

Idaho Alfalfa & Clover Seed Growers Conference

January 13, 2026 Winter Meeting

Caldwell, Idaho

The 2026 Water Year Outlook

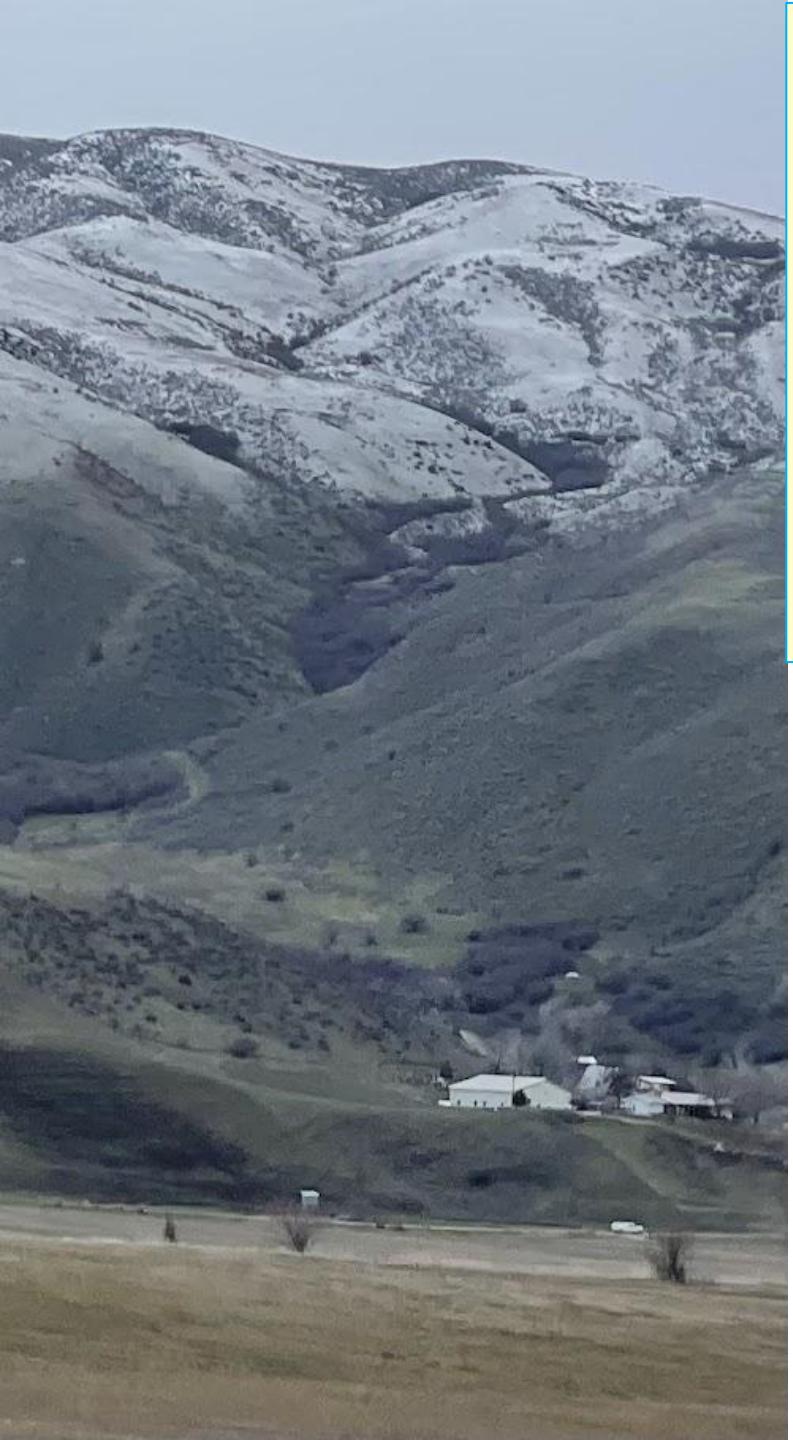
This talk & more posted at:

<https://snowweatherandflow.blog/>

**Ron Abramovich
Mostly Retired
but still watching
the weather...**

Topics:

- Weather Outlooks – What You See is What You Get**
- 2025 - What Happened – A Year Following a Strong El Nino Year**
 - Snowpack & Spring Precipitation Review**
- 2025 / 2026 Current Ocean & Atmosphere Conditions**
- 2027 El Nino Brewing**
- November Southern Oscillation Index Spike**
- 2026 Analog Years for this Winter**
- Current Conditions: Streamflow, Reservoir, Snow, Precipitation for Owyhee, Payette and Boise Basins**
- Water Supply Forecasts – looks similar to last year**

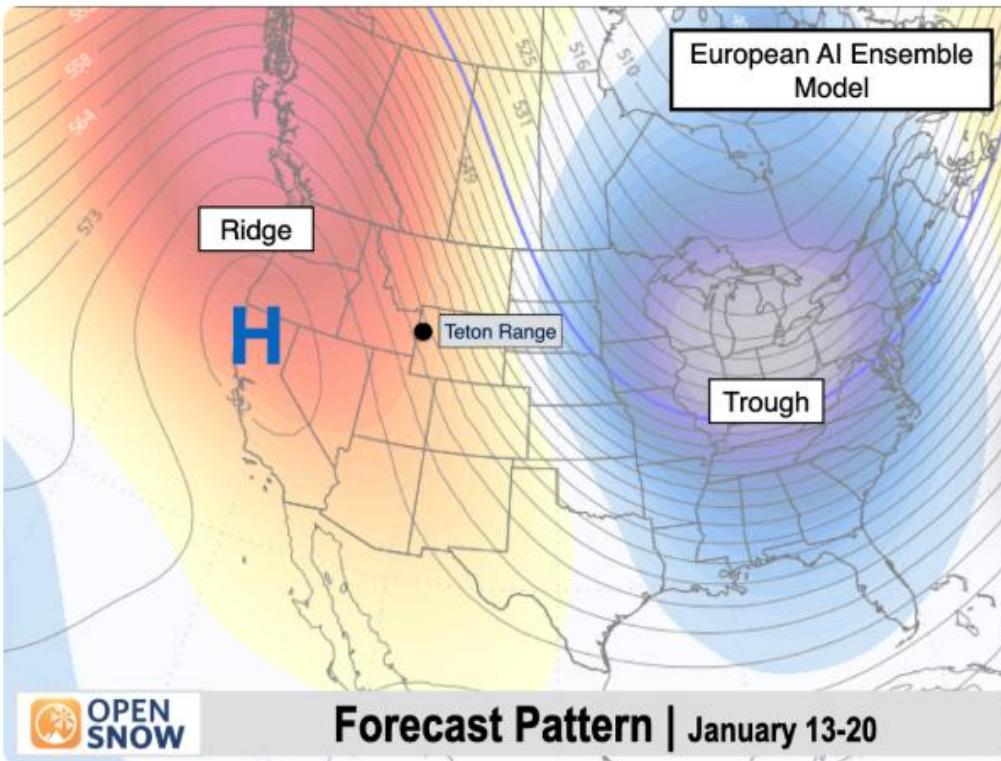
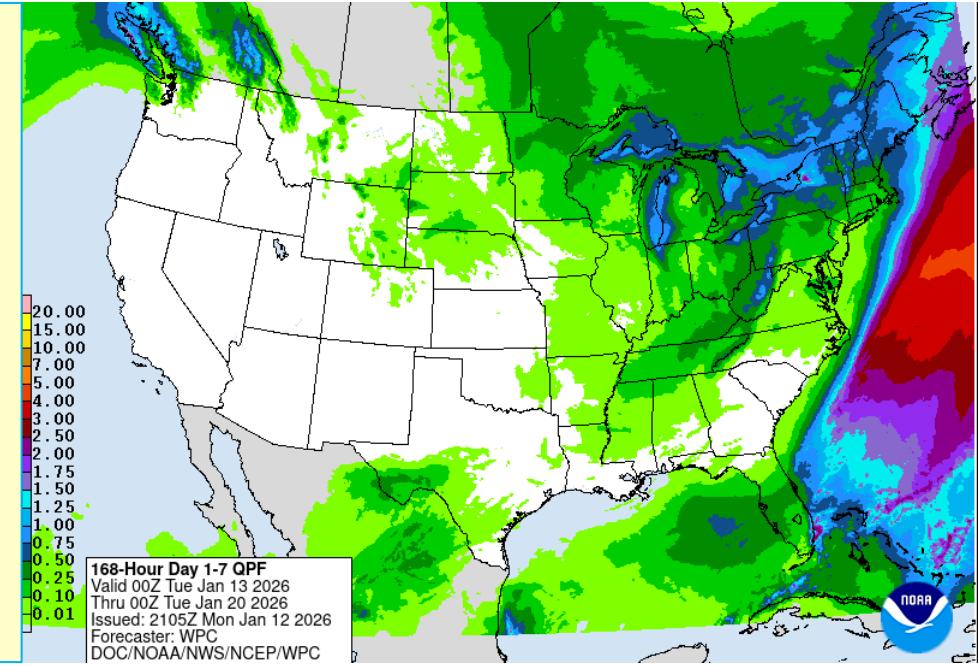


Short-Term Weather What you see is what you get till Jan 23, maybe...

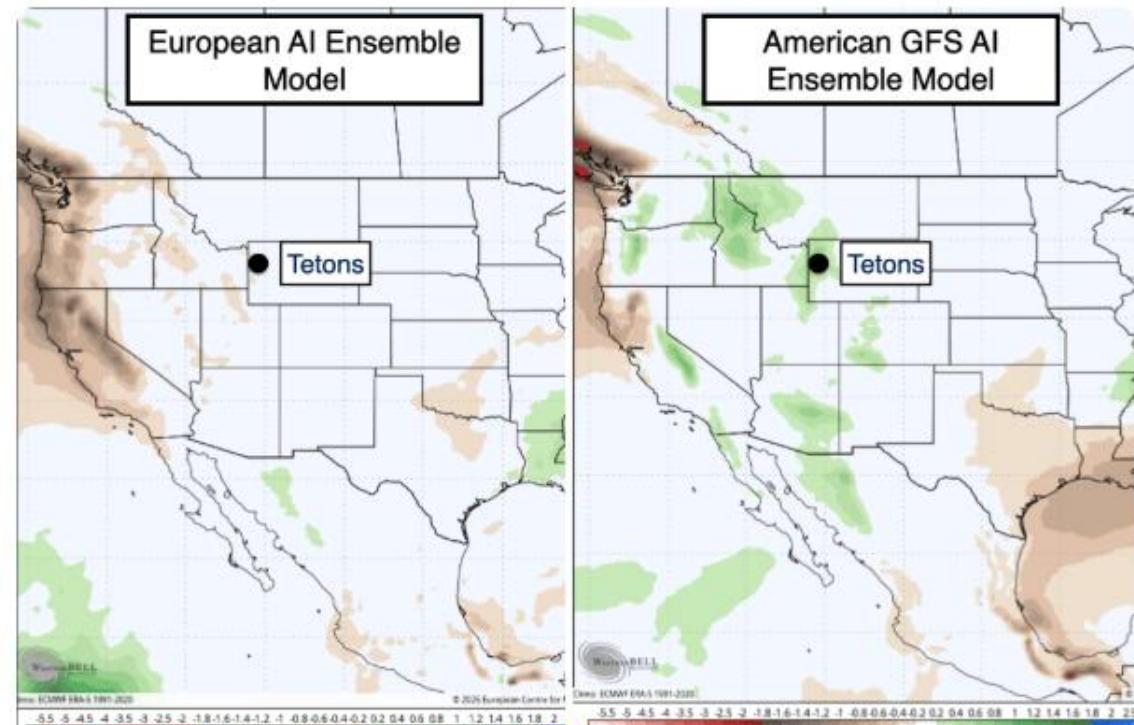
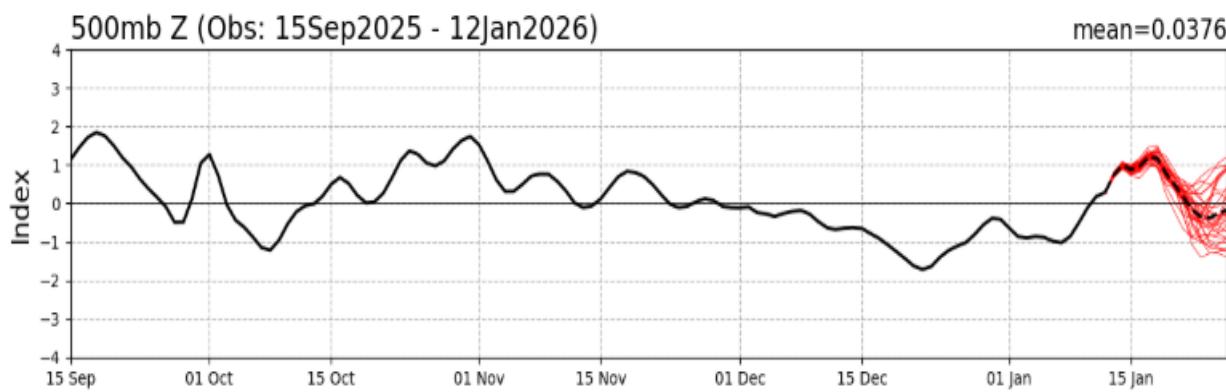
Green grass in Horseshoe Bend
Jan 8, 2026

