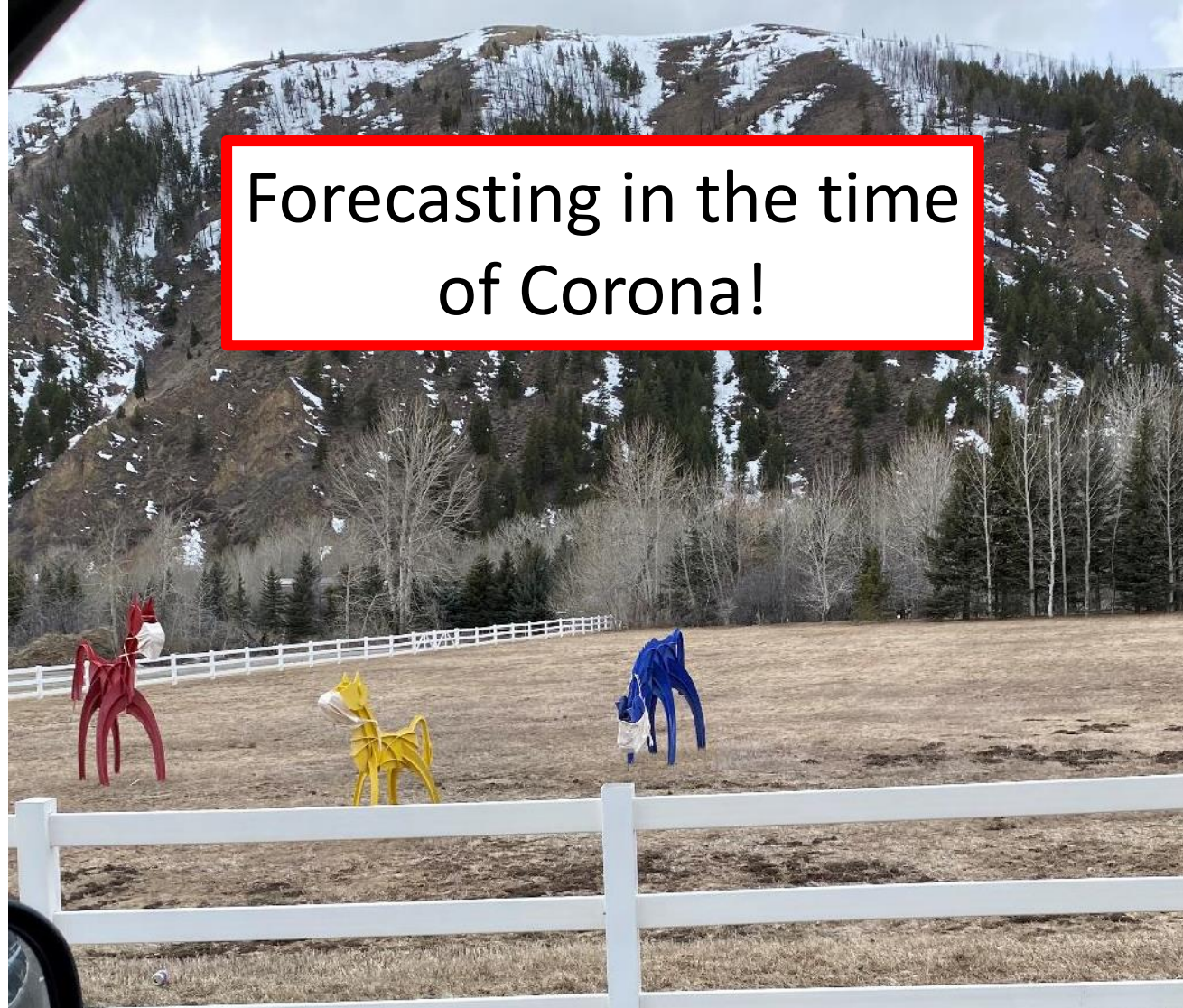


2020 Surface Water Predictions



Forecasting in the time
of Corona!

