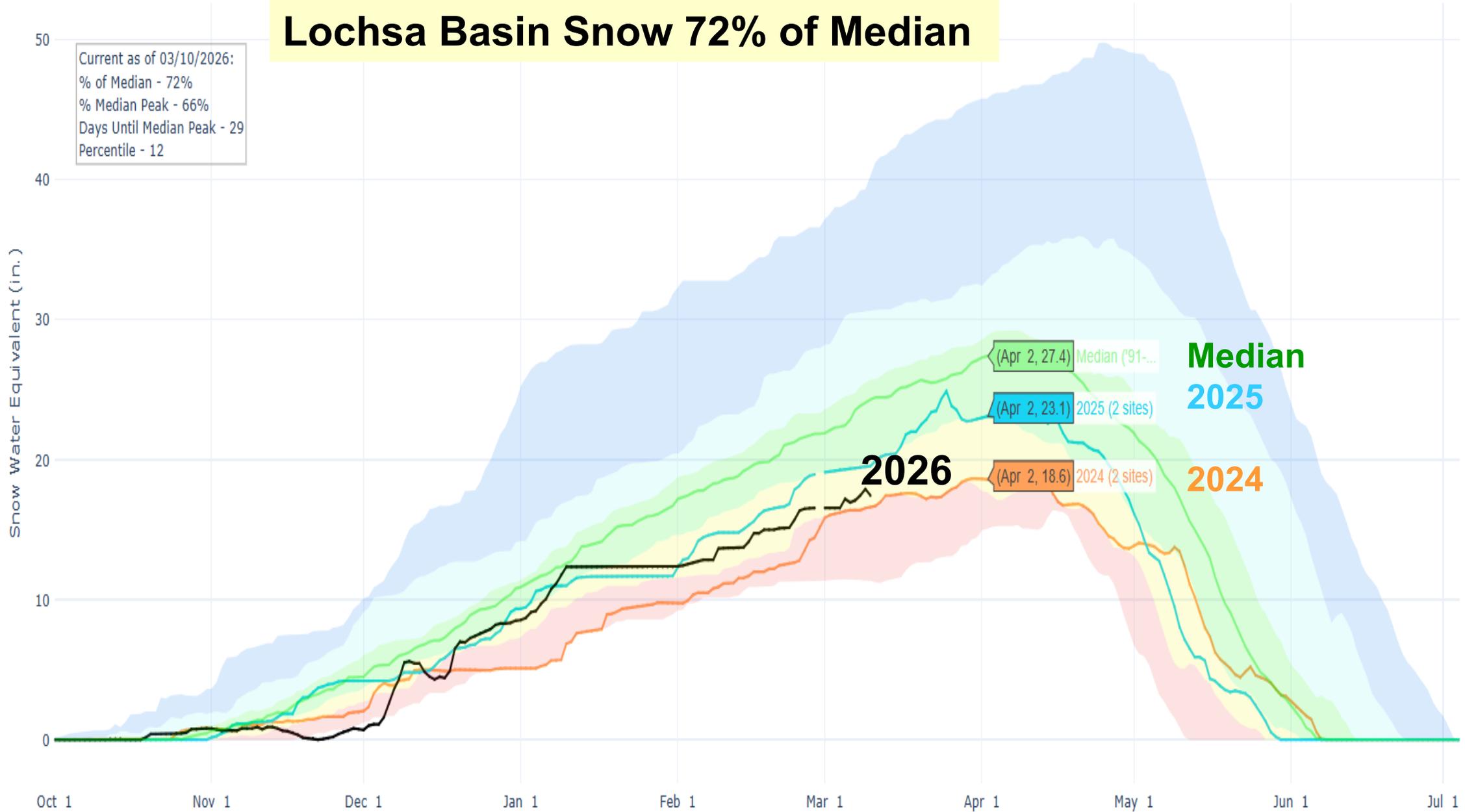
~8,000 CFS



Lochsa Basin Snow 72% of Median

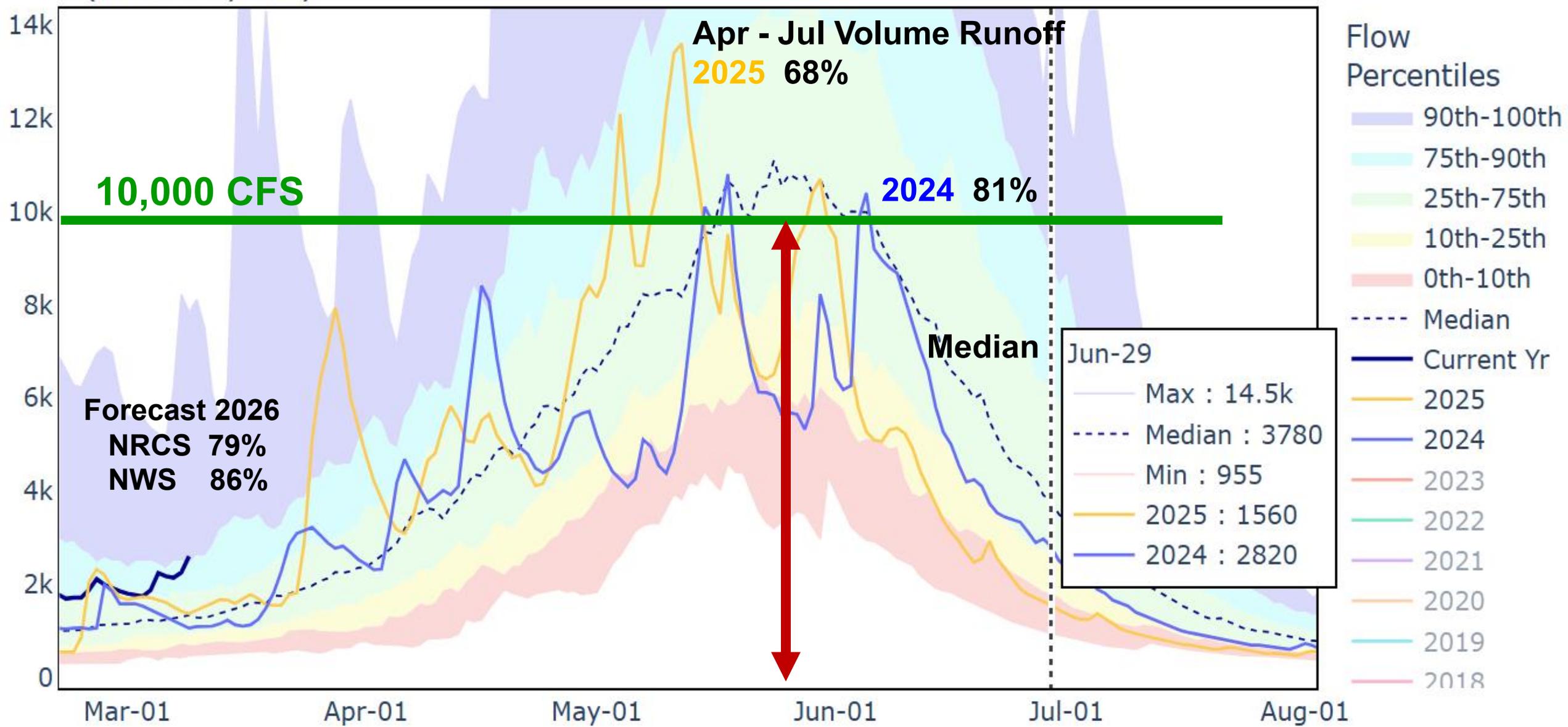
Current as of 03/10/2026:
% of Median - 72%
% Median Peak - 66%
Days Until Median Peak - 29
Percentile - 12

