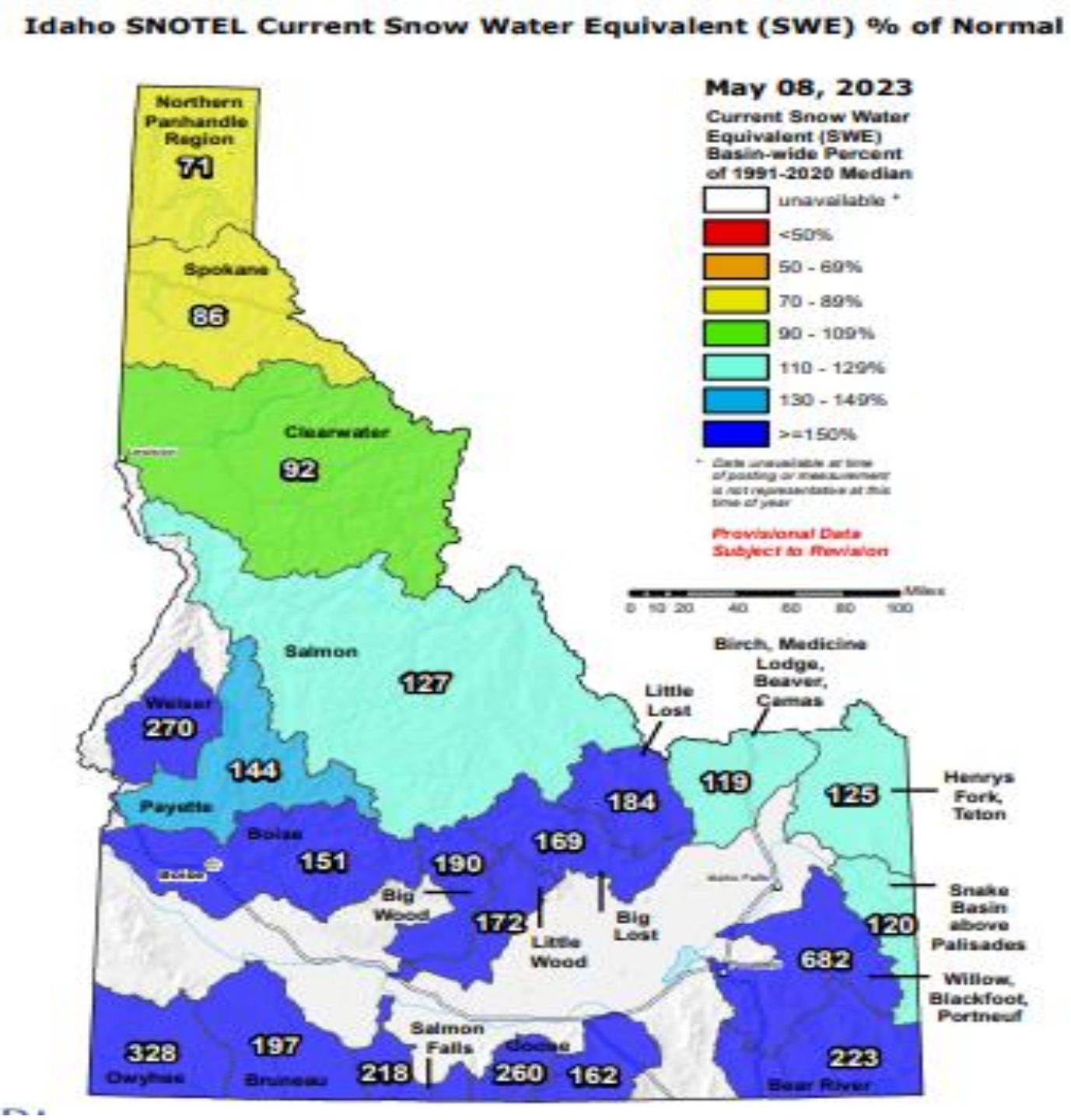


May 8,2023 Snow To Flow Update for Teton River

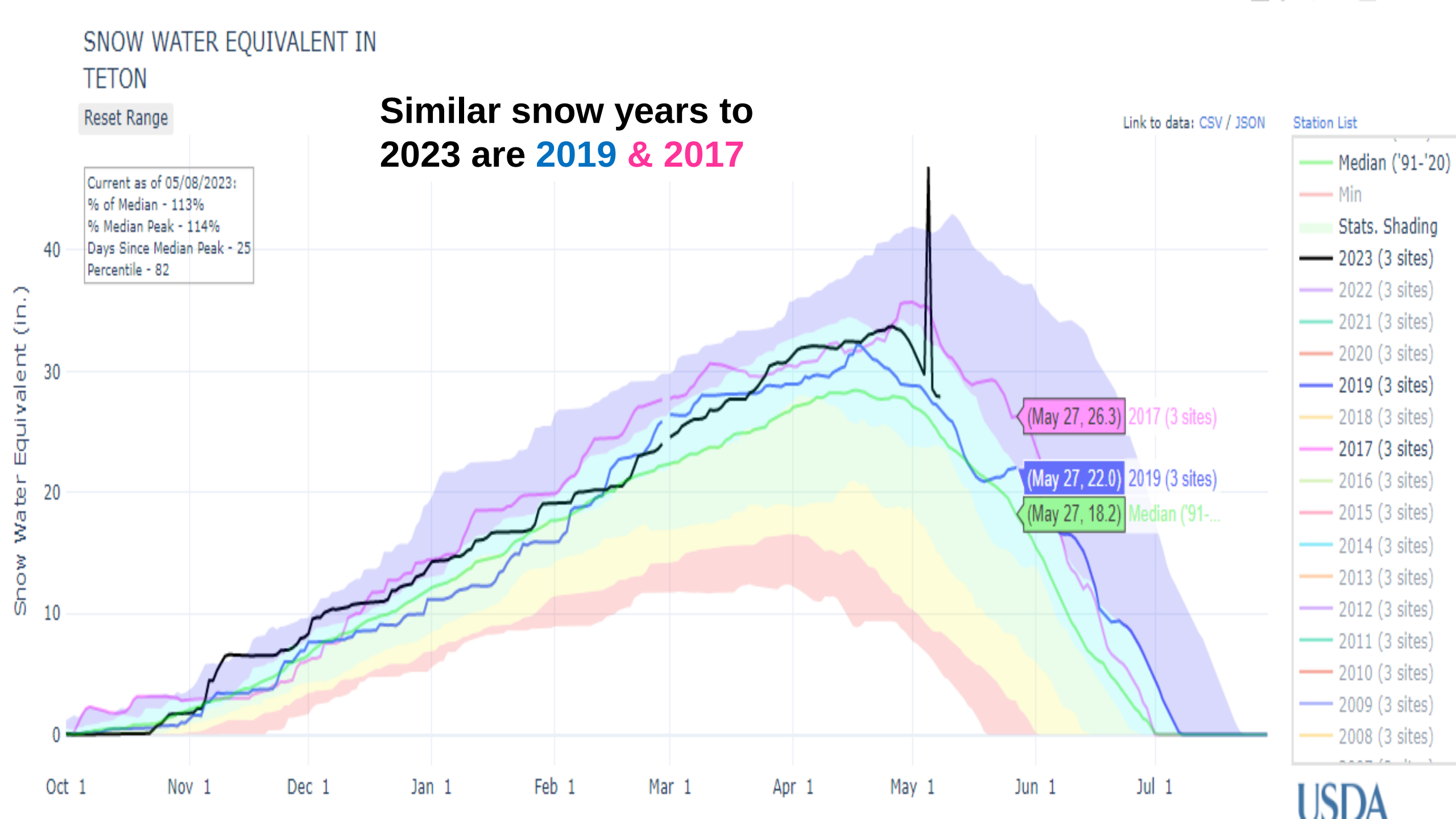
For complete Snow to Flow Relationships see

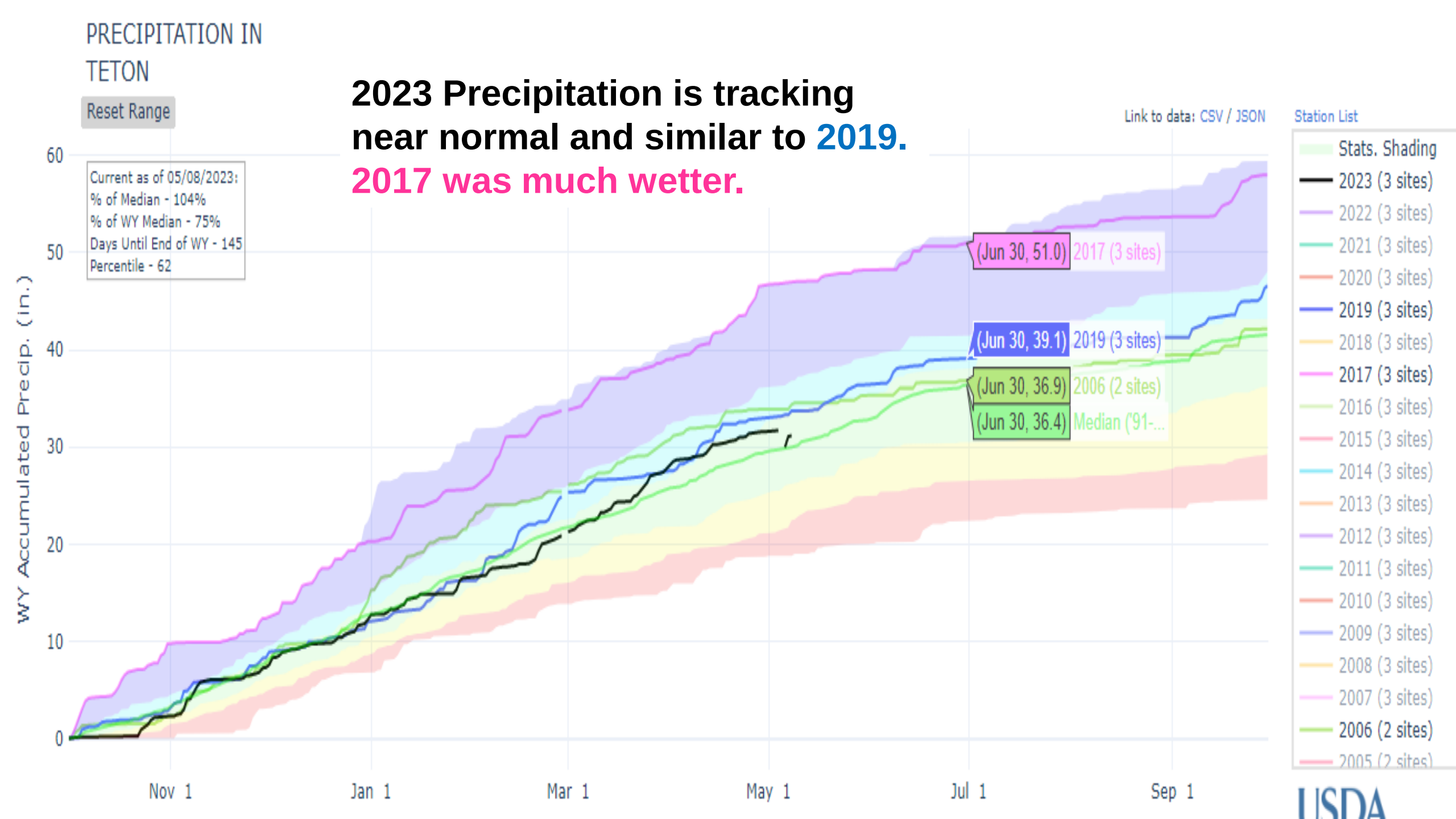
Snow Melt / Peak Streamflow Relationships (PDF; 146 KB) - Report by Kara Ferguson (2017) summarizing the relationship between snowmelt and peak streamflow timing on rivers throughout Idaho.

