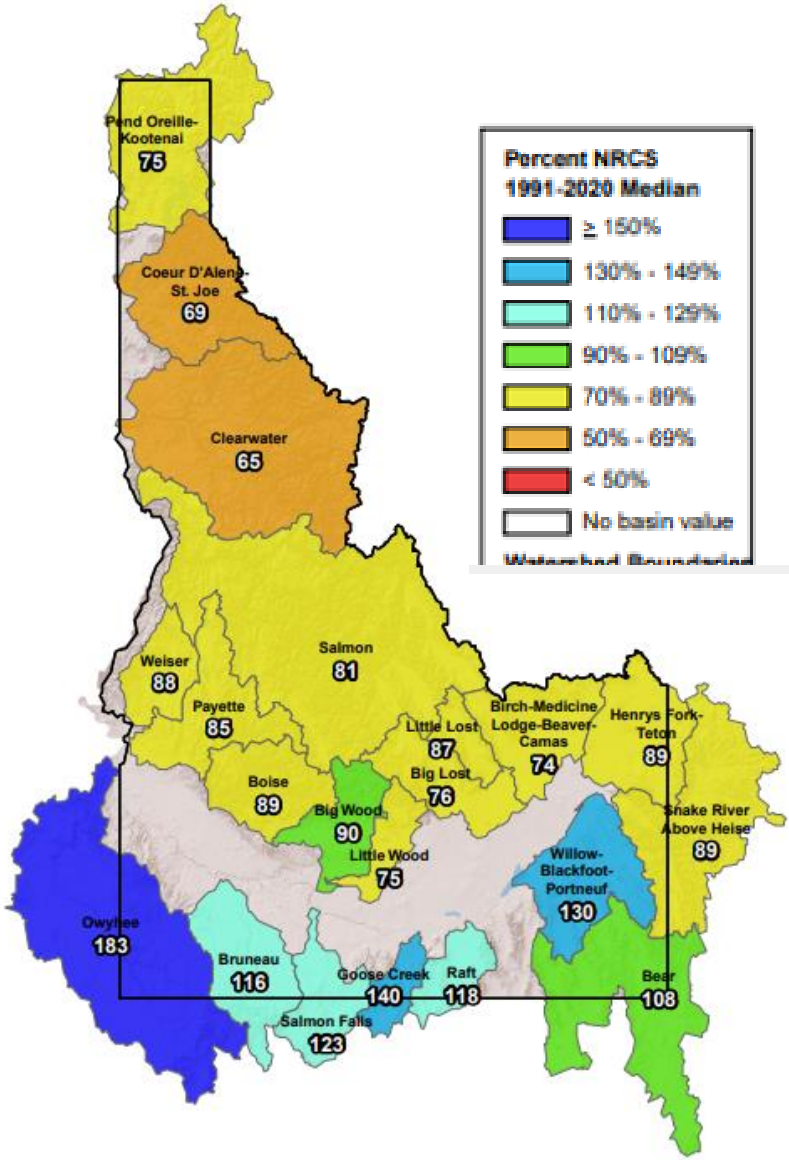


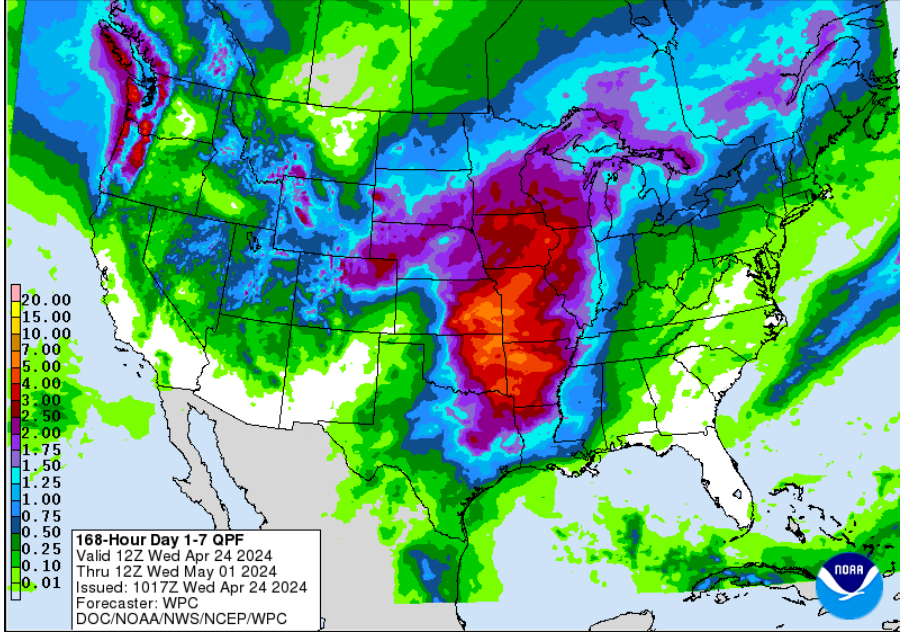
April 23, 2024 Bruneau, Owyhee & Salmon Falls
Snow2Flow Update
Snow Water Map

Equivalent	Idaho SNOTEL Percent NRCS 1991-2020 Median	April 22, 2024, end of day
------------	---	----------------------------



With below normal precip April 1-24 across the state and little expected in next 7 days, streamflow volumes are decreasing from April 1 release.

Idaho SNOTEL Precipitation Summary Update Report							
Based on Mountain Data from NRCS SNOTEL Sites							
Provisional data, subject to revision							
Data based on the first reading of the day (typically 00:00) for Wednesday, April 24, 2024							
Basin Site Name	Elev (ft)	Month to Date Precipitation (in)	Median Monthly Total (in)	Pct of Monthly Total	Water Year to Date Precipitation (in)	Median Annual Total (in)	Pct of Annual Total
NORTHERN PANHANDLE REGION							
Basin Index (%)				40			68
COEUR D'ALENE-ST. JOE RIVER BASIN							
Basin Index (%)				57			60
CLEARWATER BASIN							
Basin Index (%)				62			59
SALMON BASIN							
Basin Index (%)				66			64
WEISER BASIN							
Basin Index (%)				73			69
PAYETTE BASIN							
Basin Index (%)				75			70
BOISE BASIN							
Basin Index (%)				66			74
BIG WOOD BASIN							
Basin Index (%)				71			67
LITTLE WOOD BASIN							
Basin Index (%)				18			64
BIG LOST BASIN							
Basin Index (%)				49			65
LITTLE LOST							
Basin Index (%)				42			58
BIRCH, MEDICINE LODGE, BEAVER, CAMAS BASINS							
Basin Index (%)				26			54



HENRYS FORK, TETON BASINS		
Basin Index (%)	32	71
SNAKE BASIN ABOVE PALISADES		
Basin Index (%)	31	65
WILLOW, BLACKFOOT, PORTNEUF BASINS		
Basin Index (%)	26	81
SNAKE BASIN ABOVE AMERICAN FALLS		
Basin Index (%)	30	69
RAFT BASIN		
Basin Index (%)	27	89
GOOSE CREEK BASIN		
Basin Index (%)	35	84
SALMON FALLS BASIN		
Basin Index (%)	27	80
BRUNEAU BASIN		
Basin Index (%)	13	76
OWYHEE BASIN		
Basin Index (%)	34	92
BEAR RIVER BASIN		
Basin Index (%)	22	76

BRUNEAU

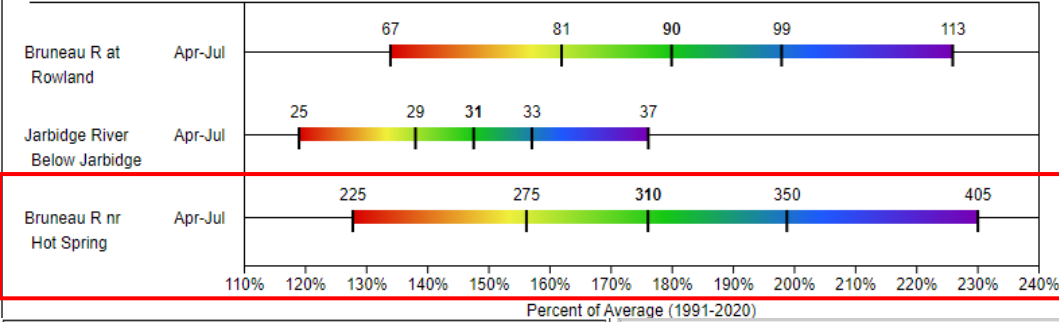
Water Supply Forecasts

April 1, 2024

Forecast Exceedance Probabilities

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

Labels on chart represent volumes of water expressed in thousand acre-feet.



BRUNEAU

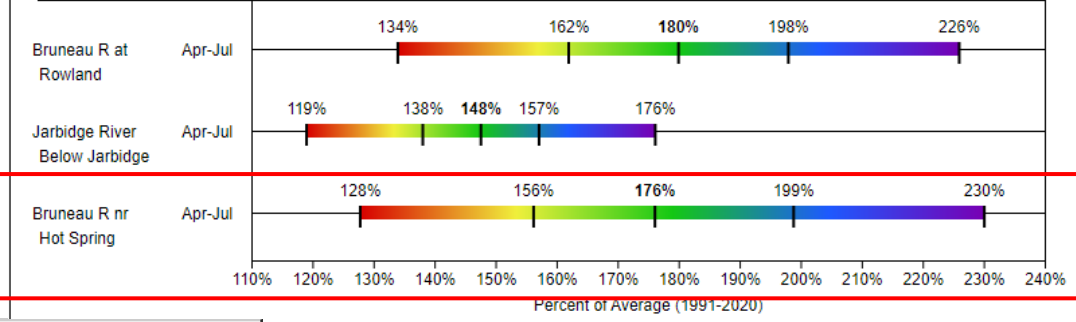
Water Supply Forecasts

April 1, 2024

Forecast Exceedance Probabilities

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

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



BRUNEAU - NEAR HOT SPRINGS (HOT11) Forecasts for Water Year 2024

Official Water Supply

ESP with 10 Days QPF Ensemble: 2024-04-23 Issued: 2024-04-23

Forecast Period	Forecasts Are in KAF				30 Year Average (1991-2020)
	90 %	50 %	% Average	10 %	
APR-SEP	197	222	121	271	183
APR-JUL	187	213	121	257	176
JAN-SEP	242	267	119	316	225
JAN-JUL	232	258	119	302	217
OCT-SEP	260	286	118	334	242

