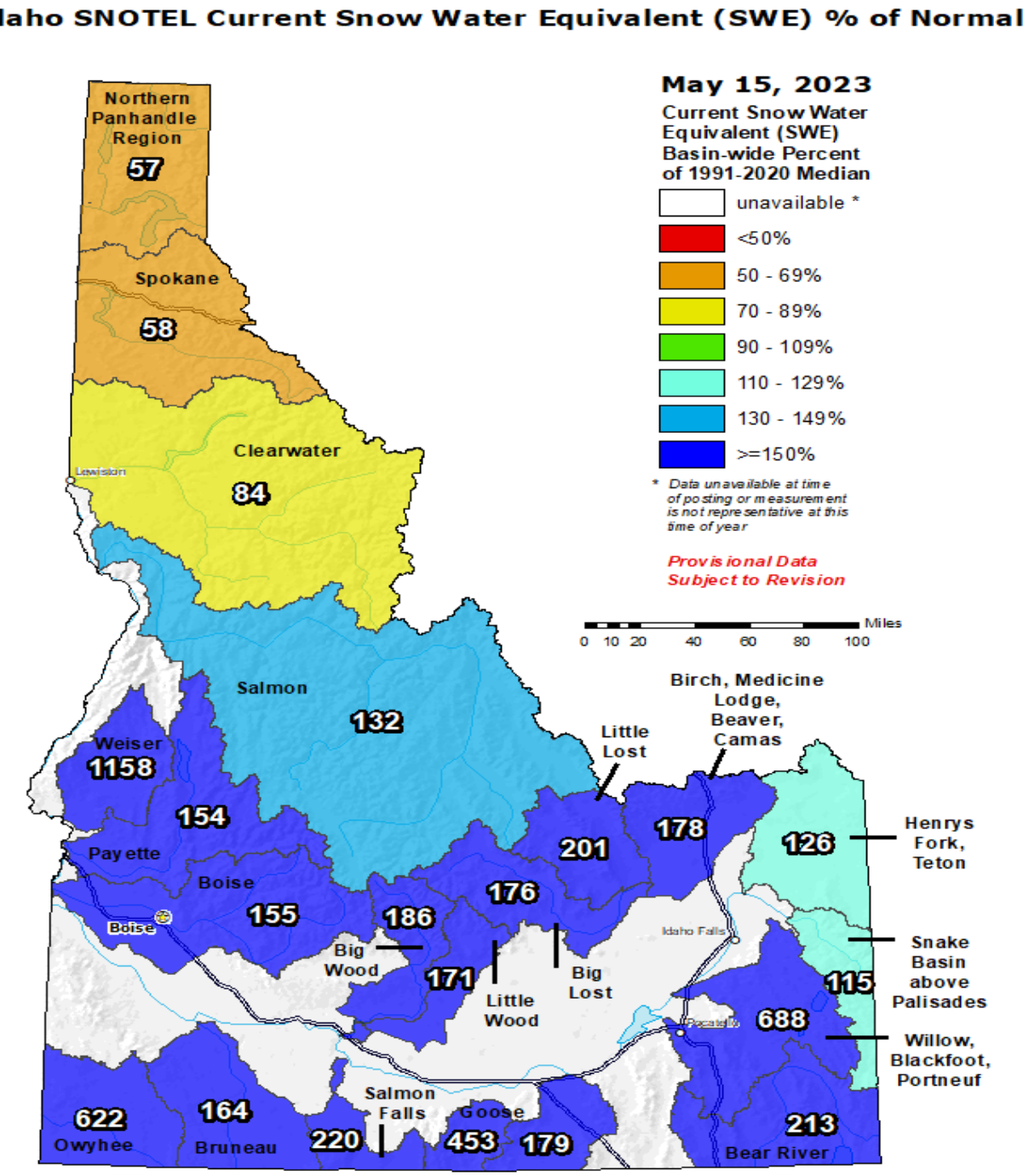


May 16, 2023, Snow2Flow Update for Big Lost & Big Wood Rivers

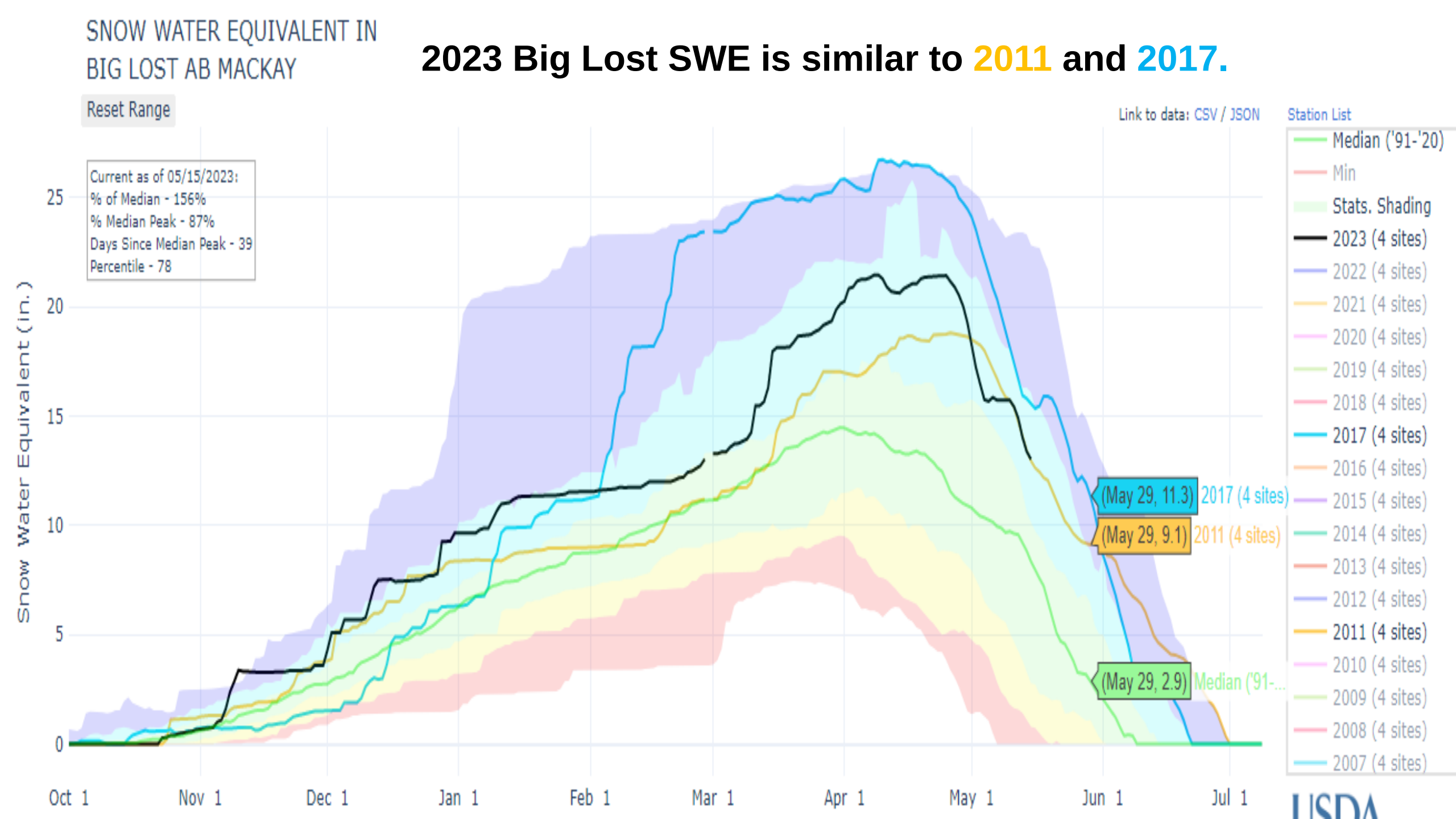
For complete Snow to Flow Relationships see [Snow Melt / Peak Streamflow Relationships](#) (PDF; 146 KB) - Report by Kara Ferguson (2017) summarizing the relationship between snowmelt and peak streamflow timing on rivers throughout Idaho.