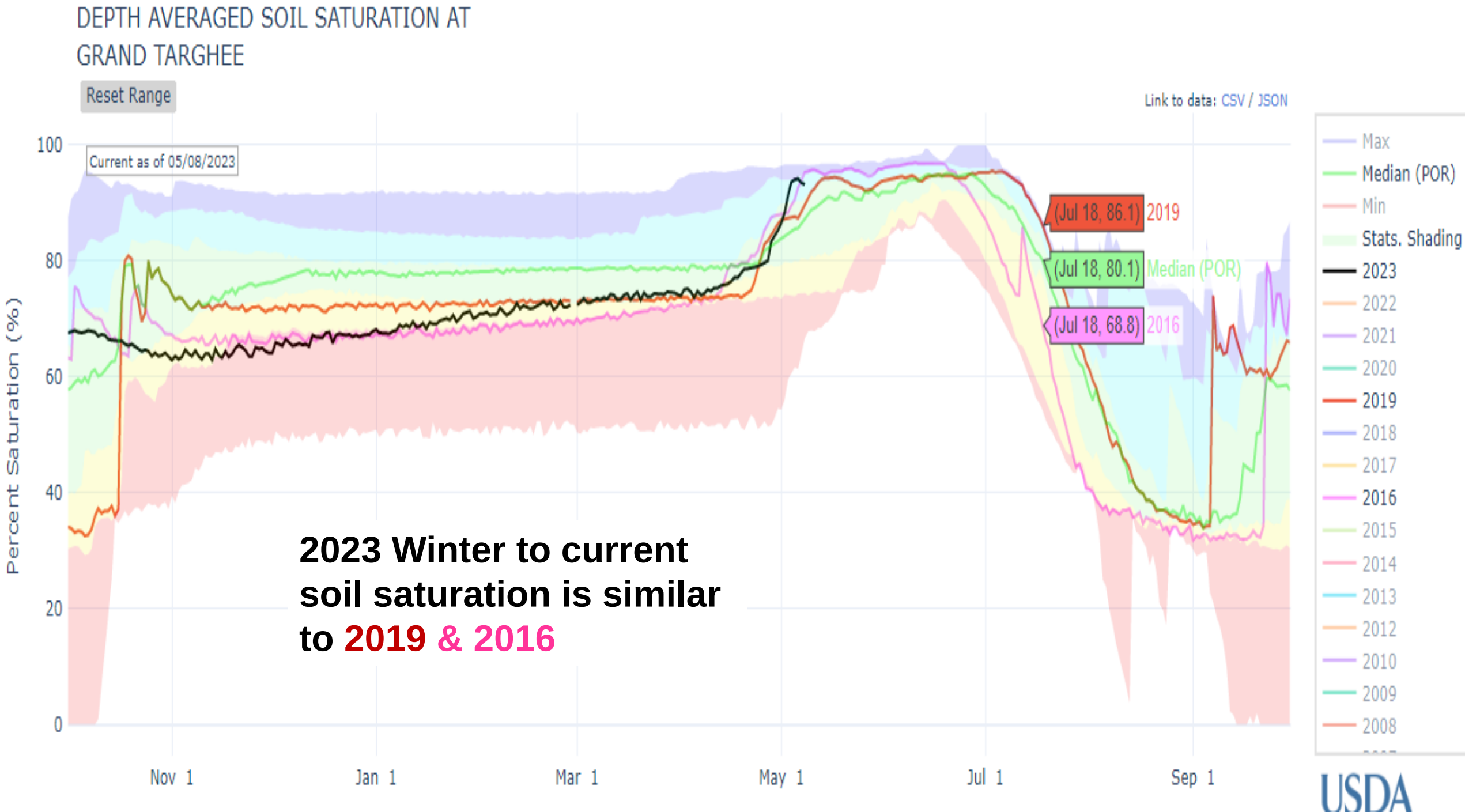
From:
https://www.nrcs.usda.gov/wps/portal/wcc/home/quicklinks/states/idaho/watersupply/peak