Experimental Water Supply

HEFS with 15 days EQPF Ensemble: 2024-04-23 Issued: 2024-04-23

APR-SEP	192	229	125	279	183
APR-JUL	184	217	124	265	176
JAN-SEP	237	274	122	324	225
JAN-JUL	229	263	121	310	217
OCT-SEP	256	292	121	342	242

Reference

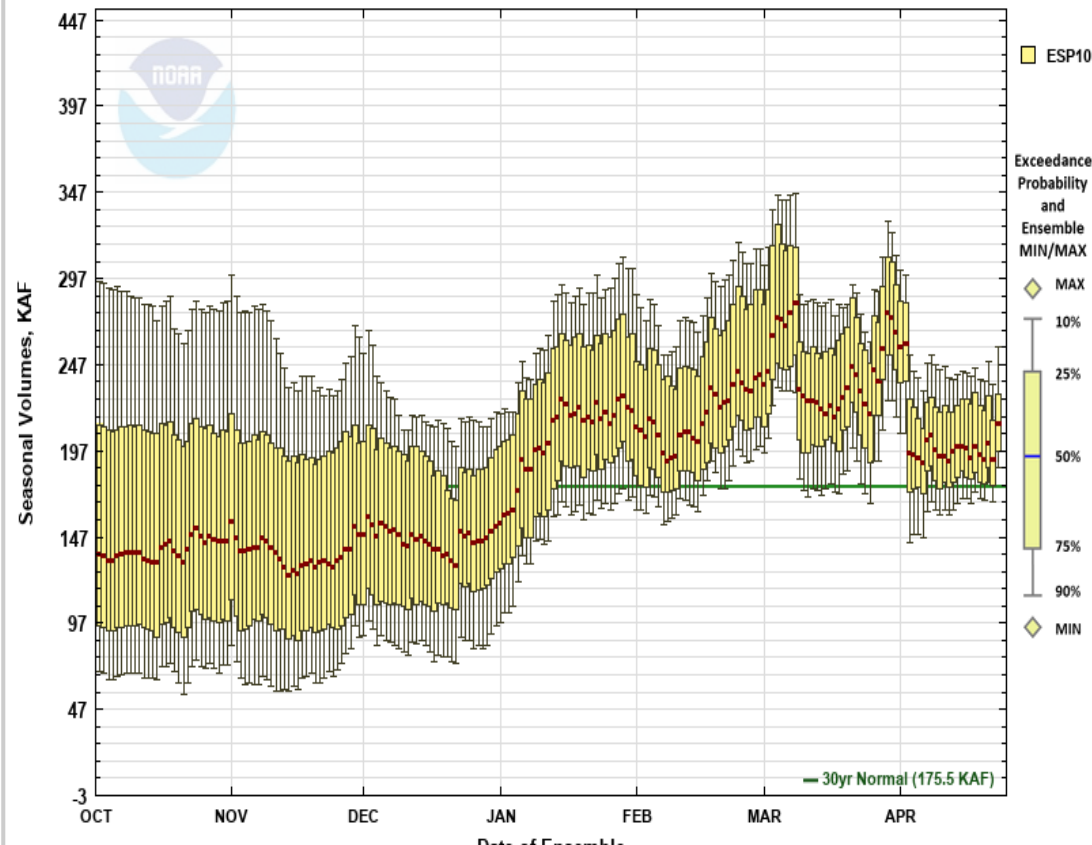
ESP with 0 Days QPF Ensemble: 2024-04-23 Issued: 2024-04-23

APR-SEP	187	224	123	272	183
APR-JUL	178	213	121	257	176
JAN-SEP	232	269	120	317	225
JAN-JUL	223	258	119	302	217
OCT-SEP	250	288	119	335	242

Water Supply Forecasts

BRUNEAU - NEAR HOT SPRINGS

Period APR to JUL -- Water Year 2024



Apr-Jul Volume streamflow forecasts:

Apr 1 NRCS: 310 KAF, 176%

Apr 23 NWS: 213 KAF, 121%

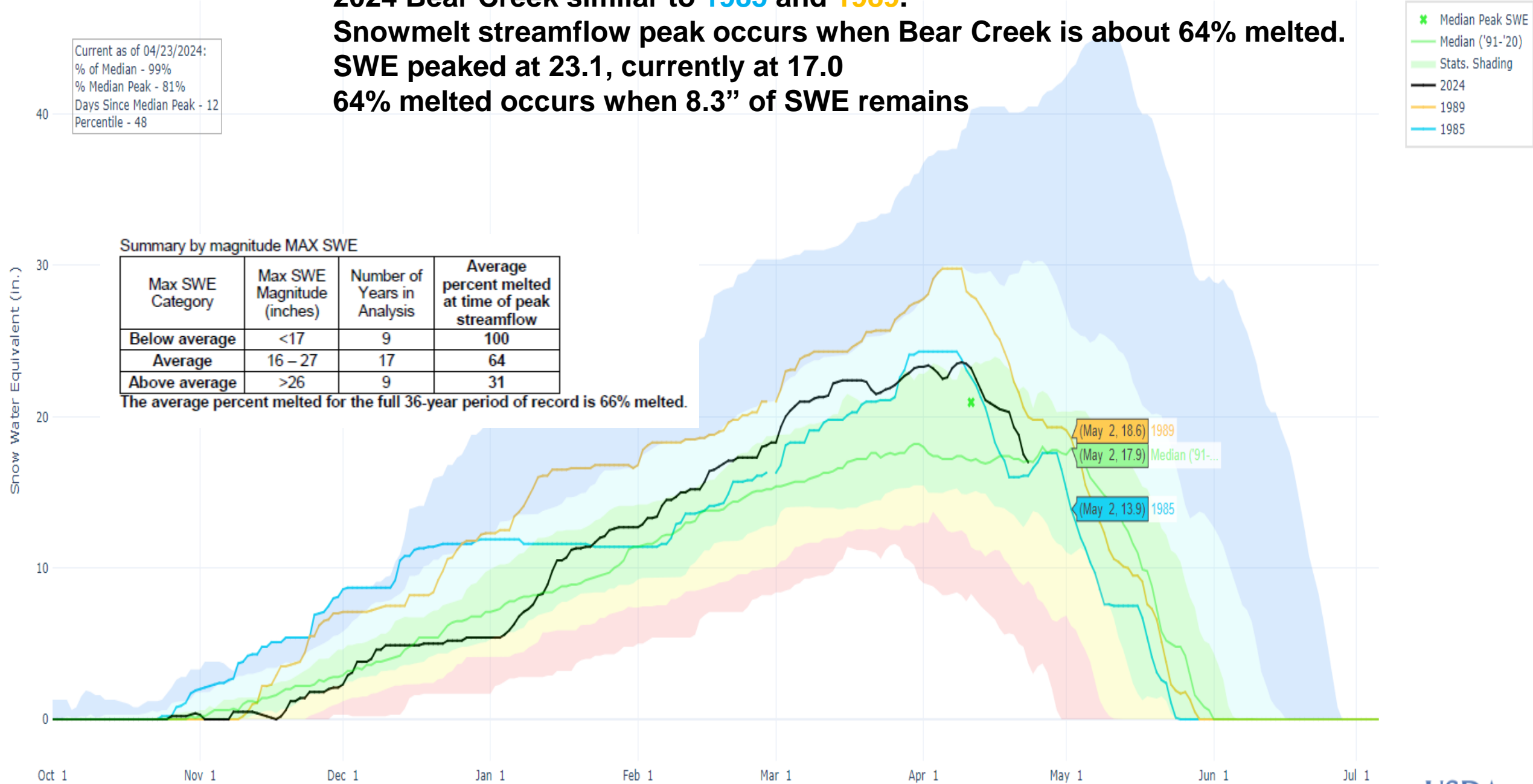
2024 Bear Creek similar to 1985 and 1989.
Snowmelt streamflow peak occurs when Bear Creek is about 64% melted.
SWE peaked at 23.1, currently at 17.0
64% melted occurs when 8.3” of SWE remains

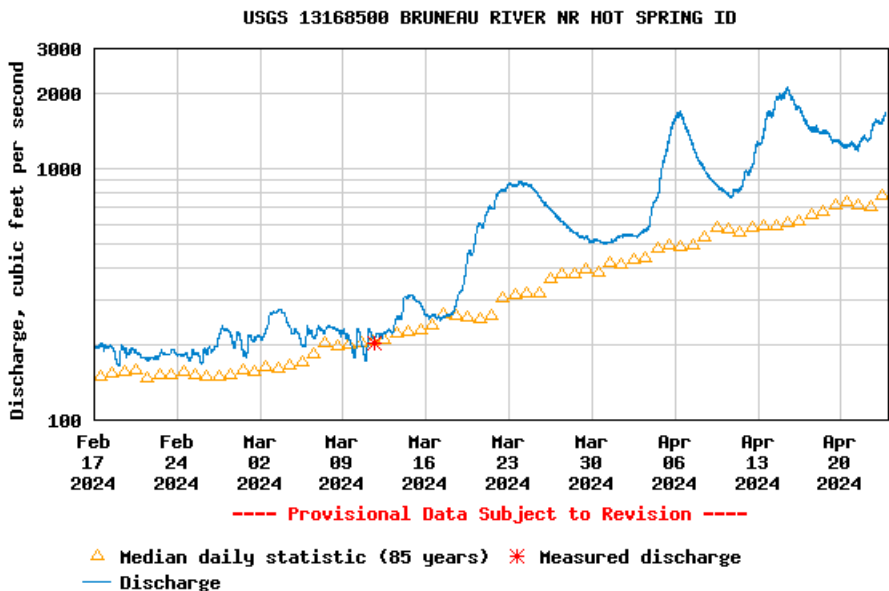
Current as of 04/23/2024:
% of Median - 99%
% Median Peak - 81%
Days Since Median Peak - 12
Percentile - 48

Summary by magnitude MAX SWE

Max SWE Category	Max SWE Magnitude (inches)	Number of Years in Analysis	Average percent melted at time of peak streamflow
Below average	<17	9	100
Average	16 – 27	17	64
Above average	>26	9	31

The average percent melted for the full 36-year period of record is 66% melted.





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See this graph on the [Monitoring Location Pages](#)

[Share this graph](#) |

Daily discharge, cubic feet per second -- statistics for Apr 23
based on 85 water years of record [more](#)

Min (1968)	25th percen- tile	Median	Mean	75th percen- tile	Most Recent Instantaneous Value Apr 23	Max (1952)
169	455	776	925	1350	1620	2340

Nice to have agreement !
Snow2Flow Relationship is showing another peak or increase from remaining snow to melt.
Future weather will determine if next peak exceeds the Apr 15 peak of 2000 cfs.

