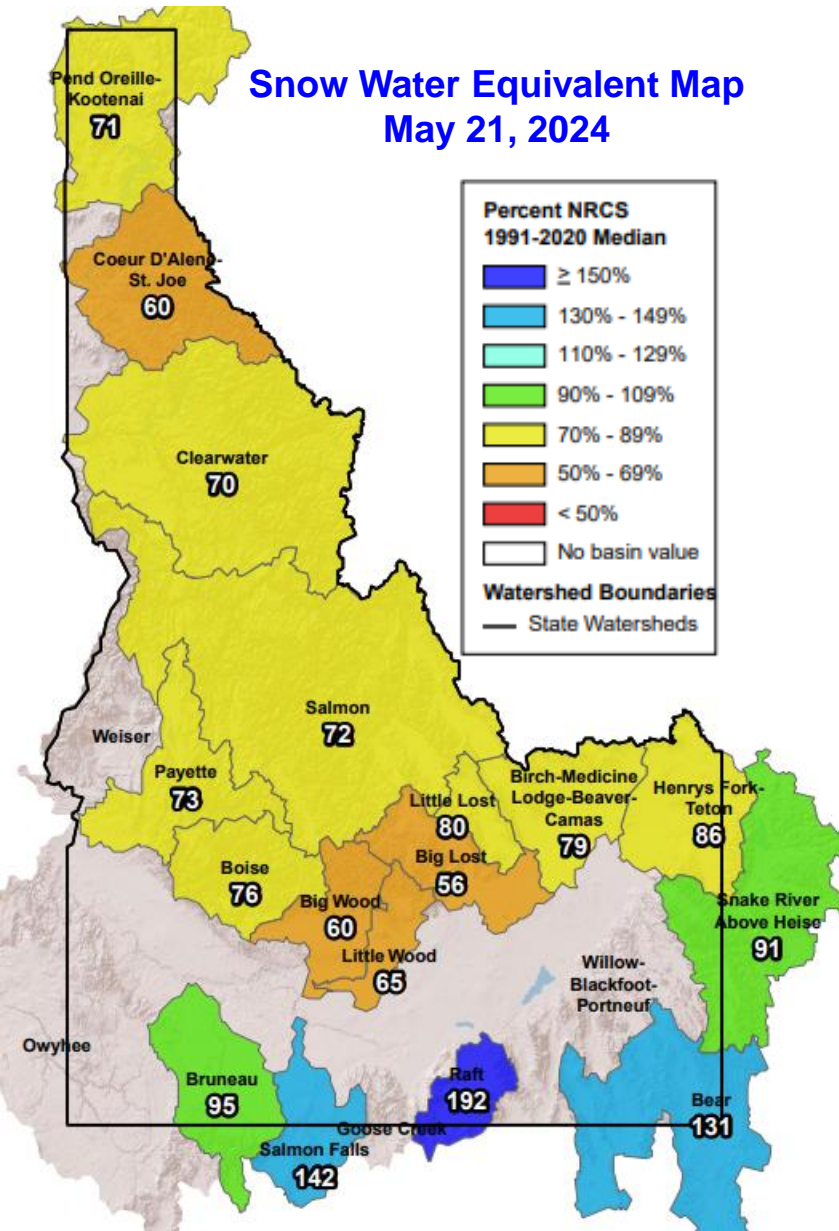


May 24, 2024  
Snow2Flow Update for 4 Rivers  
Big Wood & Bog Lost Rivers

Snow Water Equivalent Map  
May 21, 2024



May 1-23 precipitation  
ranges from 53 to 76%  
of the normal Pct of  
Monthly Total with a  
week to go in May.

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 Thursday, May 23, 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 (%)				56			73
COEUR D'ALENE-ST. JOE RIVER BASIN							
Basin Index (%)				55			66
CLEARWATER BASIN							
Basin Index (%)				92			68
SALMON BASIN							
Basin Index (%)				80			71
WEISER BASIN							
Basin Index (%)				65			75
PAYETTE BASIN							
Basin Index (%)				78			76
BOISE BASIN							
Basin Index (%)				86			80
BIG WOOD BASIN							
Basin Index (%)				71			73
LITTLE WOOD BASIN							
Basin Index (%)				53			71
BIG LOST BASIN							
Basin Index (%)				61			72
LITTLE LOST							
Basin Index (%)				76			68
BIRCH, MEDICINE LODGE, BEAVER, CAMAS BASINS							
Basin Index (%)				65			66

Extended Forecast for  
21 Miles NW Ketchum ID

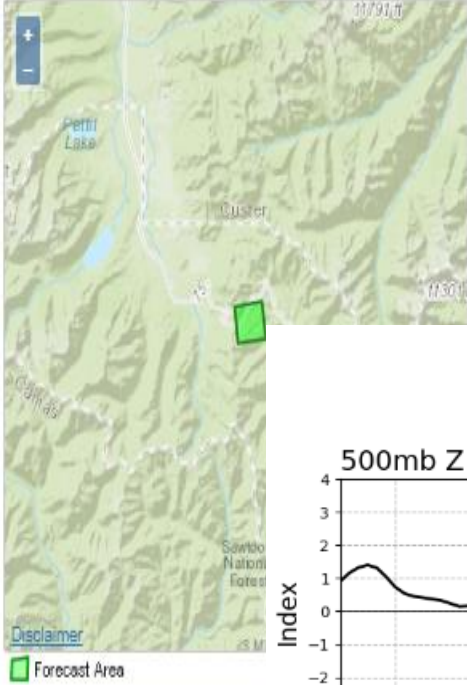
Today	Tonight	Saturday	Saturday Night	Sunday	Sunday Night	Memorial Day	Monday Night	Tuesday
								
High: 48 °F	Low: 31 °F	High: 42 °F	Low: 25 °F	High: 49 °F	Low: 32 °F	High: 58 °F	Low: 38 °F	High: 62 °F
Increasing Clouds	Mostly Cloudy then Chance Snow	Chance Snow	Partly Cloudy	Sunny	Mostly Clear	Sunny	Mostly Clear	Sunny then Slight Chance T-storms

Detailed Forecast

Today	Increasing clouds, with a high near 48. Southwest wind 5 to 9 mph, with gusts as high as 20 mph.
Tonight	A 30 percent chance of snow, mainly after 4am. Mostly cloudy, with a low around 31. South wind 5 to 8 mph, with gusts as high as 20 mph. New snow accumulation of less than a half inch possible.
Saturday	A 50 percent chance of snow, mainly after noon. Mostly cloudy, with a high near 42. West wind 5 to 13 mph, with gusts as high as 28 mph. New snow accumulation of less than a half inch possible.
Saturday Night	Partly cloudy, with a low around 25. Northwest wind 6 to 13 mph, with gusts as high as 28 mph.
Sunday	Sunny, with a high near 49. West wind 6 to 8 mph.
Sunday Night	Mostly clear, with a low around 32.
Memorial Day	Sunny, with a high near 58.
Monday Night	Mostly clear, with a low around 38.
Tuesday	A 20 percent chance of showers and thunderstorms after noon. Snow level 10300 feet rising to 11100 feet in the afternoon. Mostly sunny, with a high near 62.
Tuesday Night	A 20 percent chance of rain before midnight. Snow level 11300 feet lowering to 10600 feet after midnight. Mostly cloudy, with a low around 40.
Wednesday	Mostly sunny, with a high near 56.
Wednesday Night	Mostly clear, with a low around 35.
Thursday	A 20 percent chance of rain. Snow level 8600 feet. Sunny, with a high near 53.