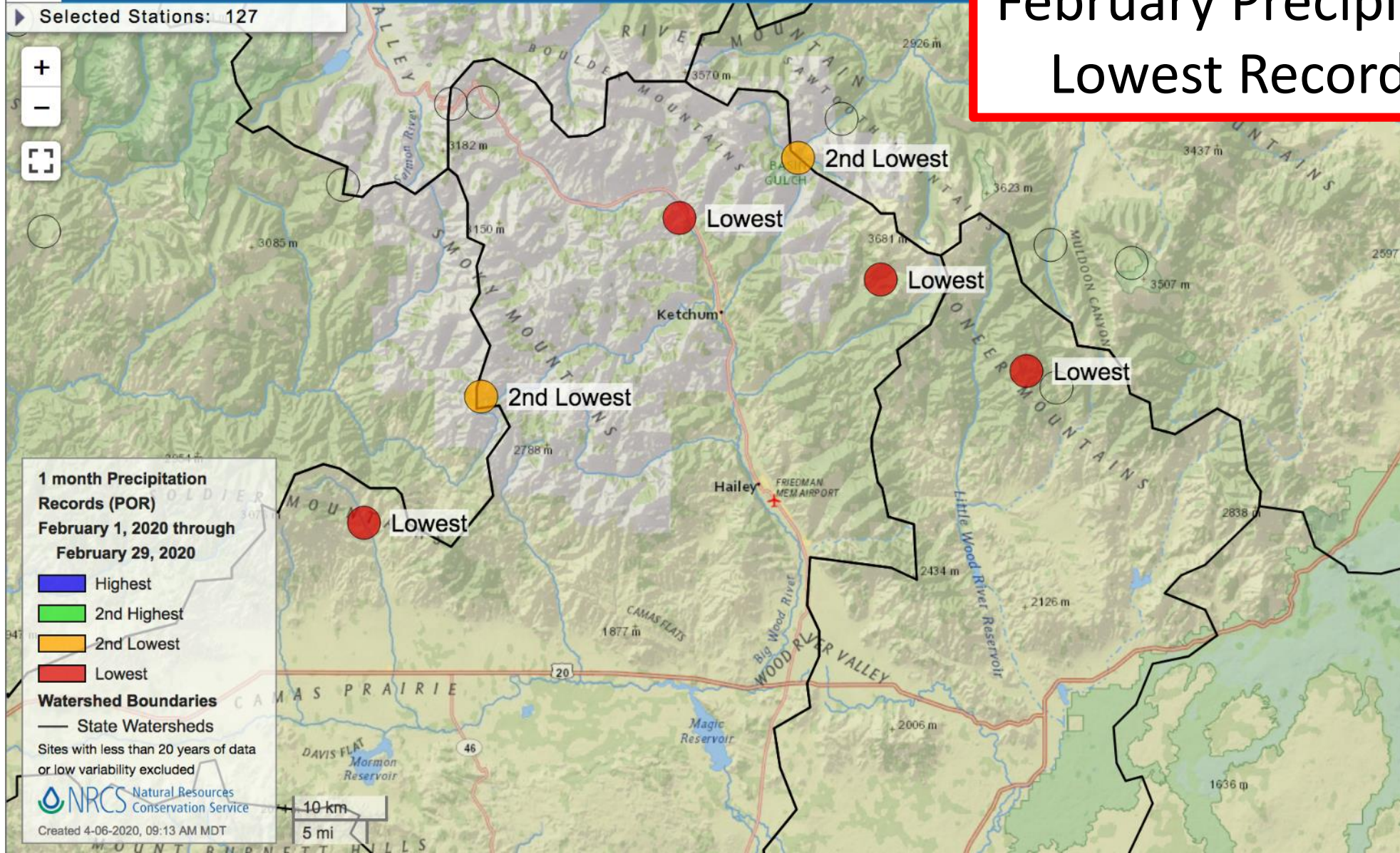


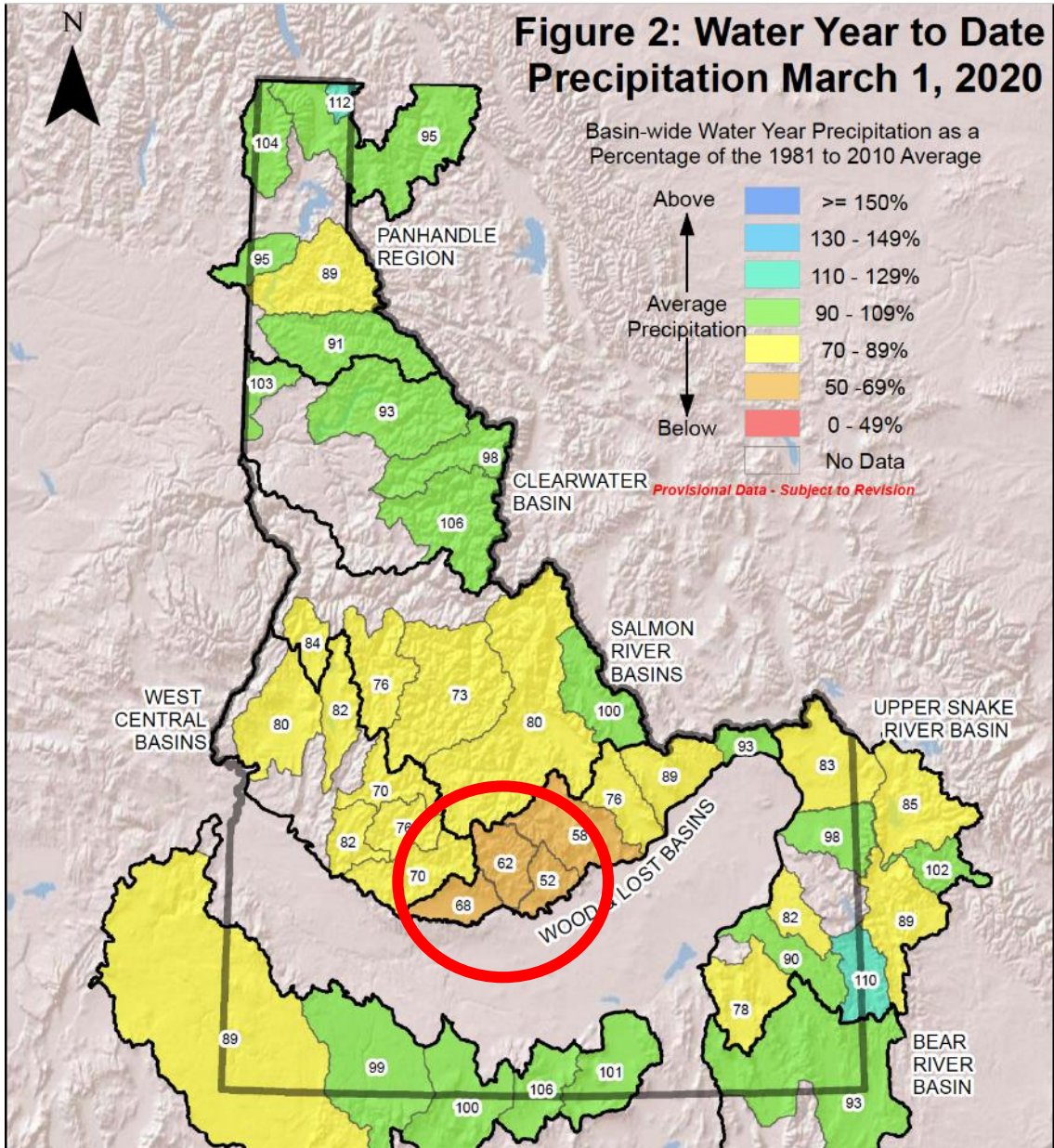
Tamarack



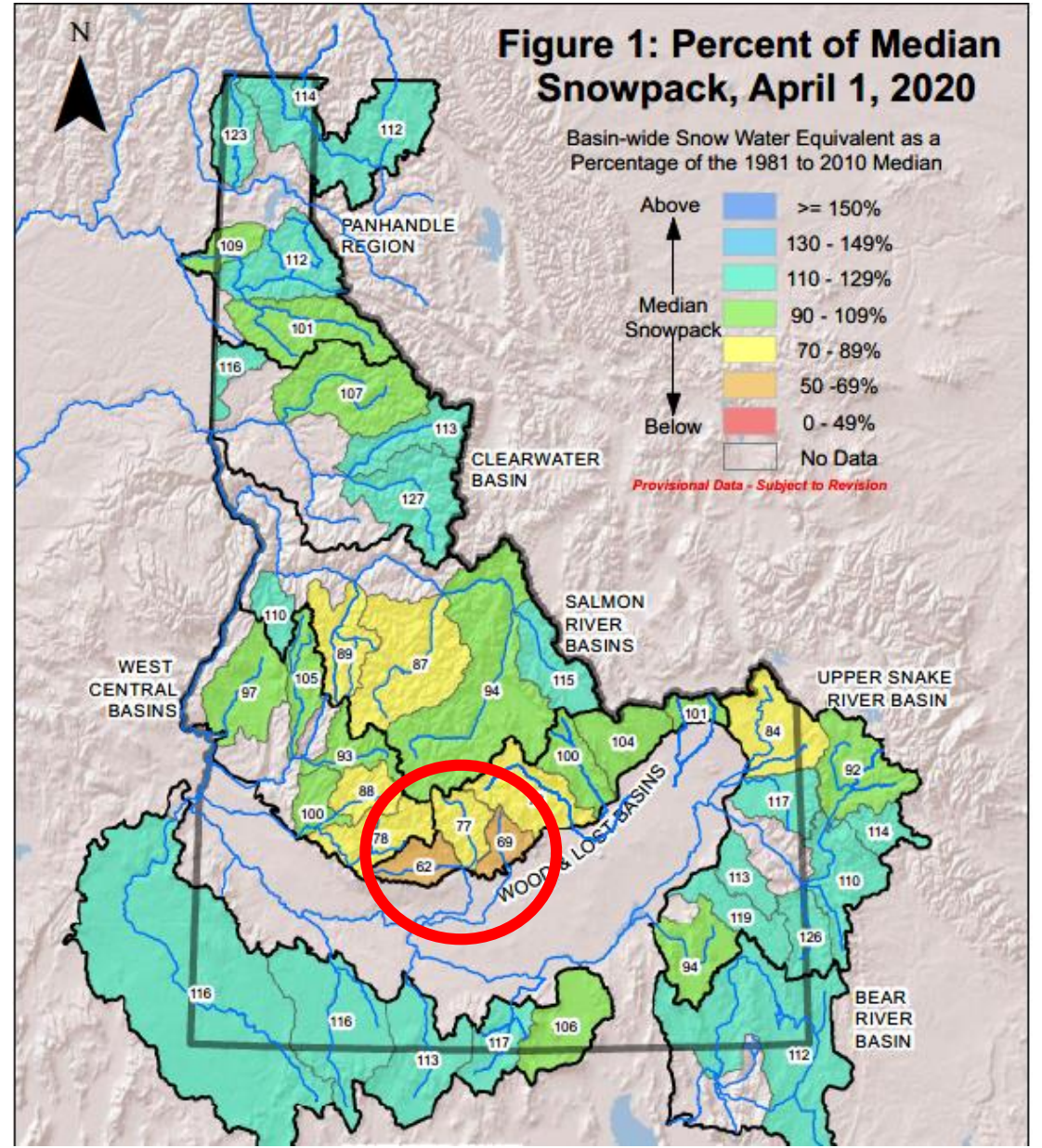
Baldy

February Precipitation
Lowest Recorded!