From:
https://www.nrcs.usda.gov/wps/portal/wcc/home/quicklinks/states/idaho/watersupply/peak

And NWS peak flow products and forecasts:
Peak Flow and Stage Forecasts from NWS

Watch the weather and know your boating limits as rivers will be high for an extended period.

2023 Big Lost SWE is similar to 2011 and 2017.



SNOW WATER EQUIVALENT
LOST-WOOD DIVIDE

Reset Range

Current as of 05/15/2023:
% of Median - 192%
% Median Peak - 92%
Days Since Median Peak - 34
Percentile - 73

BIG LOST RIVER AND LOST-WOOD SNOTEL SITE

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

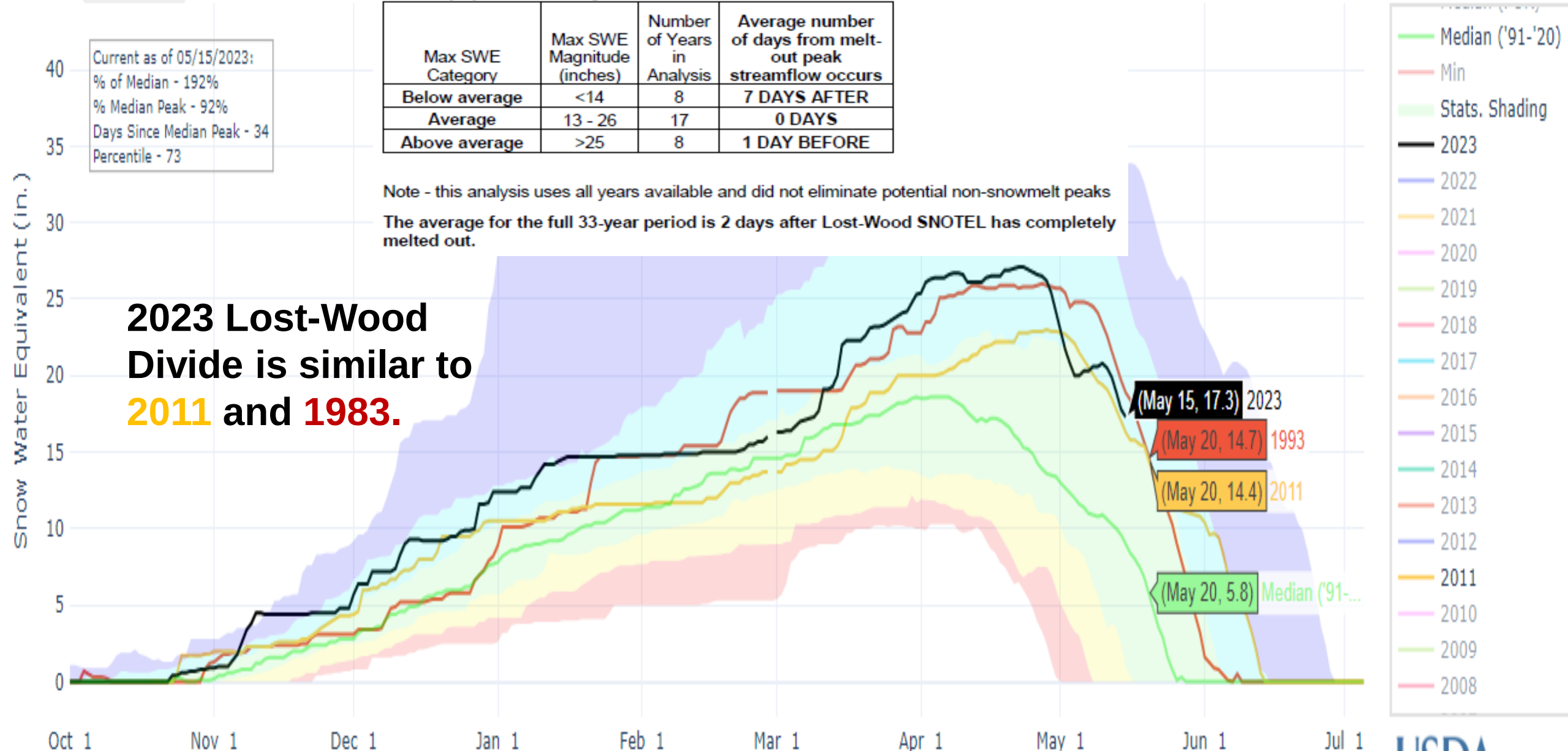
Link to data: CSV / JSON

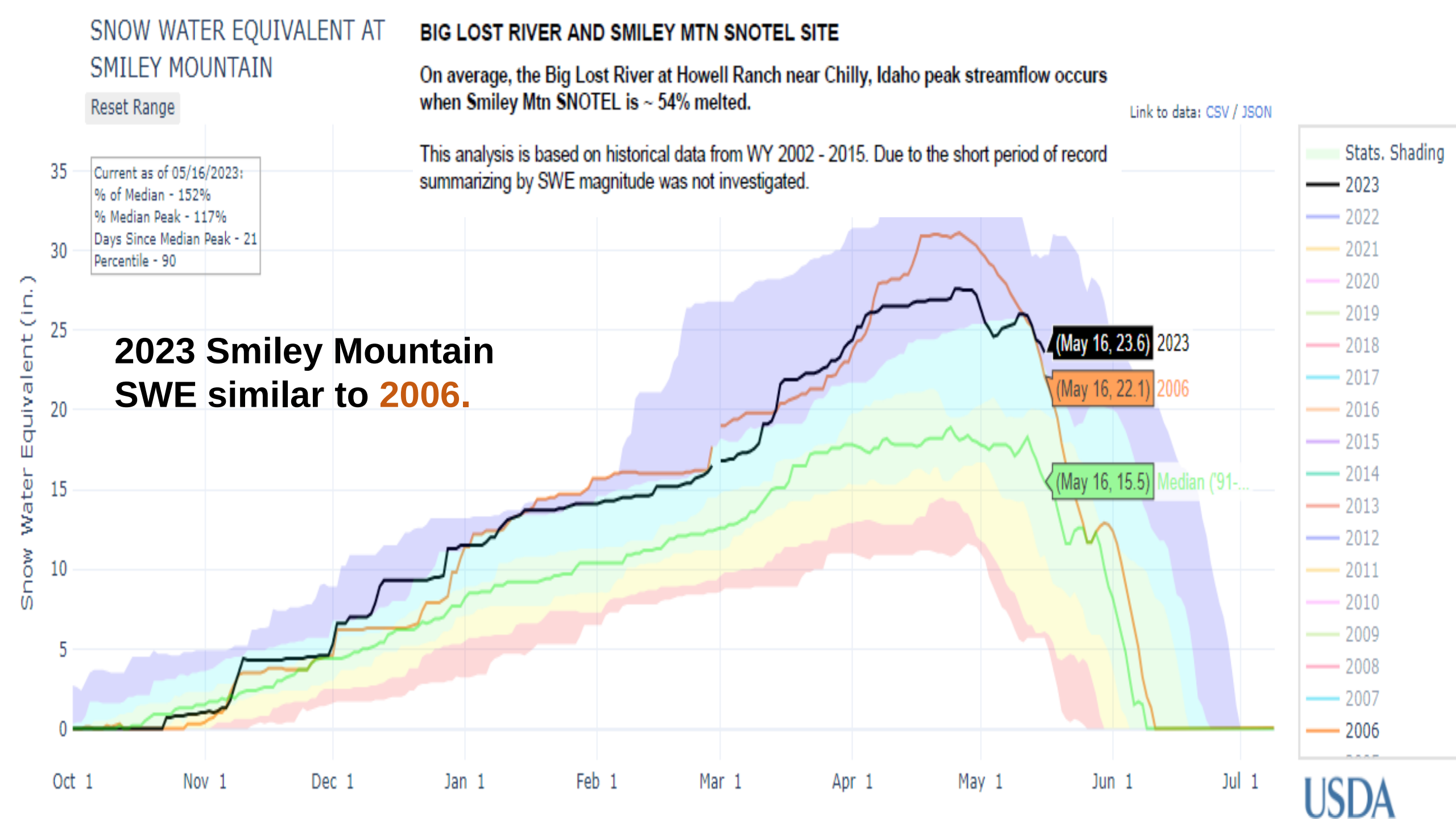
Max SWE Category	Max SWE Magnitude (inches)	Number of Years in Analysis	Average number of days from melt-out peak streamflow occurs
Below average	<14	8	7 DAYS AFTER
Average	13 - 26	17	0 DAYS
Above average	>25	8	1 DAY BEFORE