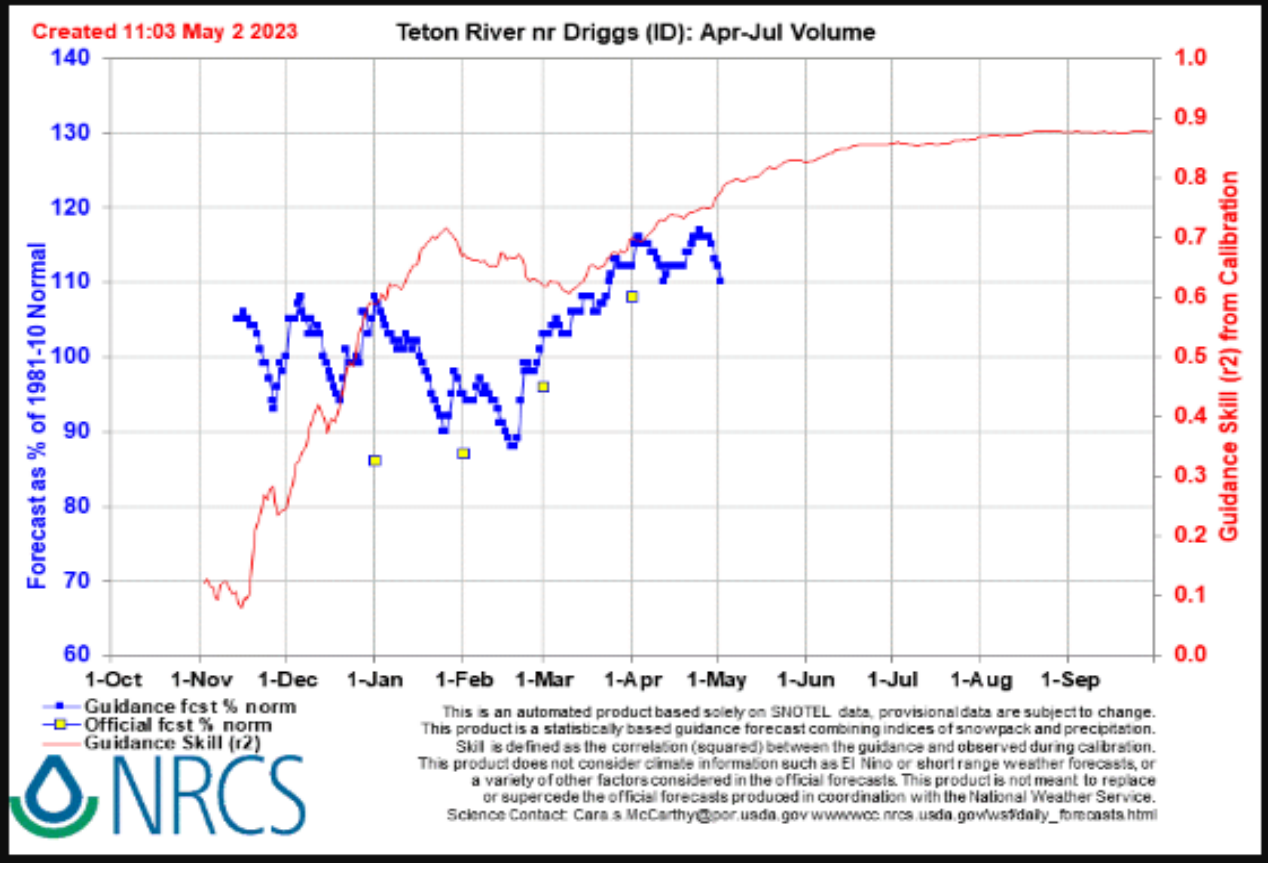
And NWS peak flow products and forecasts:
Peak Flow and Stage Forecasts from NWS