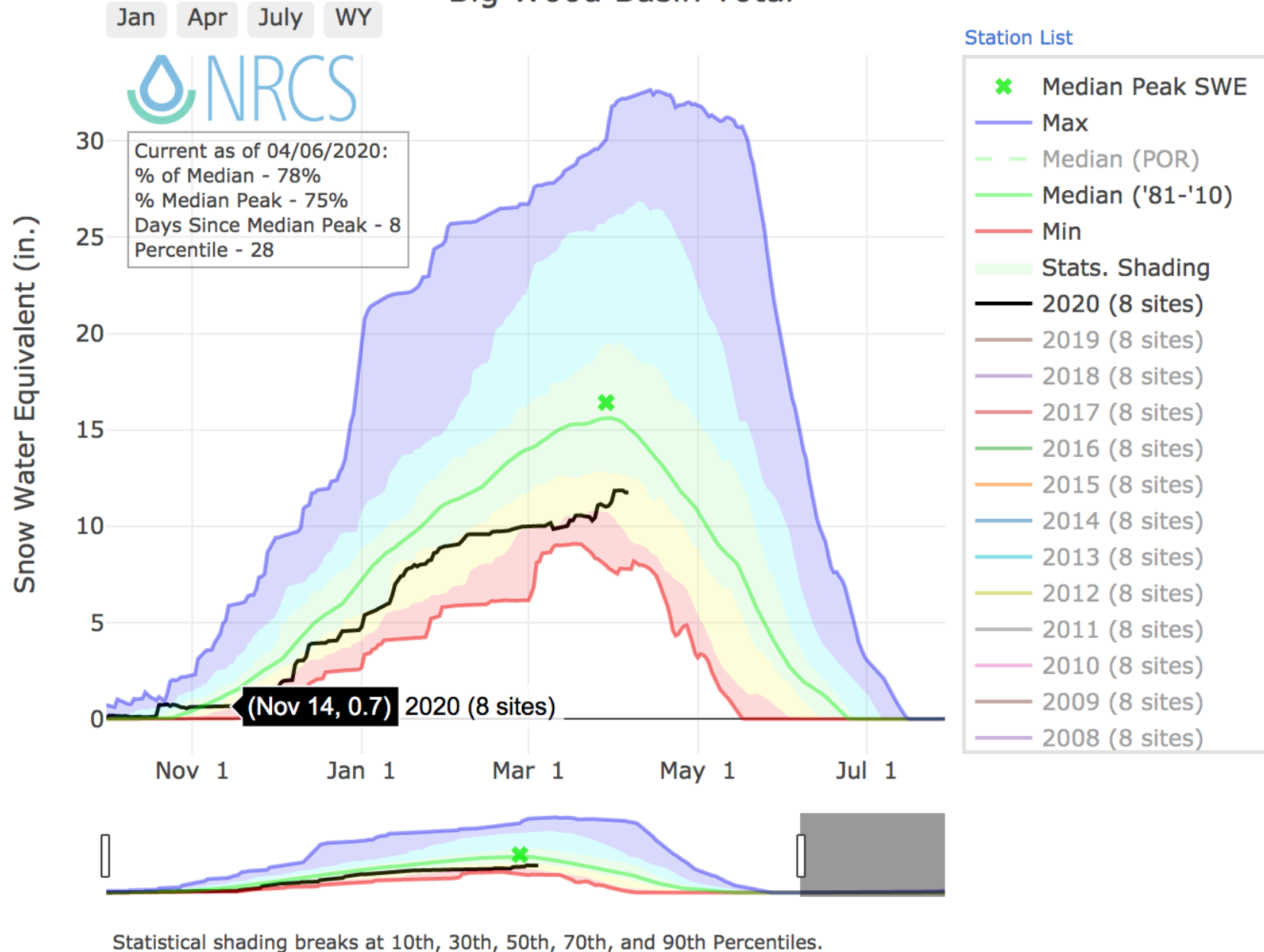


March 1, 2020



April 1, 2020

Snow Water Equivalent in Big Wood Basin Total

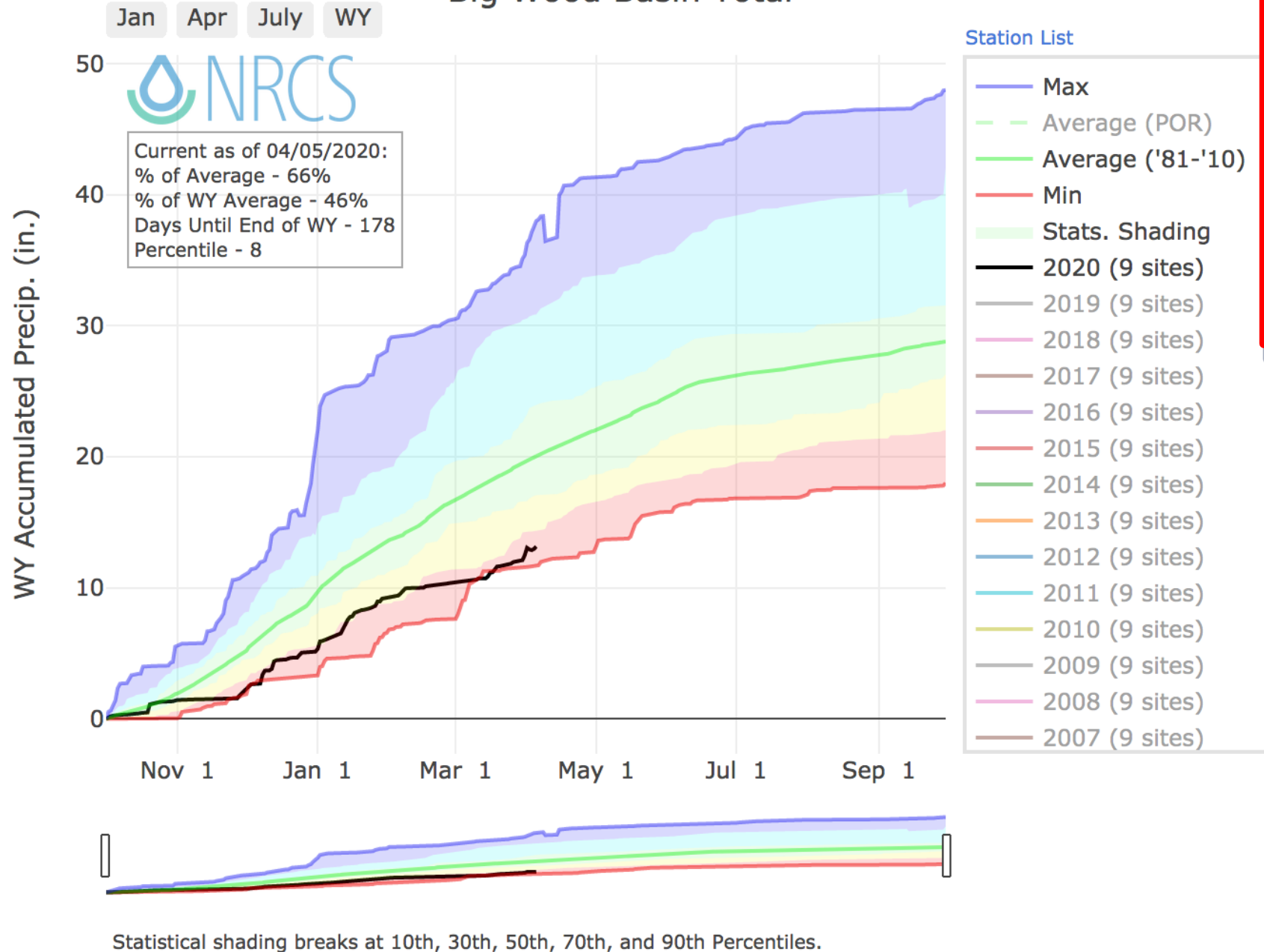


Snow Water Equivalent =
Amount of Water in
Snowpack

April 2020 Big Wood SWE is 78% of
the median, and in overall 28th
percentile

The amount of water in the snowpack
is 22% below median

Precipitation in Big Wood Basin Total