7-Day Total Precip Jan 13-20

Jan 13-20 Outlook Warm & Dry



PNA Index: Observed & GEFS Forecasts

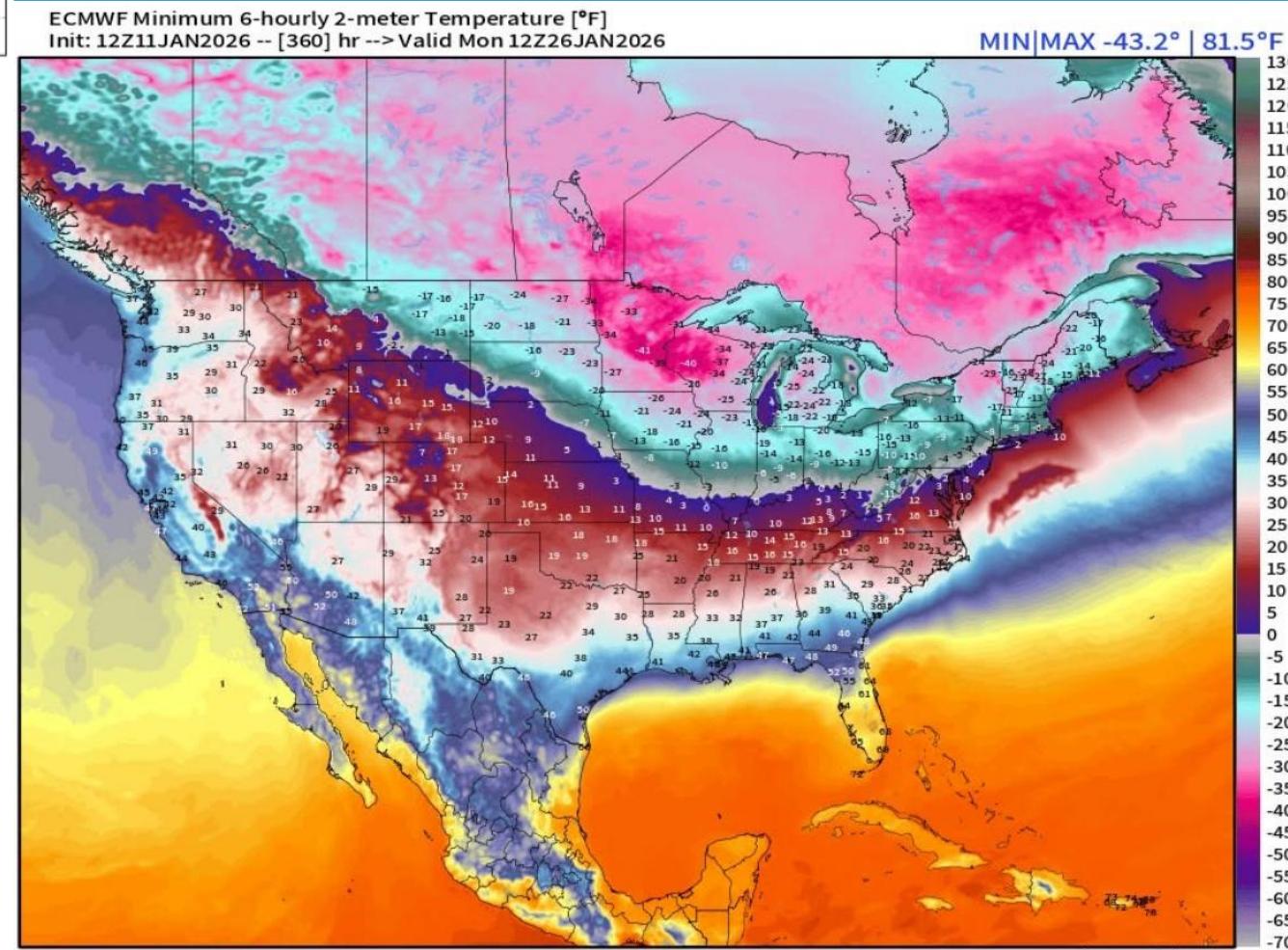


Forecast Precipitation Anomaly - January 21-27

Good News - Change in Weather around Jan 20.
Negative trending PNA often means weather in PNW.

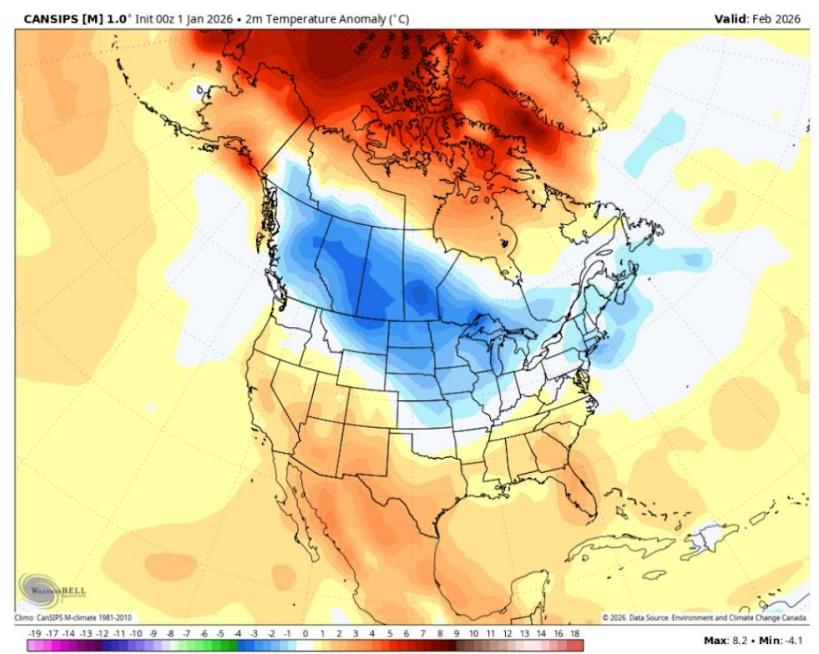
Jan 21 – 27 Two Models with different results

Below Min 6-Hour Temp for Jan 26, 2026 –
Shows colder pattern over Great Lakes Region again...



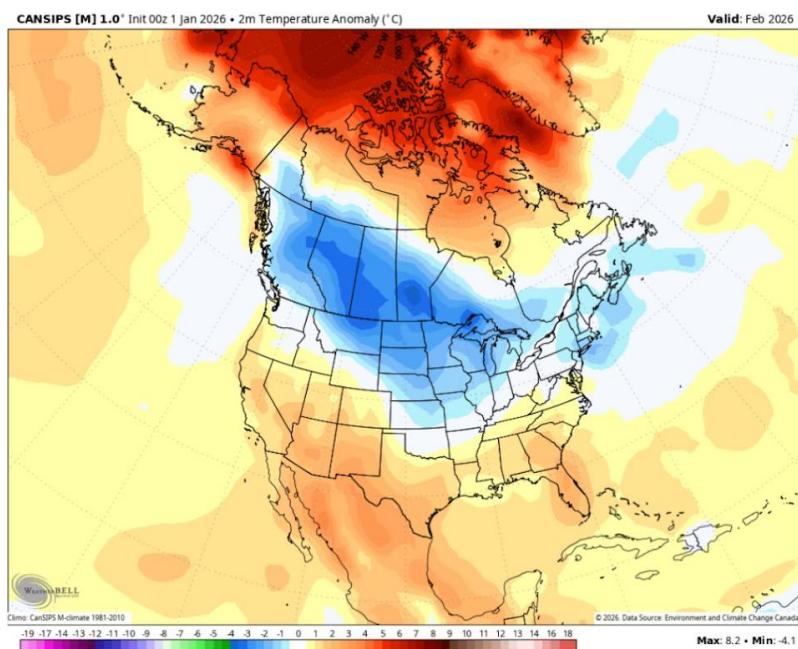
Don't Worry – Oregon Seed
Crop Grower told me to expect
snowstorm around Feb 14
=> it always snows during
calving season.

Feb Temp Anomaly Degrees C
shows colder than normal
favoring Great Plains



Don't Worry – Oregon Seed Crop Grower told me to expect snowstorm around Feb 14 => it always snows during calving season.

Feb Temp Anomaly Degrees C shows colder than normal favoring Great Plains



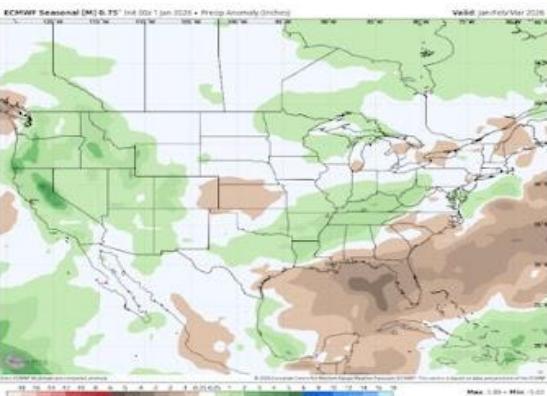
Jan-Mar Outlook normal precip with almost near normal temps in PNW



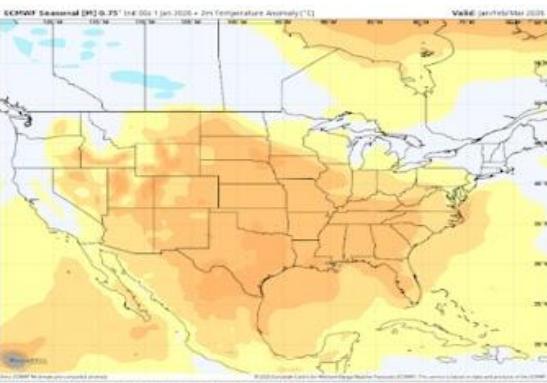
cliffmass.blogspot.com



The European Center seasonal precipitation prediction for January through March is for wetter than normal conditions.



And the temperature prediction for the same period is near normal conditions for western WA and Oregon:

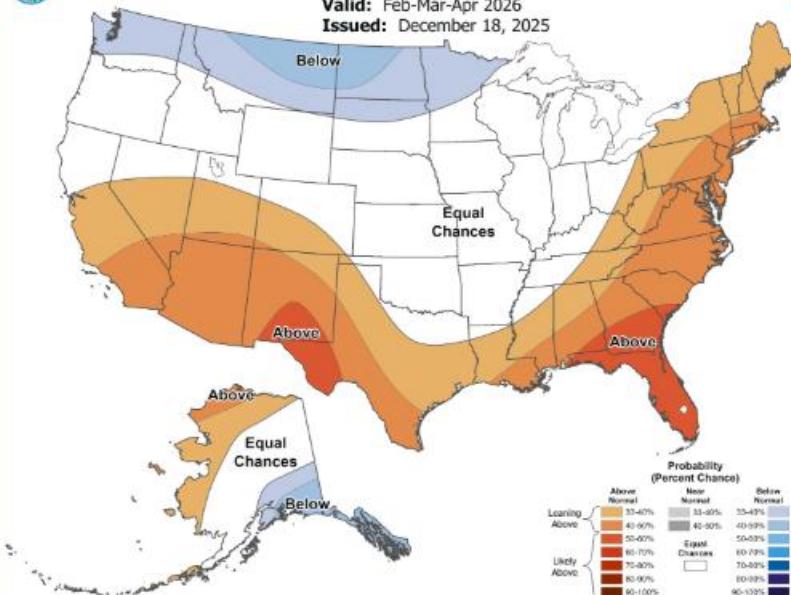


Feb-Mar-Apr NWS Outlook



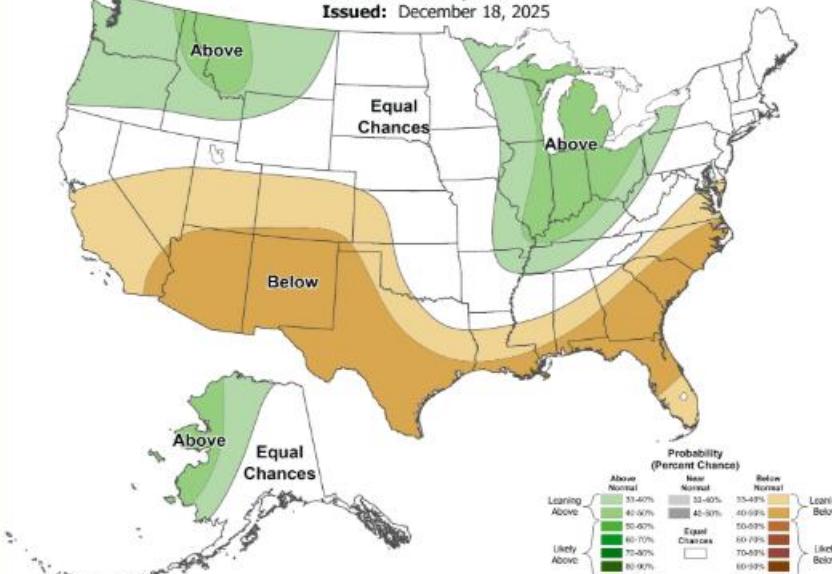
Seasonal Temperature Outlook

Valid: Feb-Mar-Apr 2026
Issued: December 18, 2025



Seasonal Precipitation Outlook

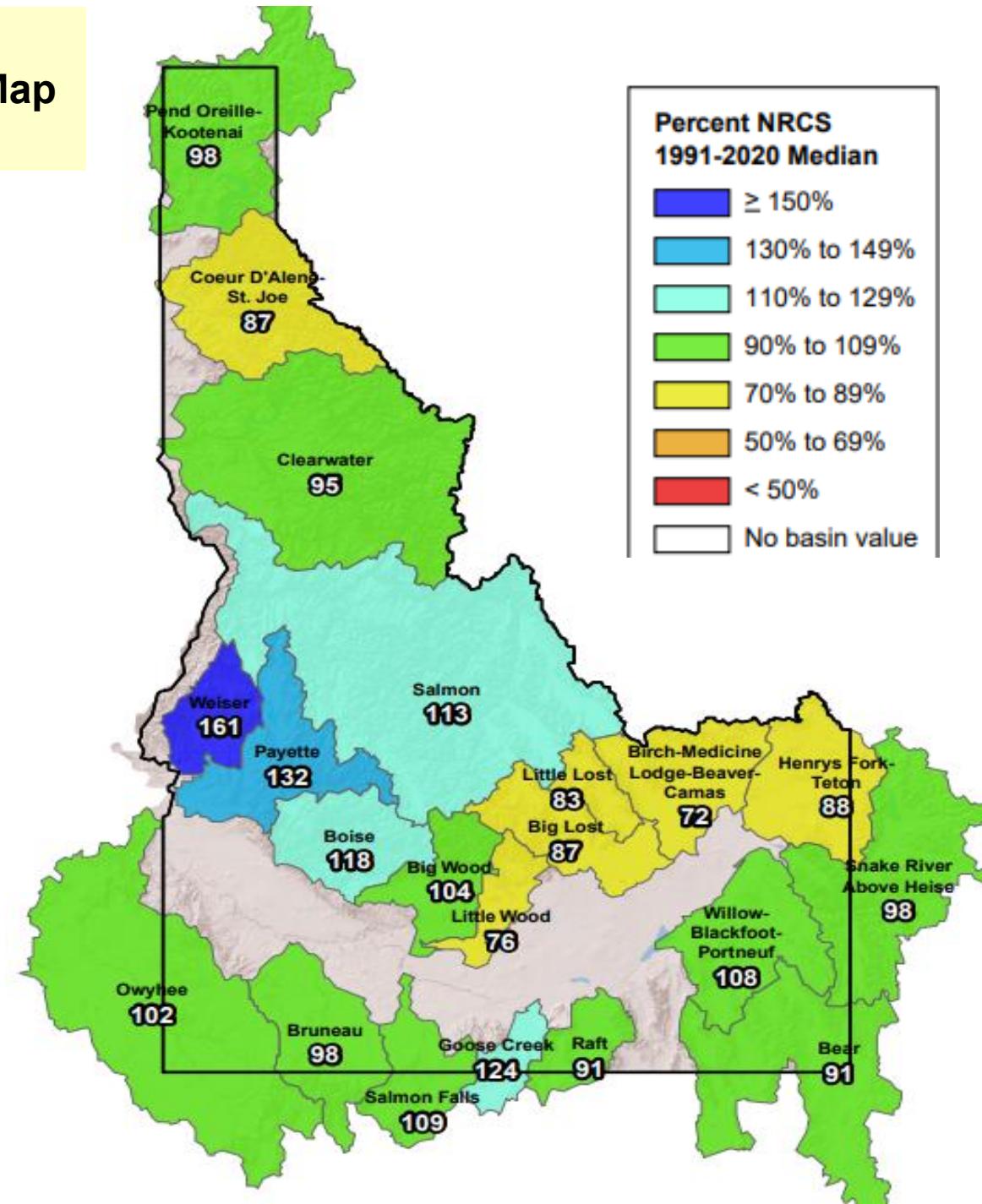
Valid: Feb-Mar-Apr 2026
Issued: December 18, 2025



Idaho
Snow Water Equivalent Map
April 15, 2025

Recap of 2025 Runoff – What Happened ??