- Median ('91-'20)
- Stats. Shading
- 2026 (2 sites)
- 2025 (2 sites)
- 2024 (2 sites)



Daily Flow Percentiles 1929-2026
 LOCHSA RIVER NR LOWELL ID (13337000)
 (mean daily CFS)

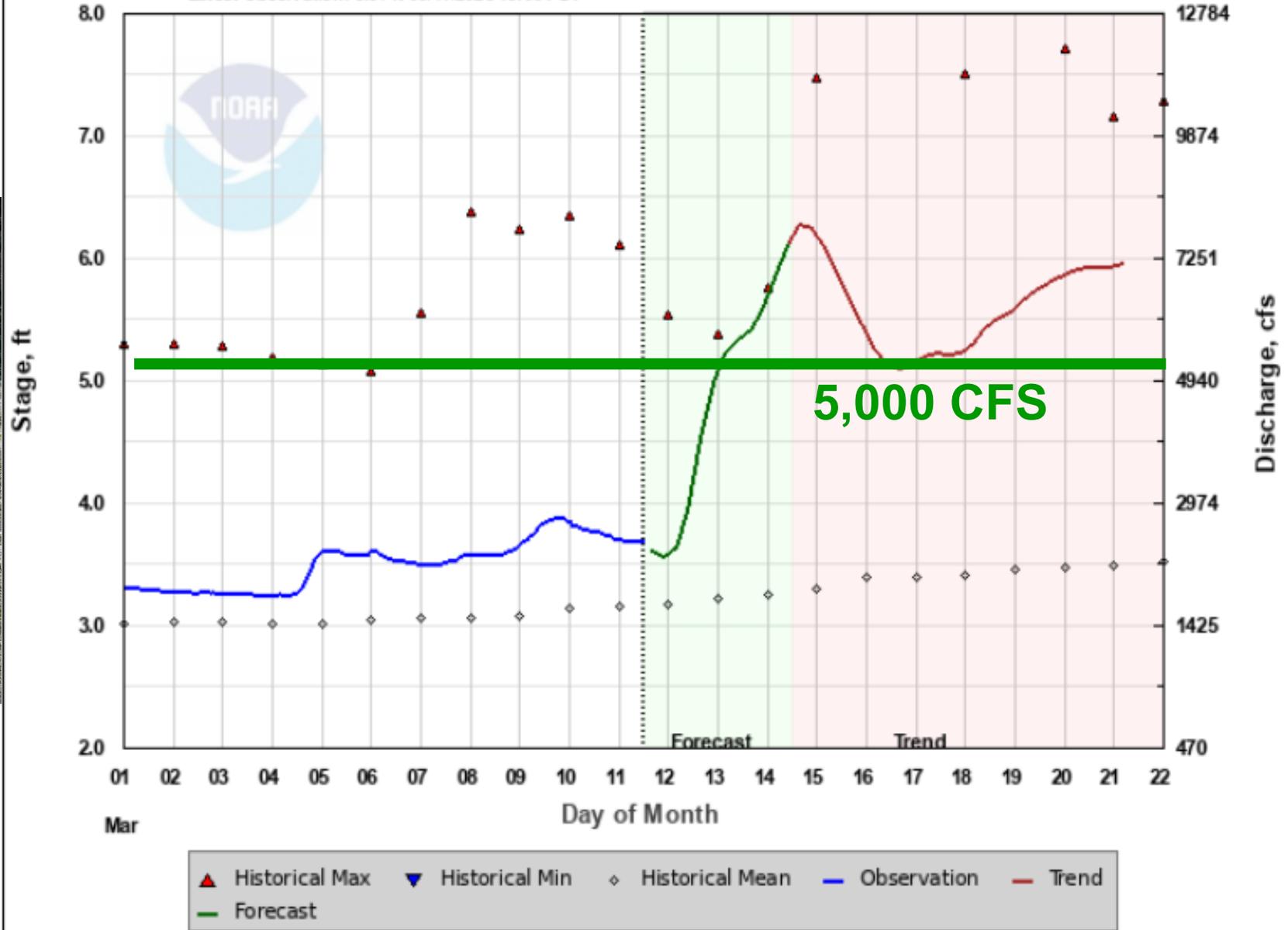
Memorial Weekend Peak ??
I'd say earlier this year...





LOCHSA - NEAR LOWELL (LOCI1)

Latest Observation: 3.67 ft 03/11/2026 13:00 PDT



Forecast Created: 03/11/2026 09:29 PDT
 Plot Created: 03/11/2026 13:33 PDT

Observations Provided by US Geological Survey

Discussions - Questions - Comments - Corrections



Ethan ?