Topographic

Click Map For Forecast



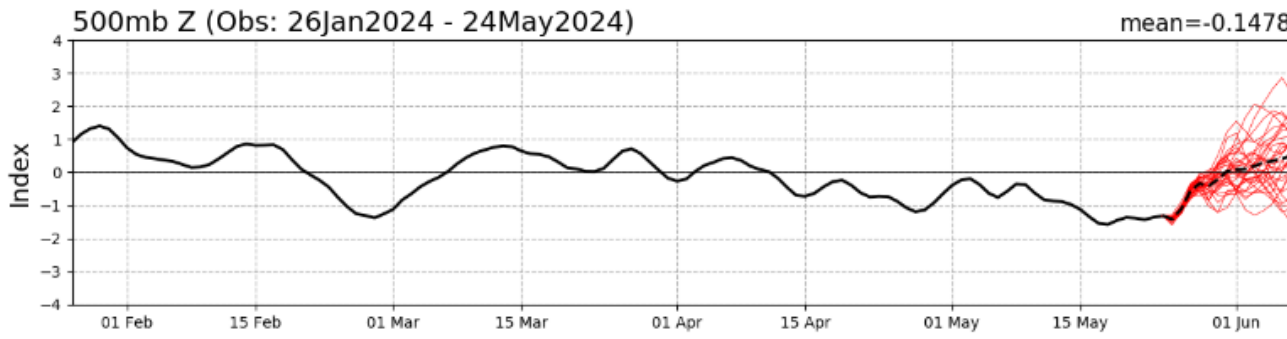
ABOUT THIS FORECAST

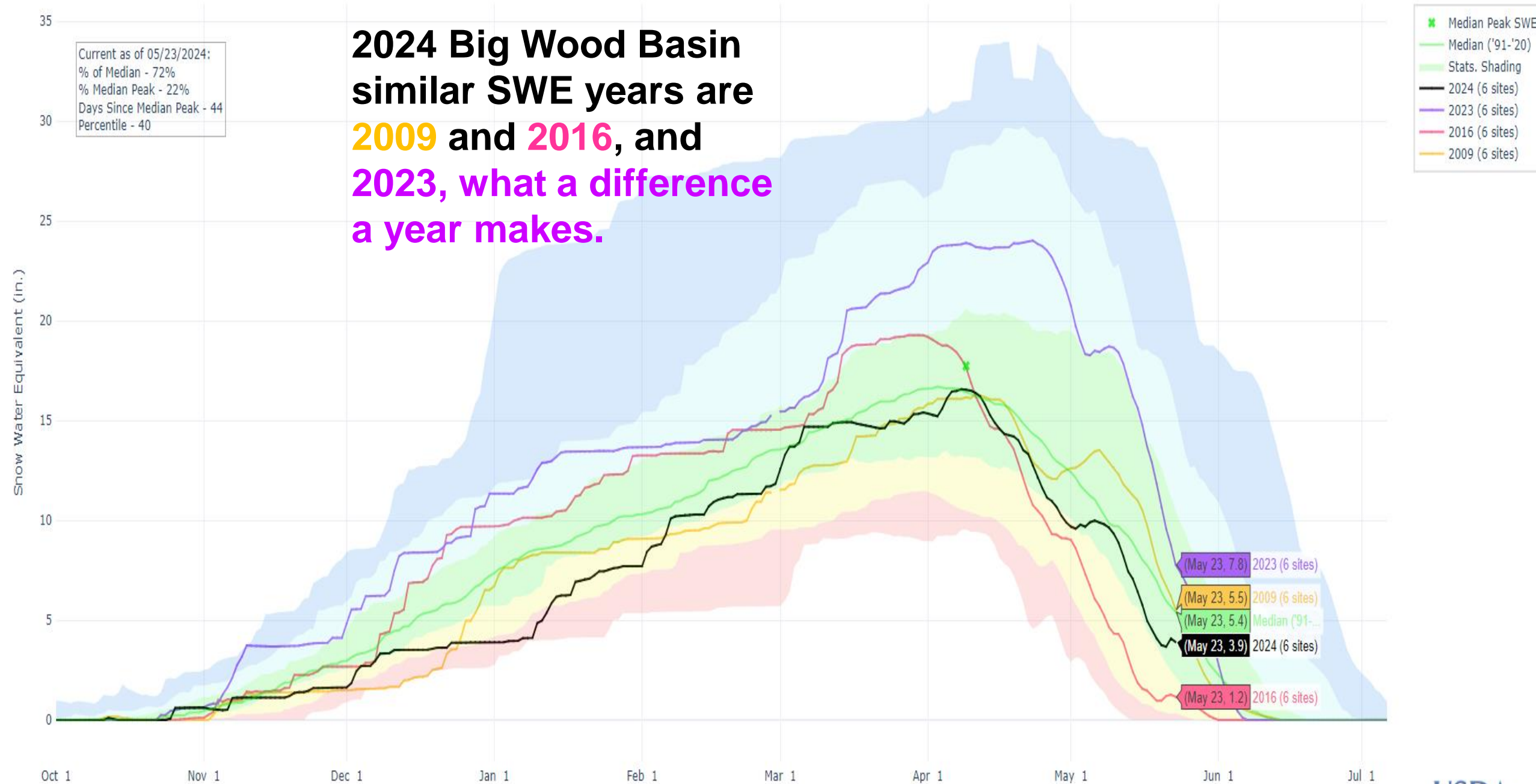
It's always helpful to look at future weather to better understand what may happen.

NWS Forecast from May 24 for Galena Summit shows moisture (snow & rain) clearing by next week. Nighttime Temps gradually increase from below freezing to above nighttime freezing temps next week.

PNA is still tracking to the positive which usually means nicer, calmer, high pressure is moving in. A sign of summer's arrival?

PNA Index: Observed & GEFS Forecasts







On average, the Big Wood River at Hailey peak streamflow occurs when Galena Summit SNOTEL is 54 - 100% melted.

This analysis is based on historical data from WY 1982-1983, 1983-2015.

#### Summary by max SWE magnitude

Max SWE Category	Max SWE Magnitude (inches)	Average percent melted at time of peak streamflow
Below average	<17	100
Average	16 - 27	76
Above average	<26	54