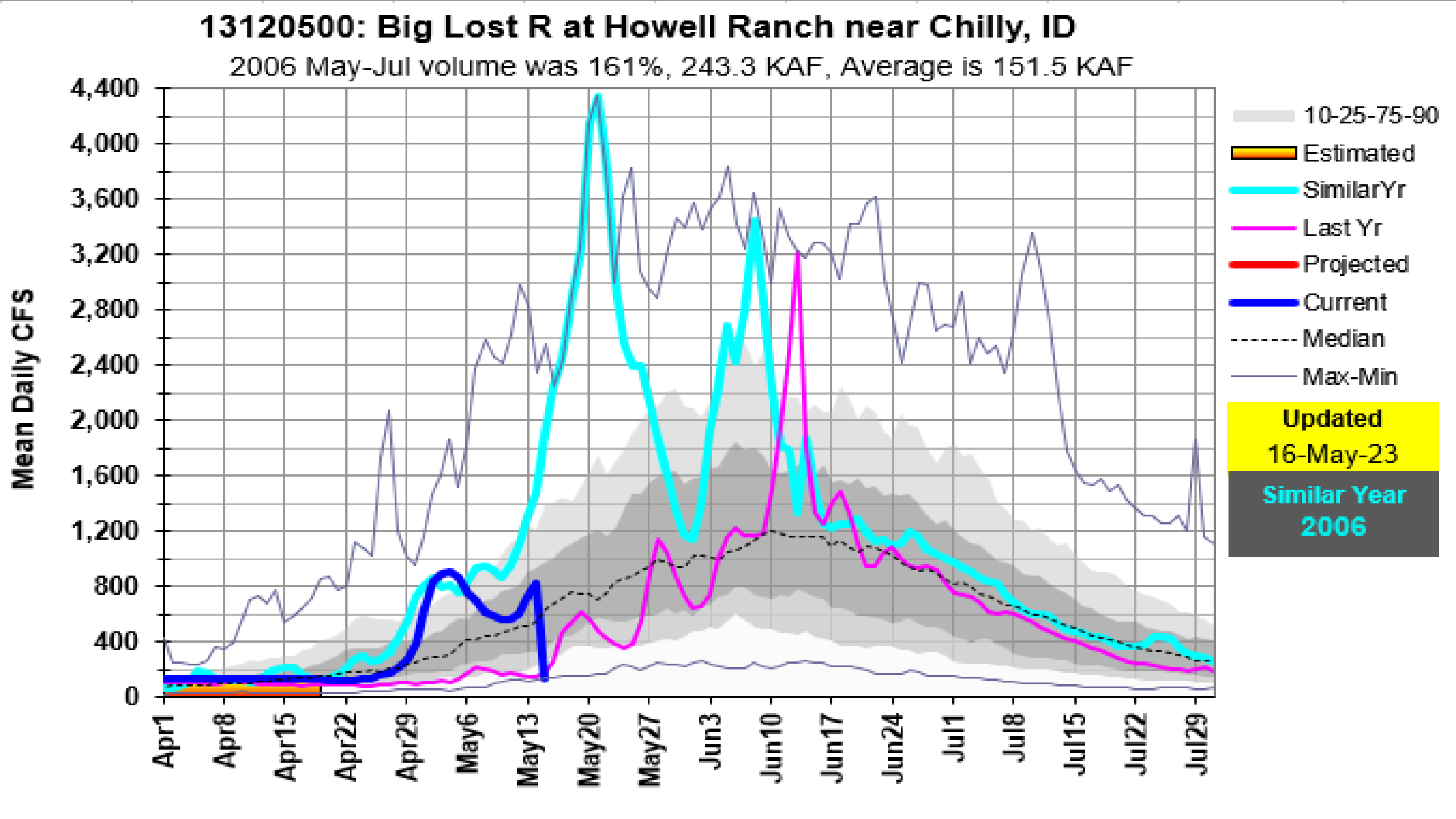
Note - this analysis uses all years available and did not eliminate potential non-snowmelt peaks

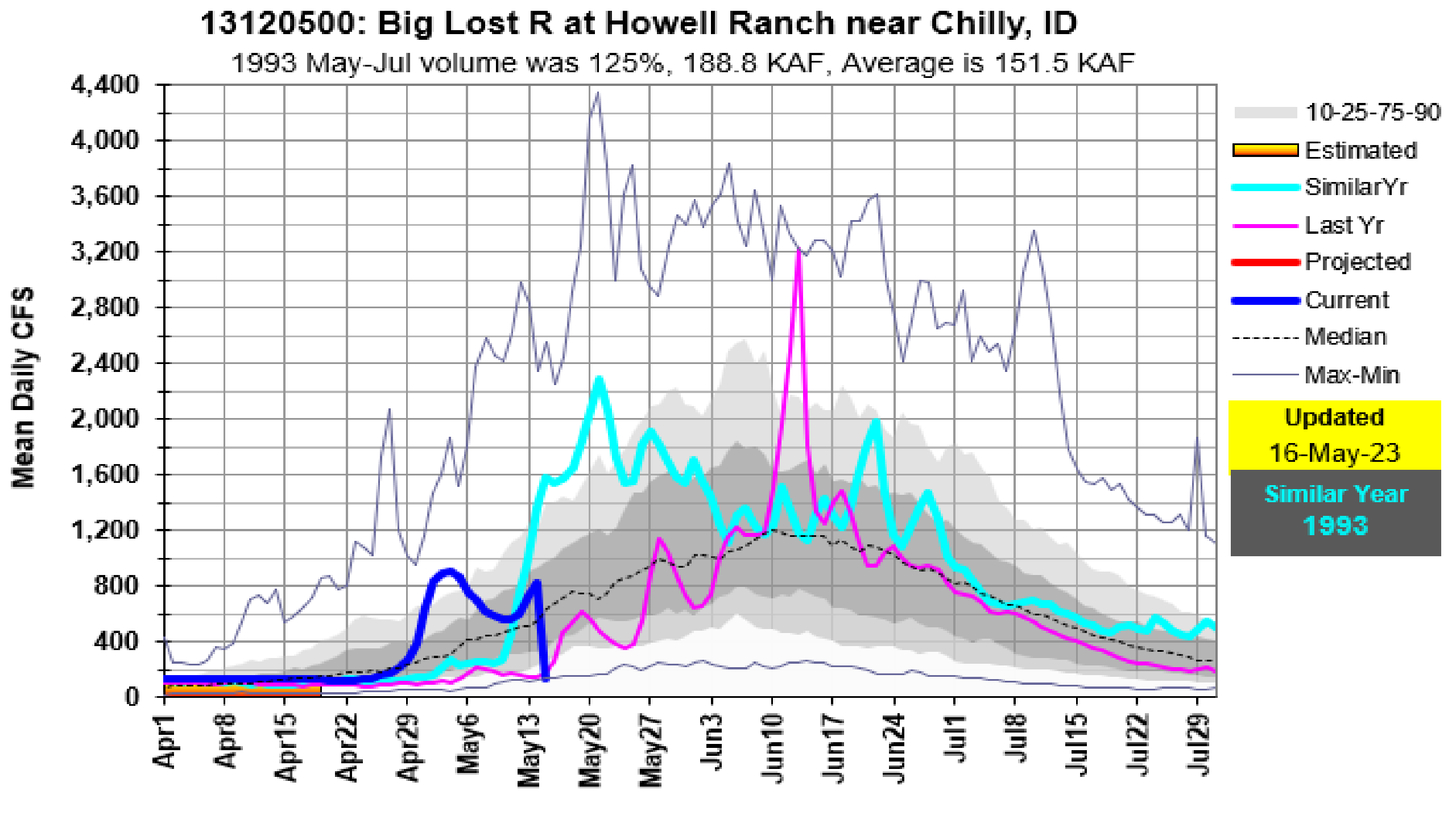
The average for the full 33-year period is 2 days after Lost-Wood SNOTEL has completely melted out.