- 1. 2025 April 1 Snowpack – looking good**
- 2. Spring Precipitation – what happened**
- 3. Summer Precipitation – near normal**



Years Following Strong El Nino Events.

2025 Runoff updated in Red box

2025 Runoff - only a few basins had near normal runoff, and a few less than 80% of average.

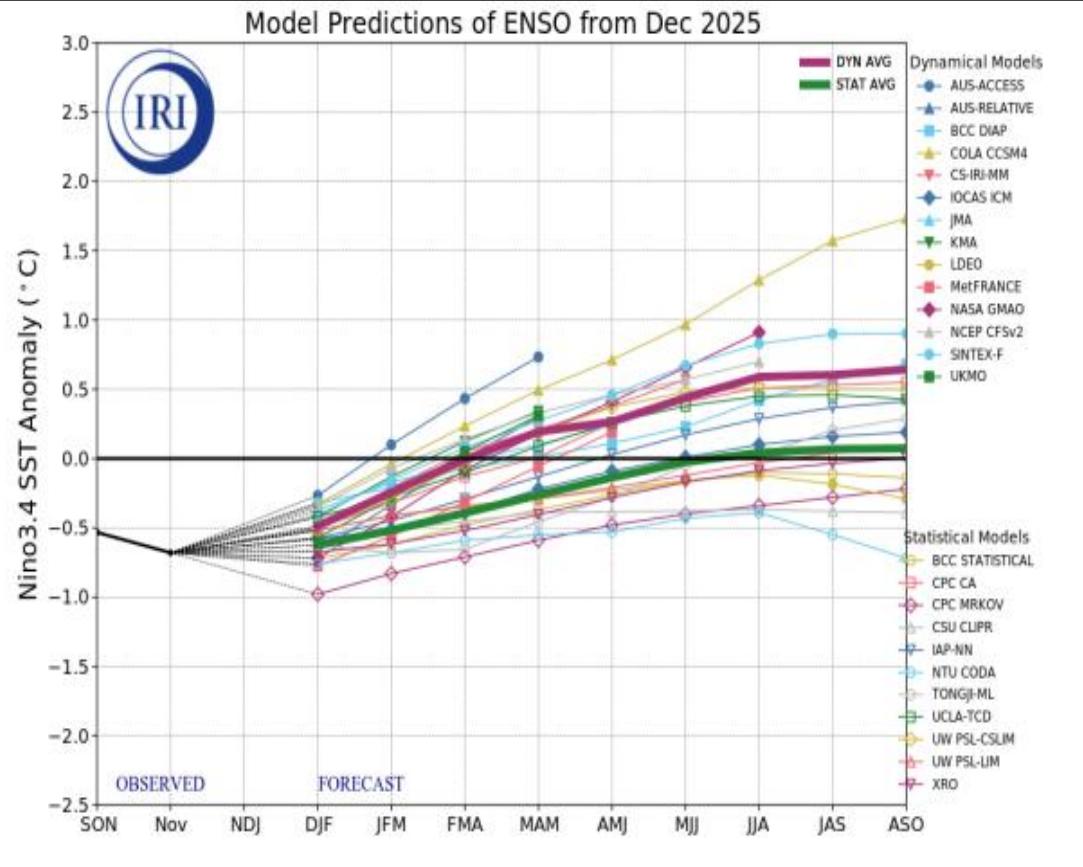
★ 2025 March Forecasts were looking good ! Now we must wait for another strong El Nino year to share again.

			Streamflow as % of 1991 - 2020 Average									
Strong & Very Strong El Nino Years	Year Following a Strong & Very Strong El Nino Year	ENSO	Feb-Sep	Apr-Sep	Apr-Sep	Apr-Sep	Apr-Sep	Apr-Sep	Apr-Sep	Apr-Sep	Apr-Sep	
			Owyhee River below Dam	Bruneau River	Boise R nr	Boise	Payette River nr	Horseshoe Bend	MF Salmon River at MF Lodge	Salmon River at White Bird	Selway River	Spokane River nr Post Falls
Very Strong												
2015-16	2017	LA		155	182	184	164	180		148	104	110
1982-83	1984	LA		363	343	162	146	NA		144	126	109
1997-98	1999	LA		100	116	138	140	121		124	112	126
Strong												
1972-73	1974	LA		120	104	185	188	182	164	145	189	
1991-92	1993	N		165	125	124	128	NA	107	94	114	
1965-66	1967	N		69	93	107	111	NA	119	109	110	
1987-88	1989	LA		145	103	99	91	NA	78	102	114	
1957-58	1959	EL		20	50	89	99	NA	101	124	136	
2023-24	2025	LA		~100	66	90	101	88	84	80	~69	
Mar 5 NWS 50% Exceedance Forecast				131%	121%	112%	115%	117%	103%	90%	83%	
Mar 1 NRCS 50% Exceedance Forecast				127%	107%	117%	112%	104%	90%	108%	75%	
						Sorted high to low		< 80%	80-110%	Color Code for Streamflow as % of Average		
								110-150%				
									> 150%			

EL NINO 2026 IS COMING

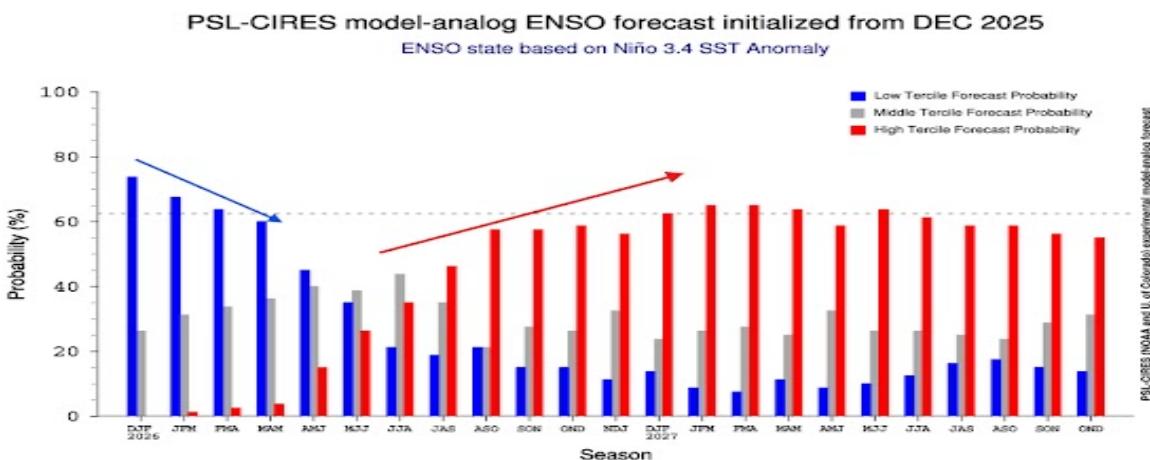
The first hint of a possible El Niño is already visible in the latest extended range ocean forecasts for 2025/2026. These calculations show a rather rapid reversal in the oceans, which is usually fueled by significant global weather changes.

The long-range ensemble forecast below shows the forecast for the main ENSO region. The La Niña conditions (with a value of -0.5 or lower) will begin to dissipate during winter. But the extended forecast shows that most calculations shift into the warm anomalies and are also well above the 0.5 threshold of the El Niño event.



Sep 2025 - Maybe we'll see an El Niño sooner than later...
El Niño is setting up for Winter 2026-27. I've never seen them calling this out so early, so must be feeling confident.

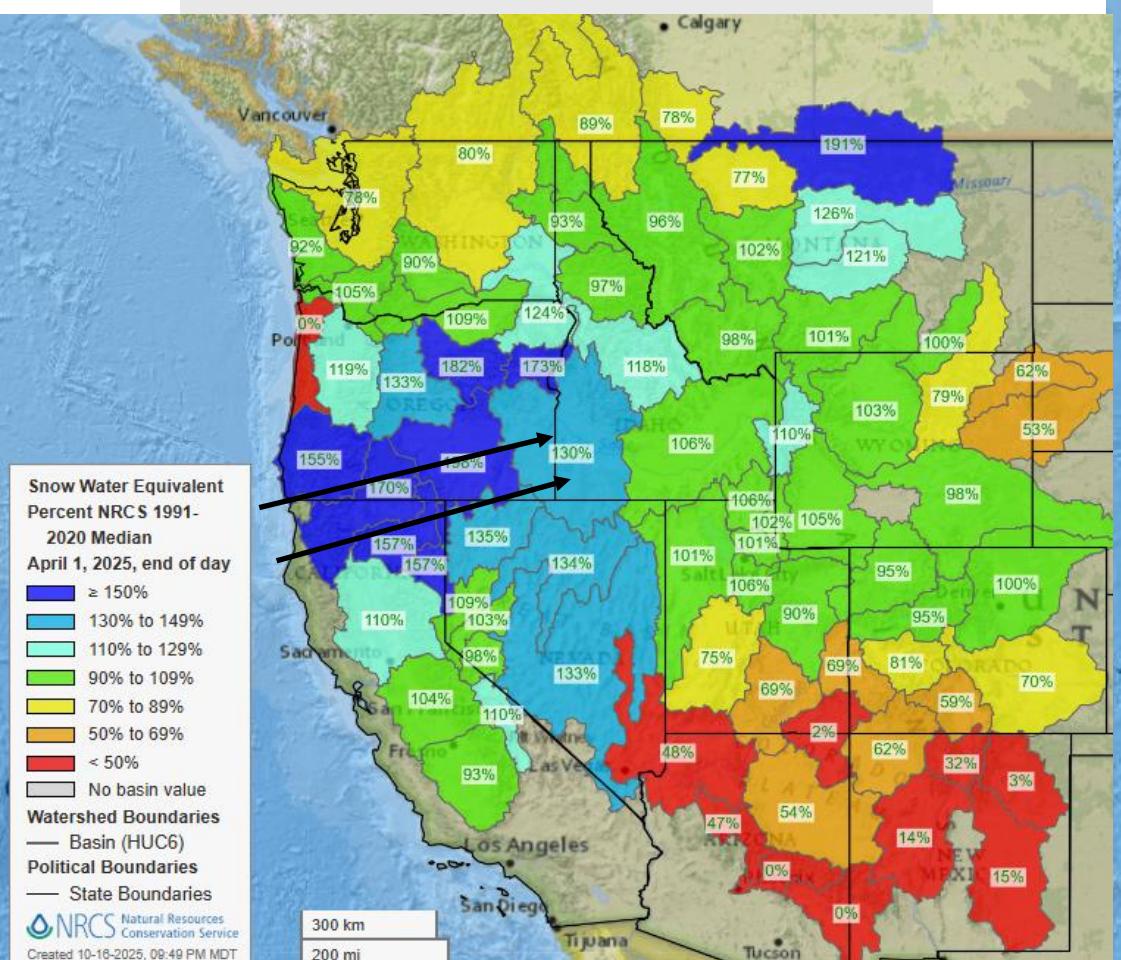
The CPC official probabilistic ENSO forecast shows a clear shift into El Niño mode for 2026/2027, giving a full El Niño state by early Fall 2026. This shows the event peaking during Winter, potentially lasting for a second year. You can also see the rapid decline of the current La Niña event.



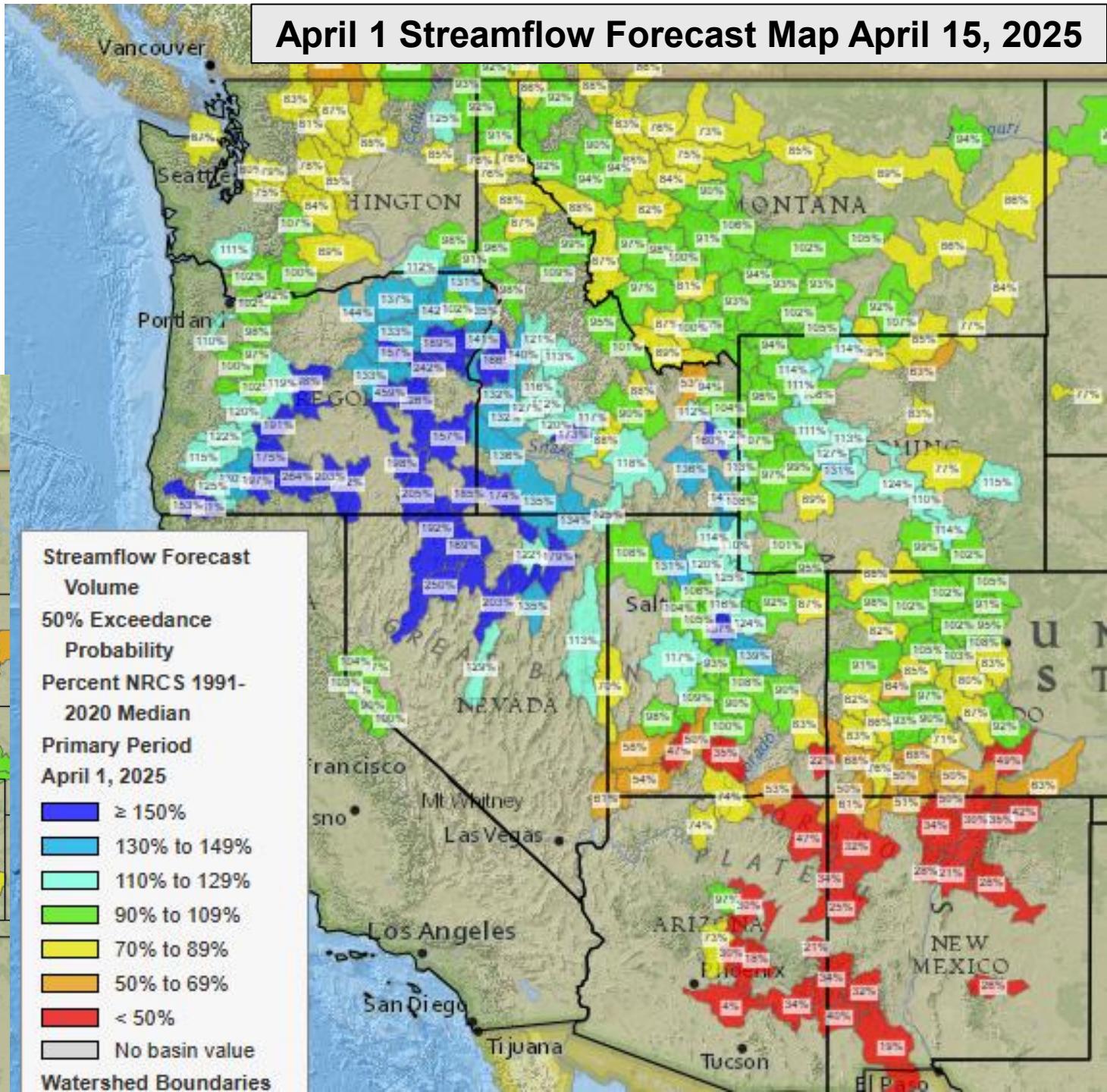
April 1, 2025 - Water Supply Forecasts were looking promising for PNW

2025 April 1 snow was near average or better except in the SW US. Best snow was up the Klamath Basin across Oregon to SW Idaho / West Central Idaho.