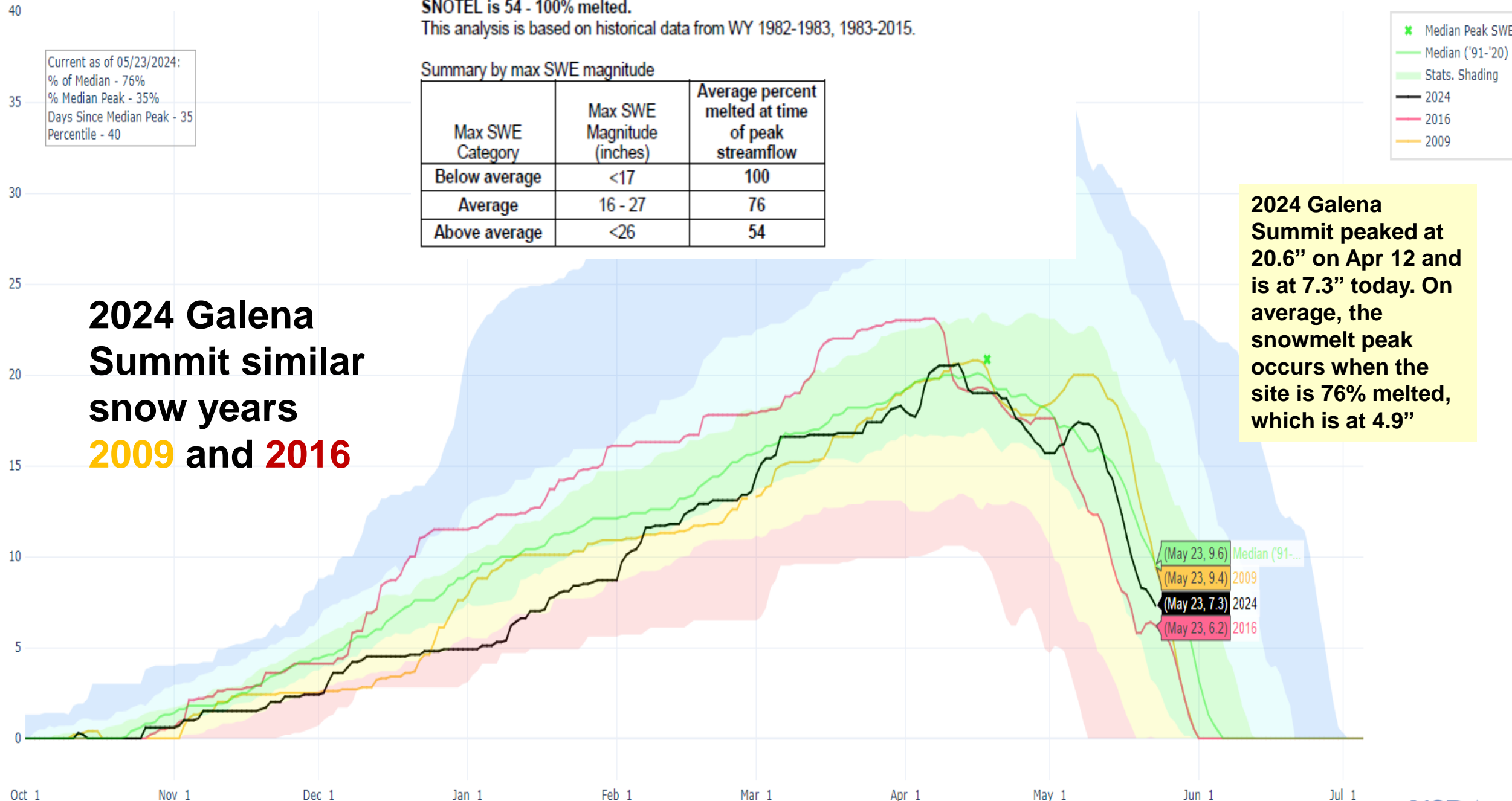
Current as of 05/23/2024:  
 % of Median - 76%  
 % Median Peak - 35%  
 Days Since Median Peak - 35  
 Percentile - 40

✱ Median Peak SWE  
 Median ('91-'20)  
 Stats. Shading  
 2024  
 2016  
 2009

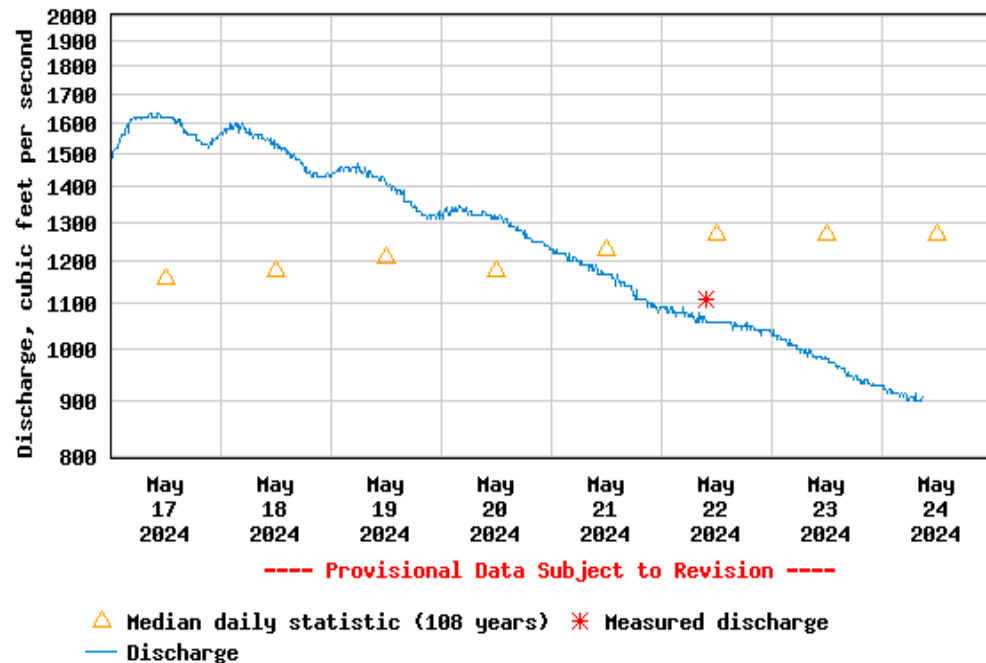
**2024 Galena Summit similar snow years**  
**2009 and 2016**

**2024 Galena Summit peaked at 20.6" on Apr 12 and is at 7.3" today. On average, the snowmelt peak occurs when the site is 76% melted, which is at 4.9"**

Snow Water Equivalent (in.)