2023 Lost-Wood Divide is similar to 2011 and 1983.




SNOW WATER EQUIVALENT AT SMILEY MOUNTAIN
Reset Range
BIG LOST RIVER AND SMILEY MTN SNOTEL SITE
On average, the Big Lost River at Howell Ranch near Chilly, Idaho peak streamflow occurs when Smiley Mtn SNOTEL is ~ 54% melted.
Link to data: CSV / JSON
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 05/16/2023:
% of Median - 152%
% Median Peak - 117%
Days Since Median Peak - 21
Percentile - 90
2023 Smiley Mountain SWE similar to 2006.
Snow Water Equivalent (in.)
35
30
25
20
15
10
5
0
Oct 1
Nov 1
Dec 1
Jan 1
Feb 1
Mar 1
Apr 1
May 1
Jun 1
Jul 1
(May 16, 23.6) 2023
(May 16, 22.1) 2006
(May 16, 15.5) Median ('91-...
Stats. Shading
2023
2022
2021
2020
2019
2018
2017
2016
2015
2014
2013
2012
2011
2010
2009
2008
2007
2006
USDA

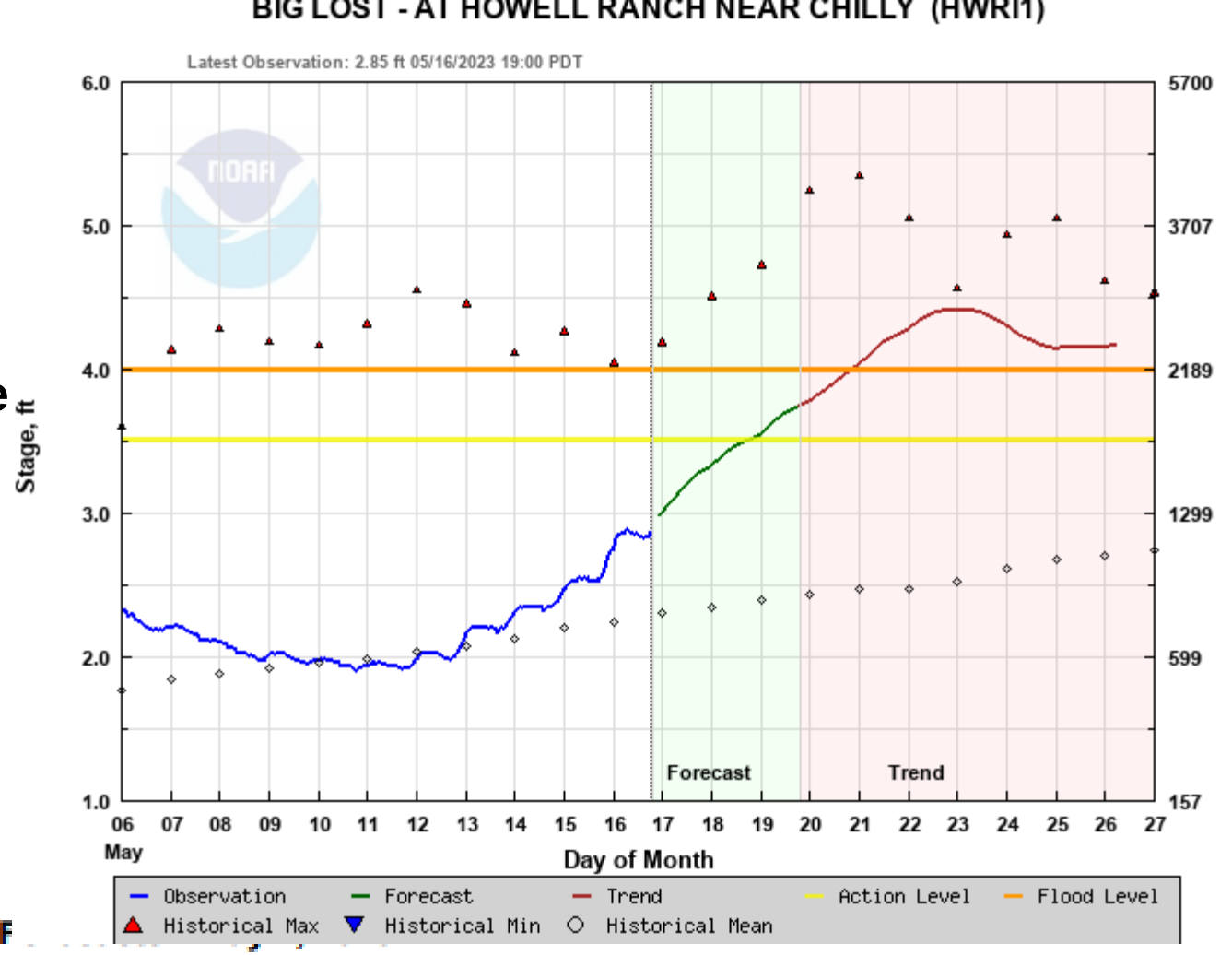

13120500: Big Lost R at Howell Ranch near Chilly, ID
2006 May-Jul volume was 161%, 243.3 KAF, Average is 151.5 KAF
Mean Daily CFS
4,400
4,000
3,600
3,200
2,800
2,400
2,000
1,600
1,200
800
400
0
Apr1
Apr8
Apr15
Apr22
Apr29
May6
May13
May20
May27
Jun3
Jun10
Jun17
Jun24
Jul1
Jul8
Jul15
Jul22
Jul29
10-25-75-90
Estimated
SimilarYr
Last Yr
Projected
Current
Median
Max-Min
Updated
16-May-23
Similar Year
2006


13120500: Big Lost R at Howell Ranch near Chilly, ID
1993 May-Jul volume was 125%, 188.8 KAF, Average is 151.5 KAF
Mean Daily CFS
4,400
4,000
3,600
3,200
2,800
2,400
2,000
1,600
1,200
800
400
0
Apr1
Apr8
Apr15
Apr22
Apr29
May6
May13
May20
May27
Jun3
Jun10
Jun17
Jun24
Jul1
Jul8
Jul15
Jul22
Jul29
10-25-75-90
Estimated
SimilarYr
Last Yr
Projected
Current
Median
Max-Min
Updated
16-May-23
Similar Year
1993

Based on Lost-Wood Divide Snow2Flow relationship – peak flows occurs around melt out. Currently about 17” remains to melt and feed the rivers.

May 1 Big Lost River at Howell Ranch volume forecasts ranges from 184 to 275 KAF with the 50% chance exceedance forecast at 230 KAF.

May - July runoff volume in 1993 and 2006 were 188 and 243 KAF.