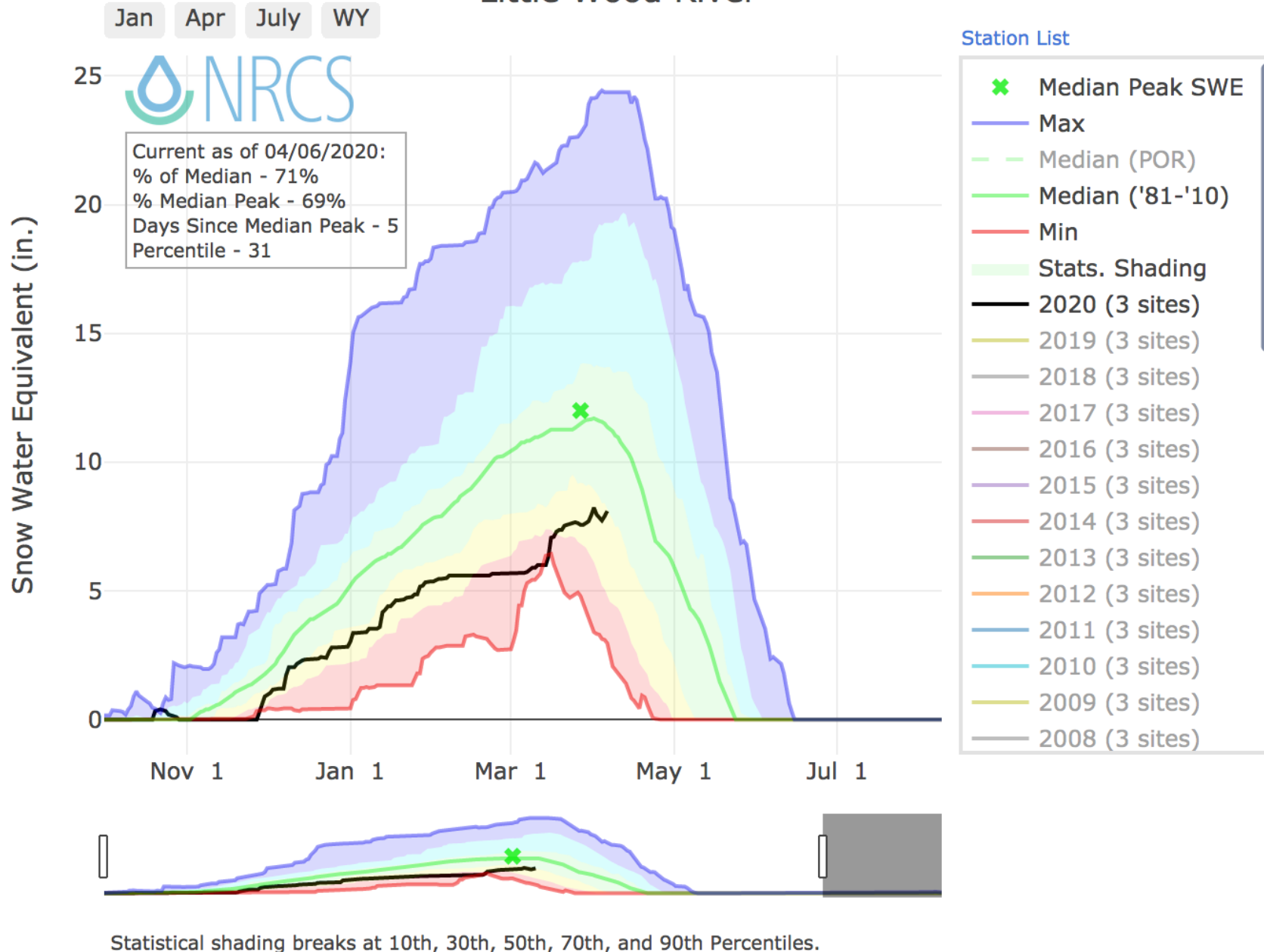


Big Wood Precipitation

April 2020 Big Wood precip is 66% of the average, and in overall 8th percentile

The amount of precip so far is 34% below average

Snow Water Equivalent in Little Wood River

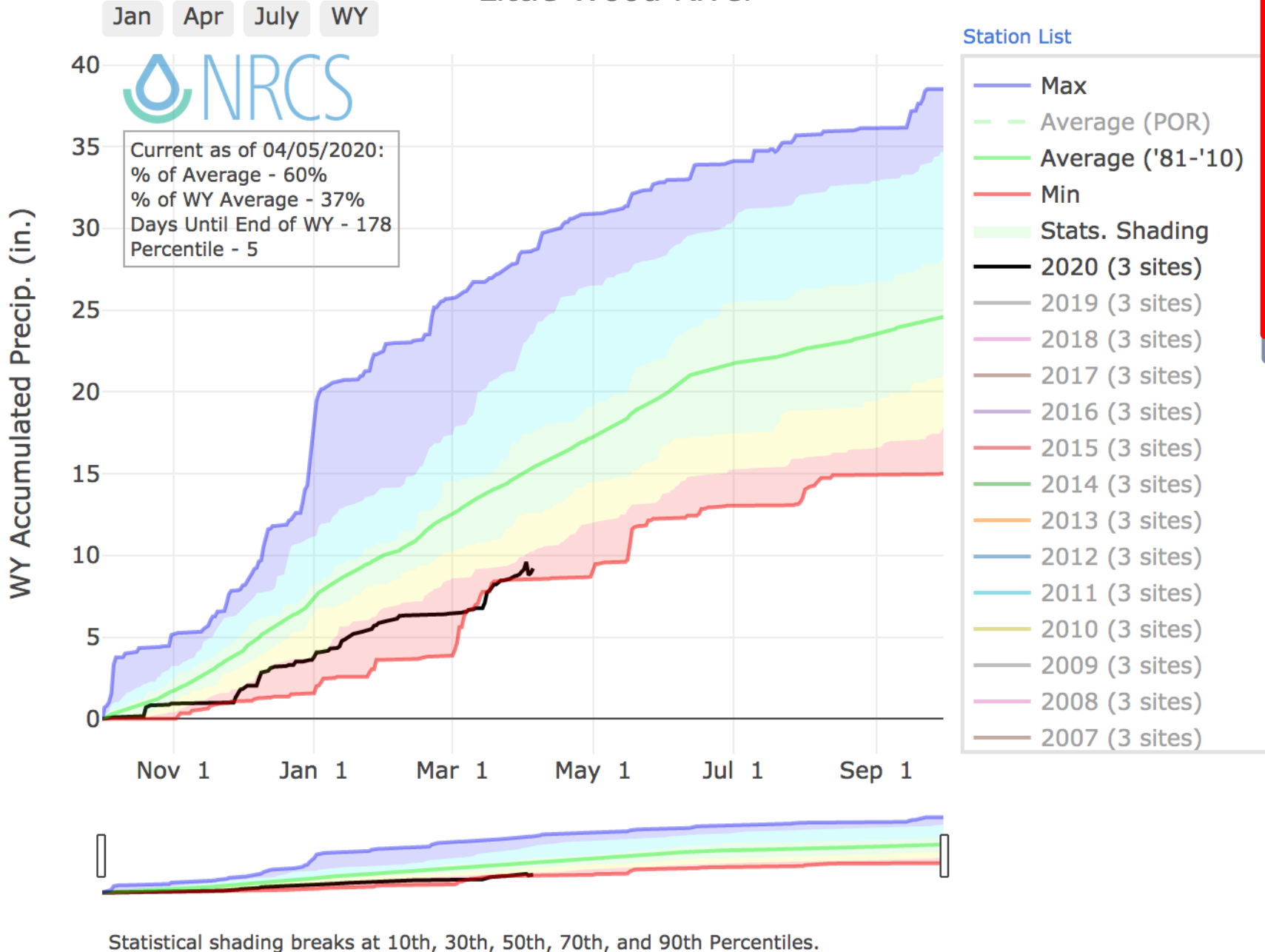


Snow Water Equivalent =
Amount of Water in
Snowpack

April 2020 Little Wood Wood SWE is
71% of the median, and in overall 31th
percentile