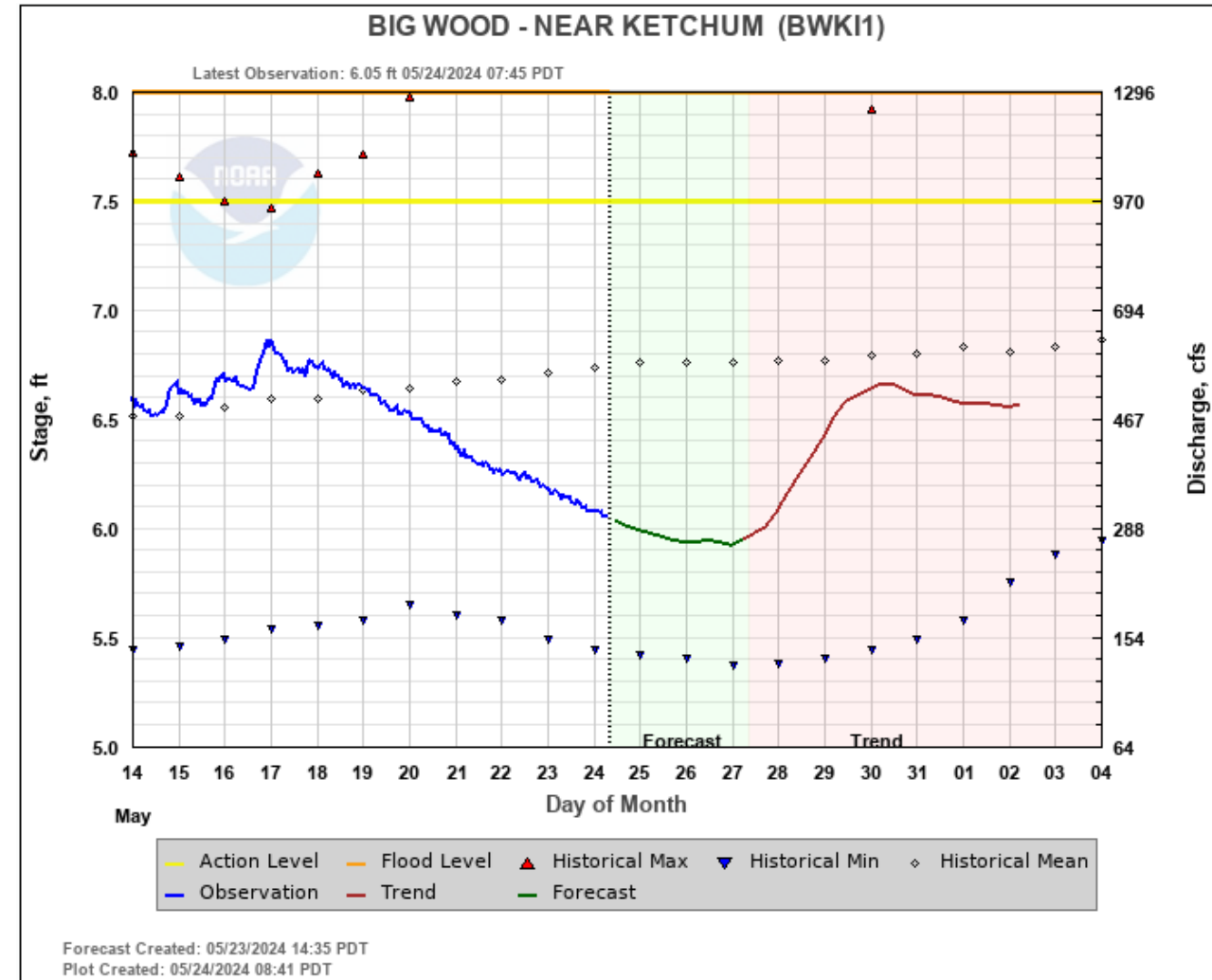


USGS 13139510 BIG WOOD RIVER AT HAILEY ID TOTAL FLOW



NWS Forecast & Trend shows another peak with return of warmer temps.

There is enough remaining snow to generate another peak. The question is – will next increase be less, equal or greater than the previous peak...

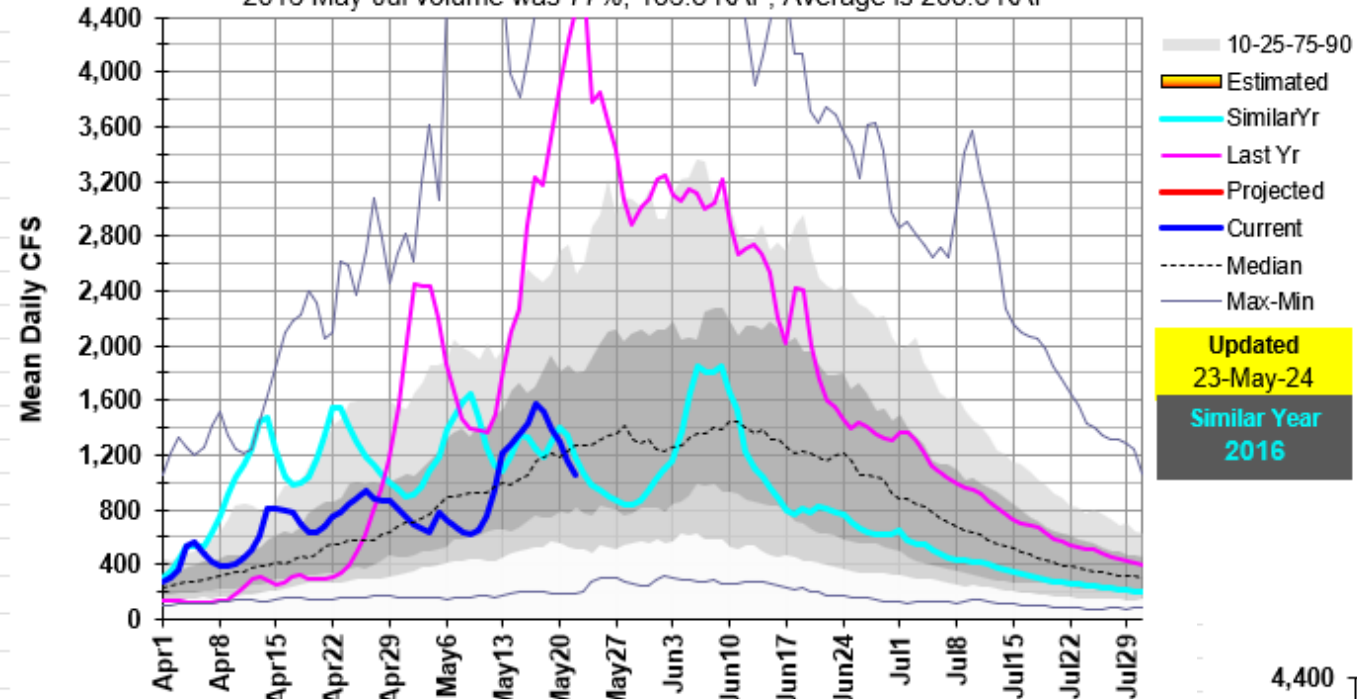


Keep in mind the Snow2Flow Relationship is based on snowmelt relationship with snowmelt peak flows.

Any given day with rain or hot temps can generate additional peaks or a higher peak for the season.