**Bargaman
Creek April
2026**



Banner Summit SWE Peaks Date and Inches

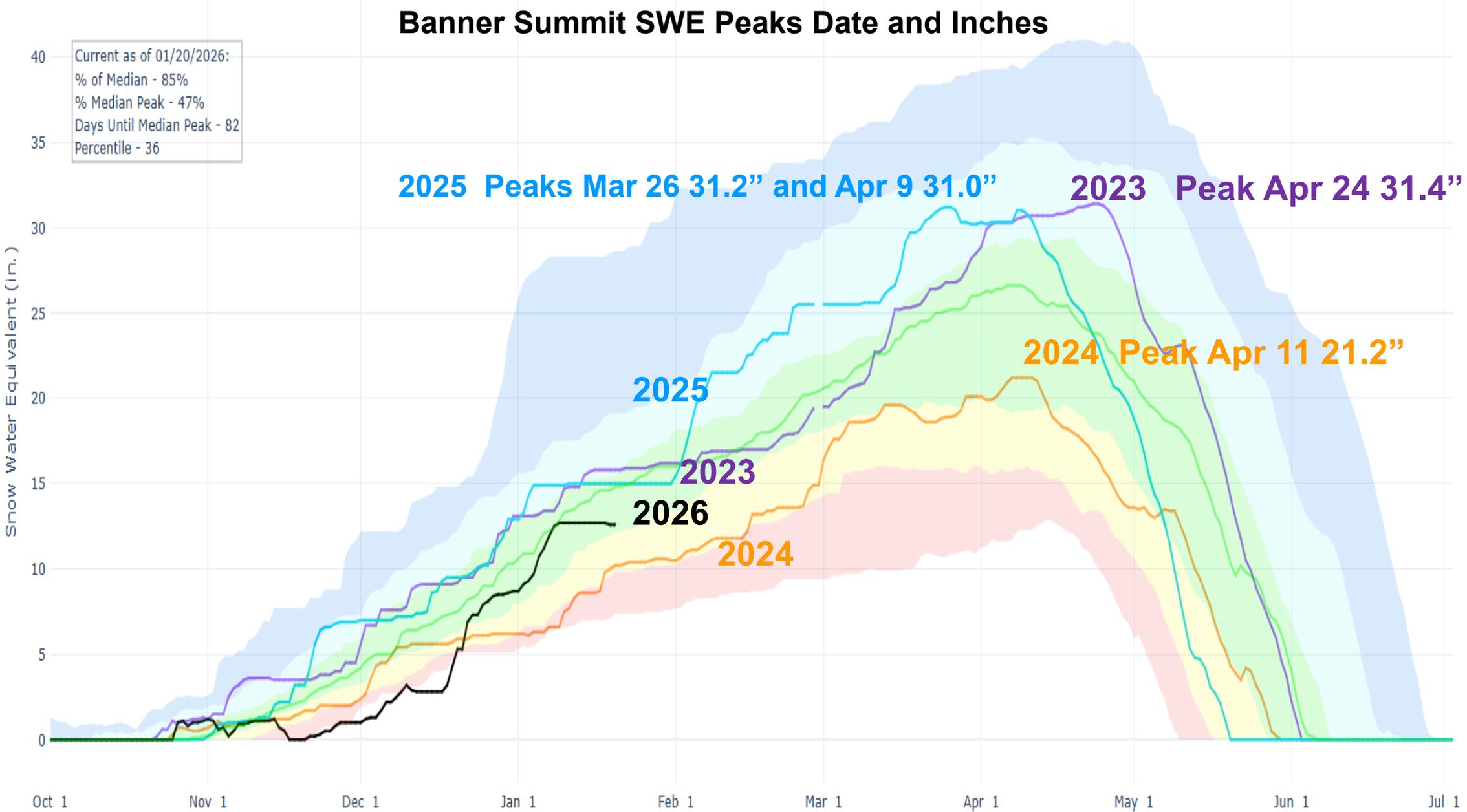
Current as of 01/20/2026:
% of Median - 85%
% Median Peak - 47%
Days Until Median Peak - 82
Percentile - 36

- Median ('91-'20)
- Stats. Shading
- 2026
- 2025
- 2024
- 2023

2025 Peaks Mar 26 31.2" and Apr 9 31.0"

2023 Peak Apr 24 31.4"

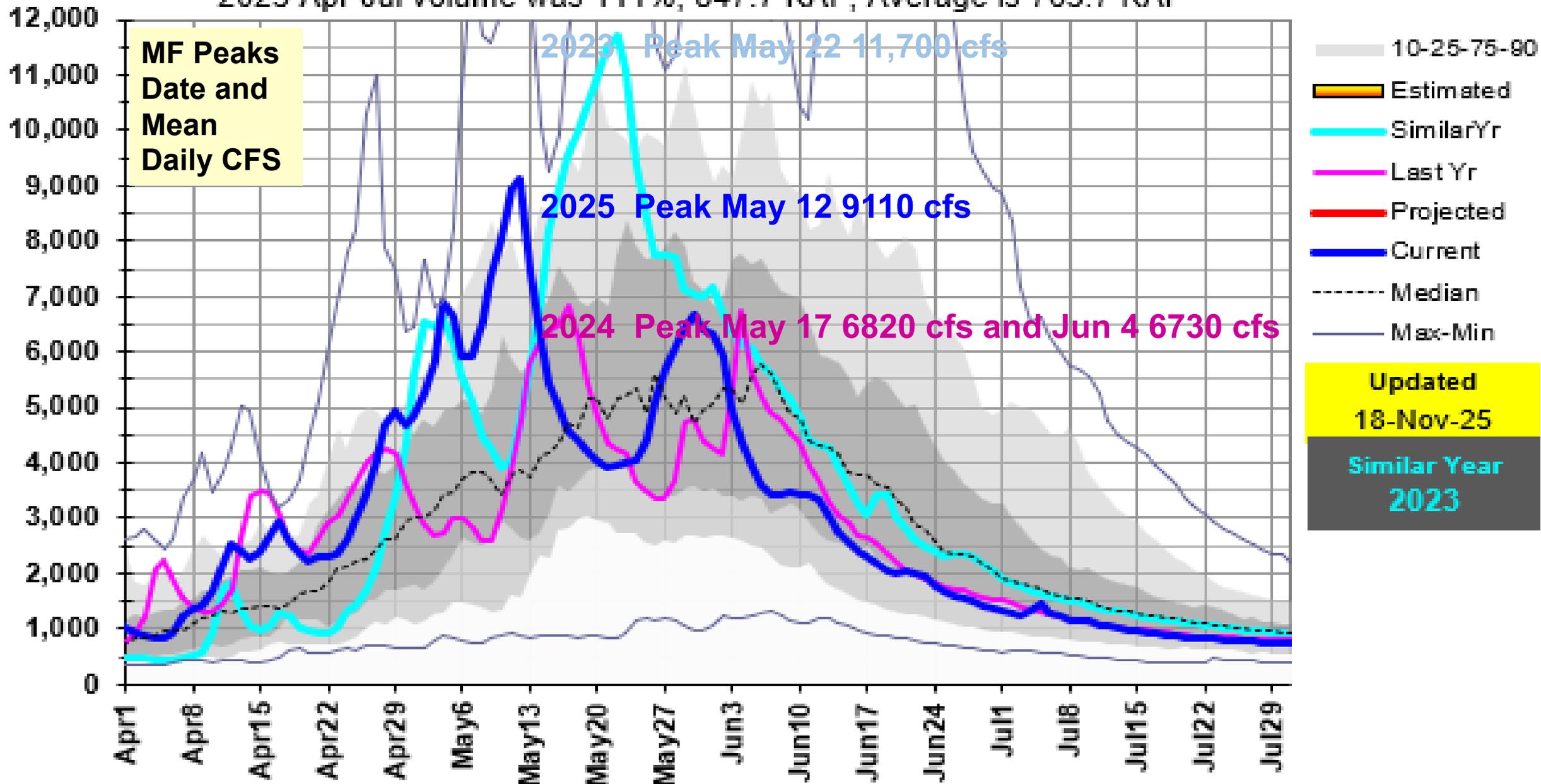
2024 Peak Apr 11 21.2"