Westwide Snow Water Equivalent Map April 1, 2025

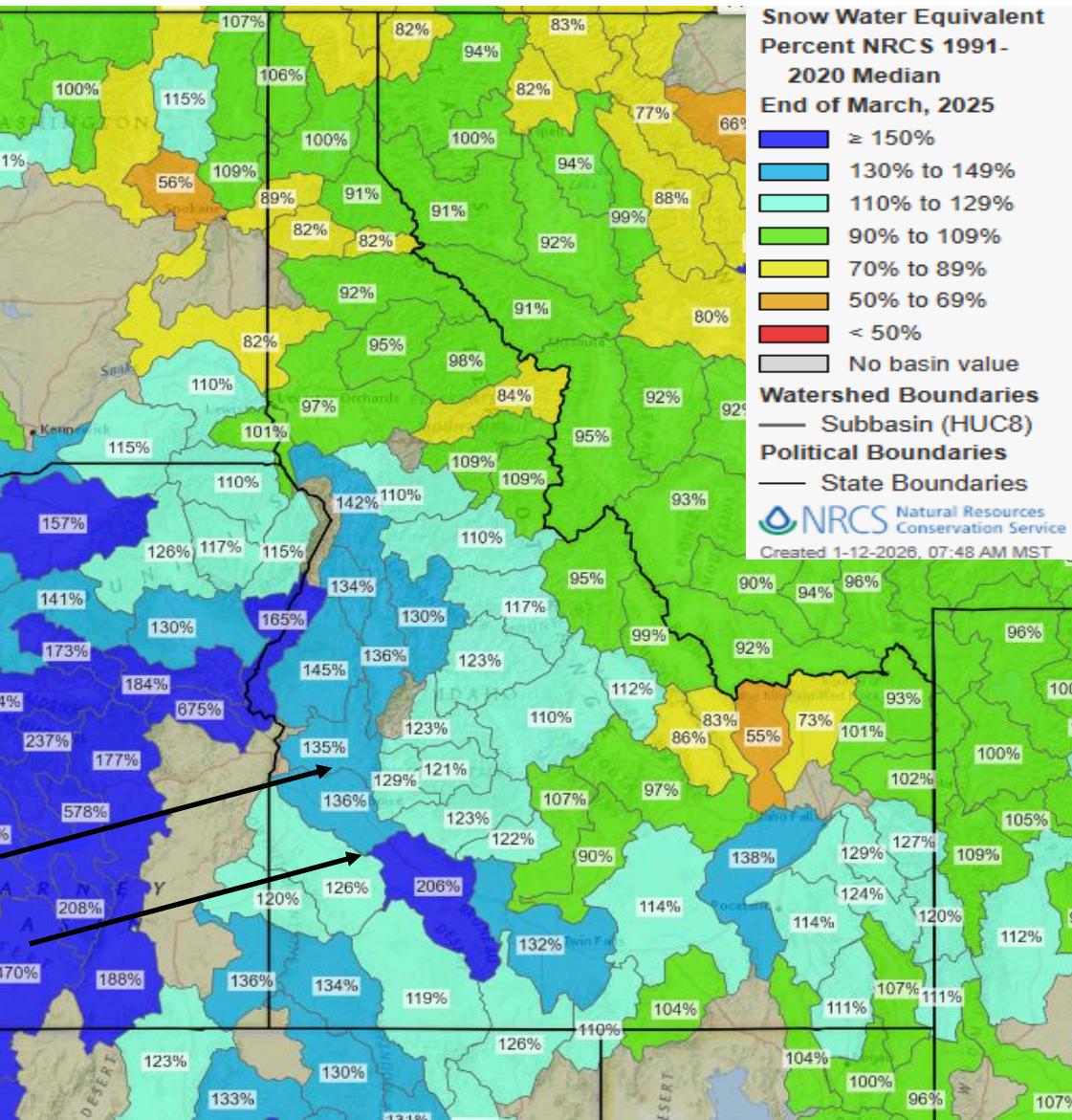


April 1 Streamflow Forecast Map April 15, 2025

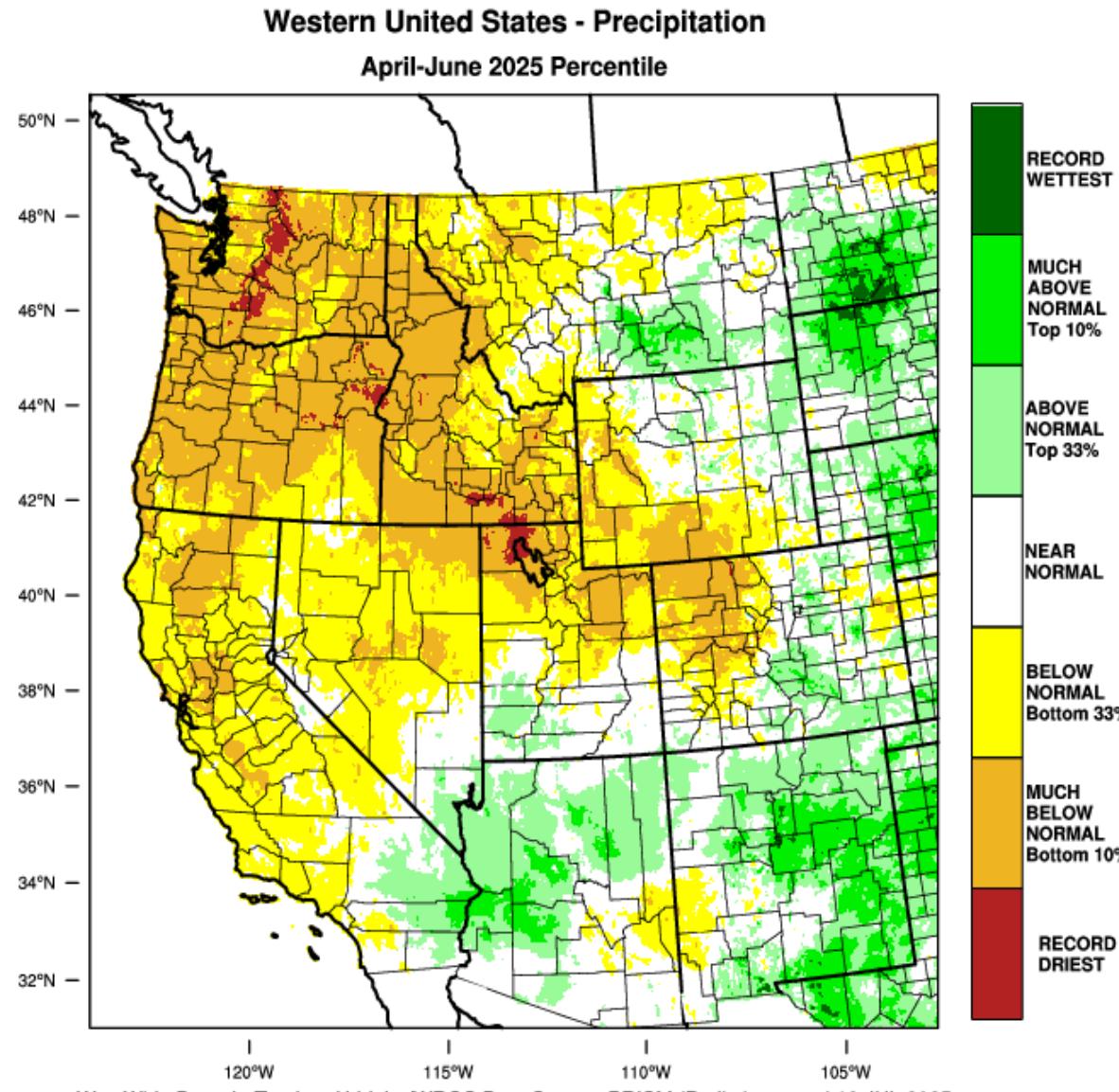


Good April 1, 2025 Snowpacks

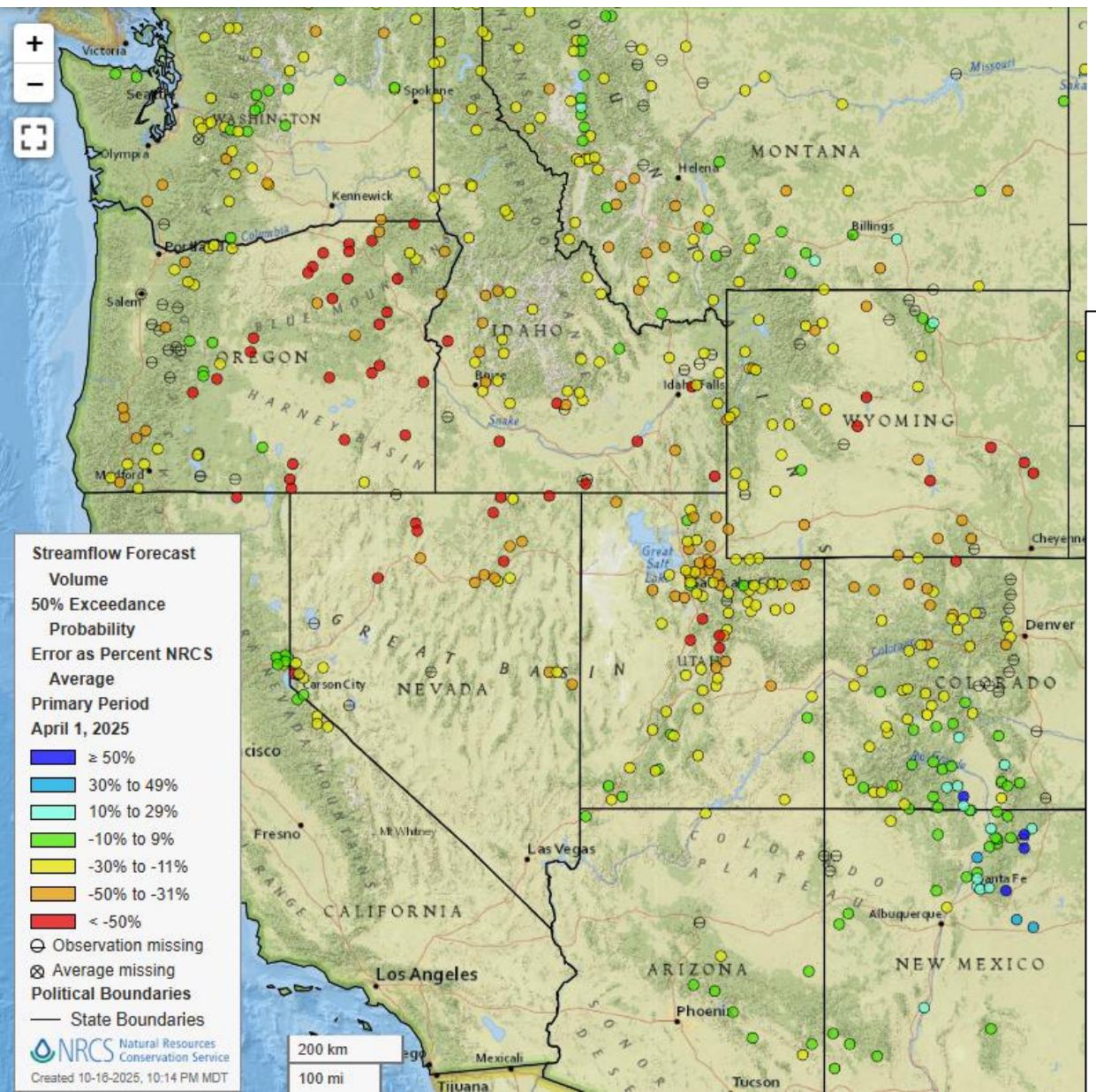
+ Near Record Low Spring Precip
= Much Less Than Expected Runoff



Lessons Known – Spring Precipitation can make your break the streamflow runoff forecasts. Apr-Jun precip amounts were **Much Below, Bottom 10%**, even pushing **RECORD DRIEST**.

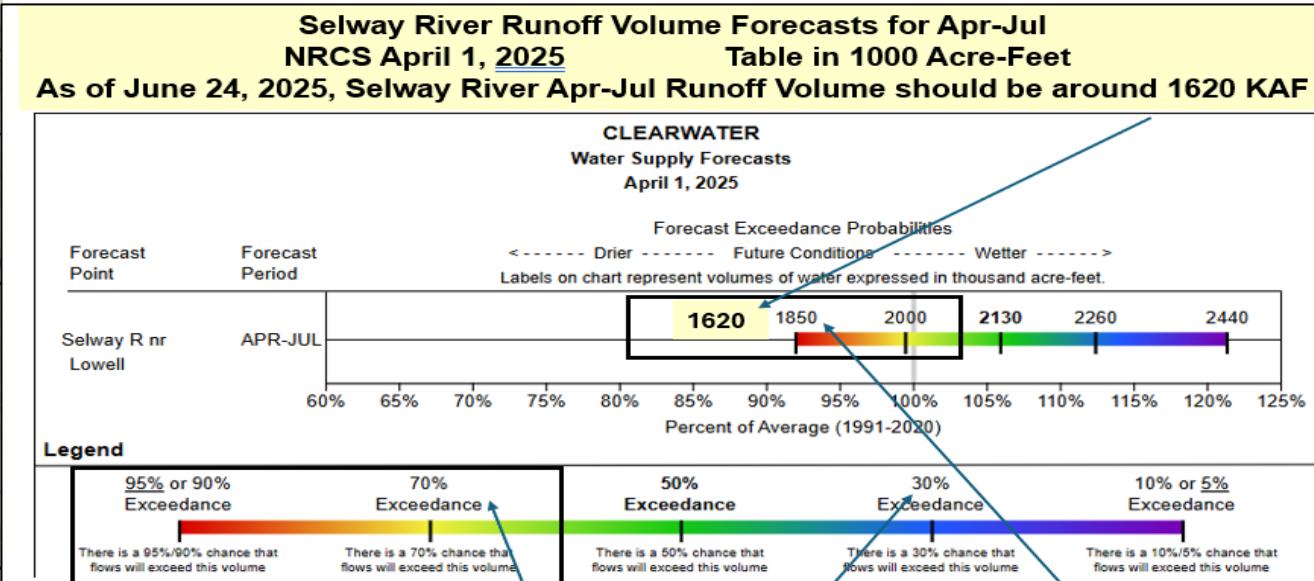


Lessons Learned and a Runoff Year to Remember



Lack of Spring Precipitation, Apr-Jun, pushed runoff forecasts down to the minimum forecast volumes, the 90% Exceedance Levels.