13139510: Big Wood R at Hailey, ID Total Flow

2016 May-Jul volume was 77%, 156.8 KAF, Average is 203.3 KAF

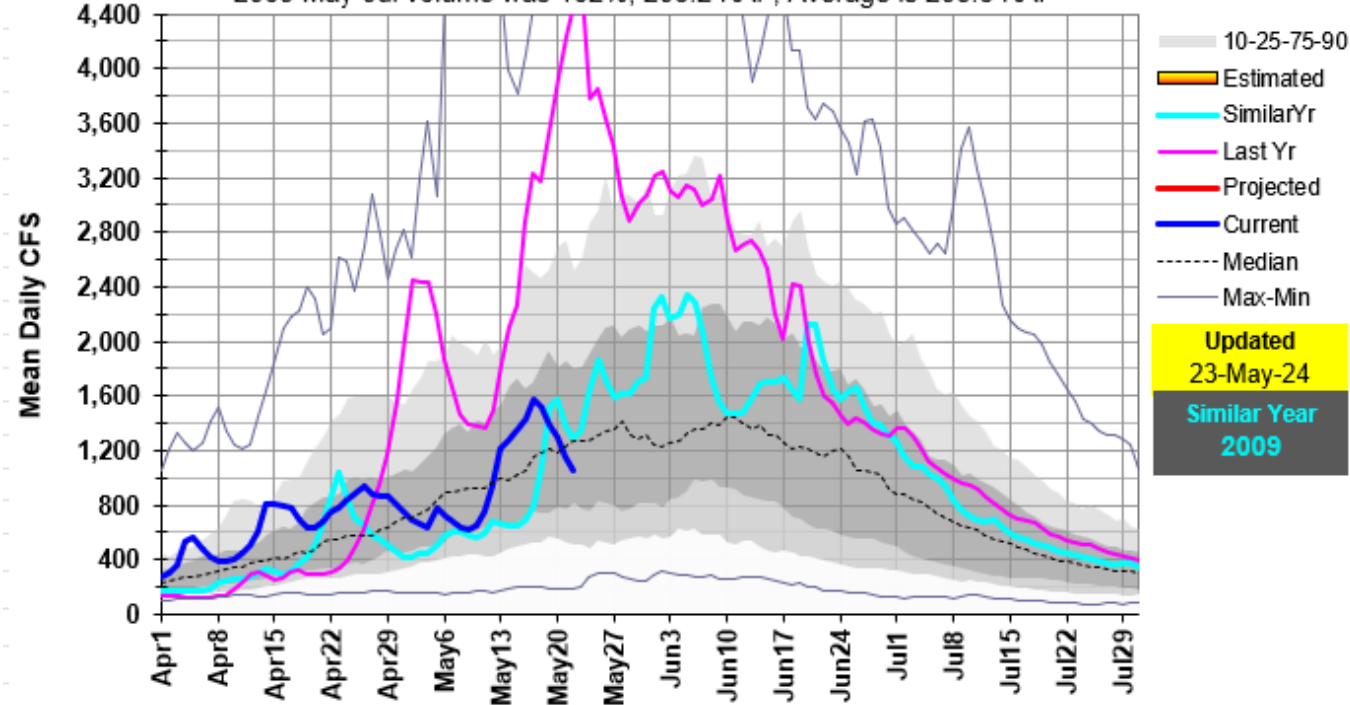


**Big wood River Runoff for similar snow years:**

**With another peak likely, 2016 may be a good similar flow pattern year to watch.**

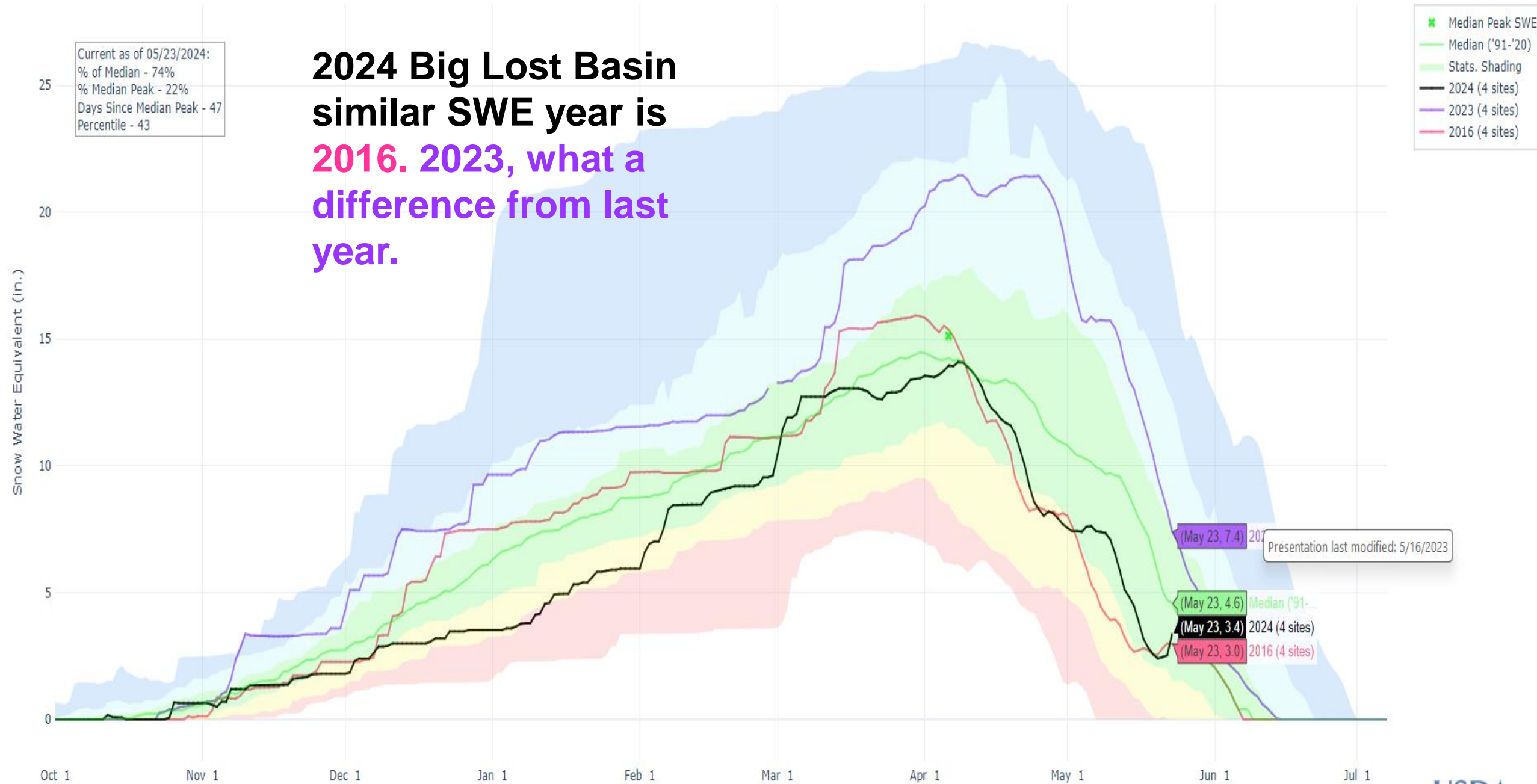
13139510: Big Wood R at Hailey, ID Total Flow

2009 May-Jul volume was 102%, 208.2 KAF, Average is 203.3 KAF



Current as of 05/23/2024:  
% of Median - 74%  
% Median Peak - 22%  
Days Since Median Peak - 47  
Percentile - 43

**2024 Big Lost Basin  
similar SWE year is  
2016. 2023, what a  
difference from last  
year.**



In 22 of 33 years the peak streamflow occurred after Lost Wood had completely melted out.

On average, peak streamflow for the Big Lost River at Howell Ranch near Chilly, Idaho occurs from 1 day before to 7 days after Lost-Wood SNOTEL is completely melted out.

Summary by max SWE magnitude

Max SWE Category	Max SWE Magnitude (inches)	Number of Years in Analysis	Average number of days from melt-out peak streamflow occurs
Below average	<14	8	7 DAYS AFTER
Average	13 - 26	17	0 DAYS
Above average	>25	8	1 DAY BEFORE

Note - this analysis uses all years available and did not eliminate potential non-snowmelt peaks  
The average for the full 33-year period is 2 days after Lost-Wood SNOTEL has completely melted out.