13309220: MF Salmon R at MF Lodge near Yellow Pine, ID

Snow2Flow Verification Banner
Summit & MF Salmon River

2023 Apr-Jul volume was 111%, 847.7 KAF, Average is 763.7 KAF



Total Precipitation Anomaly: Jul 2025 - Sep 2025

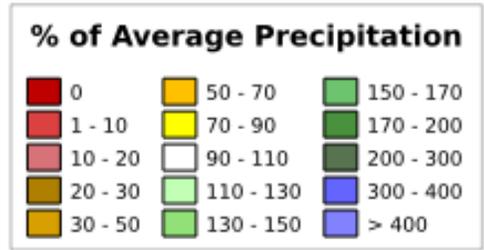
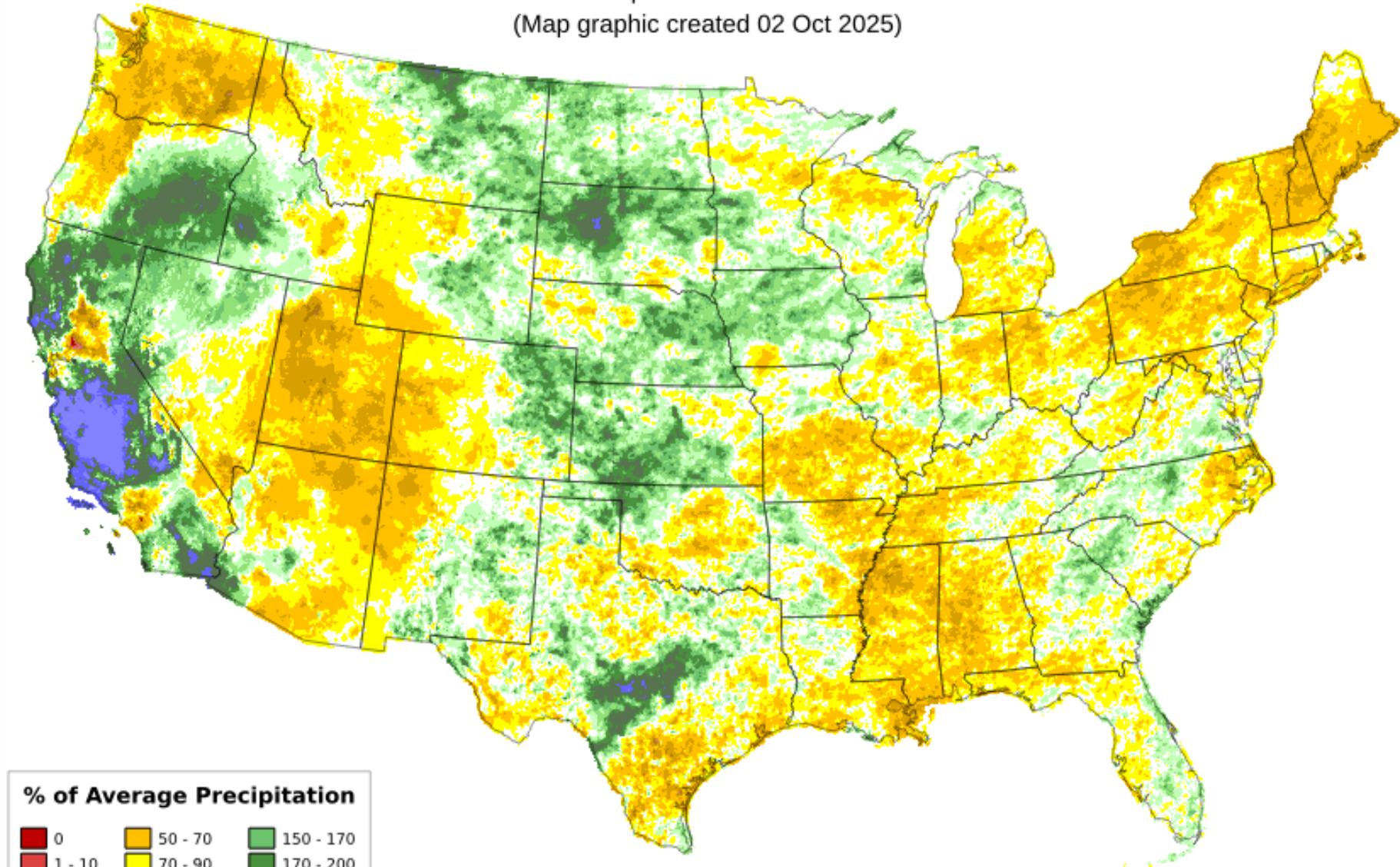
Period ending 7 AM EST 30 Sep 2025