The amount of water in the snowpack
is 39% below median

Precipitation in Little Wood River



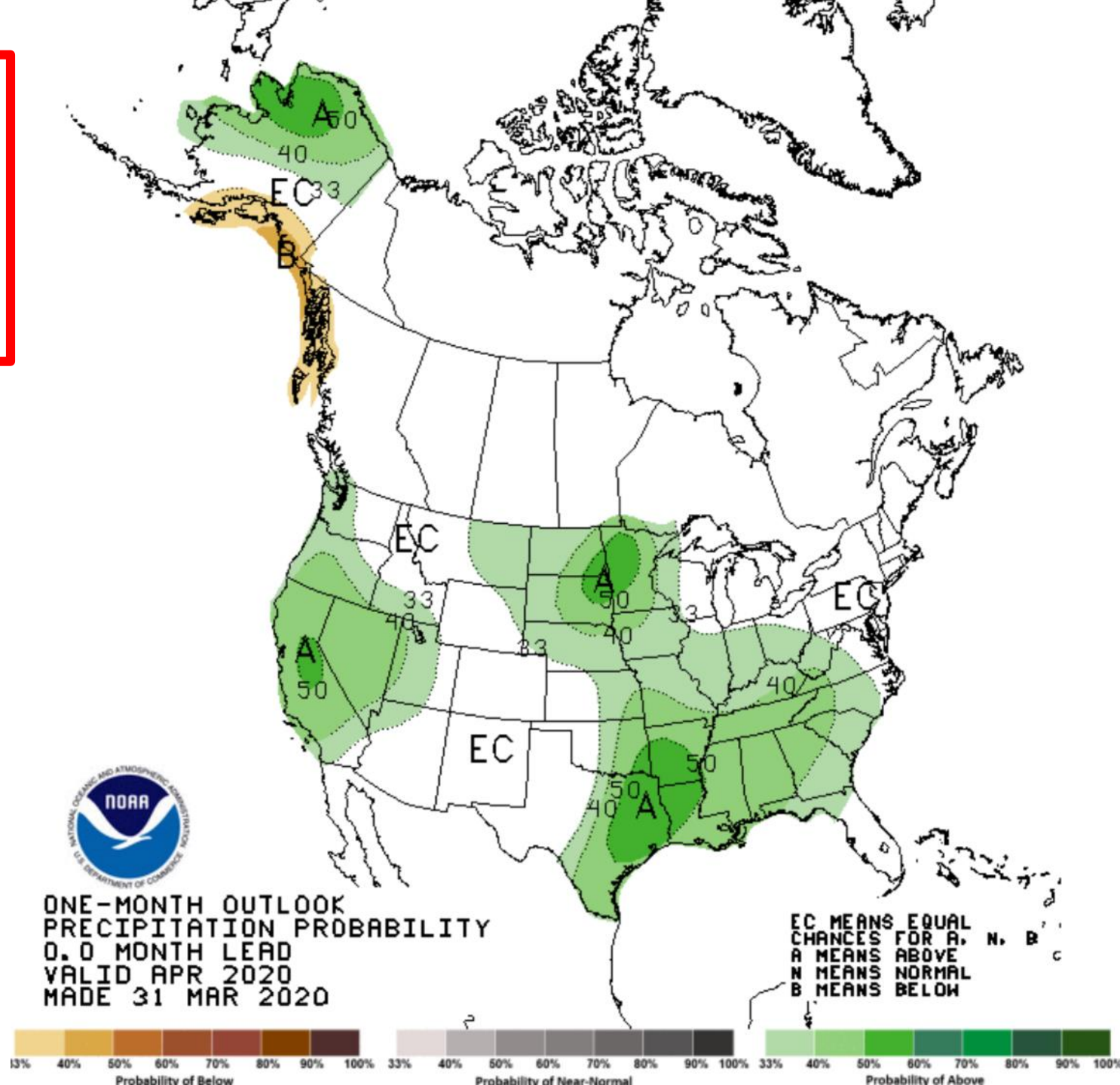
Little Wood Precipitation

April 2020 Little Wood precip is 60% of the average, and in overall 5th percentile

The amount of precip so far is 40% below average

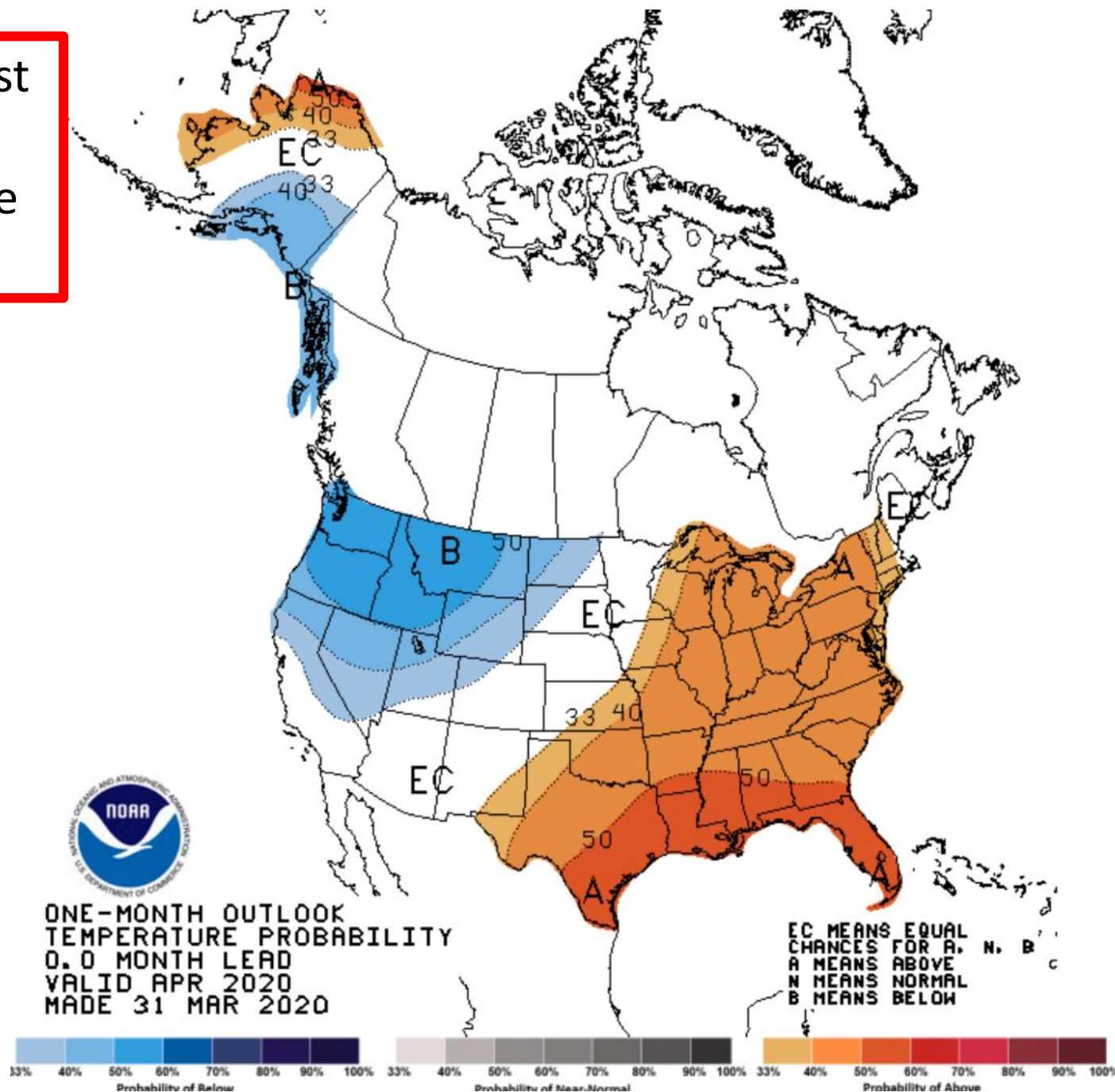
April Precipitation Forecast

Within 33% above average
precipitation forecasted -
barely???