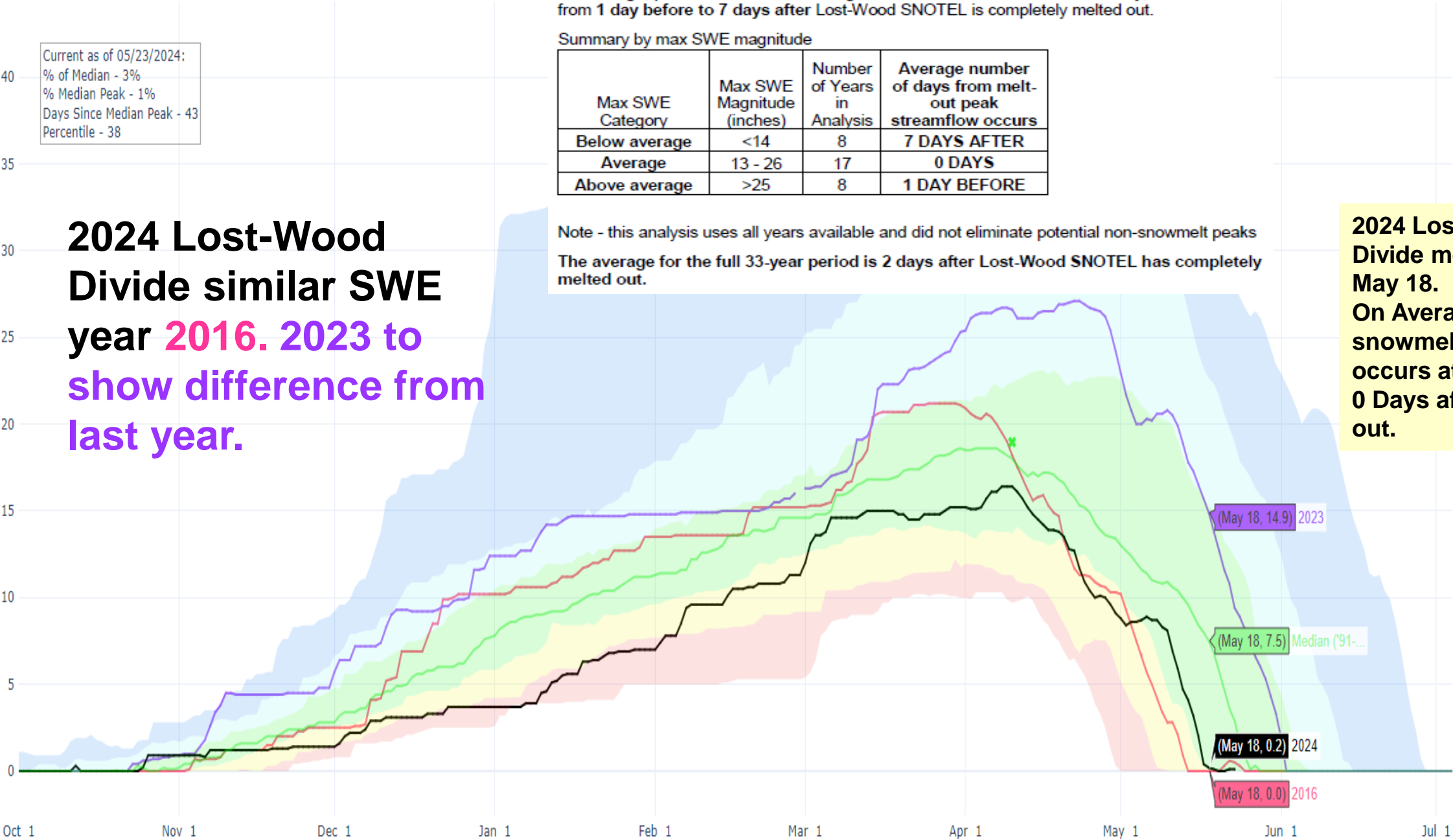
Current as of 05/23/2024:  
% of Median - 3%  
% Median Peak - 1%  
Days Since Median Peak - 43  
Percentile - 38

✱ Median Peak SWE  
— Median ('91-'20)  
— Stats. Shading  
— 2024  
— 2023  
— 2016

2024 Lost-Wood Divide similar SWE year 2016. 2023 to show difference from last year.

2024 Lost-Wood Divide melted about May 18.  
On Average, the snowmelt peak flow occurs at melt out, 0 Days after melt out.

Snow Water Equivalent (in.)





On average, the Big Lost River at Howell Ranch near Chilly, Idaho peak streamflow occurs when Smiley Mtn SNOTEL is ~ 54% melted.

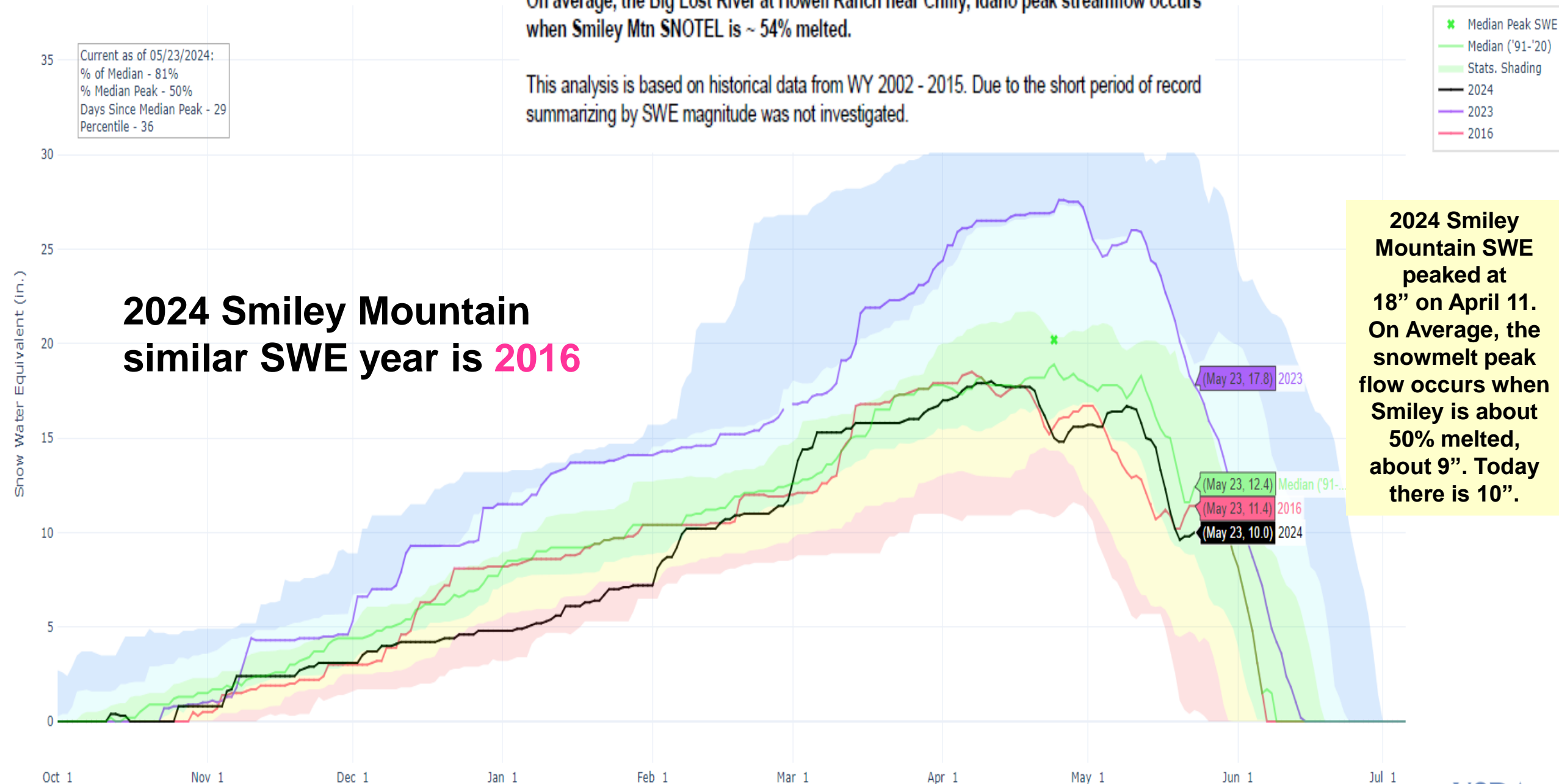
This analysis is based on historical data from WY 2002 - 2015. Due to the short period of record summarizing by SWE magnitude was not investigated.