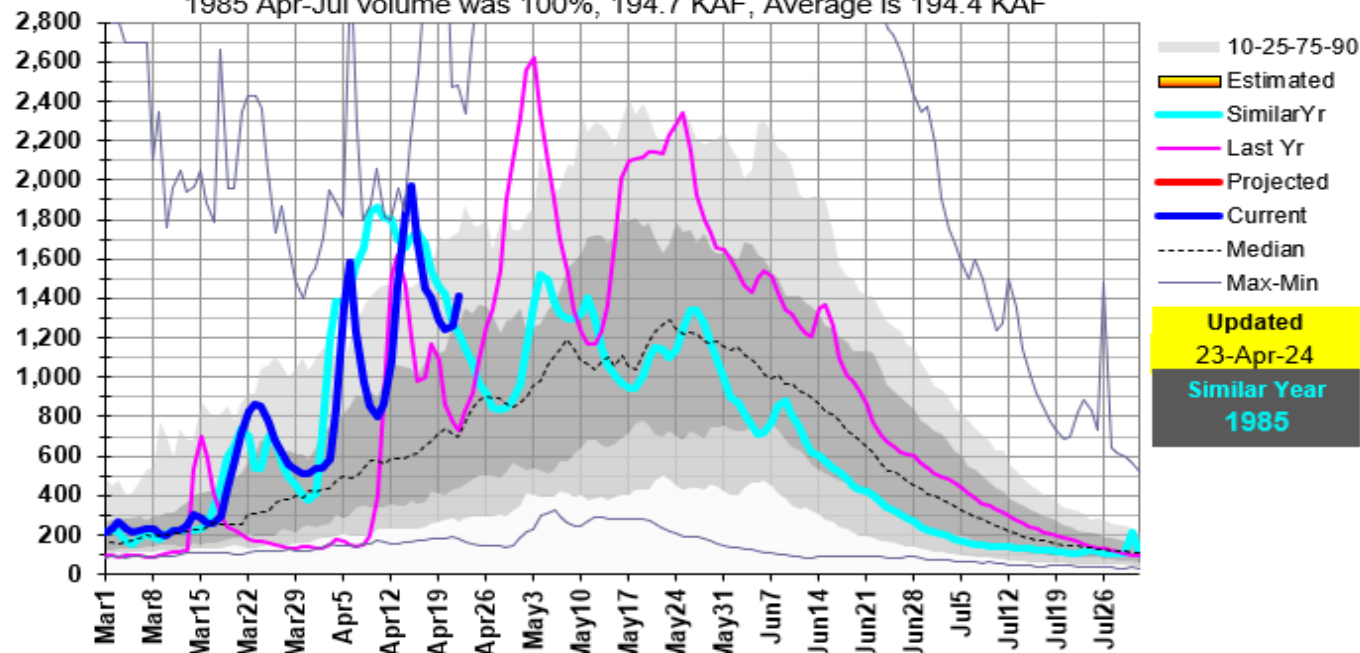
Next slide shows short and longer NWS flow trends, but a June 1 peak seems late when compared to similar runoff years of 1985 and 1989.

Interesting to note that the Apr-Jul volume for both years, 1985 and 1989, was 194 and 182 KAF. This falls in line with NWS prediction volume of 213 KAF from Apr 23.

13168500: Bruneau R near Hot Spring, ID

1985 Apr-Jul volume was 100%, 194.7 KAF, Average is 194.4 KAF

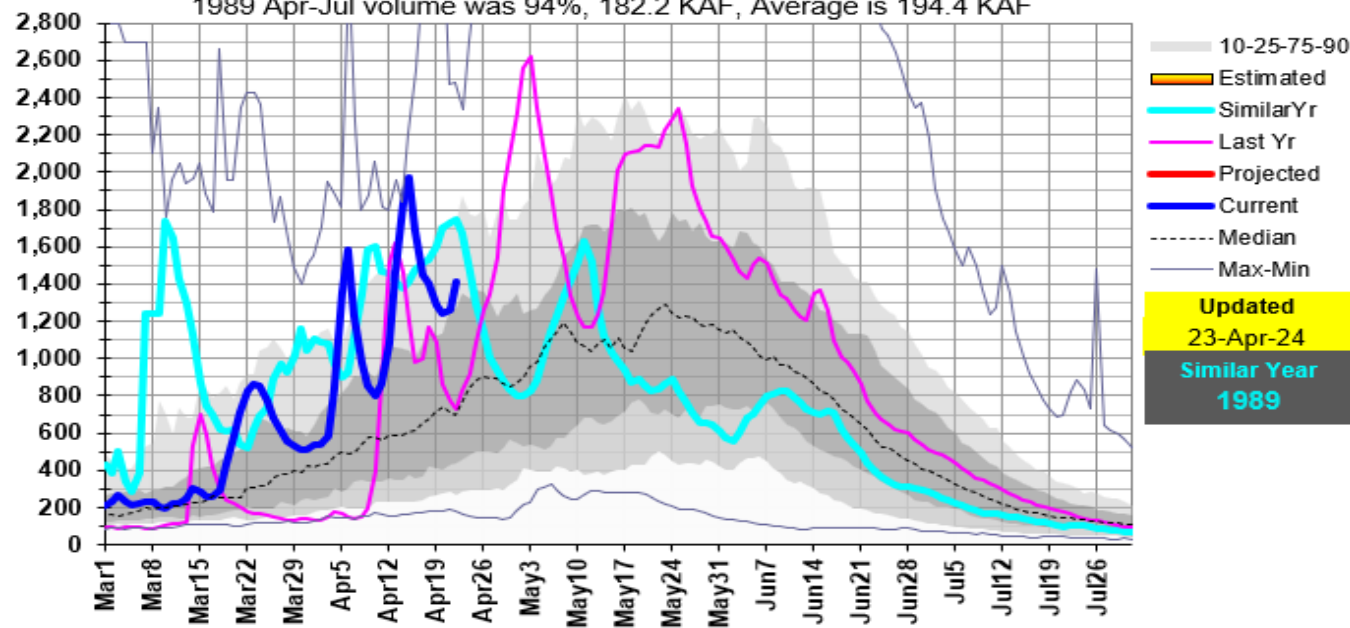
Mean Daily CFS



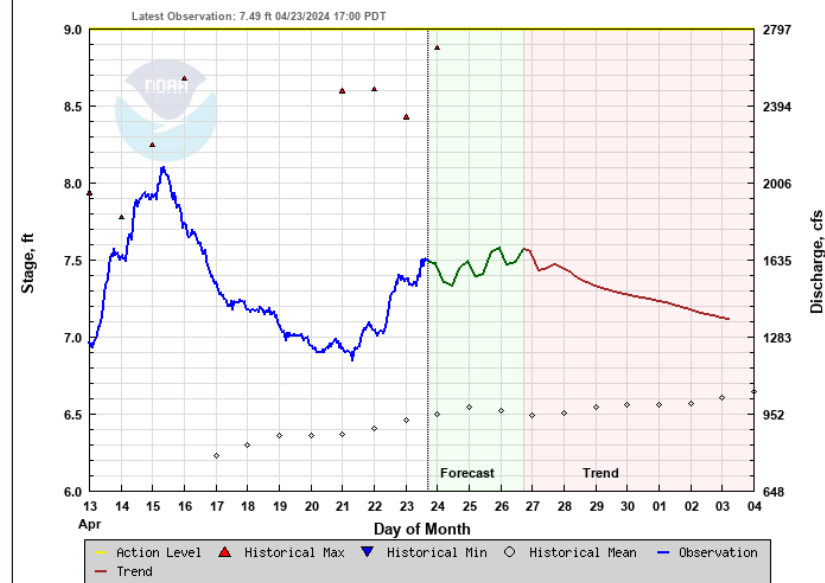
13168500: Bruneau R near Hot Spring, ID

1989 Apr-Jul volume was 94%, 182.2 KAF, Average is 194.4 KAF

Mean Daily CFS



BRUNEAU - NEAR HOT SPRINGS (HOT11)