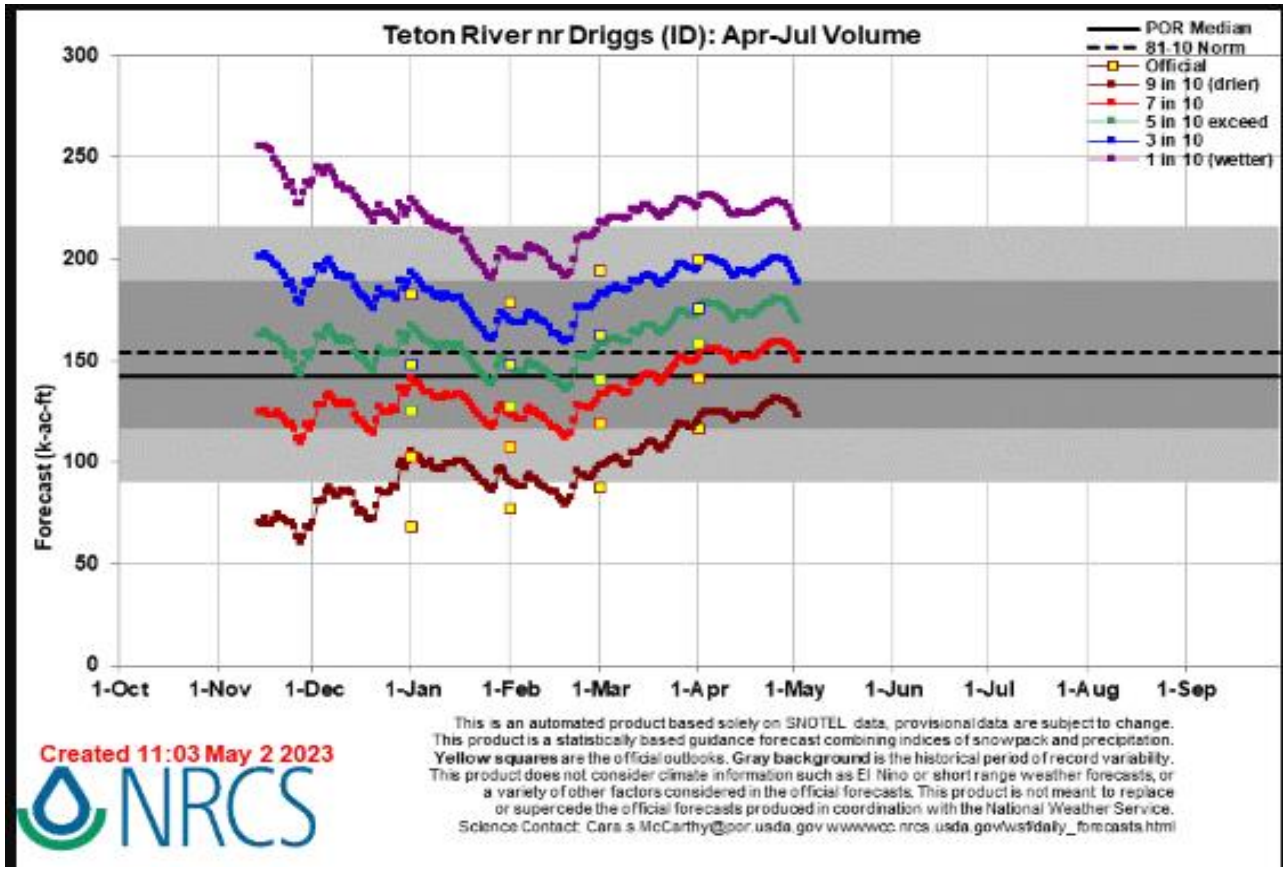
Know your boating limits as rivers will be high for an extended period.


SNOW WATER EQUIVALENT IN TETON
Reset Range
Similar snow years to 2023 are 2019 & 2017
Link to data: CSV / JSON
Station List
Current as of 05/08/2023:
% of Median - 113%
% Median Peak - 114%
Days Since Median Peak - 25
Percentile - 82
Snow Water Equivalent (in.)
0
10
20
30
40
Oct 1
Nov 1
Dec 1
Jan 1
Feb 1
Mar 1
Apr 1
May 1
Jun 1
Jul 1
(May 27, 26.3) 2017 (3 sites)
(May 27, 22.0) 2019 (3 sites)
(May 27, 18.2) Median ('91-...
Median ('91-'20)
Min
Stats. Shading
2023 (3 sites)
2022 (3 sites)
2021 (3 sites)
2020 (3 sites)
2019 (3 sites)
2018 (3 sites)
2017 (3 sites)
2016 (3 sites)
2015 (3 sites)
2014 (3 sites)
2013 (3 sites)
2012 (3 sites)
2011 (3 sites)
2010 (3 sites)
2009 (3 sites)
2008 (3 sites)
USDA


PRECIPITATION IN TETON
Reset Range
2023 Precipitation is tracking near normal and similar to 2019.
2017 was much wetter.
Link to data: CSV / JSON
Station List
Current as of 05/08/2023:
% of Median - 104%
% of WY Median - 75%
Days Until End of WY - 145
Percentile - 62
WY Accumulated Precip. (in.)
0
10
20
30
40
50
60
Nov 1
Jan 1
Mar 1
May 1
Jul 1
Sep 1
(Jun 30, 51.0) 2017 (3 sites)
(Jun 30, 39.1) 2019 (3 sites)
(Jun 30, 36.9) 2006 (2 sites)
(Jun 30, 36.4) Median ('91-...
Stats. Shading
2023 (3 sites)
2022 (3 sites)
2021 (3 sites)
2020 (3 sites)
2019 (3 sites)
2018 (3 sites)
2017 (3 sites)
2016 (3 sites)
2015 (3 sites)
2014 (3 sites)
2013 (3 sites)
2012 (3 sites)
2011 (3 sites)
2010 (3 sites)
2009 (3 sites)
2008 (3 sites)
2007 (3 sites)
2006 (2 sites)
2005 (2 sites)