Current as of 05/23/2024:  
% of Median - 81%  
% Median Peak - 50%  
Days Since Median Peak - 29  
Percentile - 36

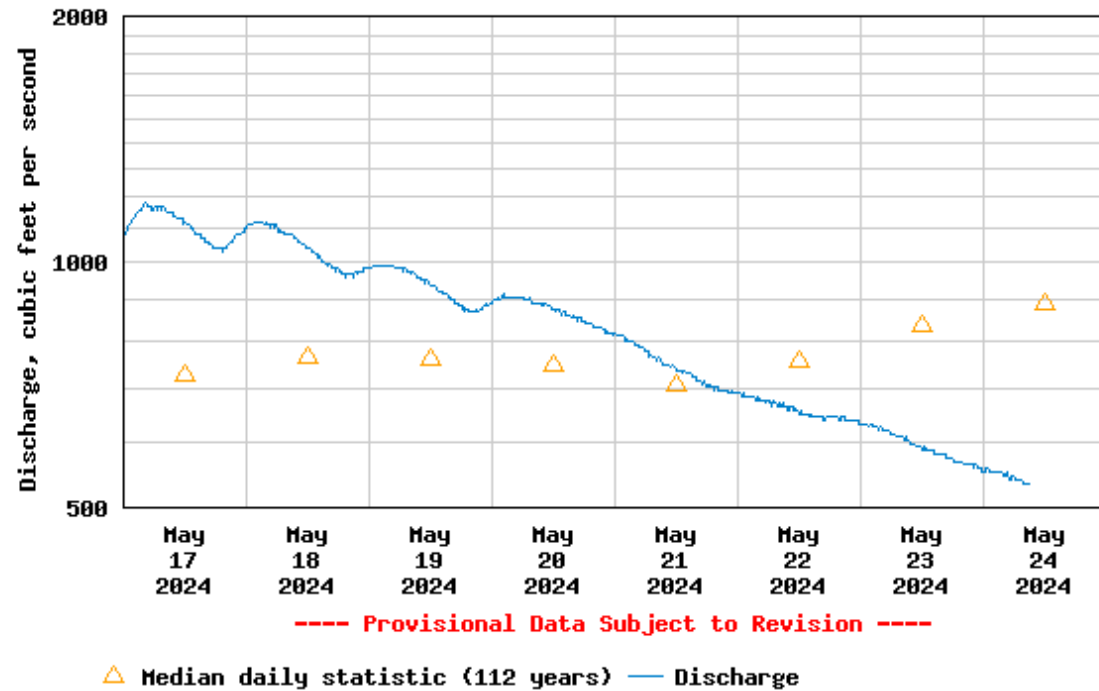
✱ Median Peak SWE  
— Median ('91-'20)  
— Stats. Shading  
— 2024  
— 2023  
— 2016

**2024 Smiley Mountain  
similar SWE year is 2016**

**2024 Smiley  
Mountain SWE  
peaked at  
18" on April 11.  
On Average, the  
snowmelt peak  
flow occurs when  
Smiley is about  
50% melted,  
about 9". Today  
there is 10".**



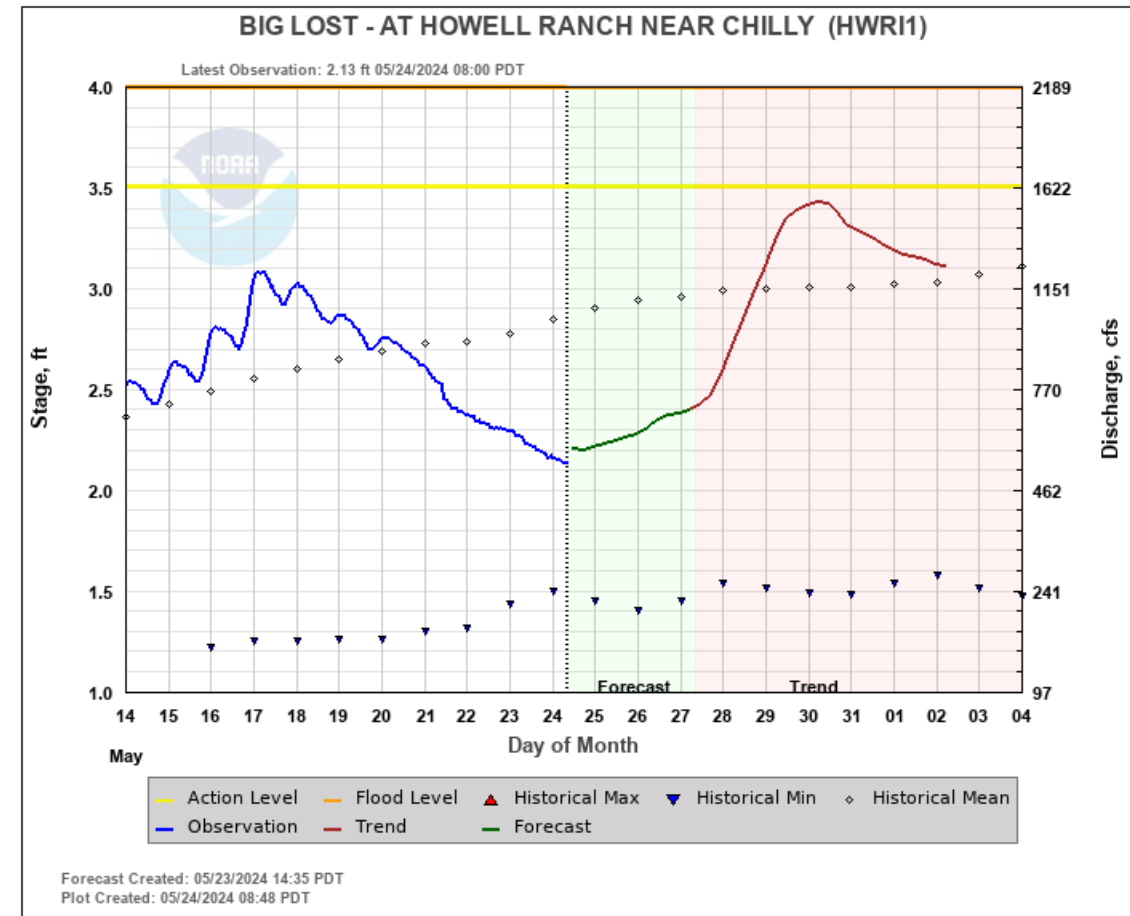
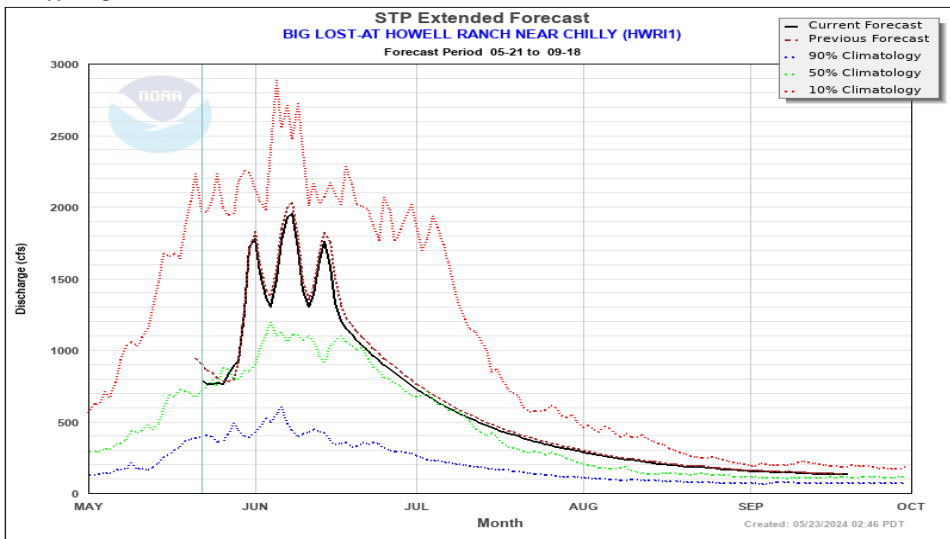
USGS 13120500 BIG LOST RIVER AT HOWELL RANCH NR CHILLY ID



NWS Big Lost Forecast & Trend shows another peak similar in magnitude as first peak. The STP Extended Forecast shows several peaks in earlier June which seems optimistic.