Forecast Created: 04/23/2024 16:35 PDT

Plot Created: 04/23/2024 17:50 PDT

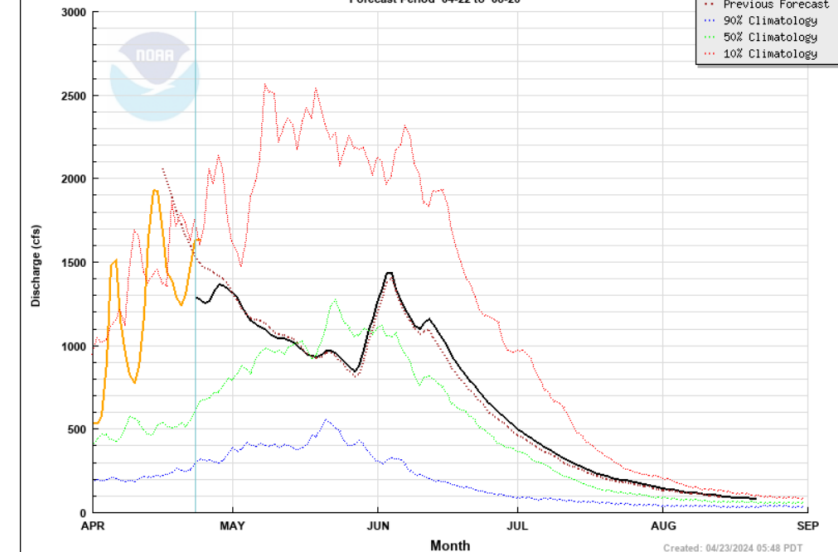
Observations Provided by USGS

BRUNEAU-NEAR HOT SPRINGS

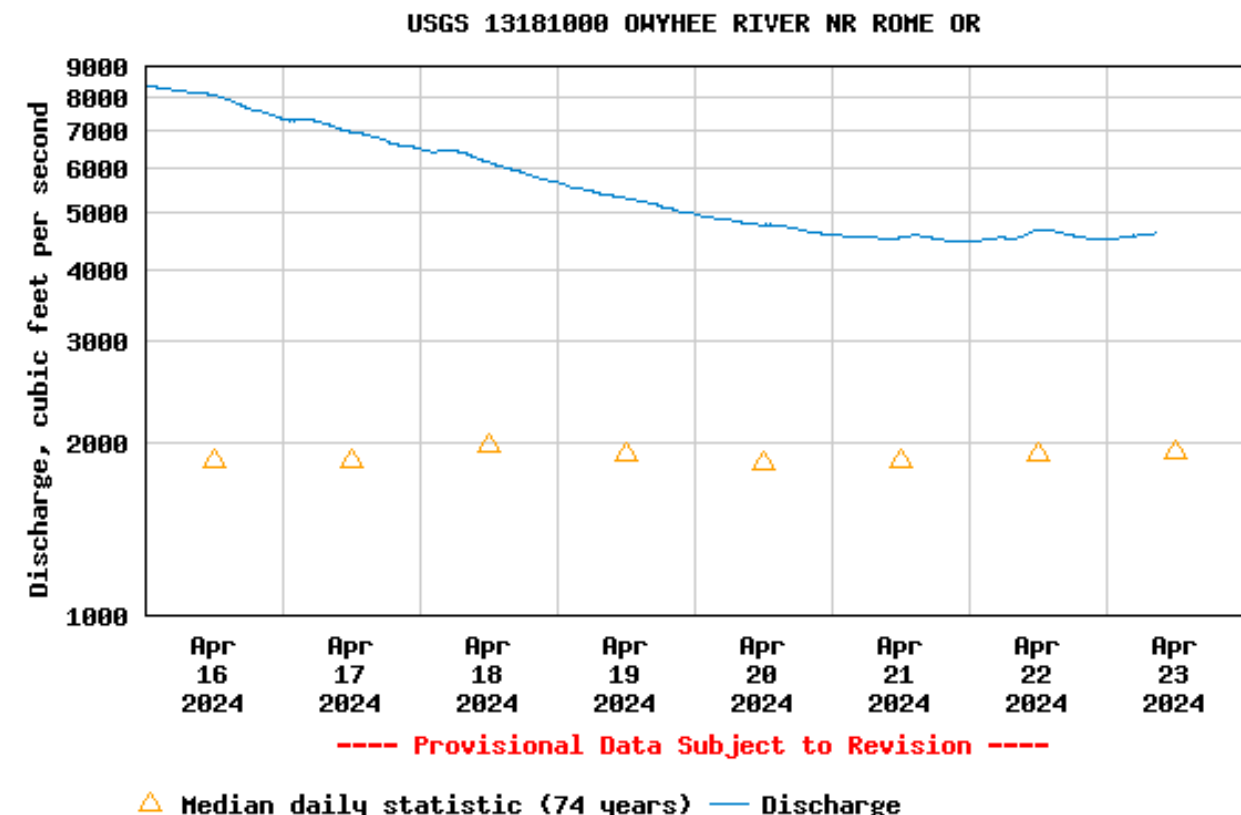
State: Idaho County: OWYHEE
Latitude: 42 46' 15" North Longitude: 115 43' 13" West
Elevation: 2599 feet
Supporting WFO: Boise
Flood Stage: 9' Action Stage: 8'

STP Extended Forecast BRUNEAU-NEAR HOT SPRINGS (HOT11)

Forecast Period 04-22 to 08-20



April 23, 2024
Owyhee
Snow2Flow Update



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See this graph on the [Monitoring Location Pages](#)

[Share this graph](#) |

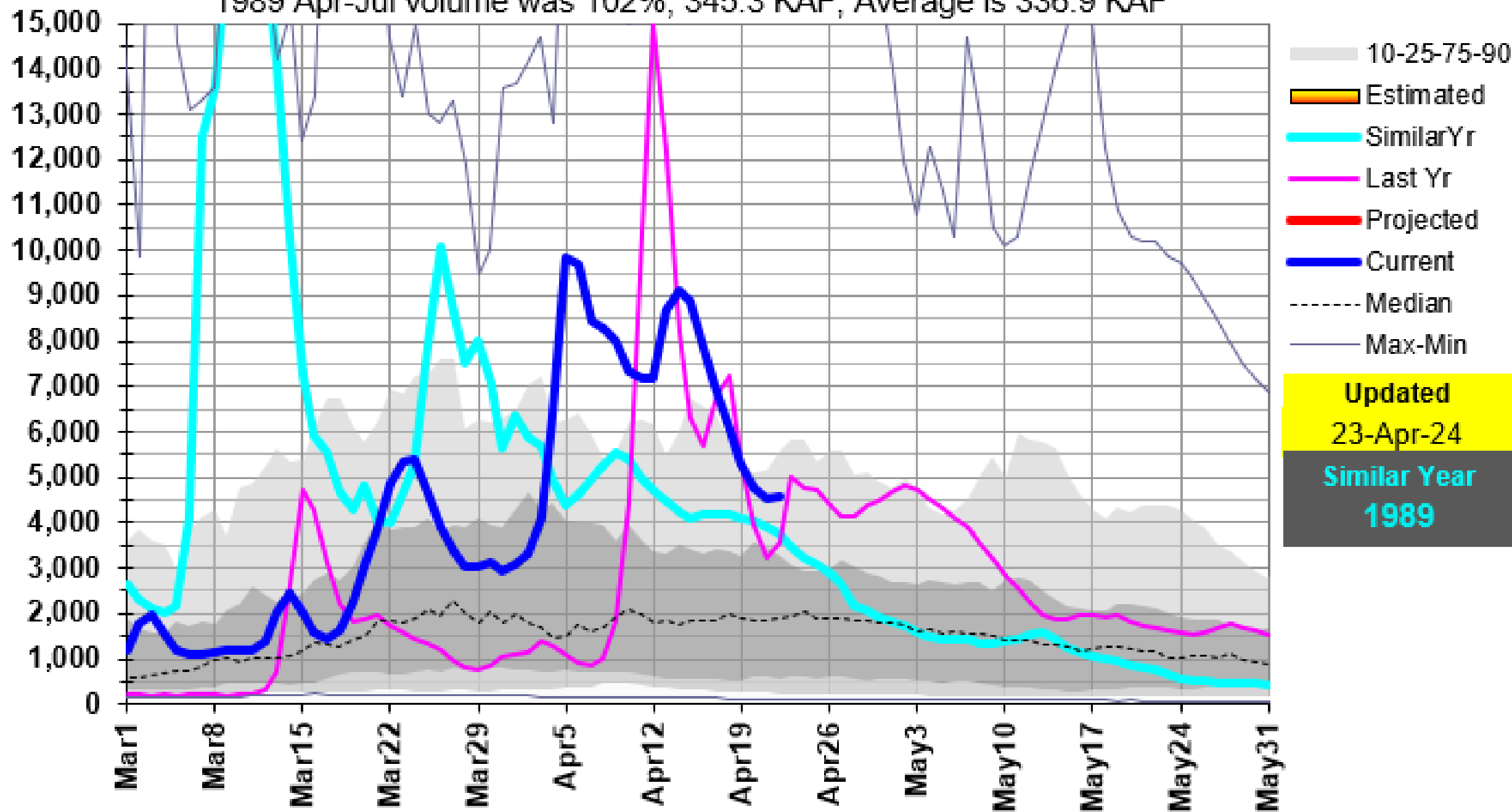
Daily discharge, cubic feet per second -- statistics for Apr 23
based on 74 water years of record [more](#)

Min (1992)	25th percen- tile	Median	Mean	75th percen- tile	Most Recent Instantaneous Value Apr 23	Max (1952)
126	612	1920	2520	3060	4620	17800