Base period: 1991 - 2020

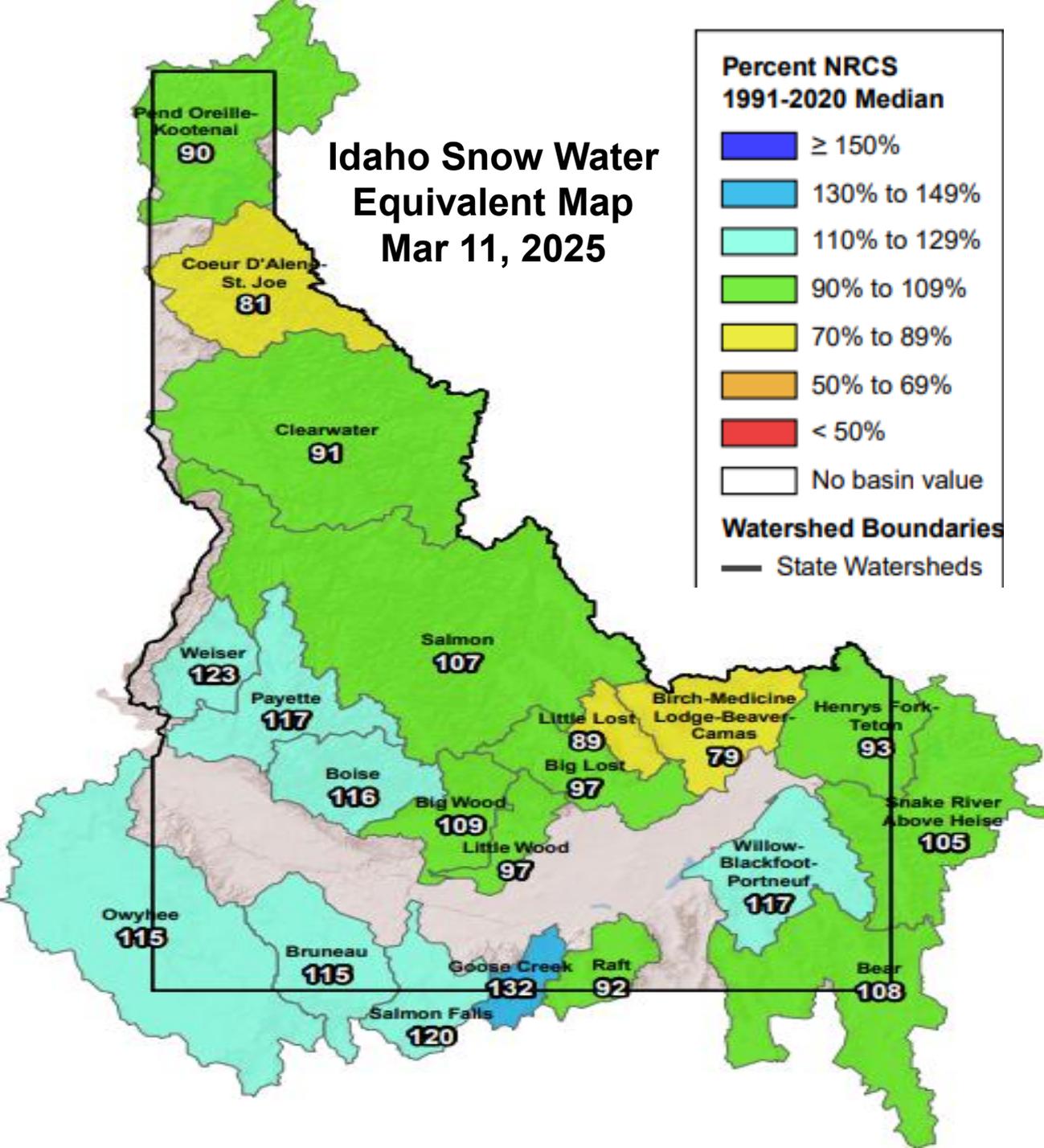
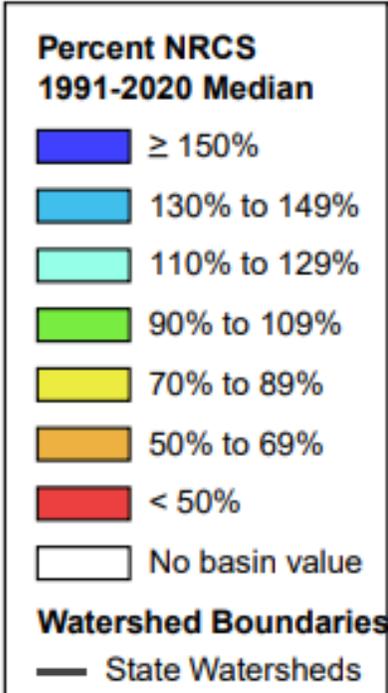
(Map graphic created 02 Oct 2025)