Wood and Lost Basins Streamflow F

Forecast Point	Forecast Period	Forecast Exceedance Probabilities for Risk Assessment <--Drier----Projected Volume----Wetter--> 90% (KAF)	70% (KAF)	50% (KAF)	% Median	30% (KAF)	10% (KAF)	30yr Med (KAF)
Camas Ck at Camas	MAY-JUL	25	33	40	367%	47	59	10.9
Little Lost R bl Wet Ck nr Howe	MAY-JUL	24	28	31	135%	34	38	23
	MAY-SEP	29	35	38	141%	42	47	27
Big Lost R at Howell Ranch	MAY-JUL	184	210	230	184%	250	275	125
	MAY-SEP	205	235	255	182%	275	310	140

The Big Lost White Stallion

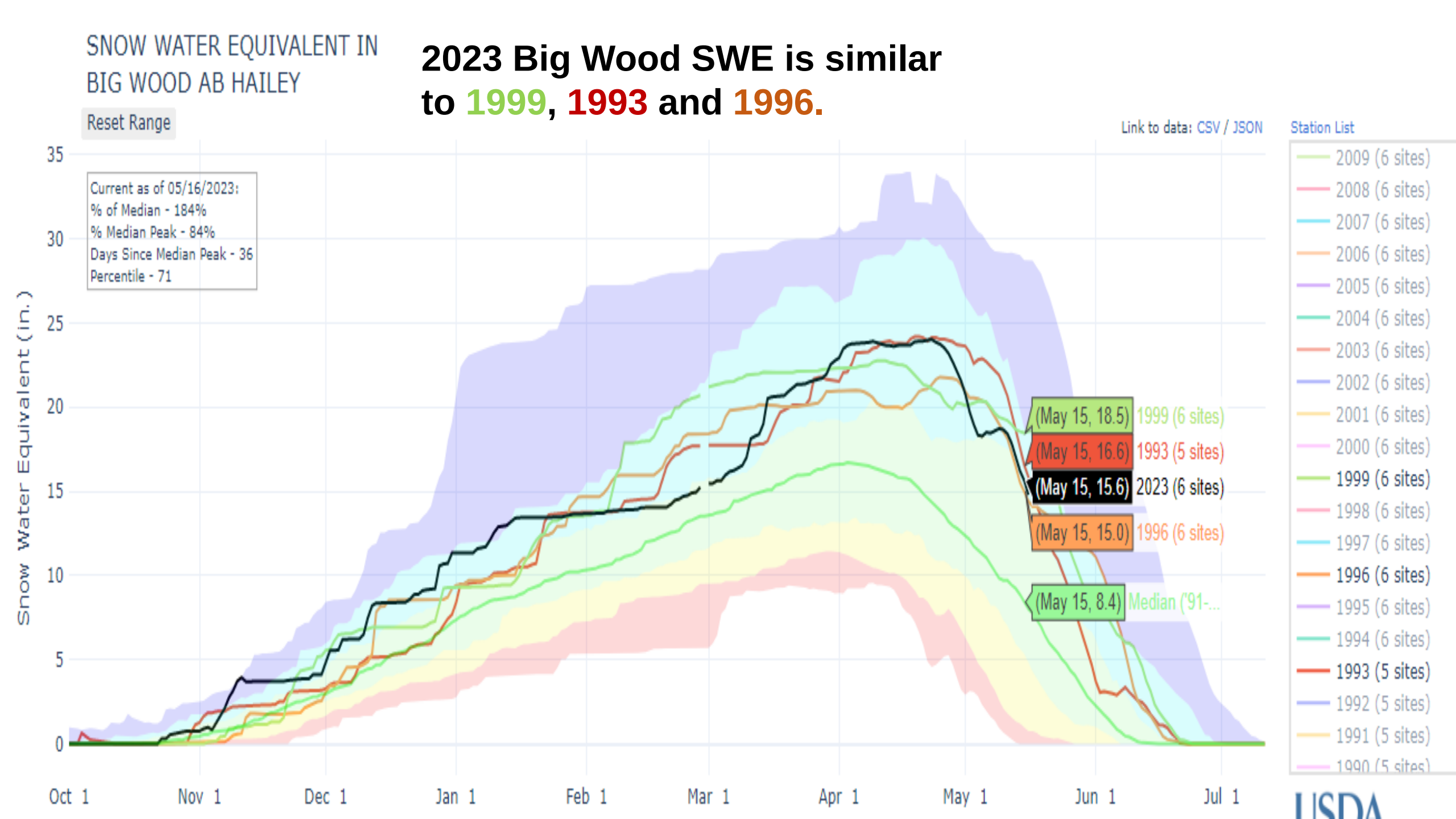
When you see it, means the snow melt peak flow is occurring.

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

2023 Big Wood SWE is similar to 1999, 1993 and 1996.



SNOW WATER EQUIVALENT AT VIENNA MINE

Reset Range

BIG WOOD RIVER AND VIENNA MINE SNOTEL SITE

On average, the Big Wood River at Hailey, ID (USGS 13139510) peak streamflow occurs when Vienna Mine SNOTEL is 27 - 47% melted.
This analysis is based on historical data from WY 1982-1983, 1985-2015.