13181000: Owyhee R near Rome, OR

1989 Apr-Jul volume was 102%, 345.3 KAF, Average is 336.9 KAF

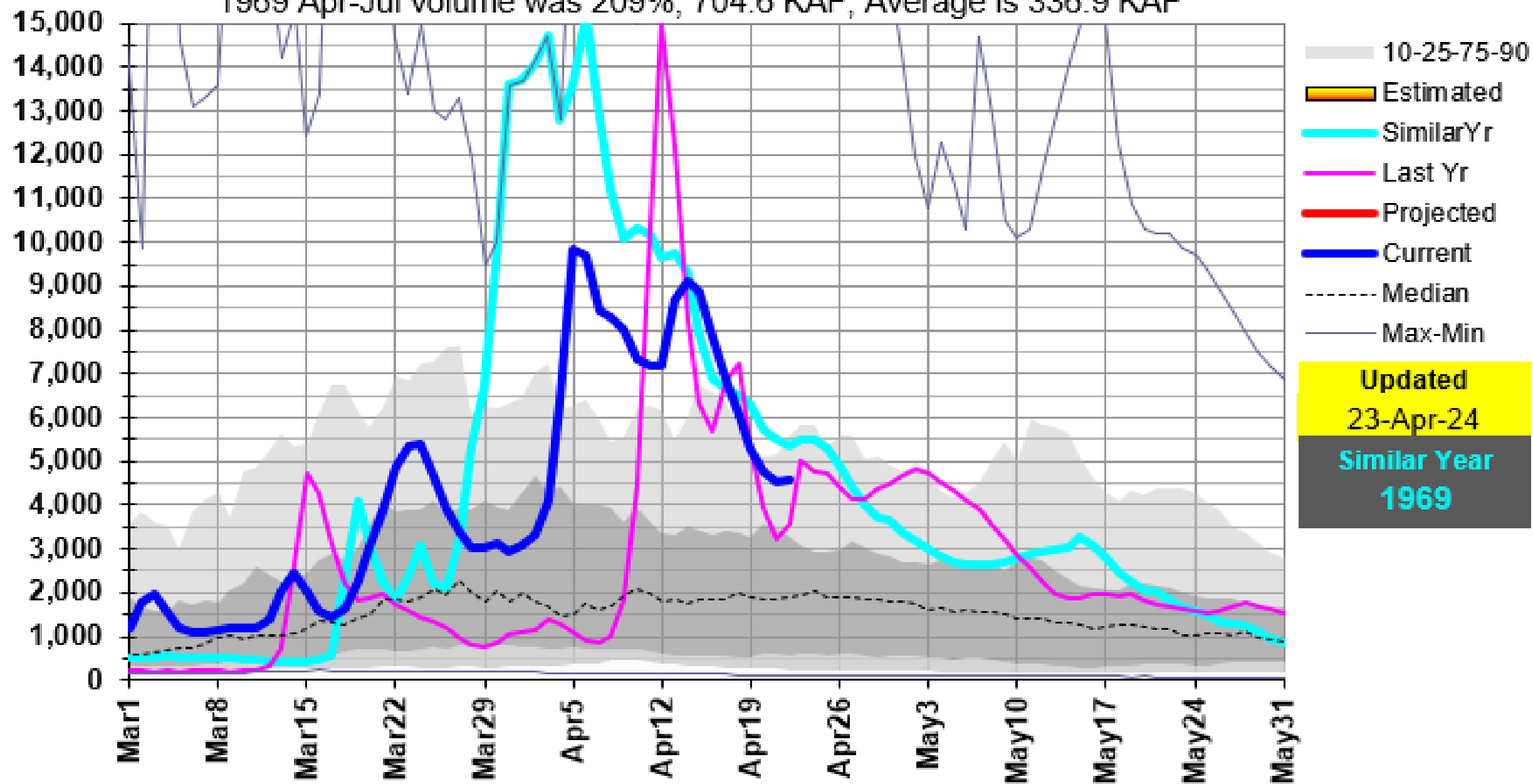
Mean Daily CFS



13181000: Owyhee R near Rome, OR

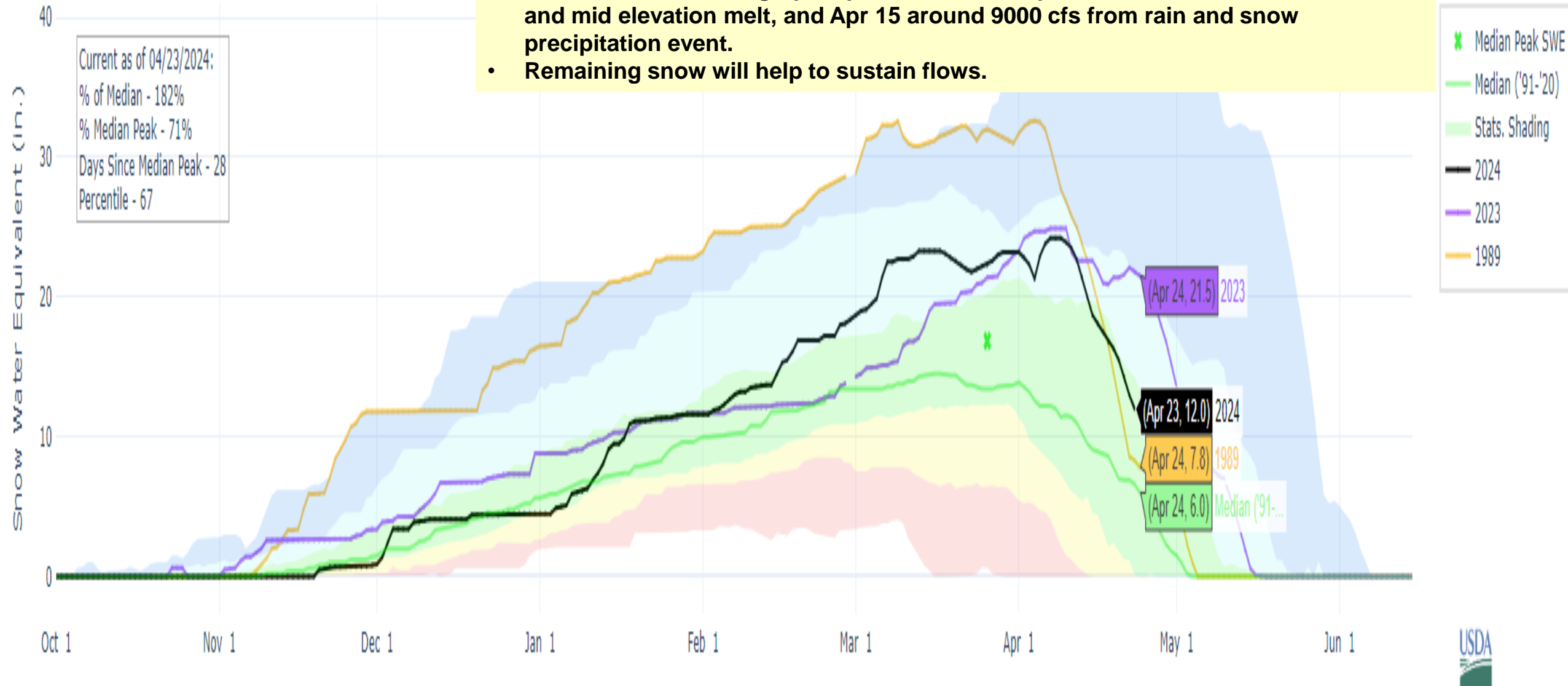
1969 Apr-Jul volume was 209%, 704.6 KAF, Average is 336.9 KAF