**Summer Precipitation
Near normal or better in
SW Idaho.**

**Helped but too late to
benefit spring runoff.**



**Idaho Snow Water
Equivalent Map
Mar 11, 2025**



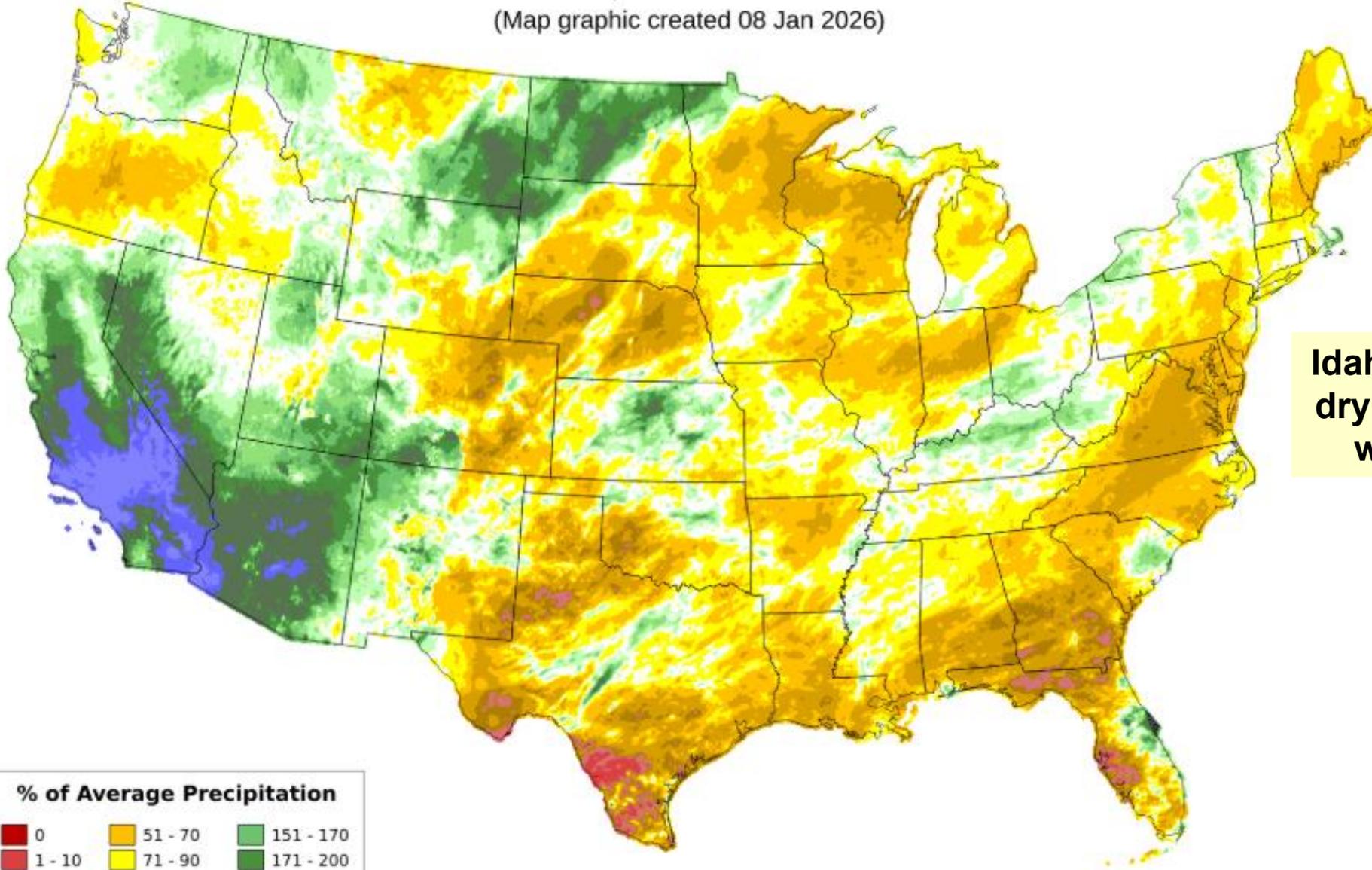
- Recap of 2025 Runoff – What Happened ??**
1. 2025 April 1 Snowpack – looking good
 2. Spring Precipitation – what happened
 3. Summer Precipitation – near normal

Total Precipitation Anomaly: Oct 2025 - Nov 2025

Period ending 7 AM EST 30 Nov 2025

Base period: 1991 - 2020

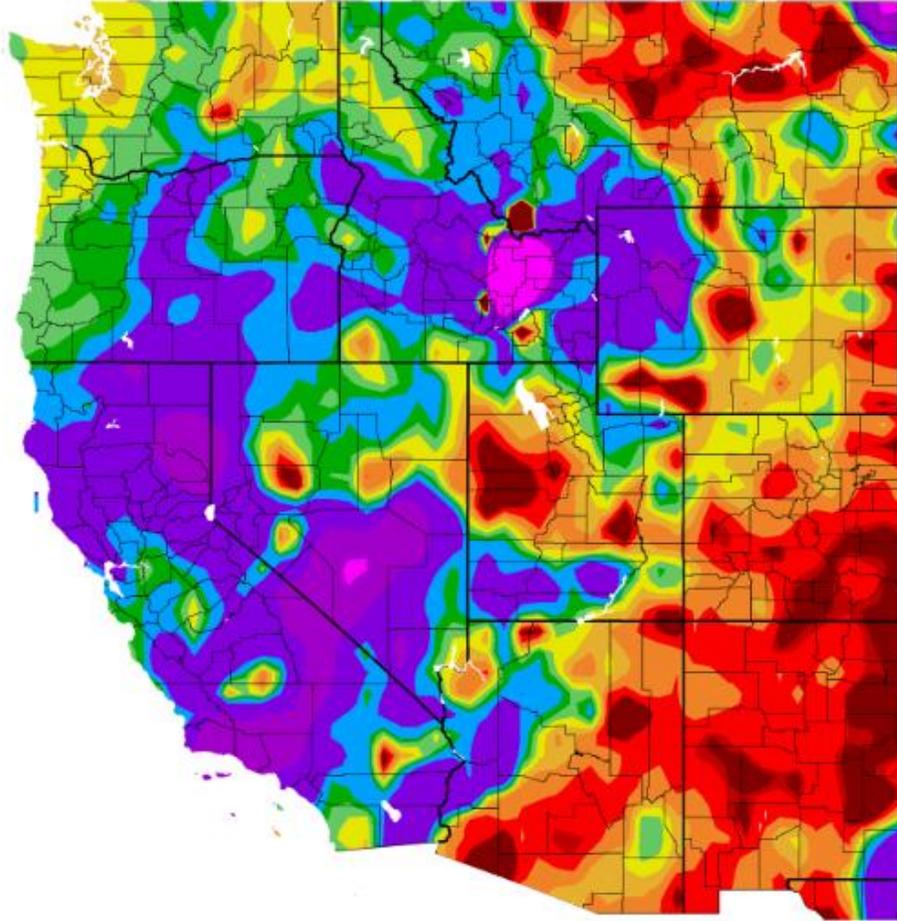
(Map graphic created 08 Jan 2026)



Idaho Oct-Nov Precipitation dry with warm temps as we waited for snow to fall.