DEPTH AVERAGED SOIL SATURATION AT GRAND TARGHEE
Reset Range
Link to data: CSV / JSON
Current as of 05/08/2023
Percent Saturation (%)
100
80
60
40
20
0
Nov 1
Jan 1
Mar 1
May 1
Jul 1
Sep 1
(Jul 18, 86.1) 2019
(Jul 18, 80.1) Median (POR)
(Jul 18, 68.8) 2016
Max
Median (POR)
Min
Stats. Shading
2023
2022
2021
2020
2019
2018
2017
2016
2015
2014
2013
2012
2010
2009
2008
2023 Winter to current soil saturation is similar to 2019 & 2016
USDA





Above Daily Water Supply Forecast for Apr-July Volume. Below are May-July volumes forecast to use in flow graphs May 1 Teton River Forecast – shows there is 80% change May to July volumes will be between 117 to 177 KAF. And 40% chance in the 135 to 159 KAF range. Median forecast is 147 KAF 118% of median.

Upper Snake River Basin Streamflow Forecasts - May 1, 2023

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)
Henrys Fk nr Ashton 2	MAY-JUL	320	370	405	117%	440	495	345
	MAY-SEP	500	560	600	118%	640	700	510
Falls R nr Ashton 2	MAY-JUL	335	360	380	117%	400	425	325
	MAY-SEP	420	450	475	116%	500	530	410
Teton R nr Driggs	MAY-JUL	117	135	147	118%	159	177	125

SNOW WATER EQUIVALENT AT GRAND TARGHEE

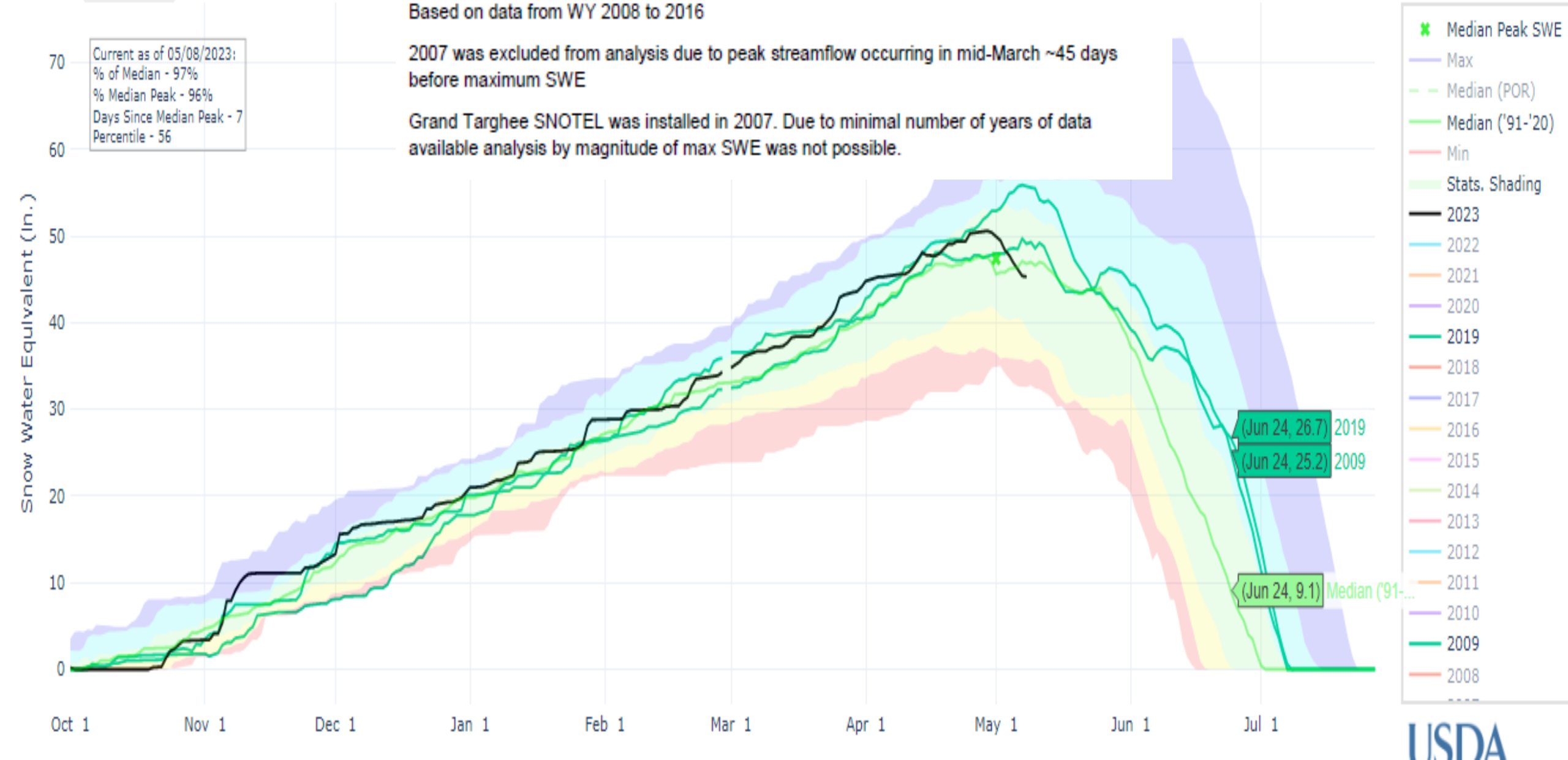
TETON RIVER AND GRAND TARGHEE SNOTEL SITE