Mean Daily CFS

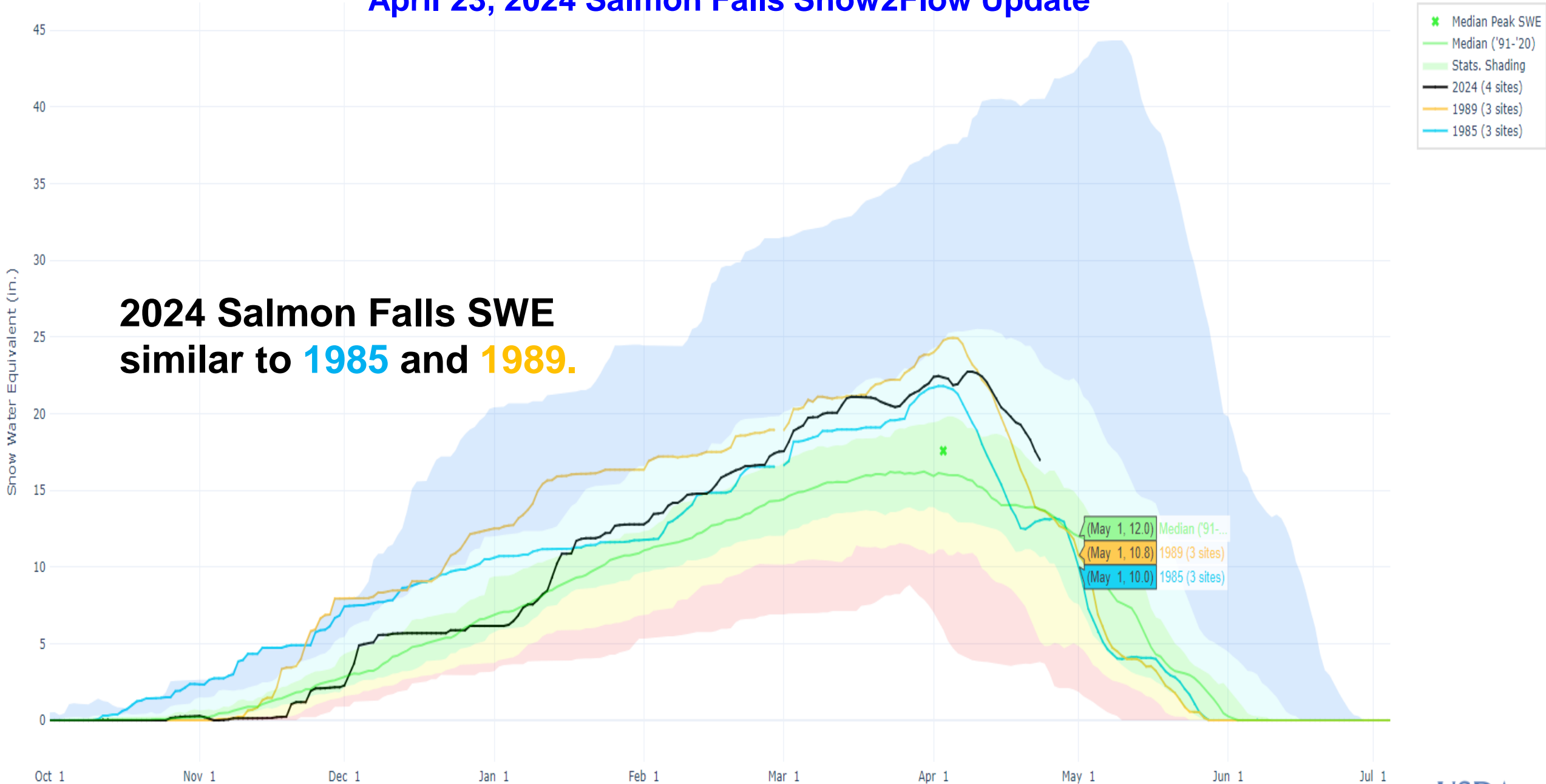


SOUTH MTN., ID (774) SNOW WATER EQUIVALENT

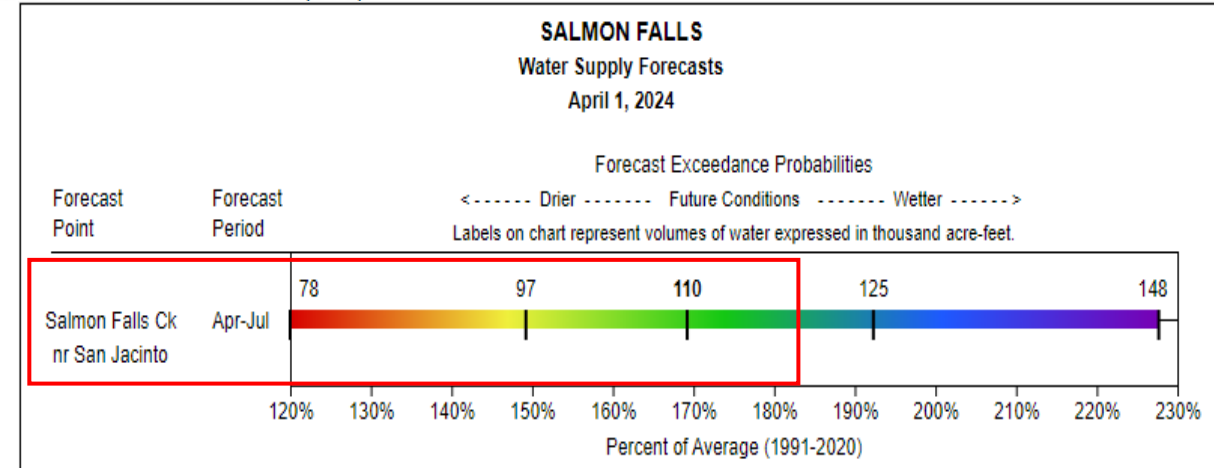
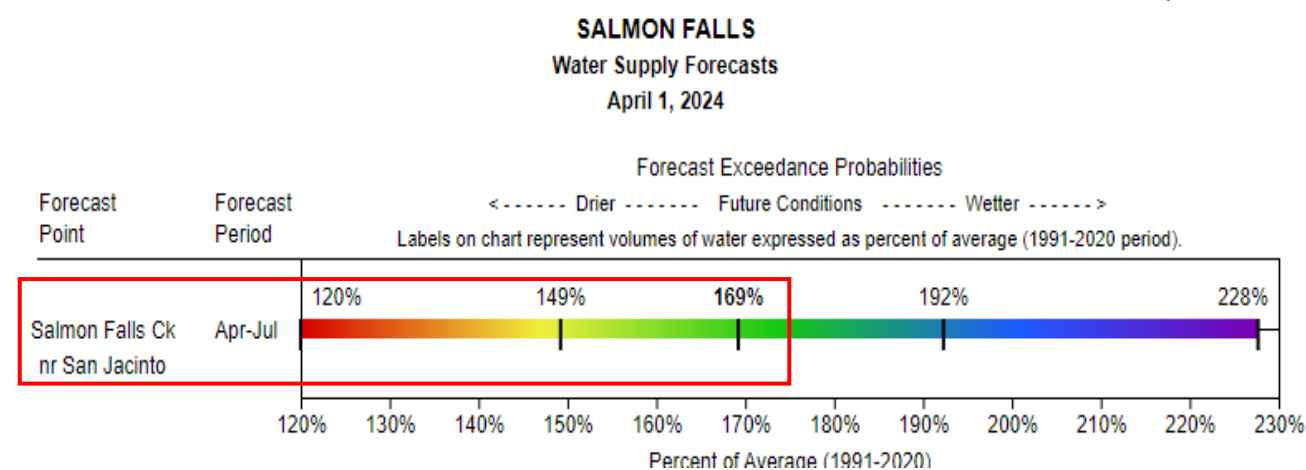
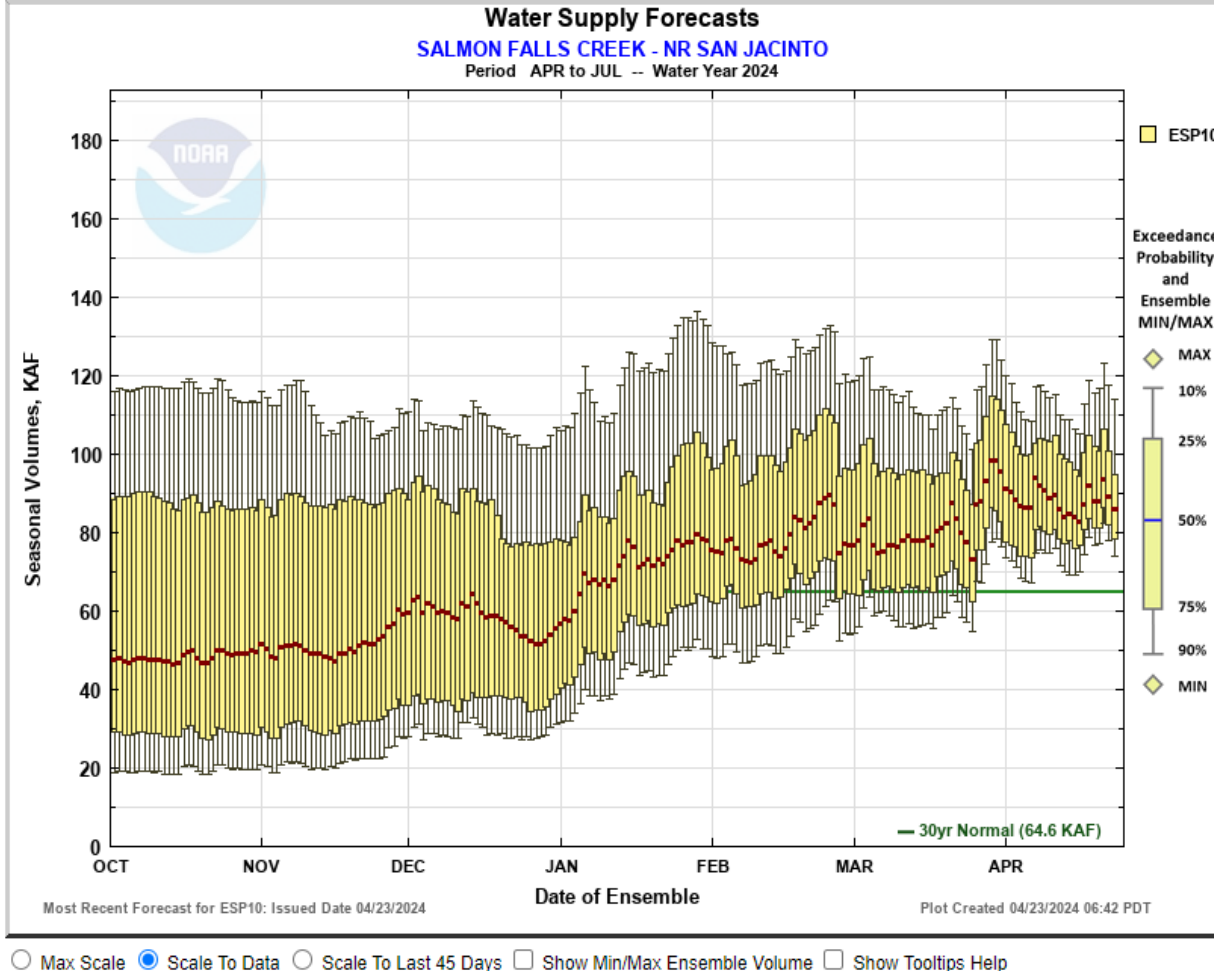
- South Mnt., elevation 6400 ft, peaked Apr 9 with 24.2" and is now at 12.0" of SWE.
- Snowmelt peak flow generally occurs when the site is 30% melted which happened when SWE reached on 16.9" on April 18.
- Based on above flow graphs, peaks occurred Apr 5 around 10,000 cfs from low and mid elevation melt, and Apr 15 around 9000 cfs from rain and snow precipitation event.
- Remaining snow will help to sustain flows.



April 23, 2024 Salmon Falls Snow2Flow Update



SALMON FALLS CREEK - NR SAN JACINTO (SFLN2)					
Forecasts for Water Year 2024					
Official Water Supply					
ESP with 10 Days QPF Ensemble: 2024-04-23 Issued: 2024-04-23					
Forecast Period	Forecasts Are in KAF				30 Year Average (1991-2020)
	90 %	50 %	% Average	10 %	
APR-SEP	78	89	132	119	68
APR-JUL	74	86	132	114	65
JAN-SEP	98	110	122	140	90
JAN-JUL	94	106	123	134	87
OCT-SEP	110	122	122	151	100
Experimental Water Supply					
HEFS with 15 days EQPF Ensemble: 2024-04-23 Issued: 2024-04-23					
APR-SEP	75	92	135	122	68
APR-JUL	71	87	135	117	65
JAN-SEP	95	112	125	143	90
JAN-JUL	92	108	125	137	87
OCT-SEP	107	124	124	154	100
Reference					
ESP with 0 Days QPF Ensemble: 2024-04-23 Issued: 2024-04-23					
APR-SEP	73	89	132	116	68
APR-JUL	70	85	132	110	65
JAN-SEP	94	110	122	137	90
JAN-JUL	90	106	122	131	87
OCT-SEP	105	122	122	148	100
Move the mouse over the desired "Forecast Period" to display a graph.					



Salmon Falls Creek and Magic Mountain SNOTEL SITE

On average, the Salmon Falls Creek near San Jacinto, NV peak streamflow occurs when Magic Mountain SNOTEL is approximately 62% melted.

Summary by magnitude MAX SWE

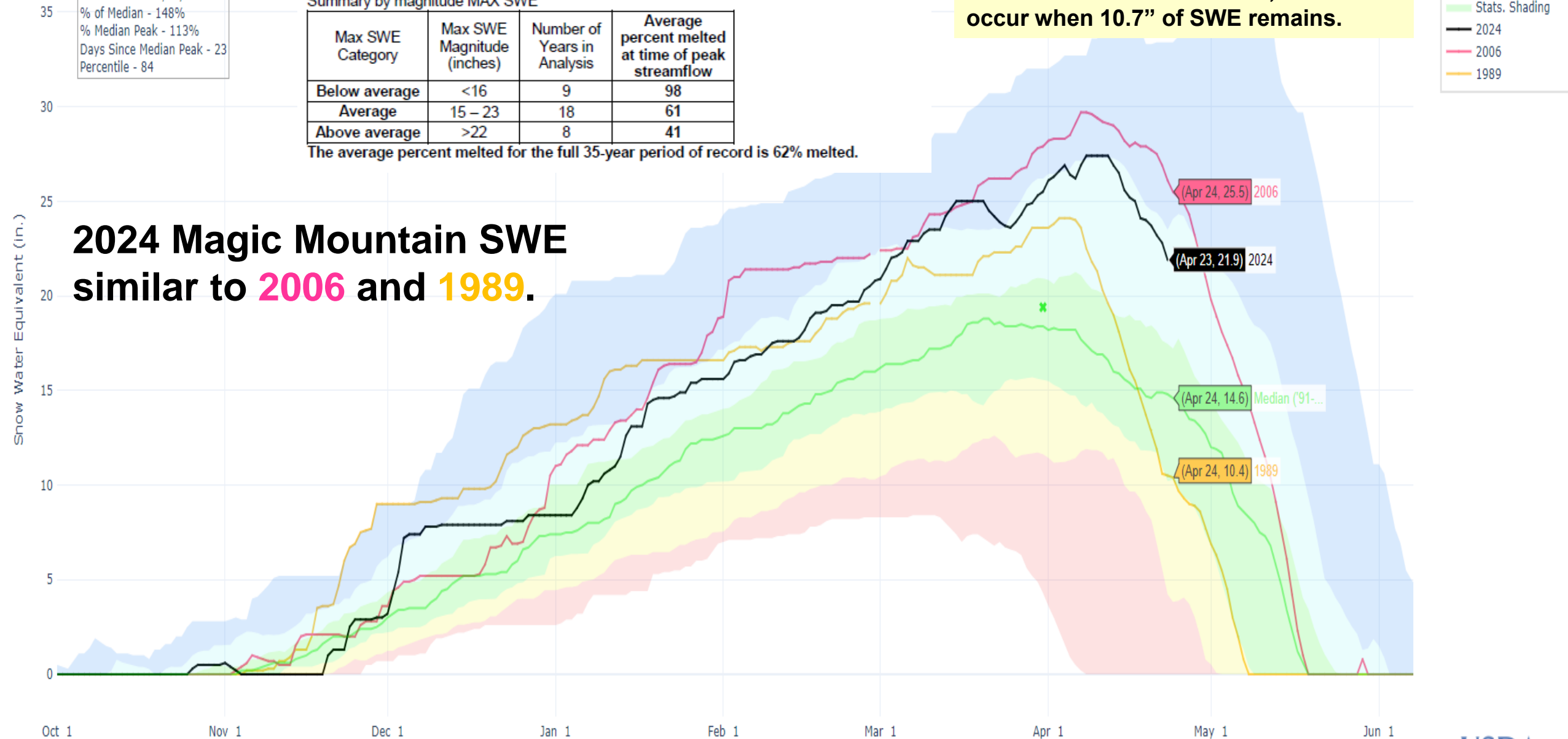
Max SWE Category	Max SWE Magnitude (inches)	Number of Years in Analysis	Average percent melted at time of peak streamflow
Below average	<16	9	98
Average	15 – 23	18	61
Above average	>22	8	41

The average percent melted for the full 35-year period of record is 62% melted.