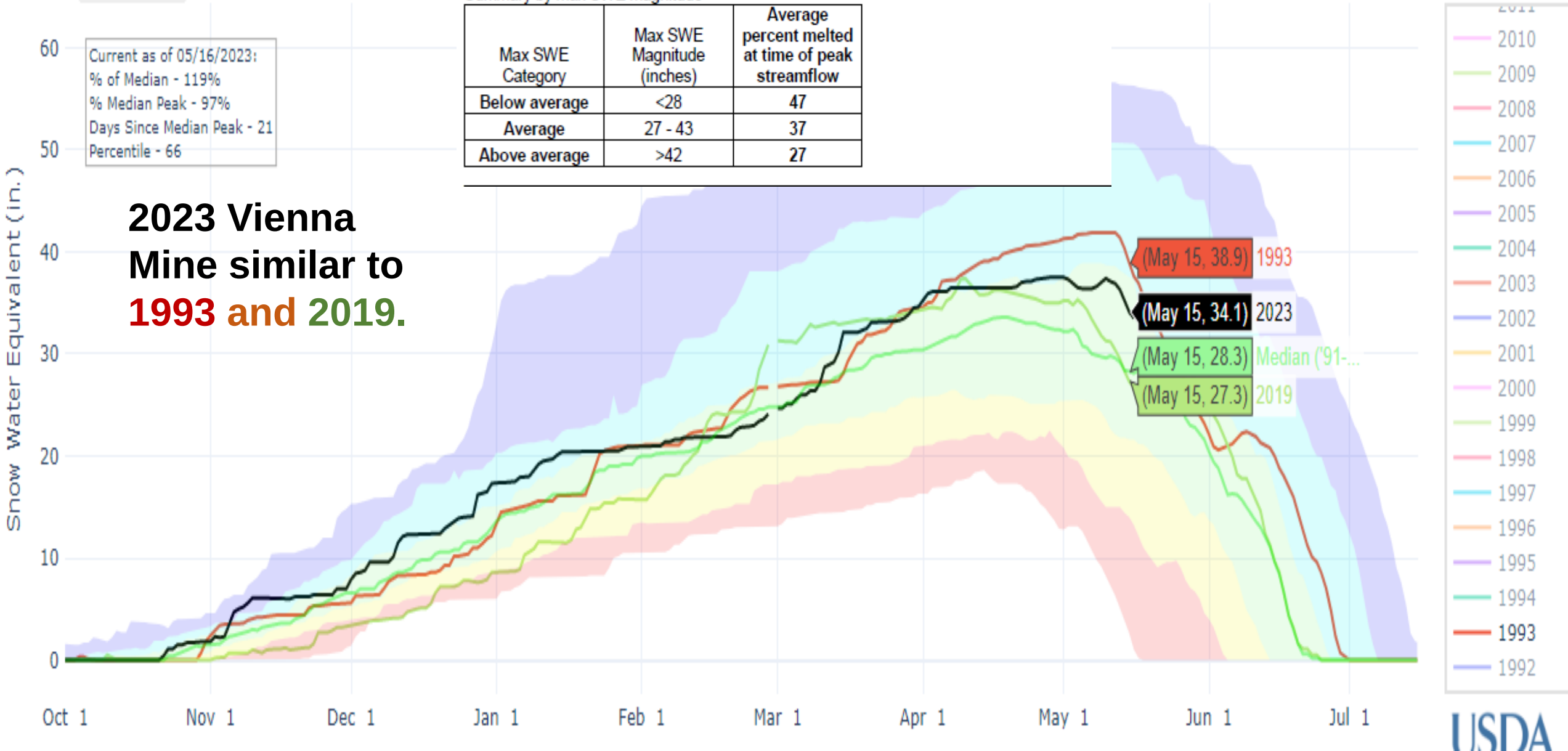
Summary by max SWE magnitude

Max SWE Category	Max SWE Magnitude (inches)	Average percent melted at time of peak streamflow
Below average	<28	47
Average	27 - 43	37
Above average	>42	27

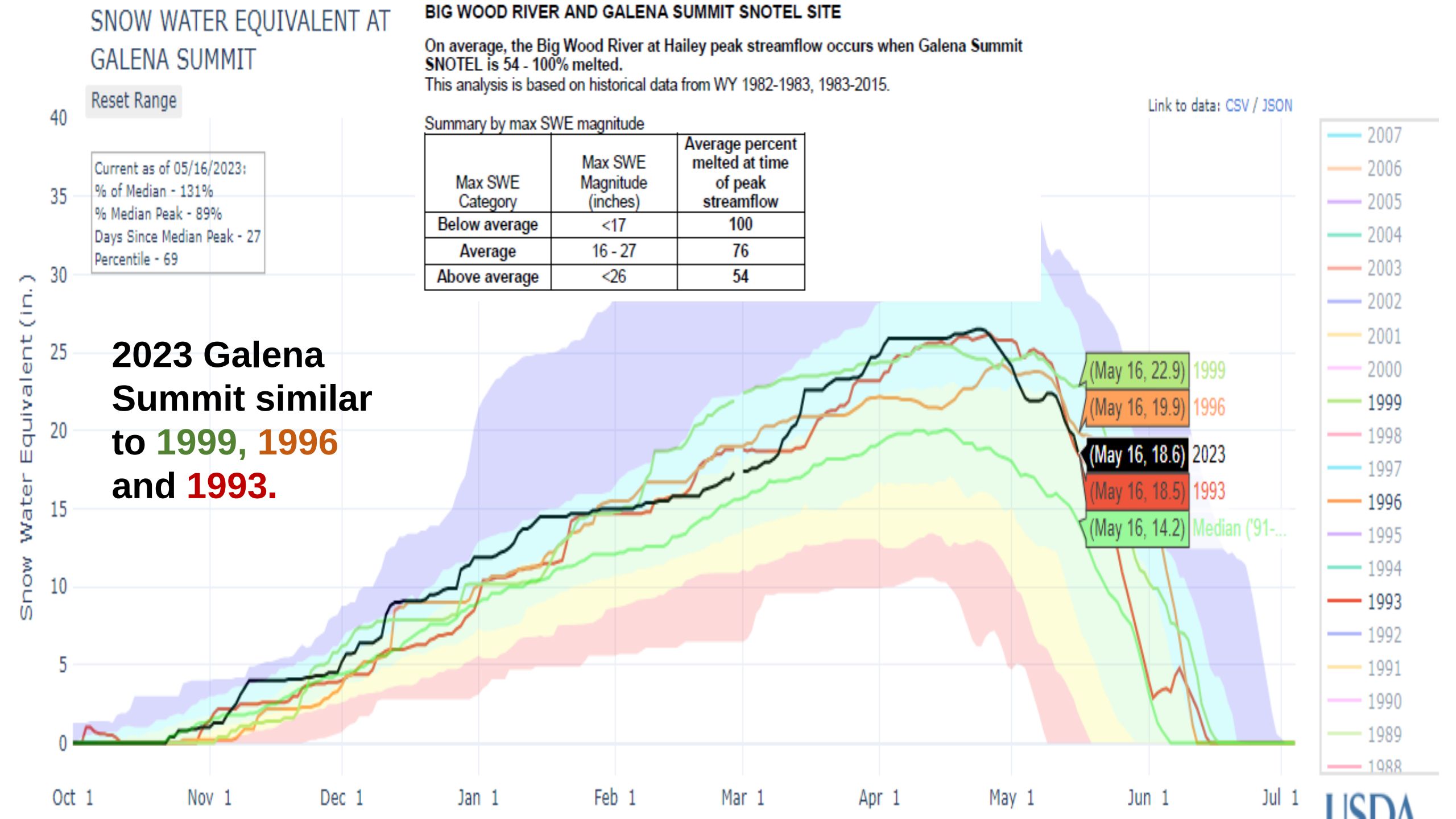
Link to data: CSV / JSON

Current as of 05/16/2023:
% of Median - 119%
% Median Peak - 97%
Days Since Median Peak - 21
Percentile - 66