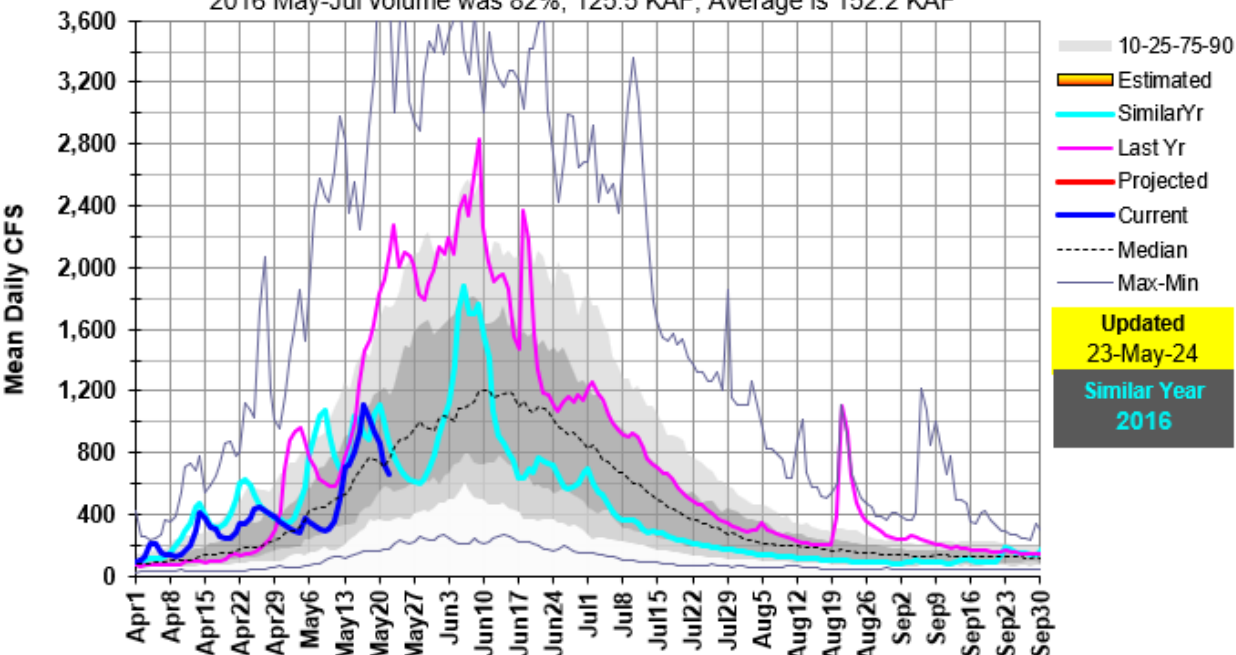
BIG LOST--AT HOWELL RANCH NEAR CHILLY

State: Idaho County: CUSTER  
Latitude: 43 59' 54" North Longitude: 114 1' 16" West  
Elevation: 6622 feet  
Supporting WFO: Pocatello



# 13120500: Big Lost R at Howell Ranch near Chilly, ID

2016 May-Jul volume was 82%, 125.5 KAF, Average is 152.2 KAF



Big Lost River Runoff for similar snow year.

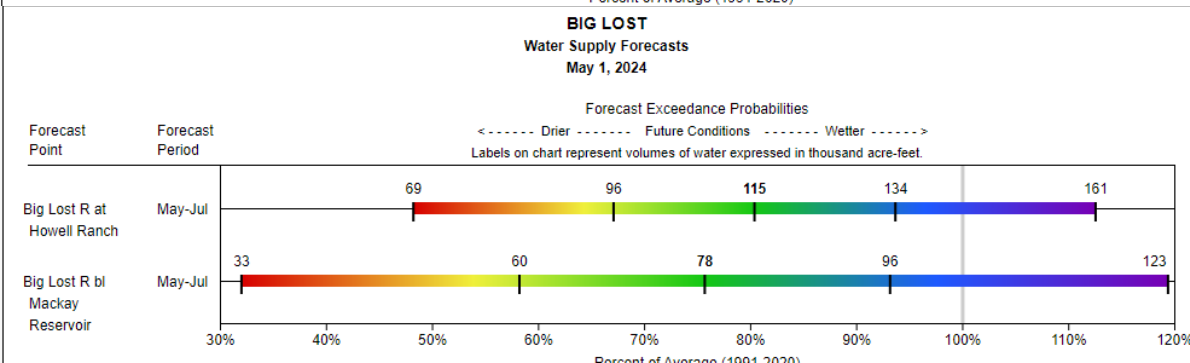
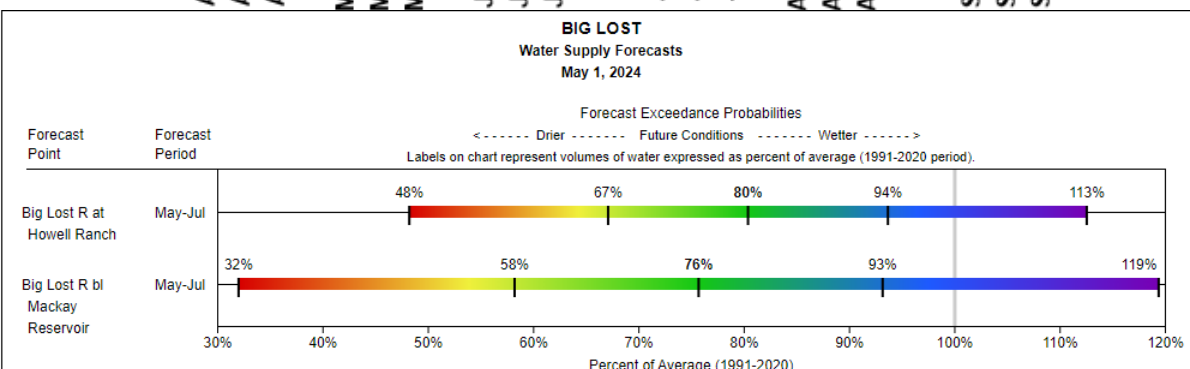
2024 May-Jul Runoff Volume Forecast is 80% of avg, 115 KAF.

2016 May-Jul Runoff Volume was 125 KAF which is similar to forecast volume.

Time will tell how high the next increase is in the Big Lost River. Lost-Wood Divide is melted out and shows peak occurred, but cold spell slowed the melt.

Smiley Mnt is a much higher site and shows another peak likely when warm temps return. Looks like similar weather pattern happened in 2016 with a cold/wet front bringing more snow as seen in Lost-Wood Divide 2016 SWE graph.

Trust the Smiley Mnt relationship and 10-day NWS Forecast & Trend that show another peak is likely.



It's always to nice use 2 SNOTEL sites with the Snow2Flow peak flow relationships while comparing to NWS projections.

Here's another tool – has anyone seen the Big Lost White Stallion this year? When you do it usually means the peak is happening. Let me know if you did and the date.

Time for a road trip to some of the prettiest mountains in Idaho!  
Ski ya there !

Picture taken June 8, 2006

- Lost-Wood Divide had SWE of 0.0" – first day melted out
- SNOTEL analysis shows Big Lost peak flow occurs about around Lost-Wood Divide melt out



# The Big Lost White Stallion

When you see it, means the snow melt peak flow is occurring.