On average, peak streamflow for the Teton River above Leigh Creek near Driggs, Idaho occurs when Grand Targhee SNOTEL is 50% melted (half-melt).

Based on data from WY 2008 to 2016

2007 was excluded from analysis due to peak streamflow occurring in mid-March ~45 days before maximum SWE

Grand Targhee SNOTEL was installed in 2007. Due to minimal number of years of data available analysis by magnitude of max SWE was not possible.



SNOW WATER EQUIVALENT AT PHILLIPS BENCH

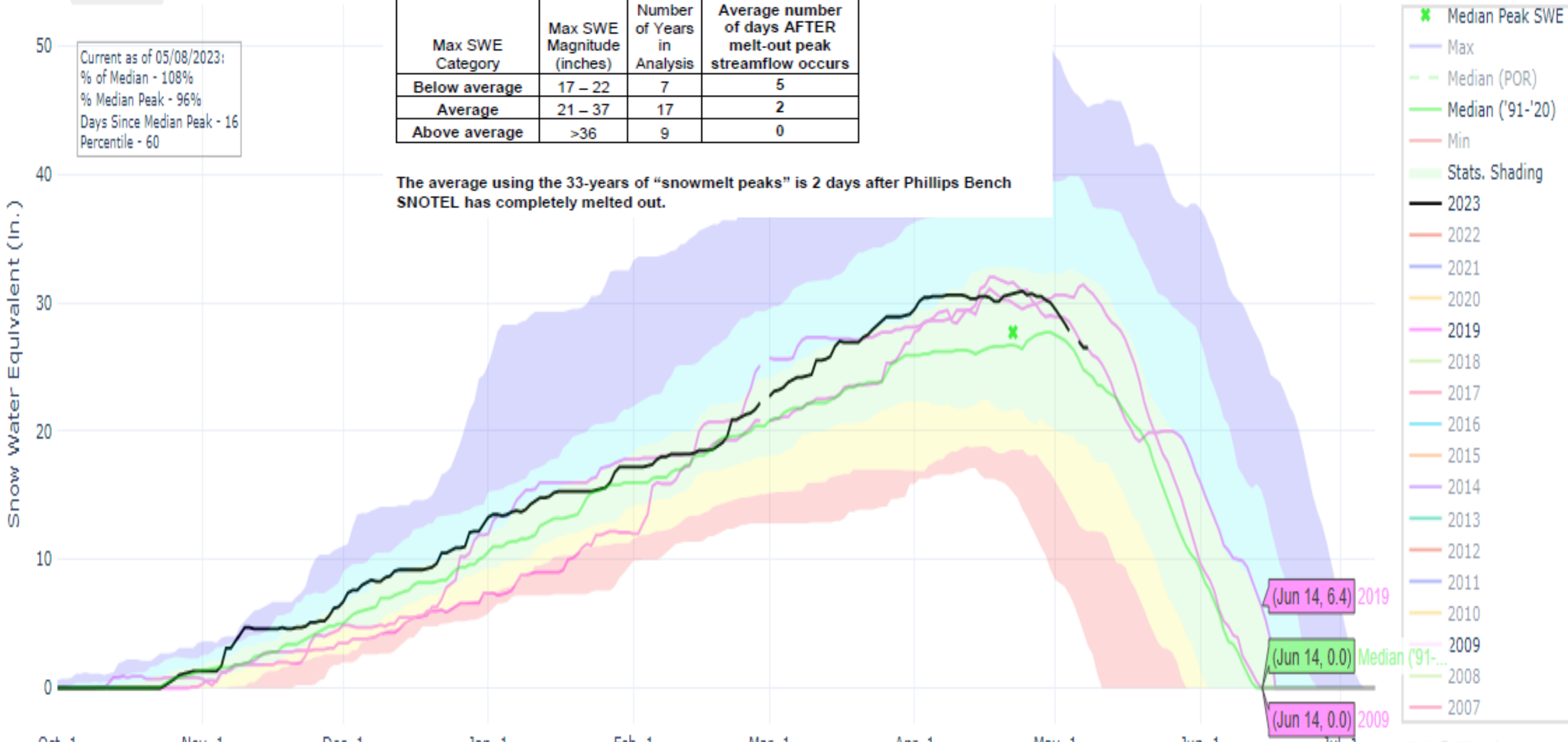
TETON RIVER AND PHILLIPS BENCH SNOTEL SITE

On average, peak streamflow for the Teton River above Leigh Creek near Driggs, Idaho occurs zero to 5 days AFTER Phillips Bench SNOTEL has completely melted out.