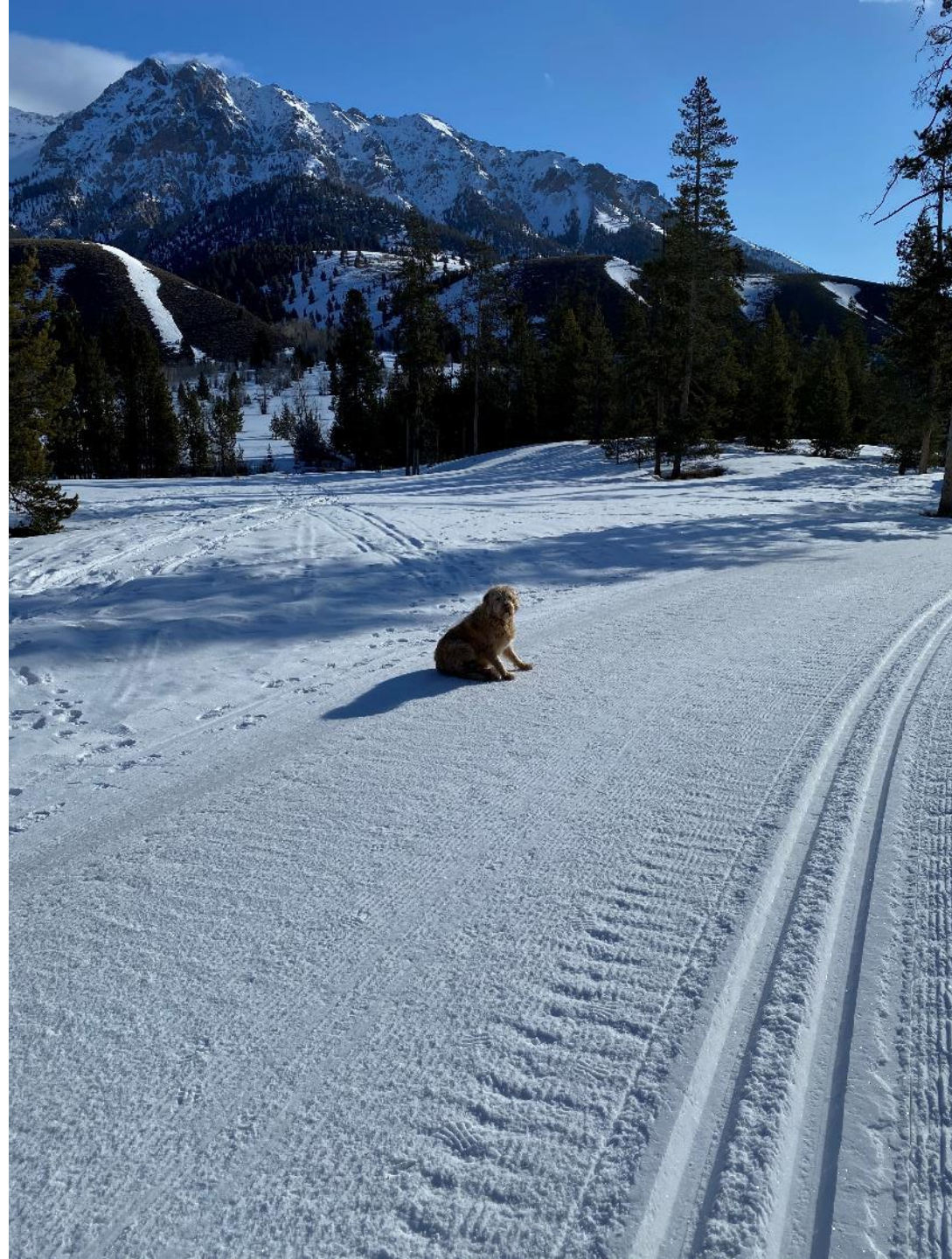
April Temperature Forecast

50% - 60% below average
temperatures predicted



Great Nordic Skiing!!!

(Ron Abramovich humor)



IDAHO SURFACE WATER SUPPLY INDEX (SWSI) March 1, 2020

The Surface Water Supply Index (SWSI) is a predictive indicator of surface water availability within a watershed for the spring and summer water use season. The index is calculated by combining pre-runoff reservoir storage (carryover) with forecasts of spring and summer streamflow. SWSI values are scaled from +4.0 (abundant supply) to -4.0 (extremely dry), with a value of zero indicating a median water supply as compared to historical occurrences. The SWSI analysis period is from 1981 to present.

SWSI values provide a more comprehensive outlook of water availability by combining streamflow forecasts and reservoir storage where appropriate. The SWSI index allows comparison of water availability between basins for drought or flood severity analysis. Threshold SWSI values have been determined for some basins to indicate the potential for agricultural irrigation water shortages.

<i>BASIN or REGION</i>	<i>SWSI Value</i>	<i>Most Recent Year With Similar SWSI Value</i>	<i>Agricultural Water Supply Shortage May Occur When SWSI is Less Than</i>
Spokane	0.7	2009	NA
Clearwater	1.3	2019	NA
Salmon	-0.4	2016	NA
Weiser	-0.4	2005	NA
Payette	-1.3	2004	NA
Boise	-1.0	2003	- 1.8
Big Wood above Hailey	-2.9	2004	- 2.9
Big Wood	-1.0	2008	0.1
Little Wood	-1.3	2004	- 1.6
Big Lost	-1.3	2004	- 1.6
Little Lost	---	---	1.2
Teton	0.4	2019	- 4.0
Henrys Fork	0.7	2014	- 2.5
Snake (Heise)	1.6	2019	- 1.8
Oakley	2.4	2019	- 0.1
Salmon Falls above Jackpot	0.4	2010	NA
Salmon Falls	1.9	1996	- 1.0
Bruneau	0.4	2010	NA
Owyhee	1.3	1995	- 2.7
Bear River	2.9	2017	- 3.7

SWSI SCALE, PERCENT CHANCE OF EXCEEDANCE, AND INTERPRETATION

-4	-3	-2	-1	0	1	2	3	4
-----	-----	-----	-----	-----	-----	-----	-----	-----
99%	87%	75%	63%	50%	37%	25%	13%	1%

Much	Below			Near Normal		Above	Much	
Below	Normal			Water Supply		Normal	Above	

NA=Not Available / Not Applicable; Note: The Percent Chance of Exceedance is an indicator of how often a range of SWSI values might be expected to occur. Each SWSI unit represents about 12% of the historical occurrences. As an example of interpreting the above scale, the SWSI can be expected to be greater than -3.0, 87% of the time and less than -3.0, 13% of the time. Half the time, the SWSI will be below and half the time above a value of zero. The interval between -1.5 and +1.5 described as "Near Normal Water Supply," represents three SWSI units and would be expected to occur about one-third (36%) of the time.