Spring precip impacts projected runoff when it is 75 or 125% of normal, but I don't recall a year with near normal snowpacks and record low spring precip like spring of this year.



Spring precip was only 50-70% of average and resulted in runoff less than the 90% Exceedance Forecast. This is why it's important to adjust the volume you are using in your decision-making process. FYI – it takes normal spring precip for the 50% Exceedance Forecast Range to occur.

Lessons learned in the past:

- When Apr-Jun spring precip was dry, 75% of average, runoff volumes would be in the 70% Exceedance Forecast Range.
- And if Apr-Jul spring precip was wet, 125% of average, runoff volumes would be in the 30% Exceedance Forecast Range.

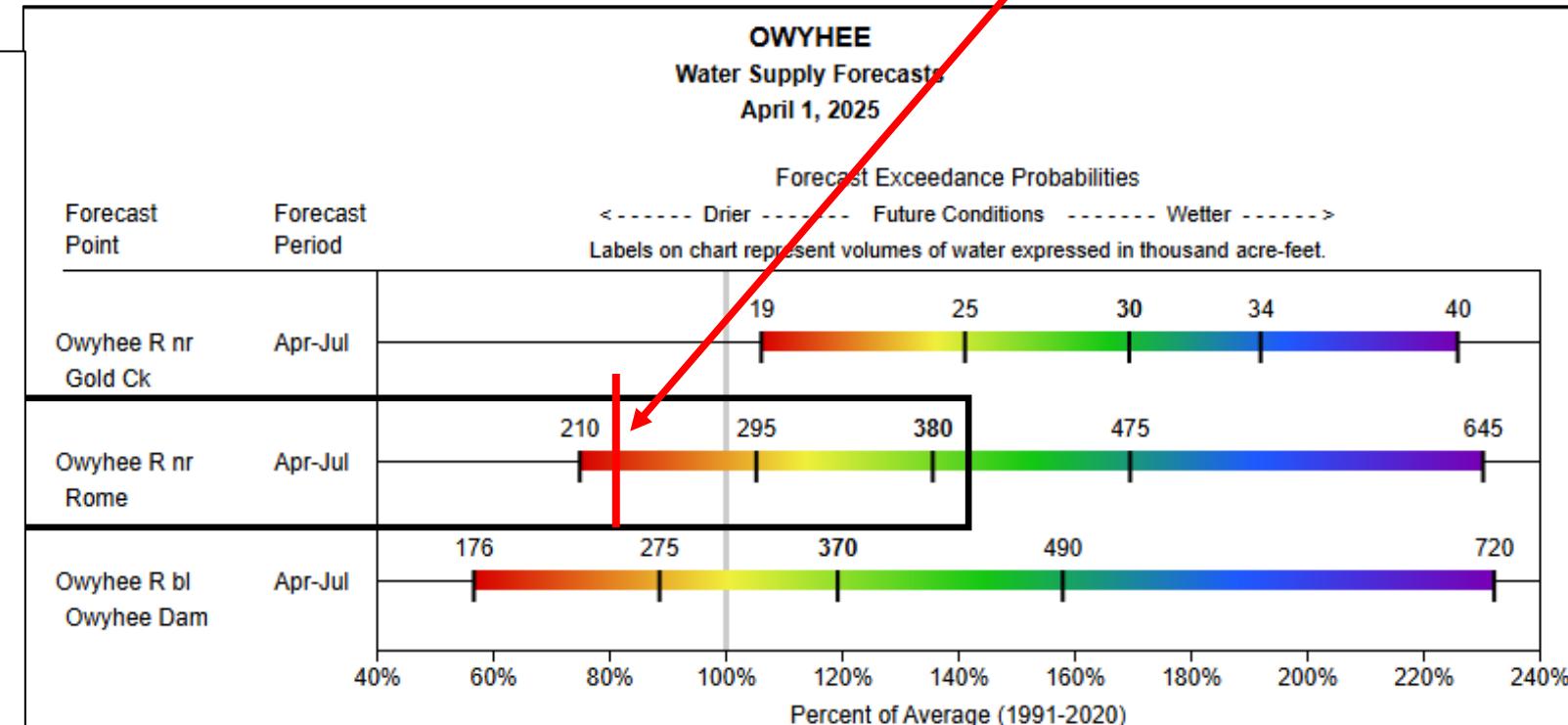
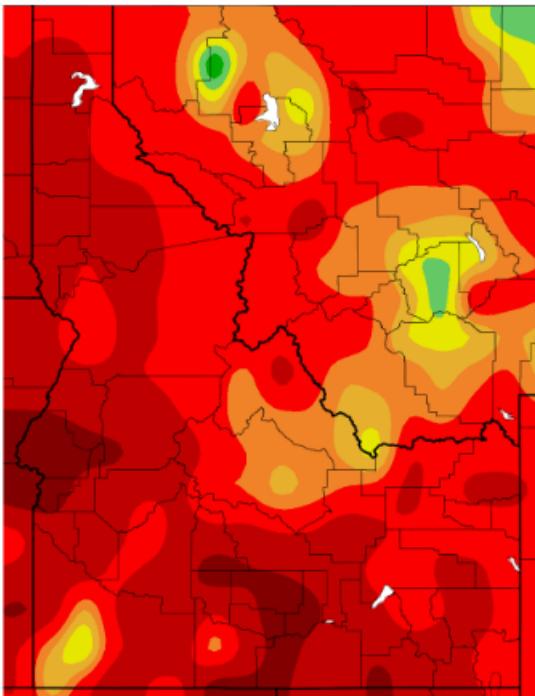
Lesson Learned about Spring Precipitation - Living with the Extremes

Owyhee River nr Rome Volume Forecasts for Apr-Jul NRCS April 1, 2025 KAF

NRCS Apr-Jul Forecast was for 380 KAF with a Min Forecast of 210 KAF.

Idaho Apr-Jun precip was only 25 - 90% of average

Percent of Normal Precipitation (%)
4/1/2025 – 6/30/2025



There is a 95%/90% chance that flows will exceed this volume

There is a 70% chance that flows will exceed this volume

There is a 50% chance that flows will exceed this volume

There is a 30% chance that flows will exceed this volume

There is a 10%/5% chance that flows will exceed this volume

Total Precipitation Anomaly: Jul 2025 - Sep 2025

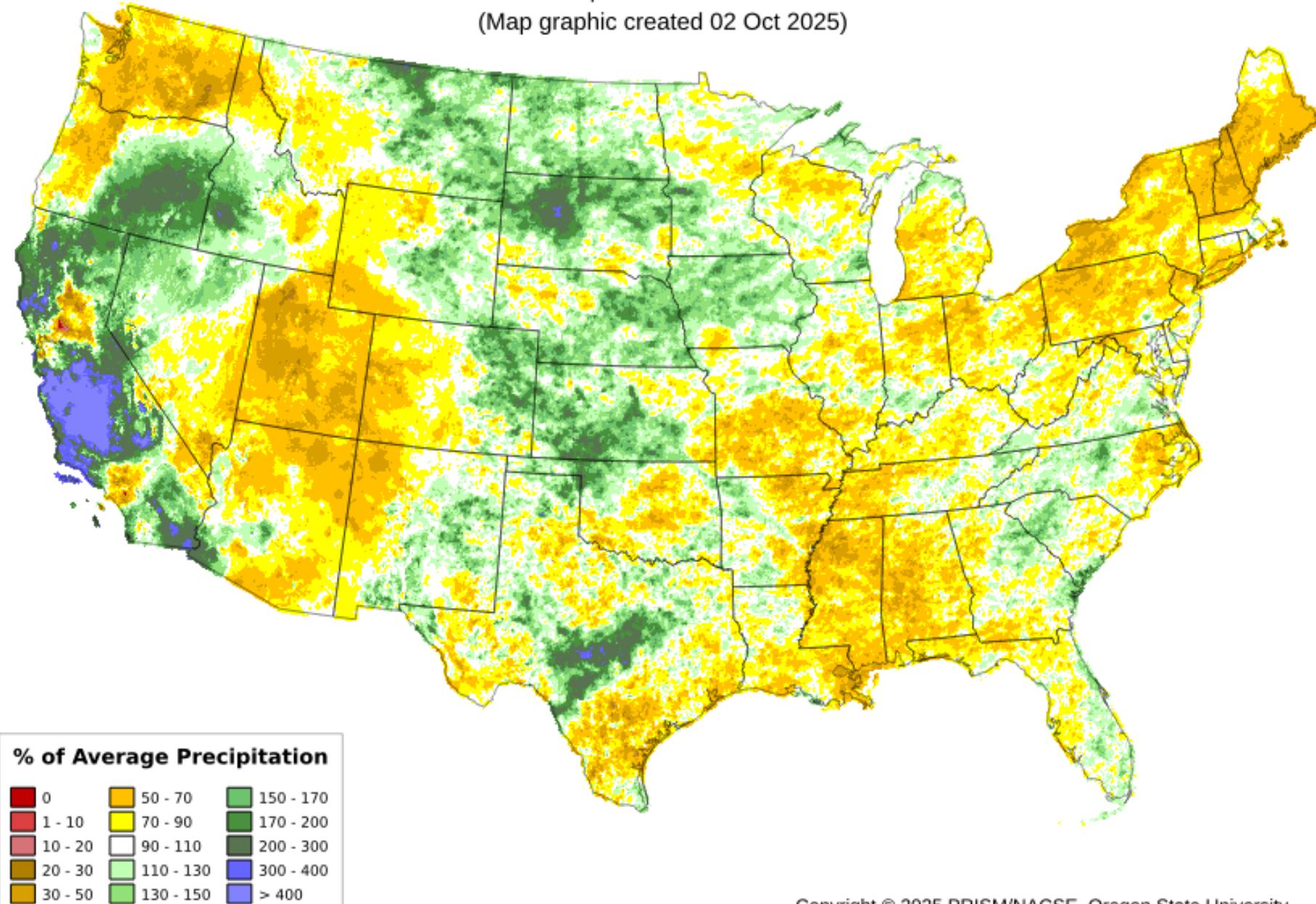
Period ending 7 AM EST 30 Sep 2025

Base period: 1991 - 2020

(Map graphic created 02 Oct 2025)

**Summer Precipitation
Near normal or better in
SW Idaho.**

**Helped but too late to
benefit spring runoff.**





The Earth is almost never shown like this. This is our planet from the side of the Pacific Ocean.

SOU

**Why we study the Pacific Ocean ? It's Huge!
Pacific Ocean view you don't always see.**

**SOI Correlation Map with spring /summer runoff.
Same relationship can be found with Sea Surface Temps.**

Key is – what happens during July-Nov correlates with our winter snowfall and summer streamflow in Western US.

**Southern Oscillation Index (SOI)
measure of the Pacific Atmosphere**

**Correlation Map of SOI
with Spring-Summer Streamflow**

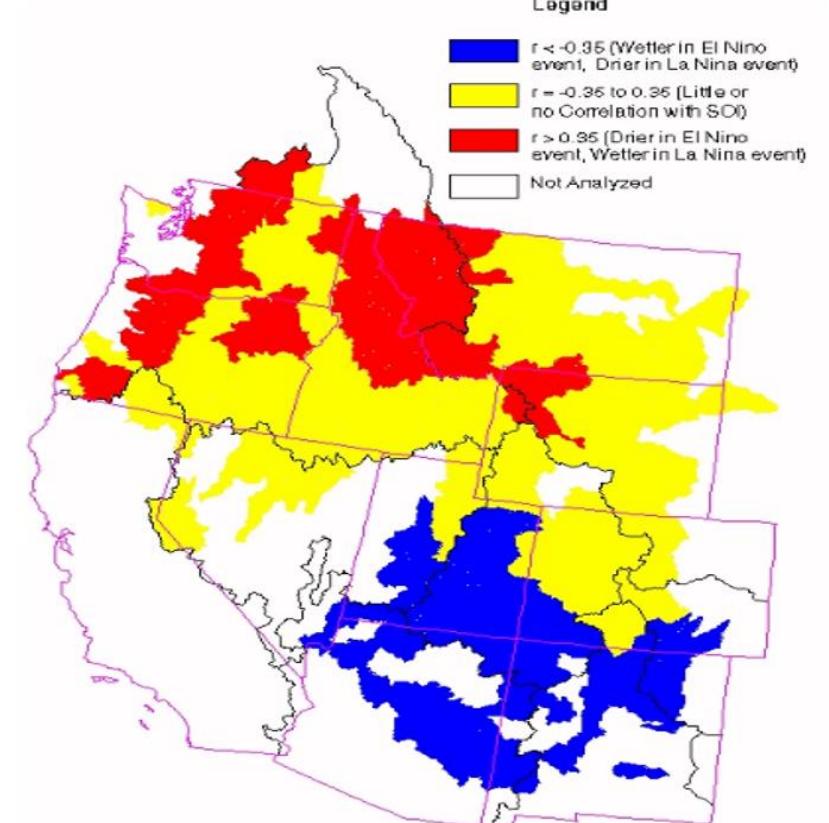
Red wetter in La Niña years.

Blue wetter in El Niño years.

Key is – what happens July-Nov in Pacific correlates with snowfall and summer streamflow in Western US.