2023 Vienna Mine similar to 1993 and 2019.



USDA

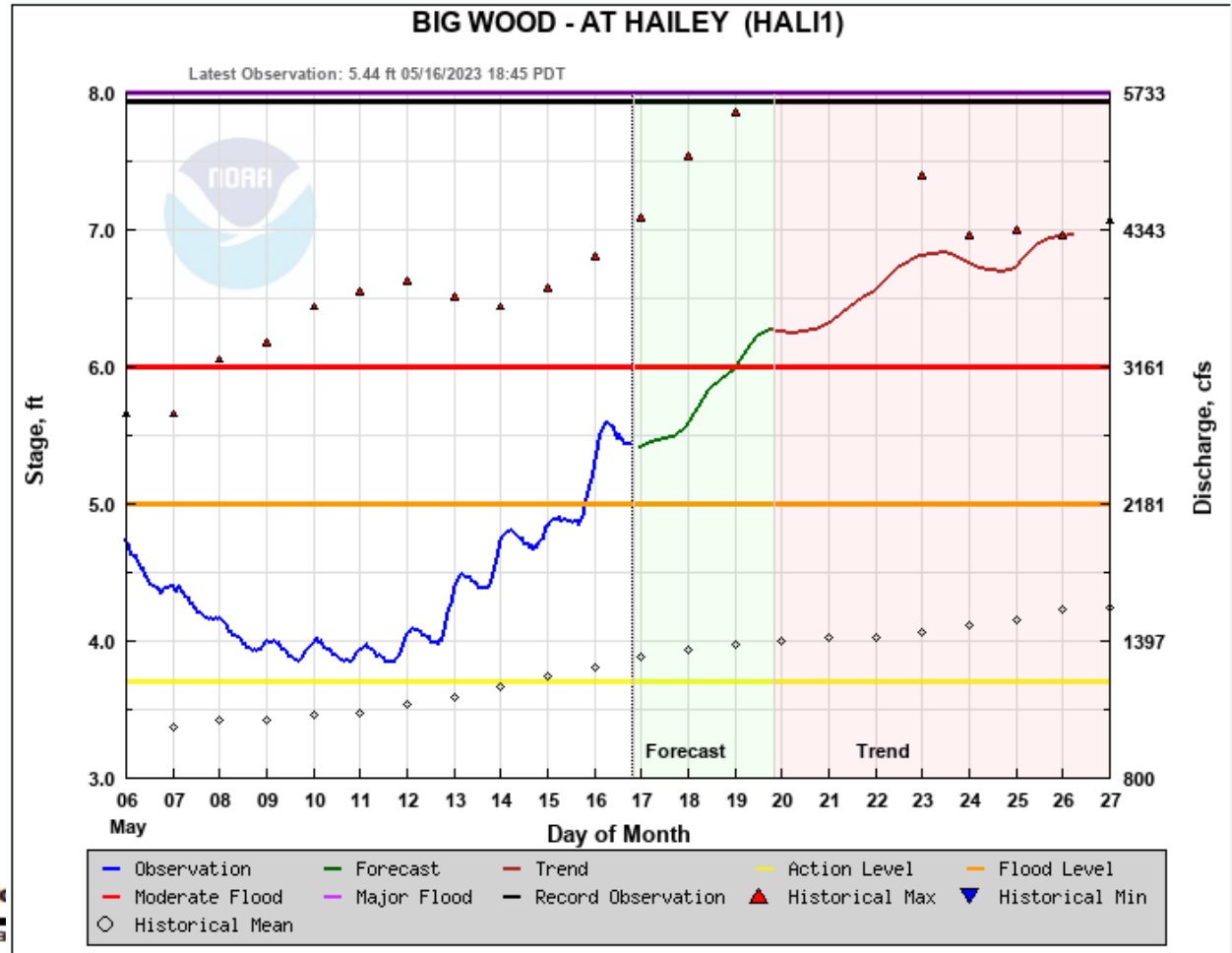

SNOW WATER EQUIVALENT AT GALENA SUMMIT
BIG WOOD RIVER AND GALENA SUMMIT SNOTEL SITE
On average, the Big Wood River at Hailey peak streamflow occurs when Galena Summit SNOTEL is 54 - 100% melted.
This analysis is based on historical data from WY 1982-1983, 1983-2015.
Reset Range
Link to data: CSV / JSON
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 05/16/2023:
% of Median - 131%
% Median Peak - 89%
Days Since Median Peak - 27
Percentile - 69
2023 Galena Summit similar to 1999, 1996 and 1993.
Snow Water Equivalent (in.)
40
35
30
25
20
15
10
5
0
Oct 1
Nov 1
Dec 1
Jan 1
Feb 1
Mar 1
Apr 1
May 1
Jun 1
Jul 1
(May 16, 22.9) 1999
(May 16, 19.9) 1996
(May 16, 18.6) 2023
(May 16, 18.5) 1993
(May 16, 14.2) Median ('91-...
2007
2006
2005
2004
2003
2002
2001
2000
1999
1998
1997
1996
1995
1994
1993
1992
1991
1990
1989
1988
USDA

Based on Vienna Mine Snow2Flow relationship – peak flows occurs around 37% melted.

Based on Galena Summit Snow2Flow relationship – peak flows occurs around 76% melted.

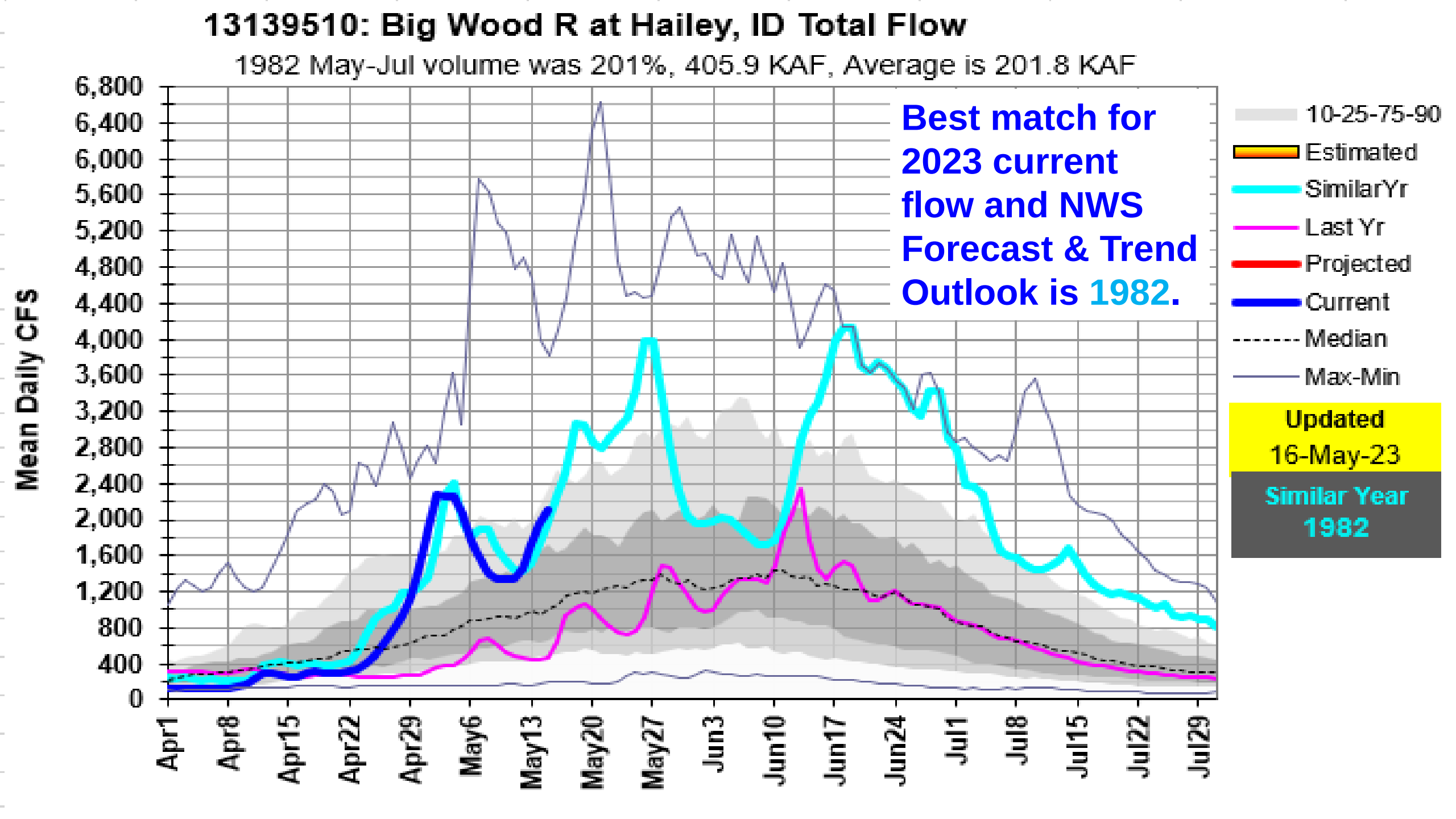
May 1 Big Wood River at Hailey volume forecasts ranges from 220 to 325 KAF with the 50% chance exceedance forecast at 275 KAF.