% of Average Precipitation		
0	51 - 70	151 - 170
1 - 10	71 - 90	171 - 200
11 - 20	91 - 110	201 - 300
21 - 30	111 - 130	301 - 400
31 - 50	131 - 150	> 400

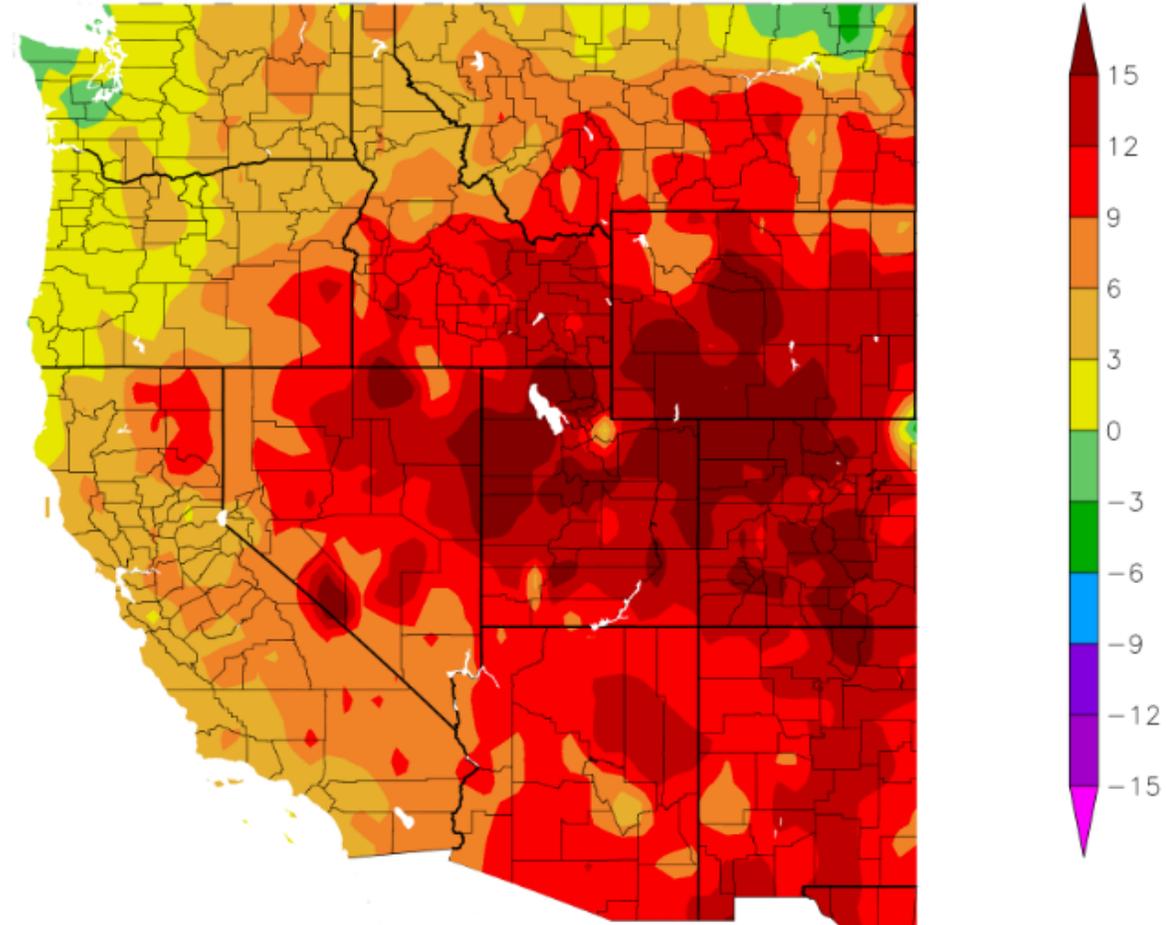
Percent of Normal Precipitation (%)
12/18/2025 - 12/31/2025



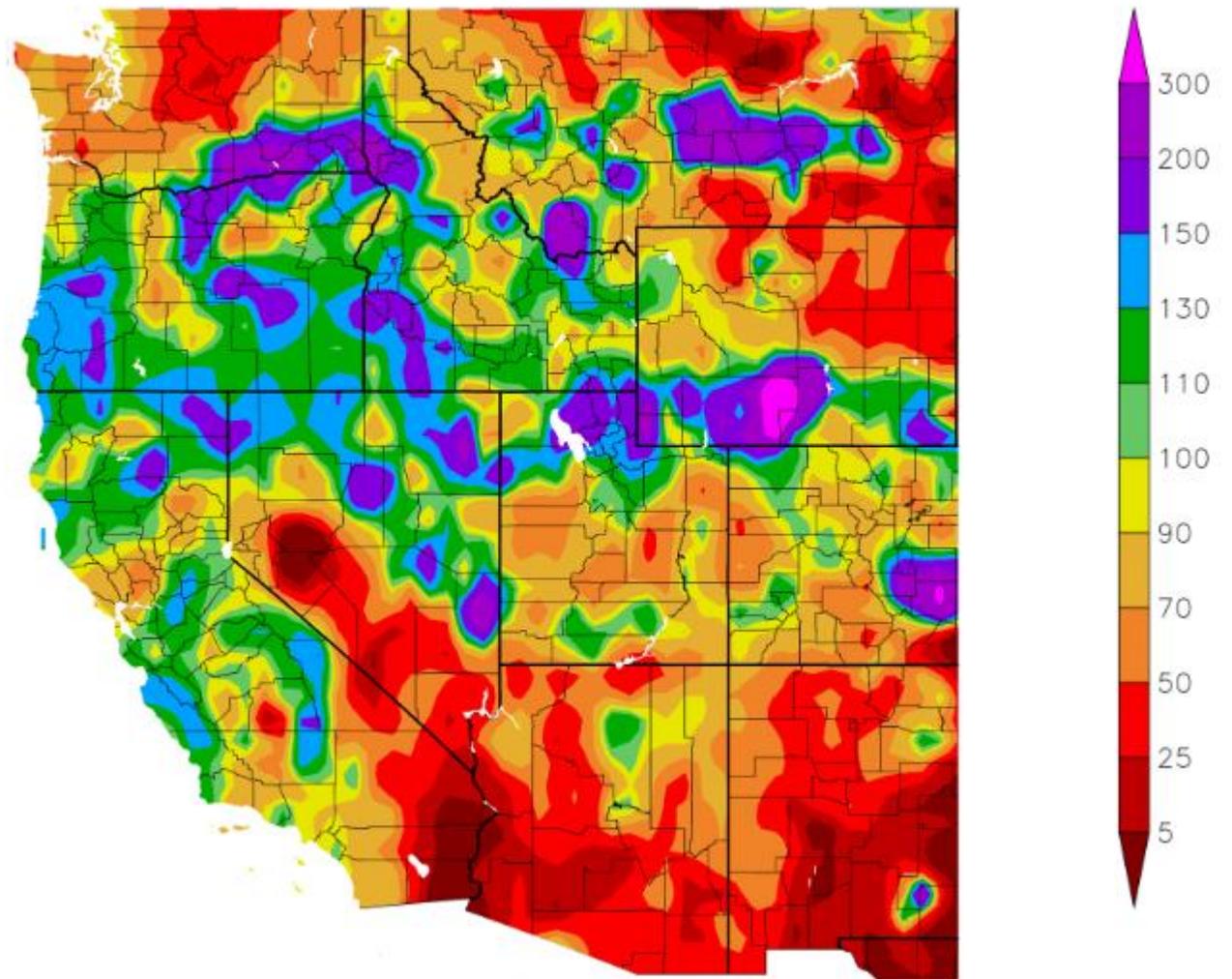
Pockets of well above normal precipitation fell across central Idaho Dec 18 - 31 with Big/Little Lost pushing 800% of normal.