Clearwater Basin has correlation value of 0.67

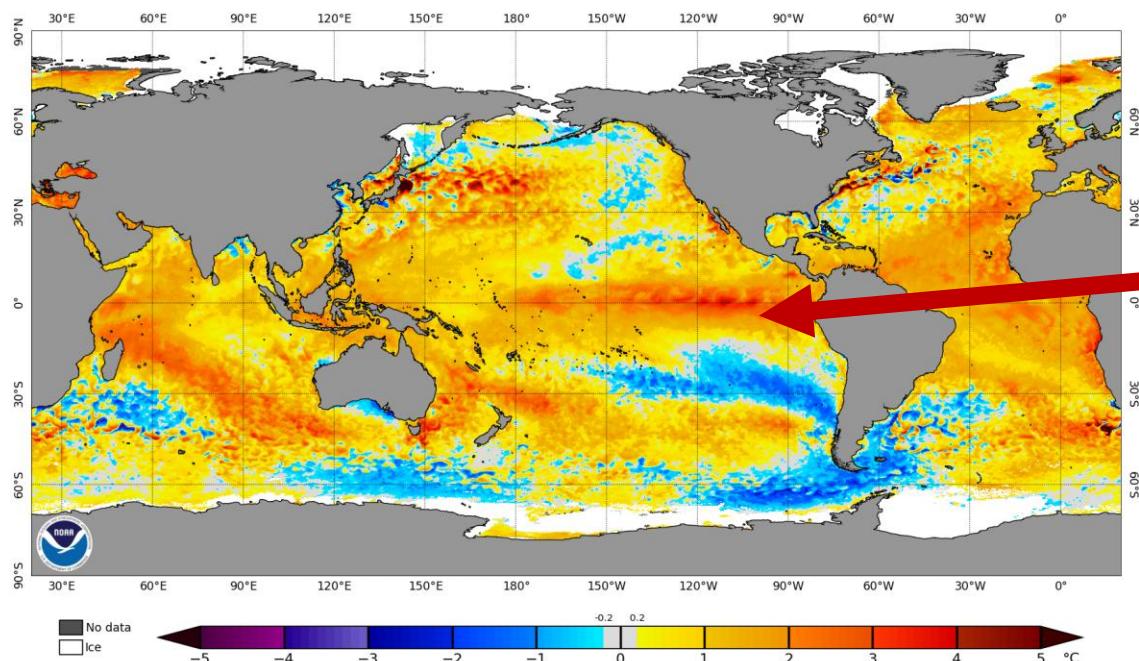
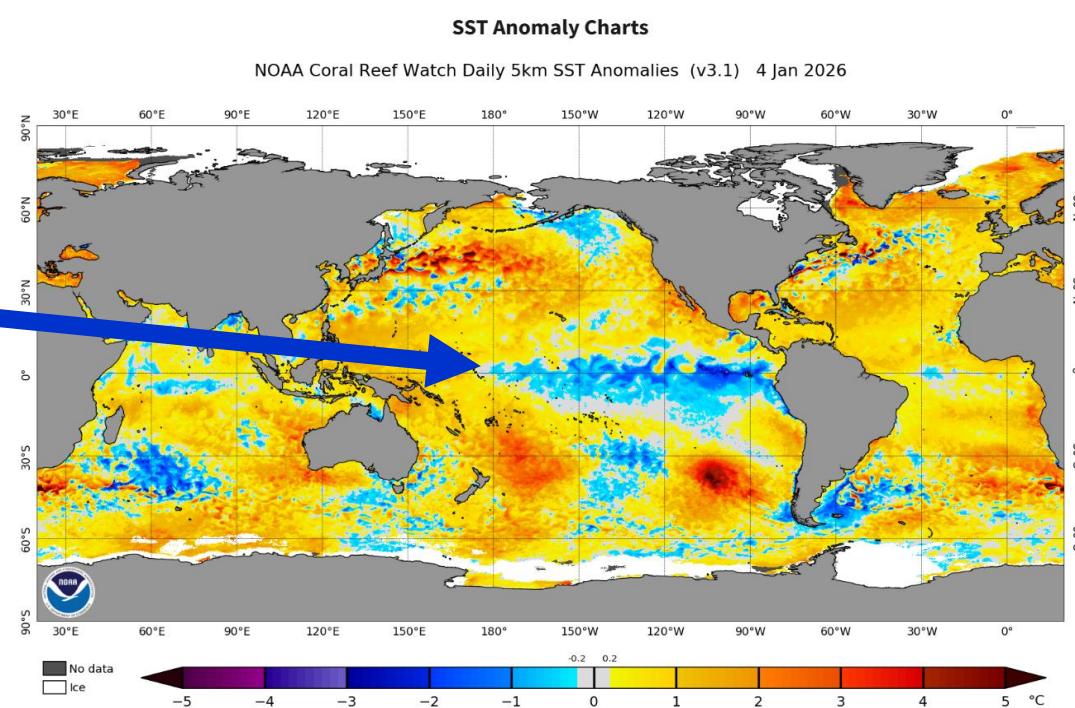
Figure 1. Correlation Map of the Southern Oscillation Index (SOI) with spring and summer runoff.





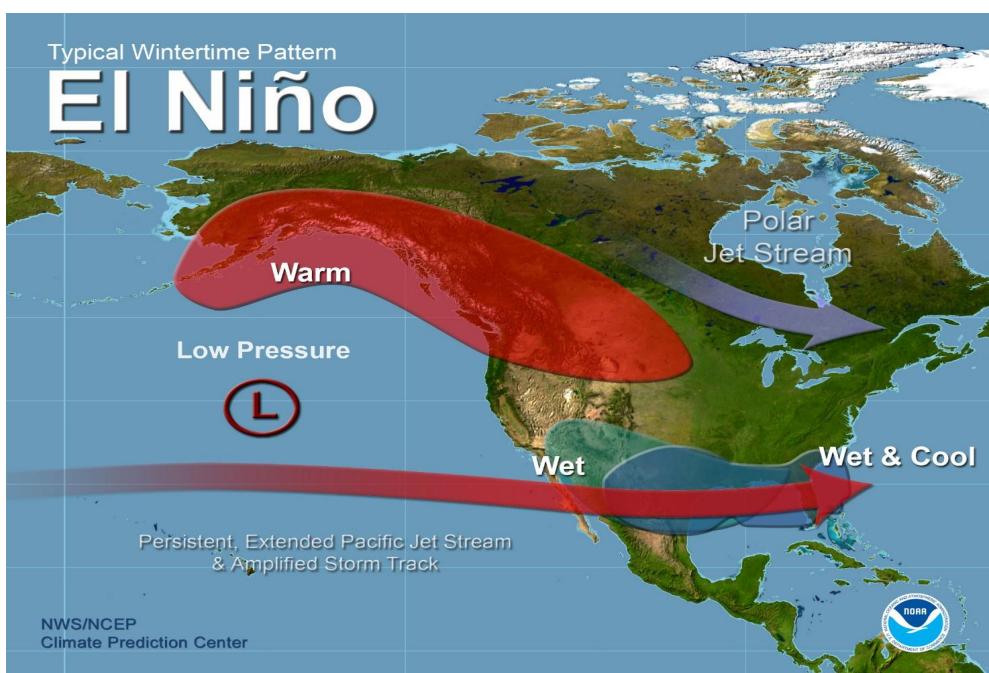
Sea Surface Temperatures

**La Niña
Conditions
Jan 4, 2026**



**El Niño
Conditions
Jan 1, 2024**

**El Niño
brewing for
2026-27
Winter**

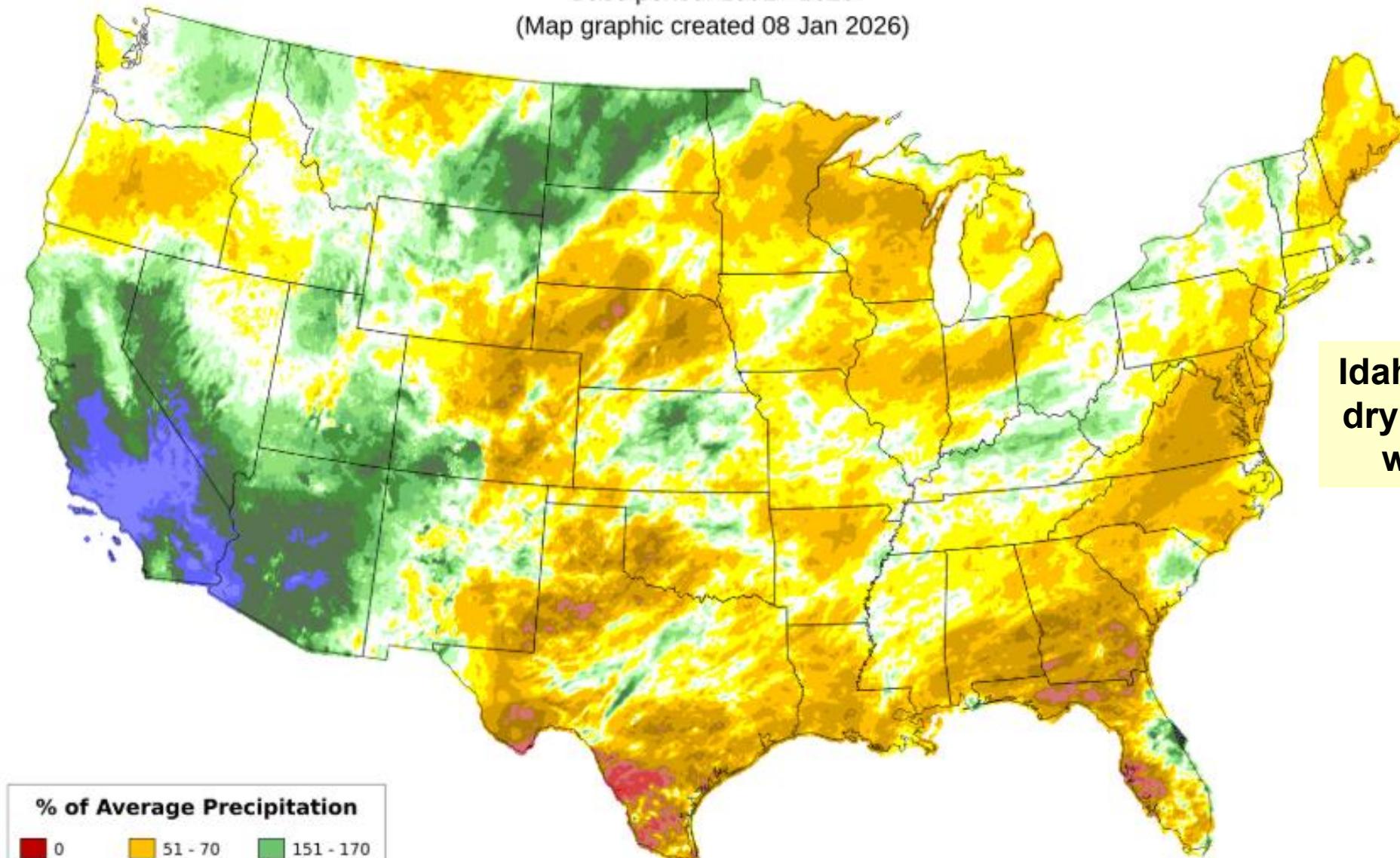


Total Precipitation Anomaly: Oct 2025 - Nov 2025

Period ending 7 AM EST 30 Nov 2025

Base period: 1991 - 2020

(Map graphic created 08 Jan 2026)



**Idaho Oct-Nov Precipitation
dry with warm temps as we
waited for snow to fall.**

% of Average Precipitation

0	51 - 70	151 - 170
1 - 10	71 - 90	171 - 200
11 - 20	91 - 110	201 - 300
21 - 30	111 - 130	301 - 400
31 - 50	131 - 150	> 400

Another Signal of What Might be Expected Soon:

Mid-Nov Southern Oscillation Index (SOI) Spikes

Dry & warm weather pattern continued until around Dec 18 as the weather pattern finally changed for the better.

Jan 14 2014 daily SOI (Southern Oscillation Index) value was above 50, and the pressure at Darwin was at 998mb for 2nd consecutive day.

Nov 19 & 23 2025 SOI was 38.

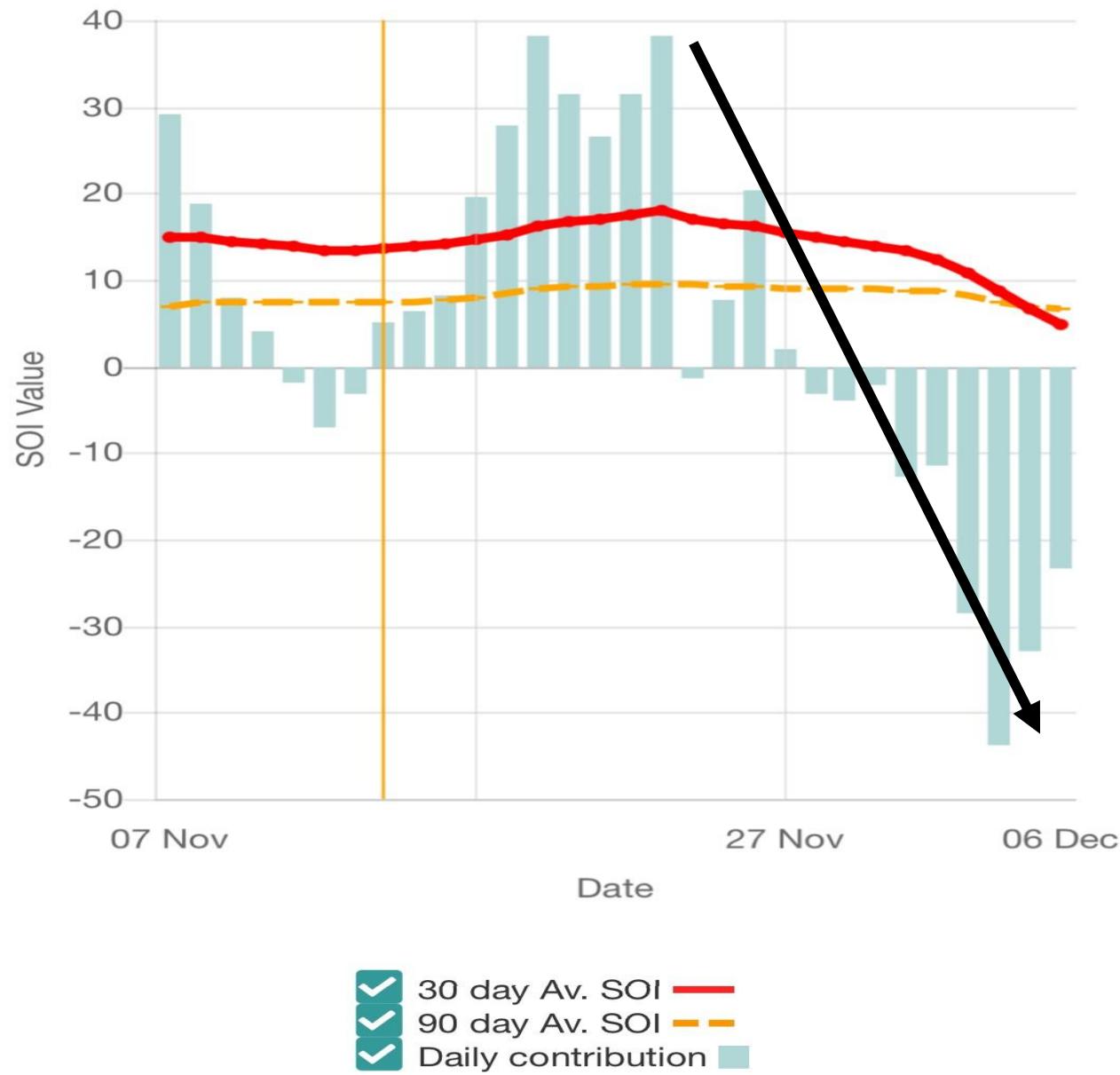
A reading of a 50 does not occur often, based on 23+ years of record.