March Surface Water Supply Index

Agricultural water shortages likely for Big Wood above Hailey and Big Wood combined

Little Wood close to agricultural water shortages

The Surface Water Supply Index (SWSI) is a predictive indicator of surface water availability within a watershed for the spring and summer water use season. The index is calculated by combining pre-runoff reservoir storage (carryover) with forecasts of spring and summer streamflow. SWSI values are scaled from +4.0 (abundant supply) to -4.0 (extremely dry), with a value of zero indicating a median water supply as compared to historical occurrences. The SWSI analysis period is from 1981 to present.

SWSI values provide a more comprehensive outlook of water availability by combining streamflow forecasts and reservoir storage where appropriate. The SWSI index allows comparison of water availability between basins for drought or flood severity analysis. Threshold SWSI values have been determined for some basins to indicate the potential for agricultural irrigation water shortages.

<i>BASIN or REGION</i>	<i>SWSI Value</i>	<i>Most Recent Year With Similar SWSI Value</i>	<i>Agricultural Water Supply Shortage May Occur When SWSI is Less Than</i>
Spokane	-0.1	2013	NA
Clearwater	0.1	2006	NA
Salmon	-0.9	2006	NA
Weiser	-1.0	2016	NA
Payette	-1.3	2004	NA
Big Wood above Hailey	-2.6	2004	- 3.1
Big Wood	-0.7	2007	0.3
Little Wood	-1.0	2008	- 1.4
Big Lost	-0.7	2008	0.6
Little Lost	-0.4	2008	1.4
Teton	1.0	2019	- 3.9
Henrys Fork	1.3	2012	- 2.8
Snake (Heise)	1.8	2019	- 1.7
Oakley	2.1	2019	- 0.3
Salmon Falls above Jackpot	1.9	2010	NA
Salmon Falls	1.9	1996	- 0.8
Bruneau	0.1	2010	NA
Owyhee	1.2	2005	- 2.5
Bear River	2.6	2018	- 3.9

SWSI SCALE, PERCENT CHANCE OF EXCEEDANCE, AND INTERPRETATION

-4	-3	-2	-1	0	1	2	3	4
-----	-----	-----	-----	-----	-----	-----	-----	-----
99%	87%	75%	63%	50%	37%	25%	13%	1%
Much	Below		Near Normal		Above	Much		
Below	Normal		Water Supply		Normal	Above		

NA=Not Available / Not Applicable; Note: The Percent Chance of Exceedance is an indicator of how often a range of SWSI values might be expected to occur. Each SWSI unit represents about 12% of the historical occurrences. As an example of interpreting the above scale, the SWSI can be expected to be greater than -3.0, 87% of the time and less than -3.0, 13% of the time. Half the time, the SWSI will be below and half the time above a value of zero. The interval between -1.5 and +1.5 described as "Near Normal Water Supply," represents three SWSI units and would be expected to occur about one-third (36%) of the time.

April Surface Water Supply Index

Agricultural water shortages likely for Big Wood

Little Wood close to agricultural water shortages

Wood and Lost Basins Streamflow Forecasts - April 1, 2020

Forecast Point	Forecast Period	Forecast Exceedance Probabilities for Risk Assessment						
		<--Drier-----Projected Volume-----Wetter-->			% Avg			30yr Avg (KAF)
		90% (KAF)	70% (KAF)	50% (KAF)		30% (KAF)	10% (KAF)	
Camas Ck at Camas	APR-JUL	9.5	15.4	20	71%	26	35	28
Little Lost R bl Wet Ck nr Howe	APR-JUL	14.1	19.4	23	82%	27	32	28
	APR-SEP	16.1	23	28	82%	33	40	34
Big Lost R at Howell Ranch	APR-JUL	63	88	106	67%	123	148	159
	APR-SEP	71	100	119	66%	139	168	180
Big Lost R bl Mackay Reservoir	APR-JUL	25	52	70	57%	89	116	123
	APR-SEP	38	70	92	61%	114	146	150
Little Wood R ab High Five Ck	APR-JUL	21	28	34	49%	41	51	69
	APR-SEP	23	31	38	51%	45	56	75
Little Wood R nr Carey 2	APR-JUL	21	29	35	45%	42	53	77
	APR-SEP	23	32	39	47%	46	58	83
Big Wood R at Hailey	APR-JUL	57	95	121	51%	146	184	235
	APR-SEP	67	109	137	52%	166	210	265
Big Wood R ab Magic Reservoir	APR-JUL	10.6	28	46	27%	67	105	170
	APR-SEP	12.5	32	50	27%	72	113	182
Camas Ck nr Blaine	APR-JUL	3.9	9.5	14.7	18%	21	32	82
	APR-SEP	4.1	9.7	15	18%	21	33	83
Big Wood R bl Magic Dam 2	APR-JUL	17.7	40	61	24%	86	131	250
	APR-SEP	22	46	68	26%	94	140	265

Normals based on 1981-2010 reference period: streamflow, precipitation, & reservoir normals are averages, SWE normals are medians.

1) 90% and 10% exceedance probabilities are actually 95% and 5%

2) Forecasts are for unimpaired flows. Actual flow will be dependent on management of upstream reservoirs and diversions

Reservoir Storage (KAF): End of March					Watershed Snowpack Analysis: April 1, 2020			
Reservoir Name	Current (KAF)	Last YR	Average (KAF)	Capacity (KAF)	Basin Name	# of Sites	% of Median 2020	2019
Mackay Reservoir	41.0	33.3	31.2	44.4	Camas-Beaver Creeks	3	101%	119%
Little Wood Reservoir	27.8	5.6	19.8	30.0	Birch-Medicine Lodge Creeks	4	104%	106%
Magic Reservoir	150.1	82.7	89.3	191.5	Little Lost River	4	100%	114%
					Big Lost River ab Mackay	6	75%	134%
					Big Lost Basin Total	7	78%	133%
					Fish Creek	3	81%	193%
					Little Wood River	4	69%	161%
					Big Wood River ab Hailey	6	77%	117%
					Camas Creek	5	62%	175%
					Big Wood Basin Total	11	73%	135%



Reservoir Levels Good!