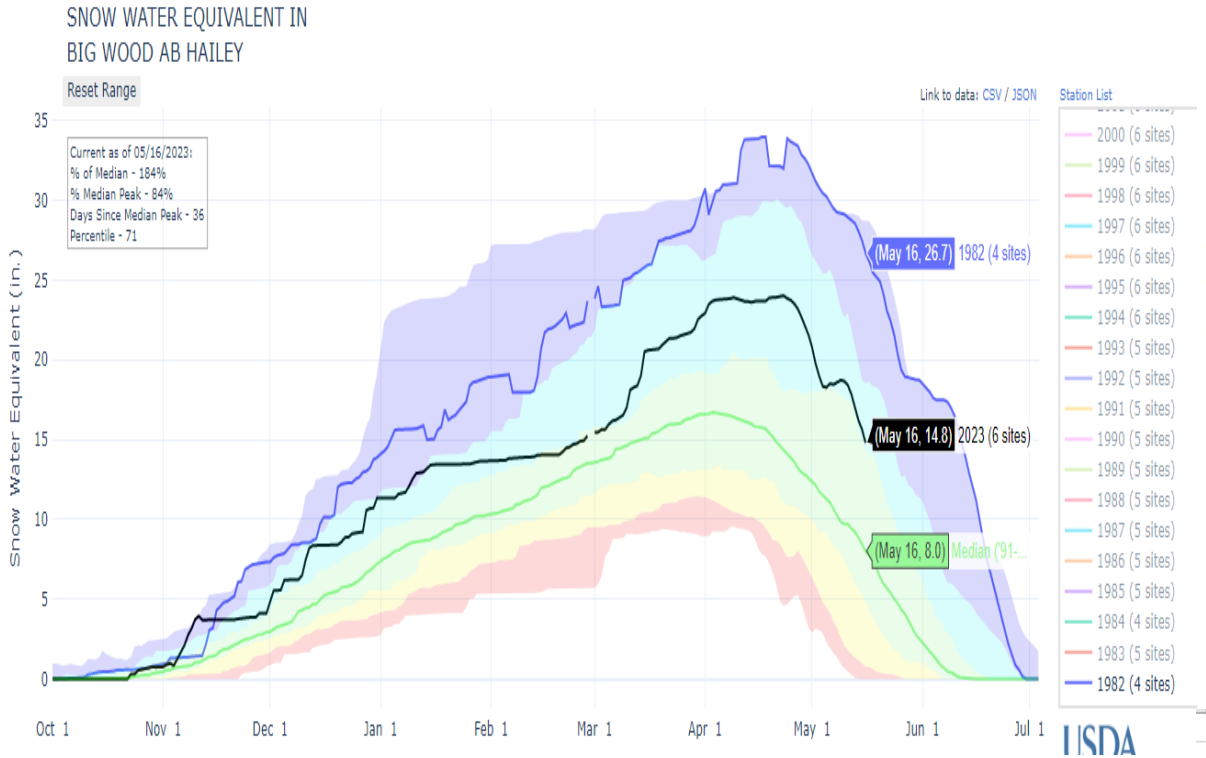
May - July runoff volume in 1993 and 2006 were 188 and 243 KAF.

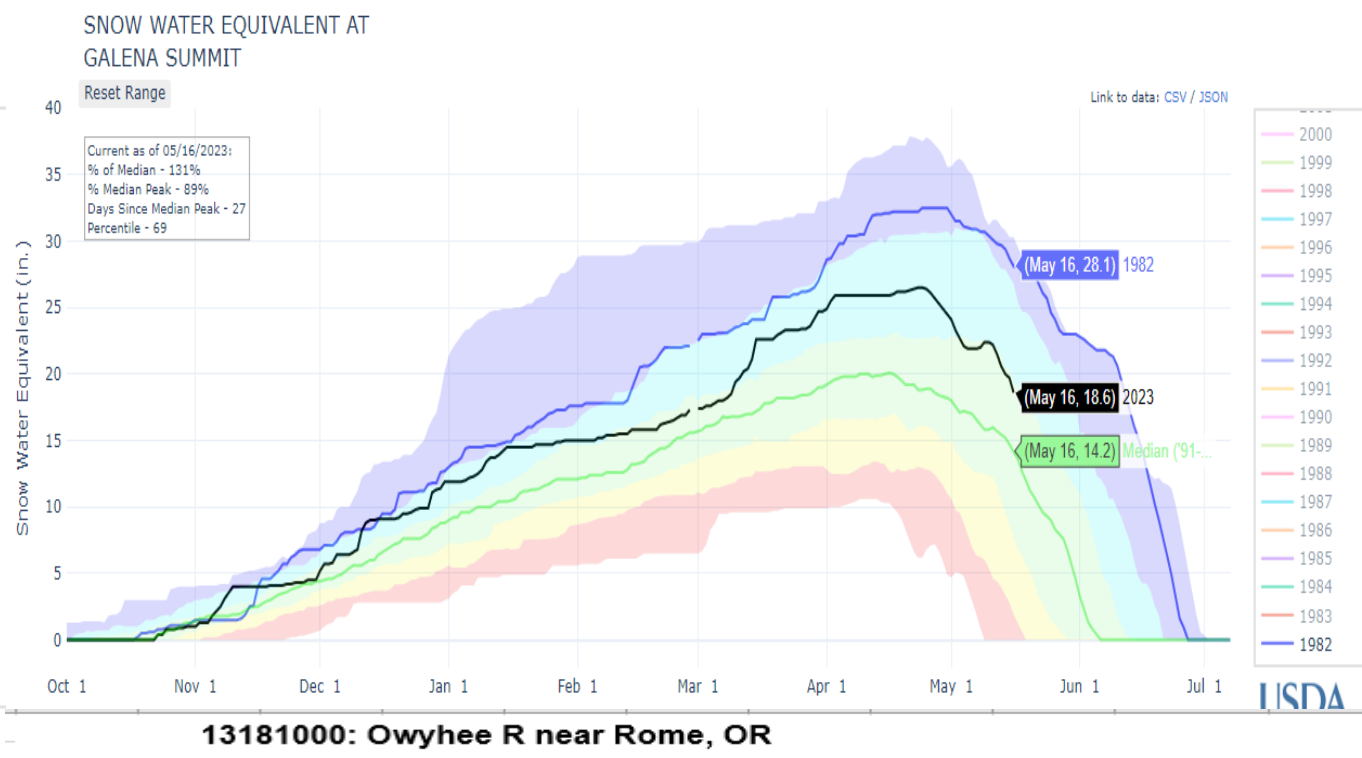


Wood and Lost Basins Streamflow Fore

Forecast Point	Forecast Period	Forecast Exceeda <--Drier		Projected Volume		Wetter-->		30yr Med (KAF)
		90% (KAF)	70% (KAF)	50% (KAF)	% Median	30% (KAF)	10% (KAF)	
Camas Ck at Camas	MAY-JUL	25	33	40	367%	47	59	10.9
Little Lost R bl Wet Ck nr Howe	MAY-JUL	24	28	31	135%	34	38	23
	MAY-SEP	29	35	38	141%	42	47	27
Big Lost R at Howell Ranch	MAY-JUL	184	210	230	184%	250	275	125
	MAY-SEP	205	235	255	182%	275	310	140
Big Lost R bl Mackay Reservoir	MAY-JUL	133	160	178	198%	197	225	90
	MAY-SEP	159	189	210	188%	230	260	112
Little Wood R ab High Five Ck	MAY-JUL	79	96	109	287%	123	144	38
	MAY-SEP	85	104	118	281%	133	157	42
Little Wood R nr Carey 2	MAY-JUL	78	97	111	285%	125	149	39
Big Wood R at Hailey	MAY-JUL	220	255	275	156%	295	325	176
	MAY-SEP	250	285	305	154%	330	365	198


13139510: Big Wood R at Hailey, ID Total Flow
1982 May-Jul volume was 201%, 405.9 KAF, Average is 201.8 KAF
Mean Daily CFS
6,800
6,400
6,000
5,600
5,200
4,800
4,400
4,000
3,600
3,200
2,800
2,400
2,000
1,600
1,200
800
400
0
Apr1
Apr8
Apr15
Apr22
Apr29
May6
May13
May20
May27
Jun3
Jun10
Jun17
Jun24
Jul1
Jul8
Jul15
Jul22
Jul29
Best match for 2023 current flow and NWS Forecast & Trend Outlook is 1982.
10-25-75-90
Estimated
SimilarYr
Last Yr
Projected
Current
Median
Max-Min
Updated
16-May-23
Similar Year
1982





1982 had more snow than 2023. Current Big Wood River flow pattern tracks 1982. A cool spell slowed the melt and decreased the flows in 1982. 2nd peak was from melt of remaining snow after the cool spell.

FYI - Owyhee Snow and Flow both tracked 1982, possible reason may be similar spring weather.