Here are FEW times the SOI daily number has been in the mid 40's or above and events that followed:

- Nov 19 & 23 2025: (38.) Numerous Storms Dec 18-Jan1
- Jan 14/15 2014: (54.90) Abundant Moisture Feb/Mar 2014
- Dec 25 2011: (49.20) Snowstorm/Arctic Blast Jan 14, 2012
- Jan 17/18 2011: (50.87, 55.43) Snow/Arctic Blast Feb 24, 2011
- Dec 22/23 2003: (44.34, 44.34) Snow/Arctic Blast Jan 2, 2004
- Dec 4/5 2000: (49.61, 47.14) Modified Arctic Air Dec 10-15, 2000
- Dec 11/12 1998: (51.02, 49.60) Major Arctic Blast Dec 19, 1998

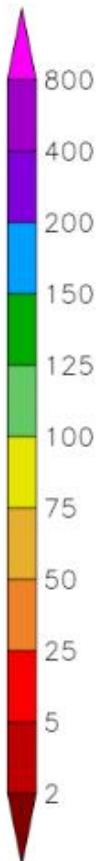
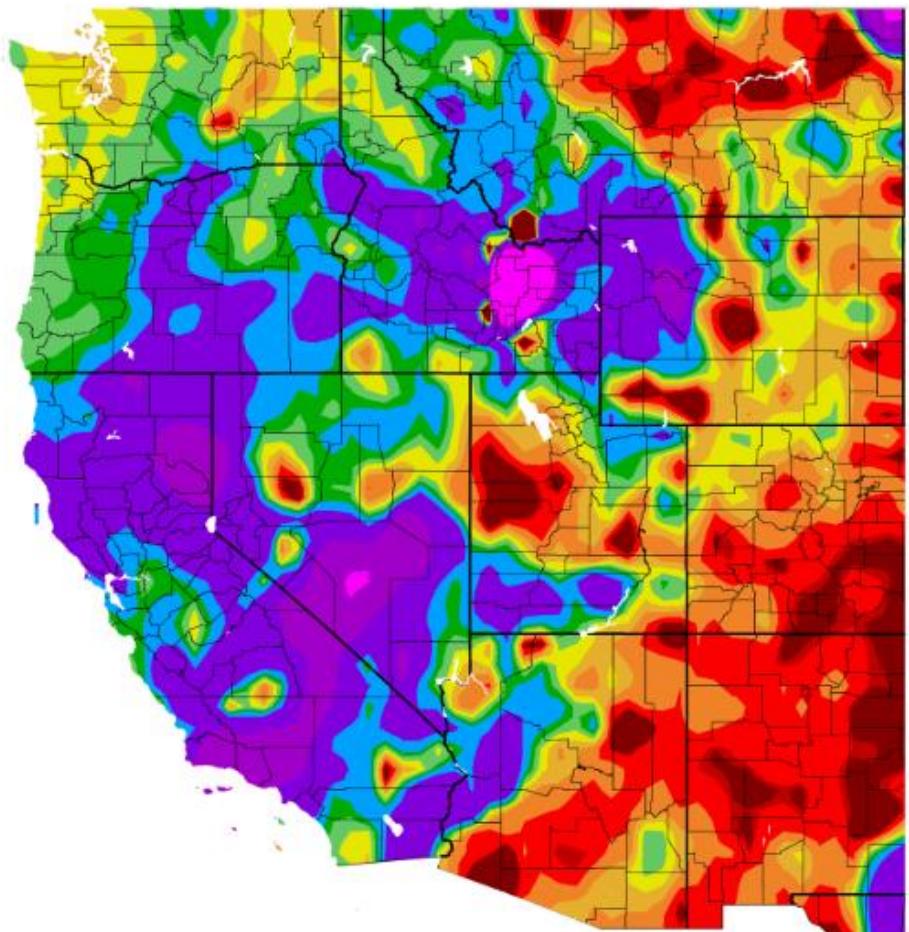
It's no fool proof method, but is now showing agreement with models

Recent (preliminary) Southern Oscillation Index values



Nov spikes of SOI near 40 and drops to -40 in a few weeks.

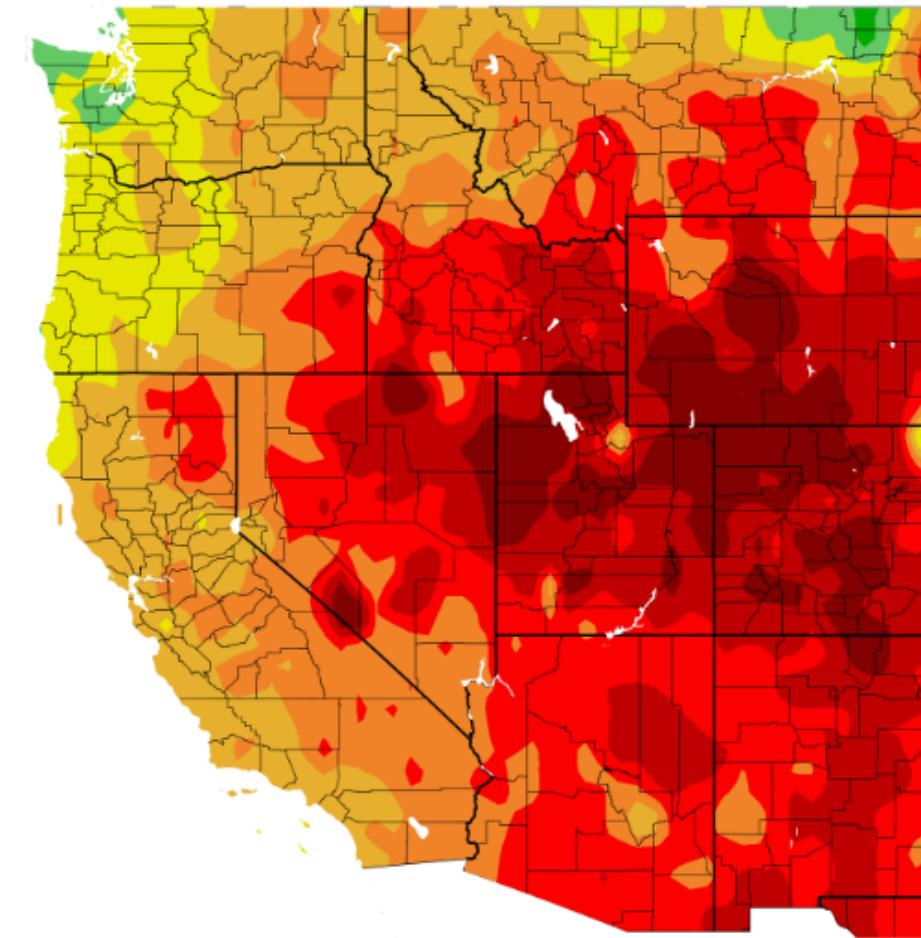
Percent of Normal Precipitation (%)
12/18/2025 – 12/31/2025



Pockets of well above normal precipitation fell across central Idaho Dec 18 - 31 with Big/Little Lost pushing 800% of normal.

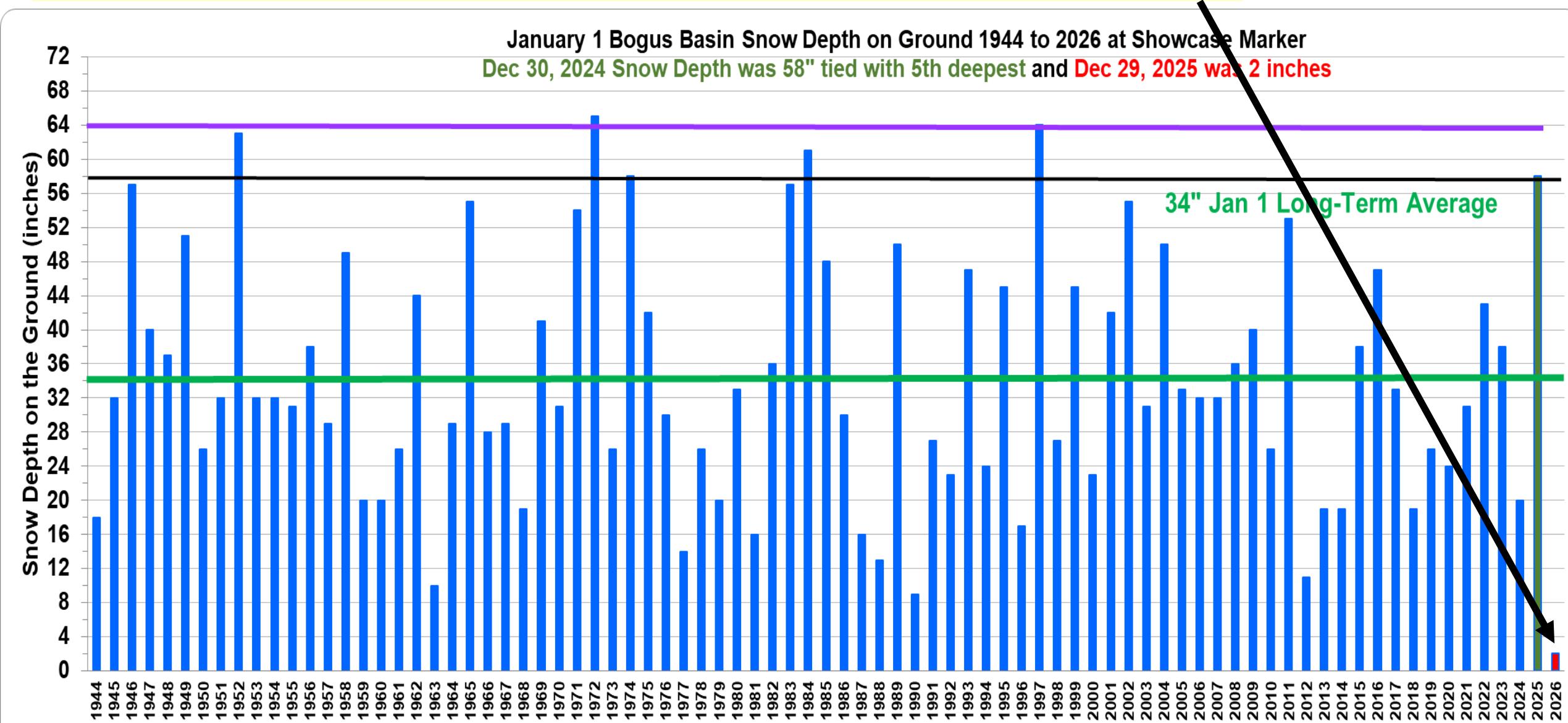
But temps were above normal.

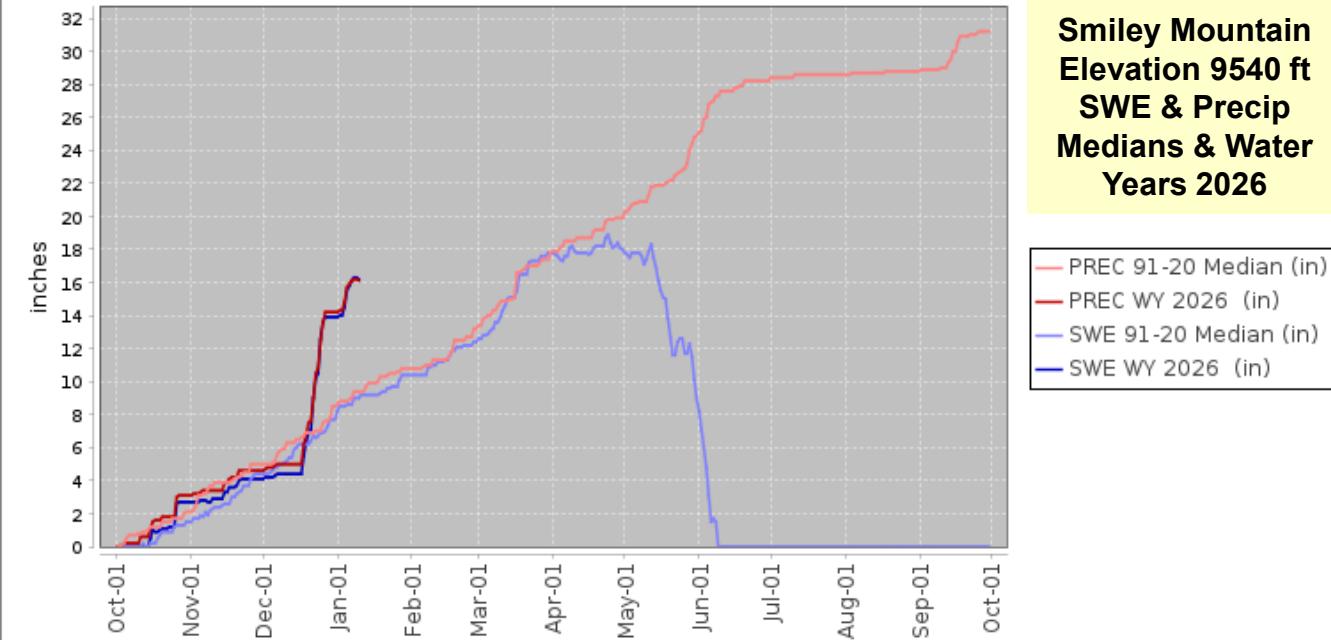
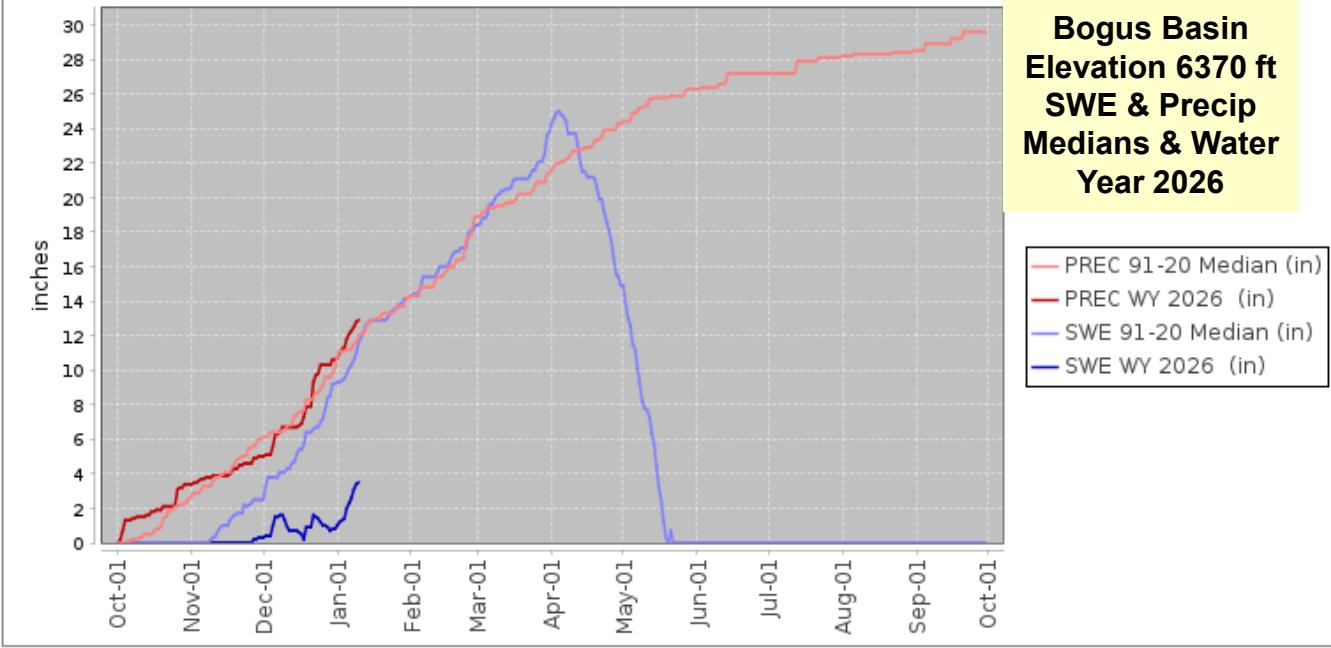
Departure from Normal Temperature (F)
12/18/2025 – 12/31/2025



April 2025 - Bogus Basin reached 100" of snow depth for the 8th time since 1942.