Current as of 04/23/2024:
% of Median - 148%
% Median Peak - 113%
Days Since Median Peak - 23
Percentile - 84

Magic Mountain peaked Apr 27 with 27.4" and is now at 21.9" of SWE. Snowmelt peak flow generally occurs when the site is 61% melted, which will occur when 10.7" of SWE remains.

2024 Magic Mountain SWE similar to 2006 and 1989.



POLE CREEK R.S., NV (698) SNOW WATER EQUIVALENT

Salmon Falls Creek and Pole Creek SNOTEL SITE

On average, the Salmon Falls Creek near San Jacinto, NV peak streamflow occurs when Pole Creek RS SNOTEL is approximately 20% melted.

Summary by magnitude MAX SWE

Max SWE Category	Max SWE Magnitude (inches)	Number of Years in Analysis	Average percent melted at time of peak streamflow
Below average	<19	9	60
Average	18 - 26	18	42
Above average	>25	9	20

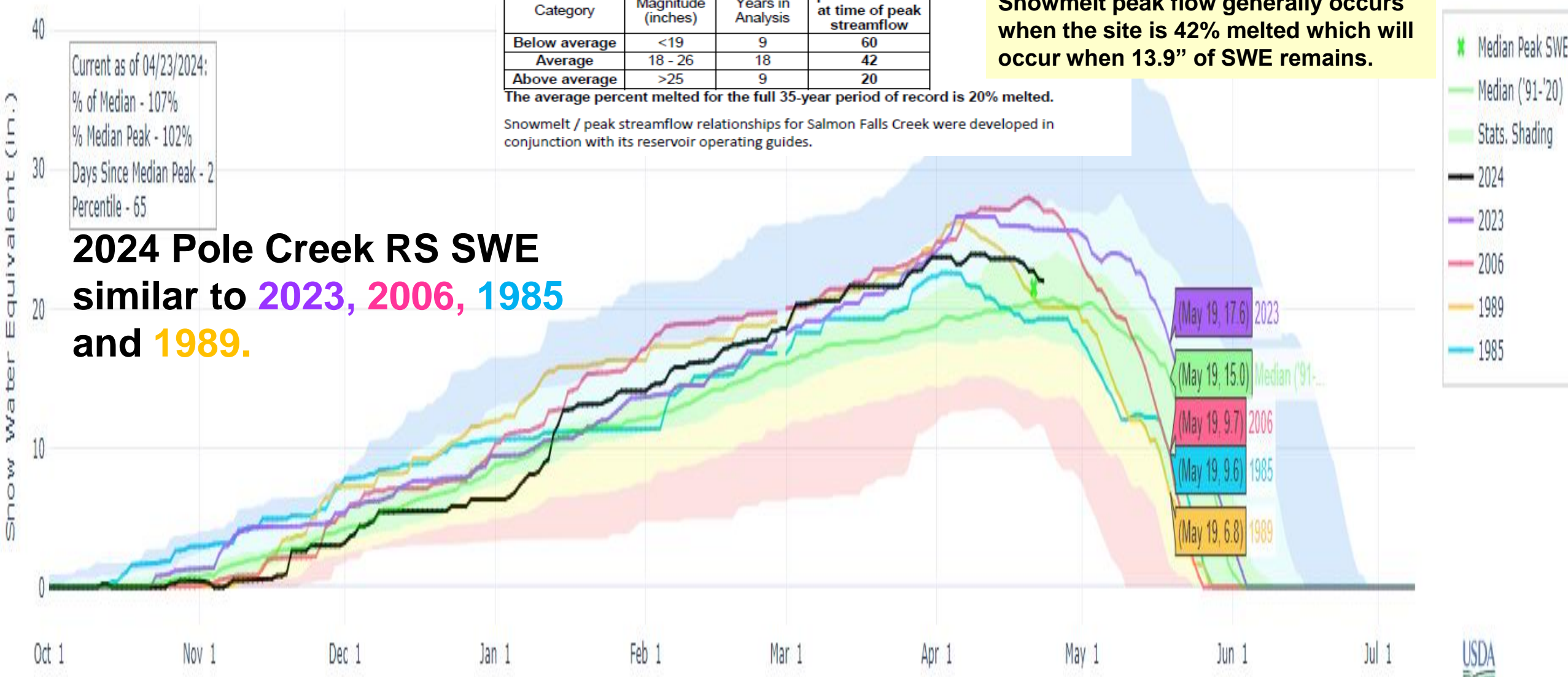
The average percent melted for the full 35-year period of record is 20% melted.

Snowmelt / peak streamflow relationships for Salmon Falls Creek were developed in conjunction with its reservoir operating guides.

Pole Creek RS peaked Apr 11 with 23.9" and is now at 22.0" of SWE. Snowmelt peak flow generally occurs when the site is 42% melted which will occur when 13.9" of SWE remains.

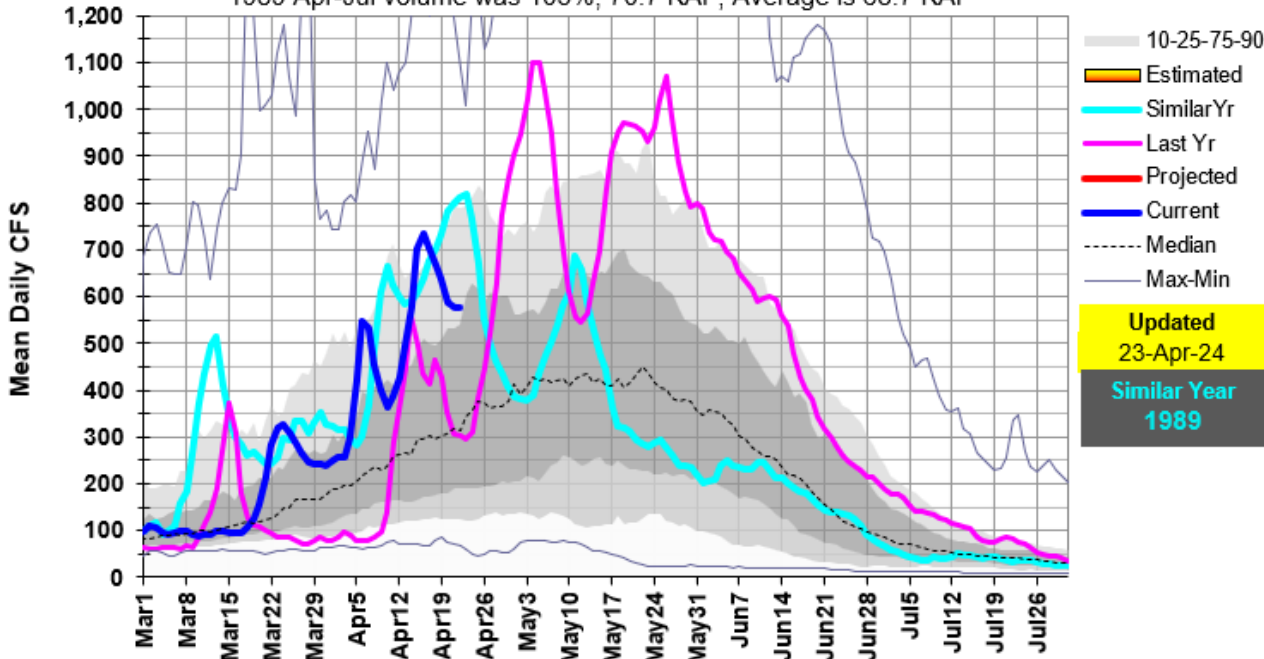
Current as of 04/23/2024:
% of Median - 107%
% Median Peak - 102%
Days Since Median Peak - 2
Percentile - 65

2024 Pole Creek RS SWE similar to 2023, 2006, 1985 and 1989.



13105000: Salmon Falls Ck near San Jacinto, NV

1989 Apr-Jul volume was 103%, 70.7 KAF, Average is 68.7 KAF



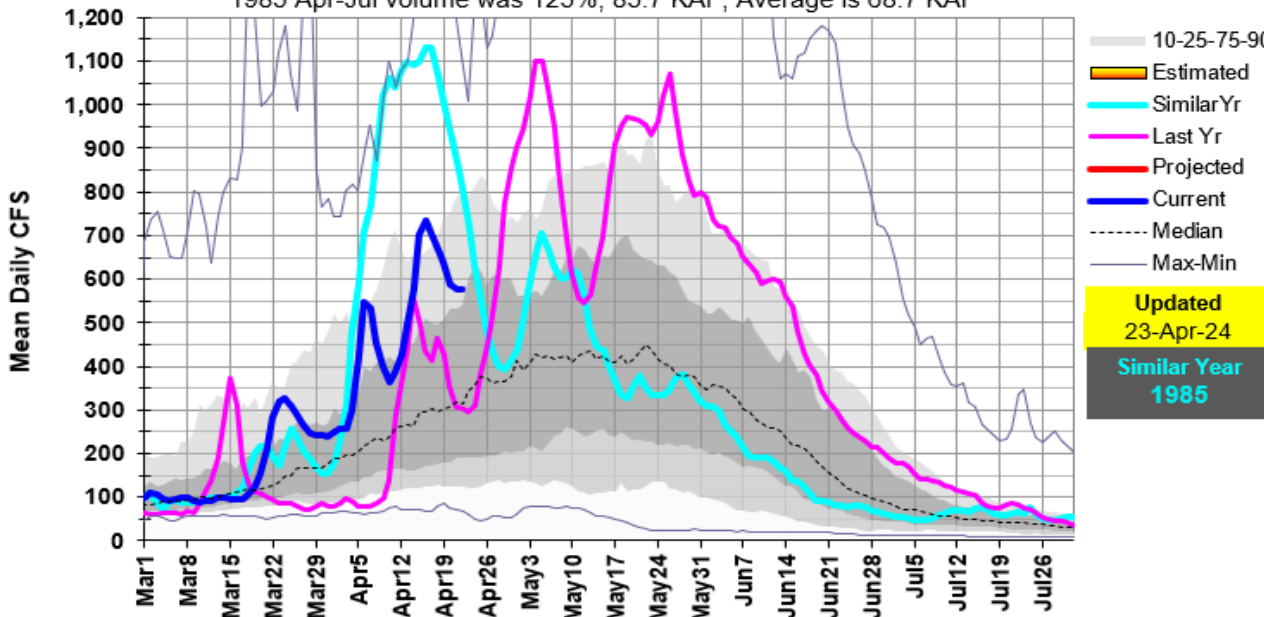
Snow2Flow Relationship shows another peak or increase from remaining snow to melt is still to come. Future weather will determine if next peak exceeds the Apr 16 peak of 736 cfs.