Summary of years using only "snowmelt peak" and categorized by max SWE magnitude.

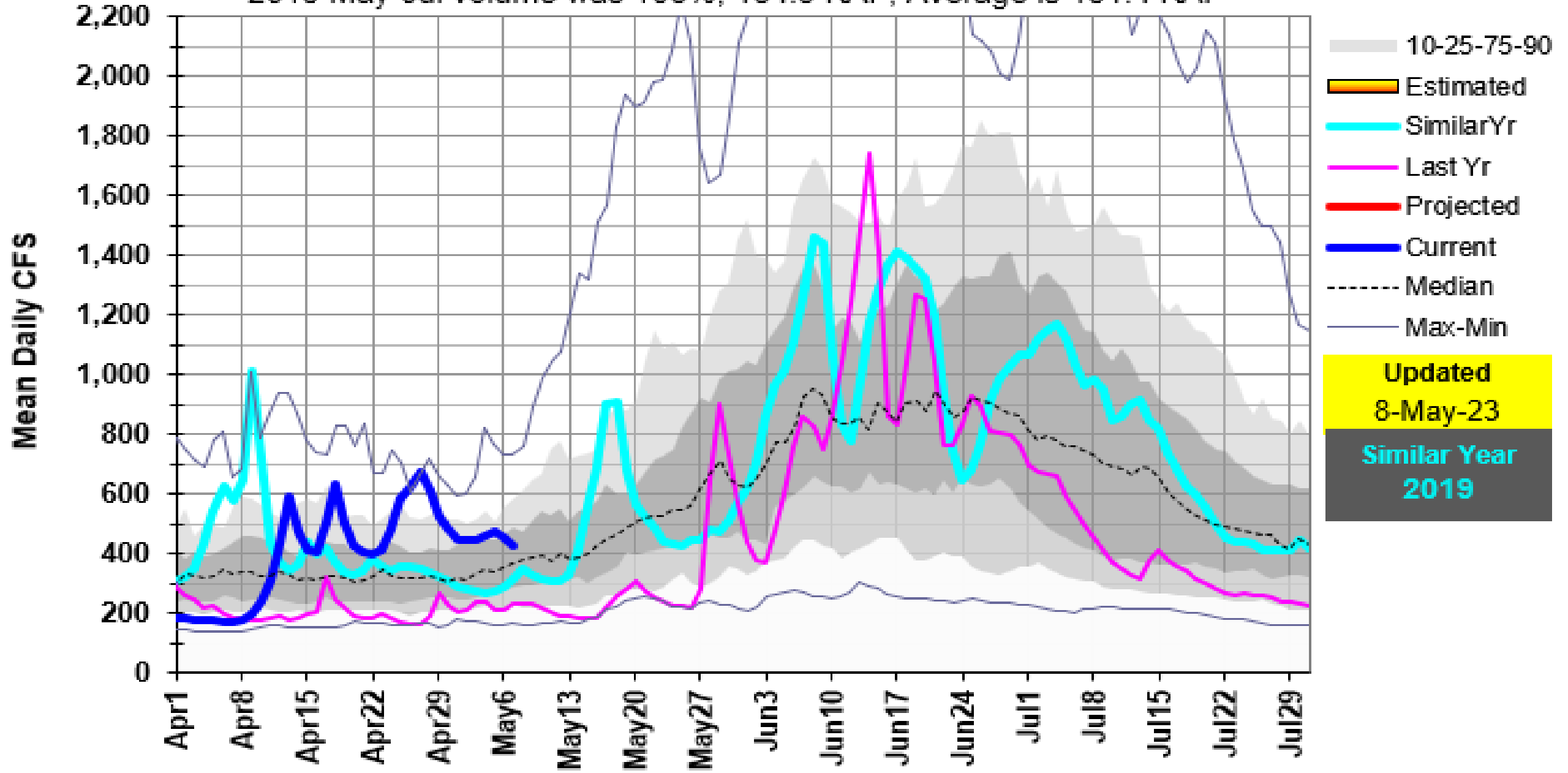
Max SWE Category	Max SWE Magnitude (inches)	Number of Years in Analysis	Average number of days AFTER melt-out peak streamflow occurs
Below average	17 – 22	7	5
Average	21 – 37	17	2
Above average	>36	9	0

The average using the 33-years of "snowmelt peaks" is 2 days after Phillips Bench SNOTEL has completely melted out.



13052200: Teton R above South Leigh Ck near Driggs, ID

2019 May-Jul volume was 103%, 134.9 KAF, Average is 131.4 KAF



13052200: Teton R above South Leigh Ck near Driggs, ID

2009 May-Jul volume was 127%, 167.2 KAF, Average is 131.4 KAF