50% exceedance = 50% likelihood that this volume (KAF) will be met

50% Exceedance Probabilities

Little Wood ab High Five ~ 50% ag

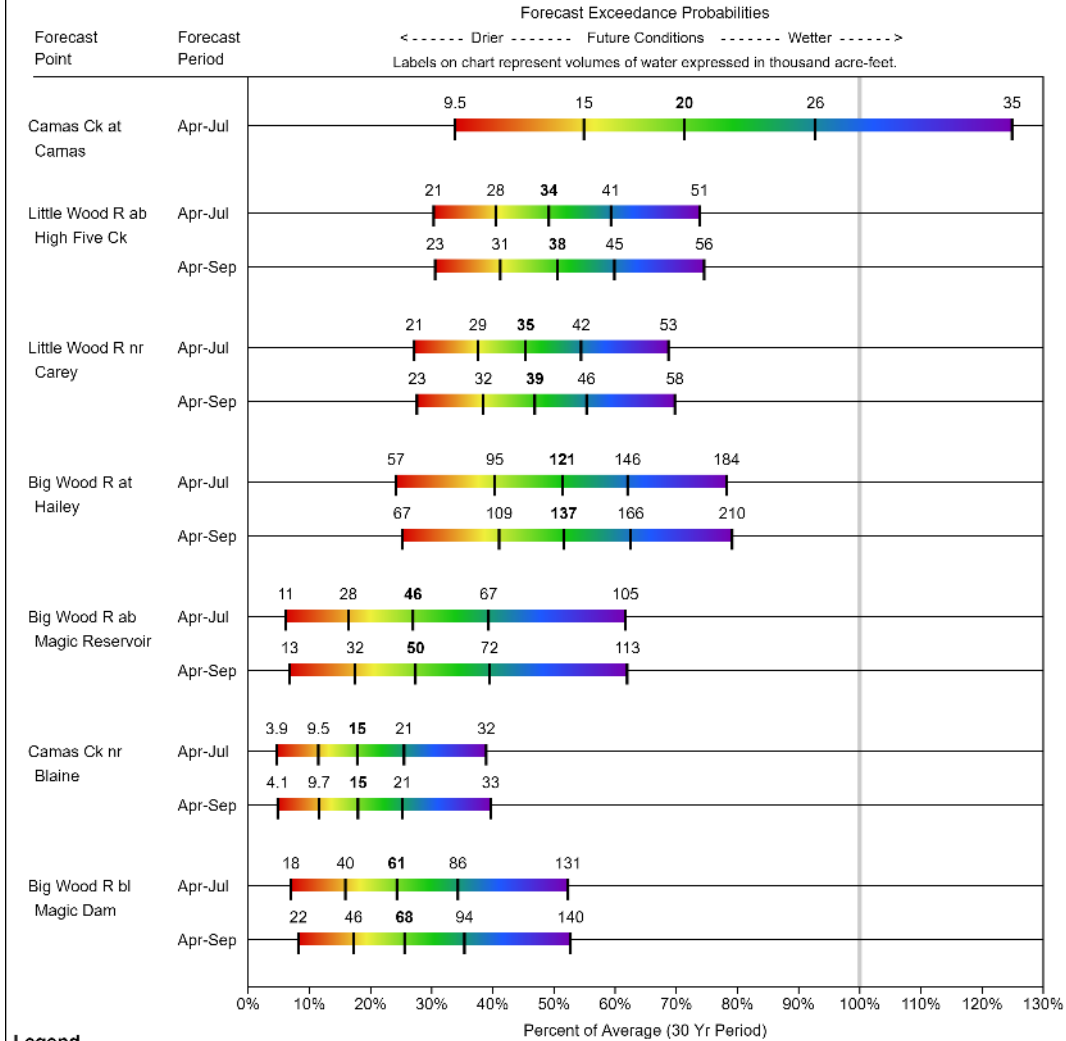
Little Wood nr Carey ~ 46% avg

Big Wood at Hailey ~ 51% avg

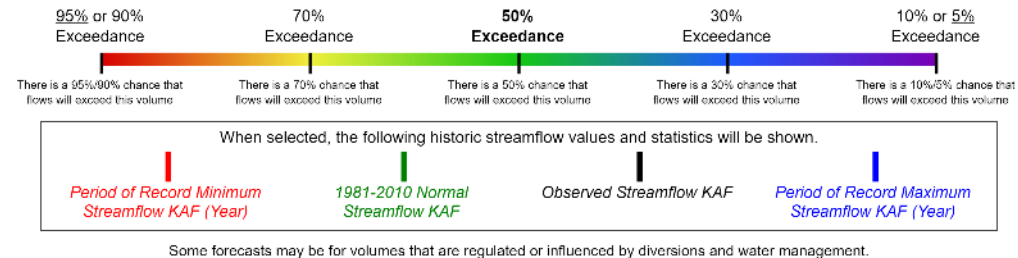
Big Wood above Magic ~ 27% avg

Camas Creek ~ 18% average

WOOD AND LOST BASINS
Water Supply Forecasts
April 1, 2020



Legend



50% Exceedance Probabilities

Little Wood ab High Five ~ 36 KAF

Little Wood nr Carey ~ 37 KAF

Big Wood at Hailey ~ 130 KAF










Big Wood above Magic ~ 48 KAF

Camas Creek at Blaine ~ 15 KAF

Magic Reservoir

Water Year ⚡	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May
	Reservoir Storage Volume (ac_ft) Start of Month Values ⚡	Reservoir Storage Volume (ac_ft) Start of Month Values ⚡	Reservoir Storage Volume (ac_ft) Start of Month Values ⚡	Reservoir Storage Volume (ac_ft) Start of Month Values ⚡	Reservoir Storage Volume (ac_ft) Start of Month Values ⚡	Reservoir Storage Volume (ac_ft) Start of Month Values ⚡	Reservoir Storage Volume (ac_ft) Start of Month Values ⚡	Reservoir Storage Volume (ac_ft) Start of Month Values ⚡
2020	92290	104300	116311	123568	128823	135079	150055	
2019	61260	68780	75280	79880	83320	88640	82670	182200
2018	107800	123300	138300	150100	159600	171200	184500	192700
2017	55480	64410	78000	83320	87620	98890	186100	181500
2016	14600	19200	25900	29600	32720	35800	87960	157300
2015	16700	22000	27500	34560	38060	60870	80090	83100

Little Wood Reservoir

Water Year 	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May
	Reservoir Storage Volume (ac_ft) Start of Month Values 	Reservoir Storage Volume (ac_ft) Start of Month Values 	Reservoir Storage Volume (ac_ft) Start of Month Values 	Reservoir Storage Volume (ac_ft) Start of Month Values 	Reservoir Storage Volume (ac_ft) Start of Month Values 	Reservoir Storage Volume (ac_ft) Start of Month Values 	Reservoir Storage Volume (ac_ft) Start of Month Values 	Reservoir Storage Volume (ac_ft) Start of Month Values 
2020	12169	11476	15231	18806	22334	25280	27802	
2019	11084	12905	15609	18283	21088	17892	5630	22491
2018	12672	12127	17505	21398	25064	28105	26695	29089
2017	8075	12370	17230	20222	23600	11541	12825	14685
2016	2074	4155	6528	8972	11350	14064	22259	26781

Big Wood Priority Date Predictions

- SWSI Most Recent Similar Water Years – MARCH
 - Big Wood = 2007
 - Little Wood = 2008

2007	bw_ab_magic	3/24/1883	7/17/2007	2008	sc_lw	3/24/1883	10/1/2008
2007	bw_ab_magic	10/14/1884	7/2/2007	2008	sc_lw	10/14/1884	8/28/2008
2007	bw_ab_magic	6/1/1886	6/26/2007	2008	sc_lw	6/1/1886	8/18/2008

2007 District 37 Book Priority Cuts

2007 PRIORITY CUTS				
BIG WOOD RIVER ABOVE MAGIC RESERVOIR				
WATER DISTRICT 37				
Date Priority		Date of Priority		Remarks
Cut Made				
June 22, 2007		May 15, 1892		
June 25, 2007		June 12, 1886		
June 26, 2007		May 15, 1885		
June 28, 2007		October 15, 1884		
July 2, 2007		August 1, 1884		
July 3, 2007		July 10, 1884		
July 9, 2007		May 2, 1884		
July 10, 2007		March 24, 1883		75% cut of 3/24/1883
July 17, 2007		March 24, 1883		100% cut of 3/24/1883
August 17, 2007		August 1, 1882		

2007 District 37 Book Priority Cuts

BIG WOOD RIVER BELOW MAGIC RESERVOIR				
WATER DISTRICT 37				
Date Priority		Date of Priority		Remarks
Cut Made				
May 31, 2007		May 1, 1887		
June 26, 2007		August 15, 1886		
August 14, 2007		April 15, 1883		

2008 District 37M Book Priority Cuts

SILVER CREEK & LITTLE WOOD RIVER				
WATER DISTRICT 37M				
Date Priority		Date of Priority		Remarks
Cut Made				
July 3, 2008		May 15, 1890		
July 8, 2008		June 1, 1889		
July 15, 2008		May 27, 1899		Cottonwood Right
July 31, 2008		April 1, 1888		
August 18, 2008		April 1, 1886		
August 28, 2008		May 15, 1884		
September 9, 2008		April 1, 1884		
September 15, 2008		September 1, 1883		50% cut of 9/1/1883
September 23, 2008		September 1, 1883		Reinstate 9/1/1883

Stay Safe!