Apr-Jul volume for both years, 1985 and 1989, was 85 and 70 KAF. This falls in line with NWS volume 86 KAF from Apr 23 forecast.

2006 runoff volume was much higher at 129 KAF which is closer to NRCS's Apr 1 volume forecast of 110 KAF.

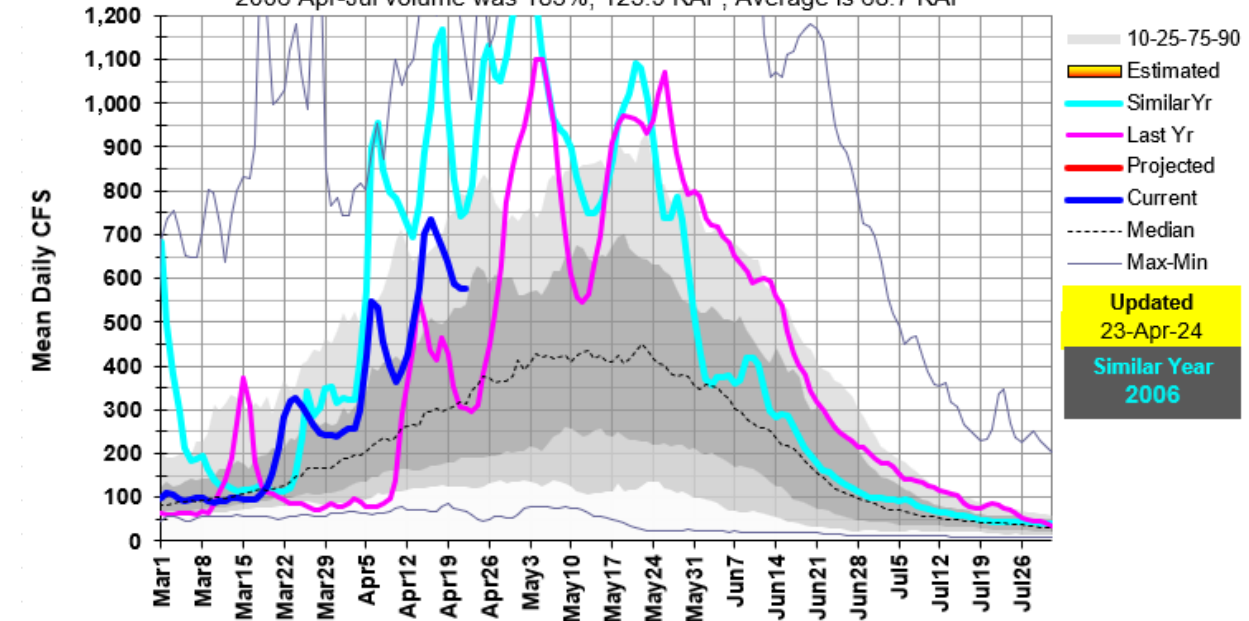
13105000: Salmon Falls Ck near San Jacinto, NV

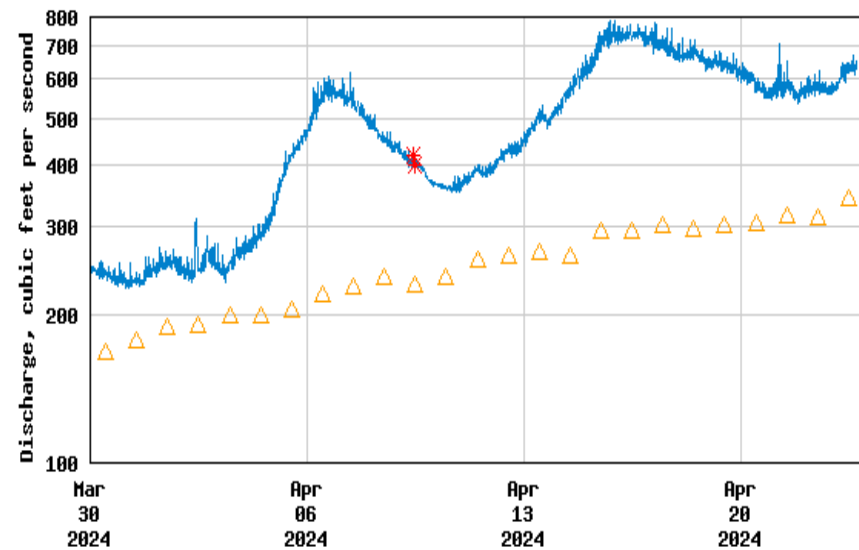
1985 Apr-Jul volume was 125%, 85.7 KAF, Average is 68.7 KAF



13105000: Salmon Falls Ck near San Jacinto, NV

2006 Apr-Jul volume was 183%, 125.9 KAF, Average is 68.7 KAF





----- Provisional Data Subject to Revision -----

△ Median daily statistic (109 years) * Measured discharge
— Discharge

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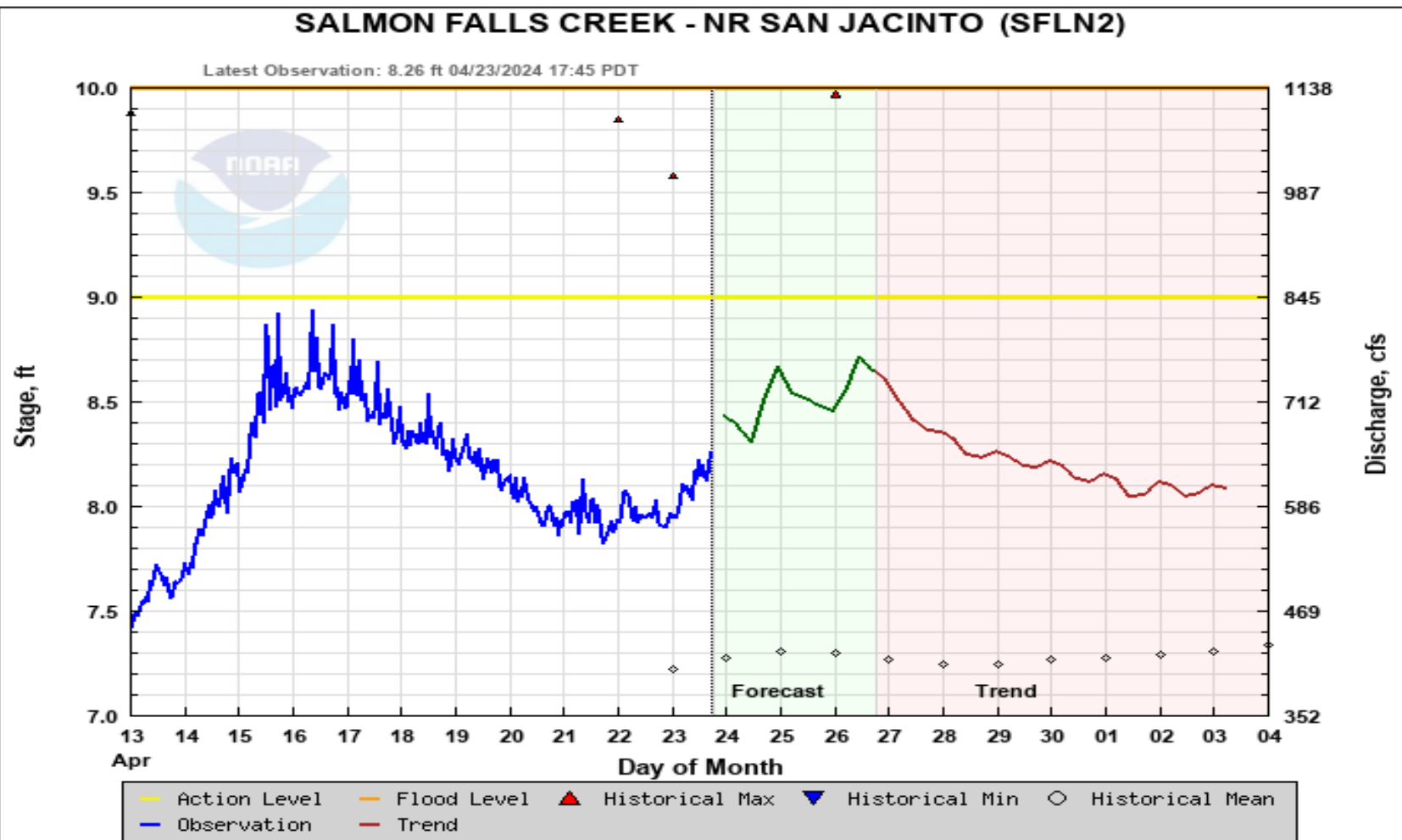
See this graph on the [Monitoring Location Pages](#)

[Share this graph](#) |

Daily discharge, cubic feet per second -- statistics for Apr 23
based on 111 water years of record [more](#)

Min (1934)	25th percent- tile	Median	Mean	75th percent- tile	Most Recent Instantaneous Value Apr 23	Max (2019)
59.0	191	342	406	605	650	1010

NWS short term forecast and trend shows another peak this week.



Forecast Created: 04/23/2024 16:49 PDT

Plot Created: 04/23/2024 18:41 PDT