But temps were above normal.

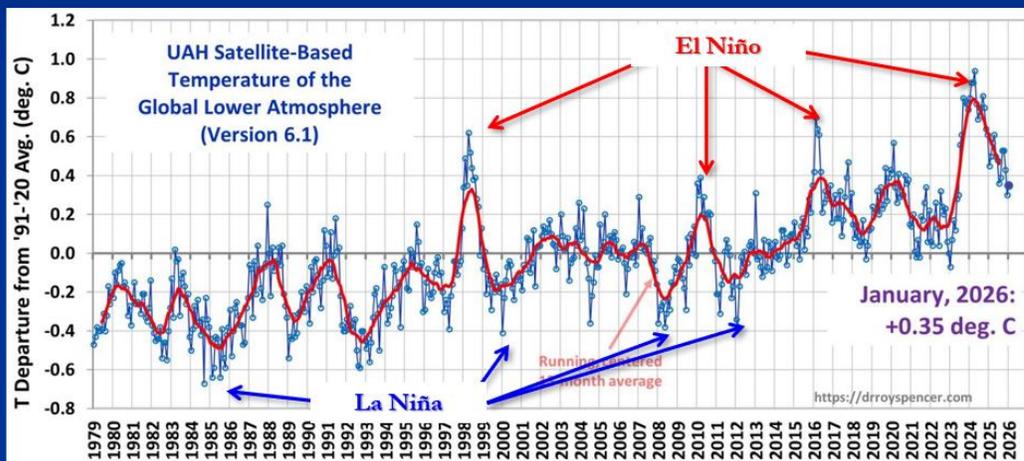
Departure from Normal Temperature (F)
12/18/2025 - 12/31/2025



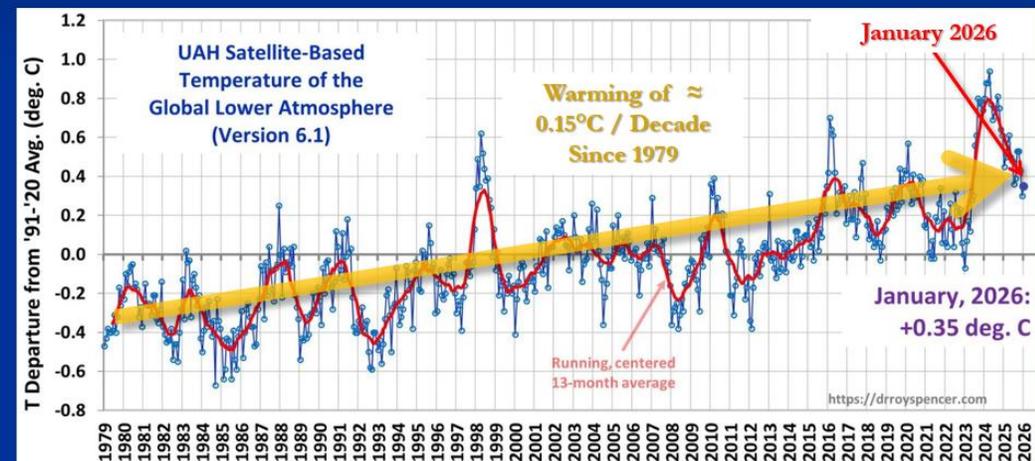
Percent of Normal Precipitation (%)
2/6/2026 - 3/7/2026



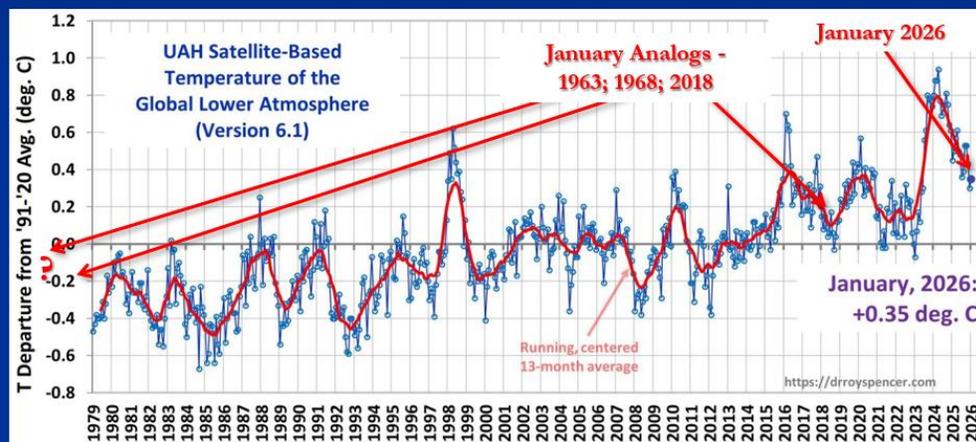
The ENSO Signal is Reflected in Global Temperatures



Global Temperature Changes Increase Error in Analog Forecasts!



The Analog Years Align With Global Temperature Fluctuations





The Earth is almost never shown like this. This is our planet from the side of the Pacific Ocean.



Why we study the Pacific Ocean ? It's Huge!
Pacific Ocean view you don't always see.

SOI Correlation Map with spring /summer runoff.
Same relationship can be found with Sea Surface Temps.

Key is – what happens during July-Nov correlates with our winter snowfall and summer streamflow in Western US.

Southern Oscillation Index (SOI)
measure of the Pacific Atmosphere

Correlation Map of SOI
with Spring-Summer Streamflow

Red wetter in La Nina years.

Blue wetter in El Nino years.

Key is – what happens July-Nov in Pacific correlates with snowfall and summer streamflow in Western US.

Clearwater Basin has correlation value of 0.67

Figure 1. Correlation Map of the Southern Oscillation Index (SOI) with spring and summer streamflow in the Western US.