What a difference a year makes – Jan 2026 Bogus Basin Snow Depth was 2 Inches





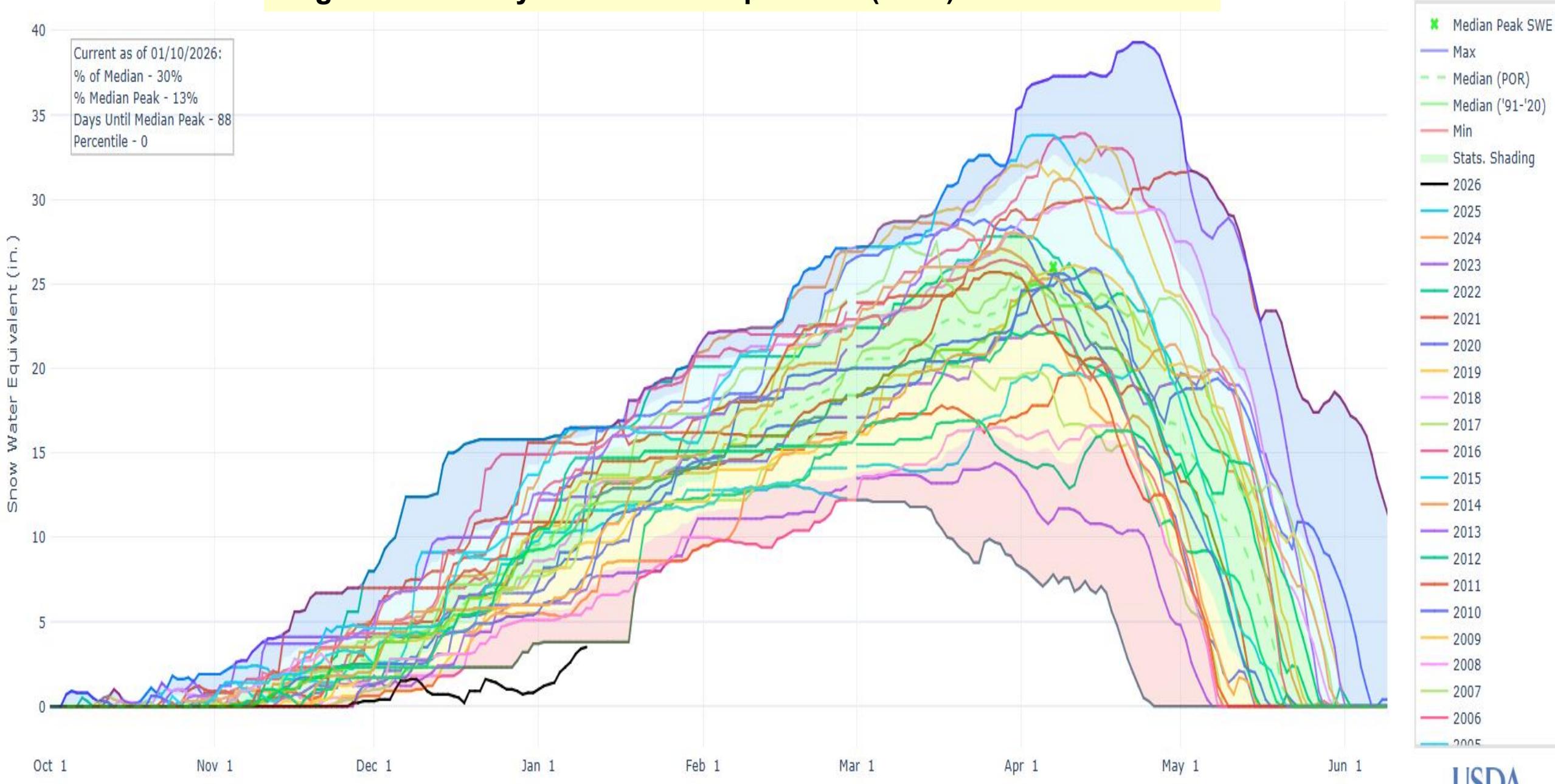
Summary A Temperature Driven Snow Drought

Here's a summary of the warmer Bogus Basin temperatures that allowed precipitation to fall as rain rather than snow compared to a few other higher elevation sites in across central Idaho.

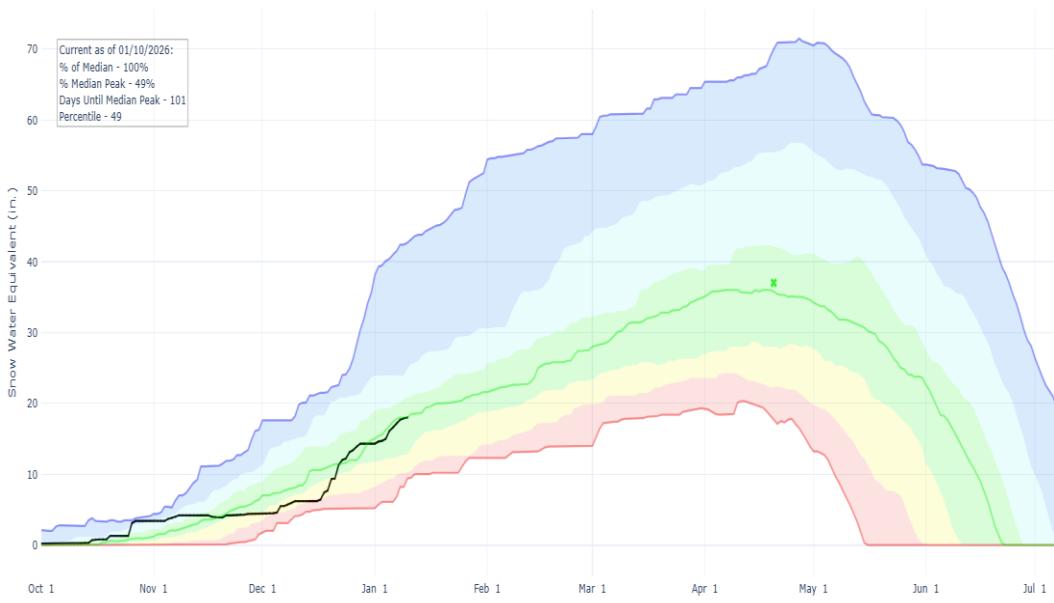
Interesting graphs, with warmer temps at Bogus Basin, elevation 6370 feet, top graph, most of precipitation fell as rain instead of snow. Normal precip with little snow to show. **Temperature Driven Snow Drought.**

While Smiley Mountain, elevation 9540 feet in the Big Lost River Basin, had nearly all precipitation since mid-October fall as snow and remain on the ground. SWE is 171%, highest in the state/region. **No Snow Drought here.**

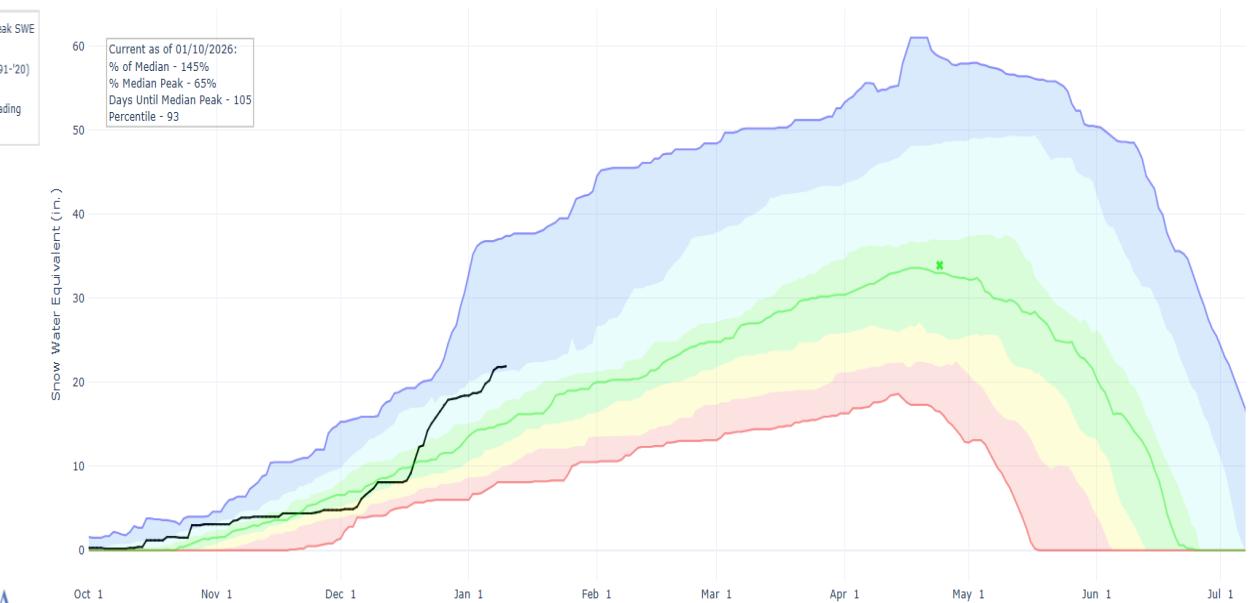
Bogus Basin Daily Snow Water Equivalent (SWE) Years 2000 - 2026



TRINITY MTN., ID (830) SNOW WATER EQUIVALENT

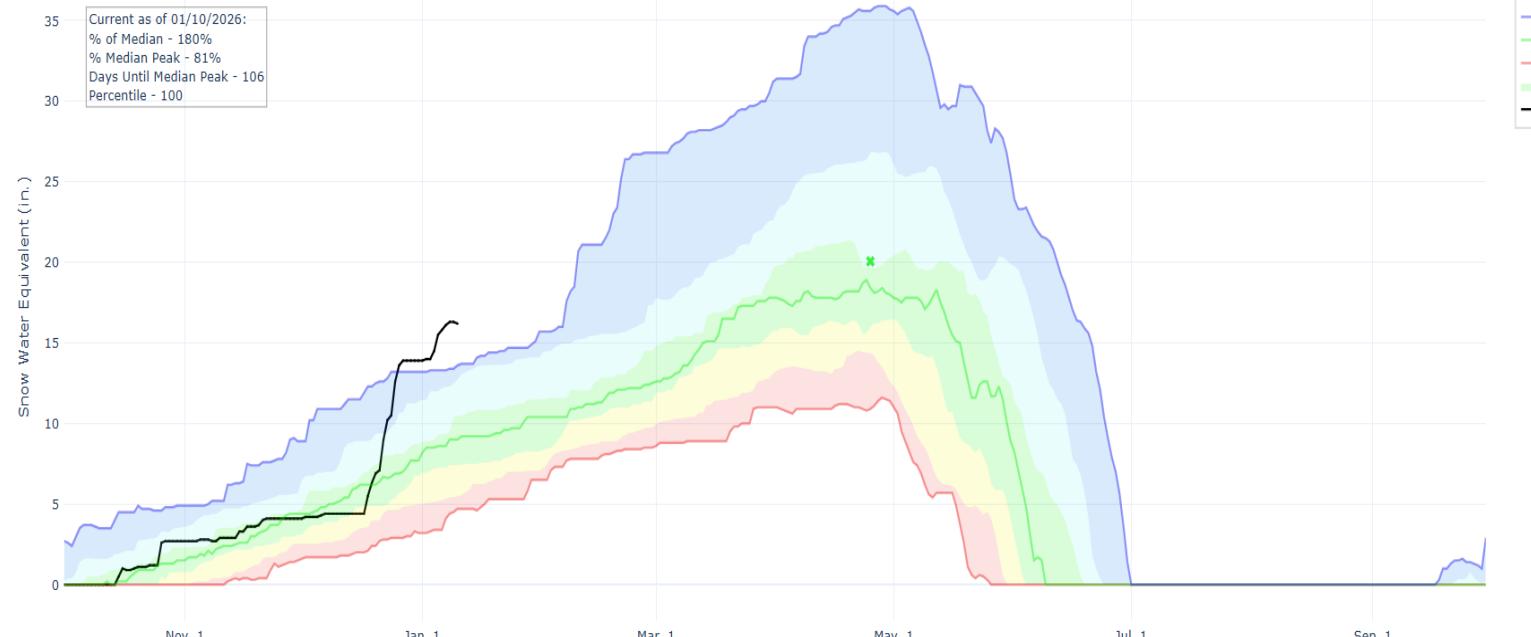


VIENNA MINE, ID (845) SNOW WATER EQUIVALENT



USDA

SMILEY MOUNTAIN, ID (926) SNOW WATER EQUIVALENT



USDA

Jan 10, 2026
Colder higher elevation
temps allowed precip to fall
as snow at other SNOTEL
sites across central Idaho.

Elevations of sites in feet:

Bogus Basin 6370

Trinity Mtn 7790

Vienna Mine 8930

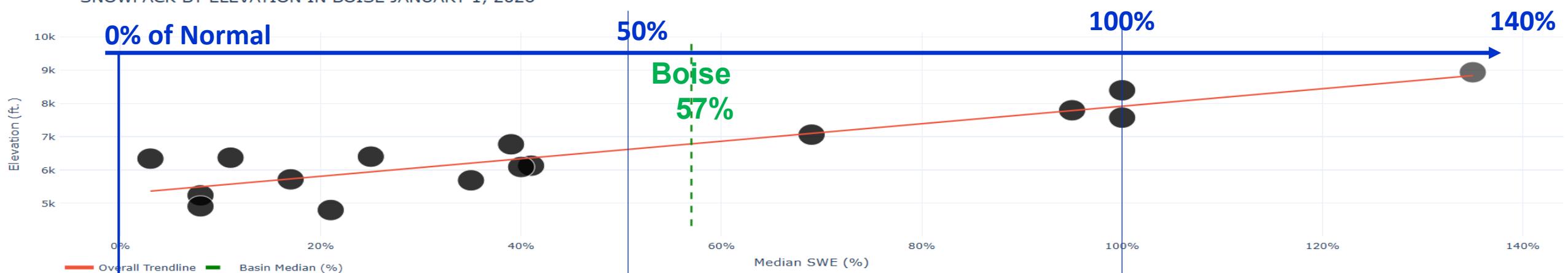
Smiley Mountain 9540

Median Peak SWE
 Max
 Median ('91-'20)
 Min
 Stats. Shading
 2026

Median Peak SWE
 Max
 Median ('91-'20)
 Min
 Stats. Shading
 2026

USDA

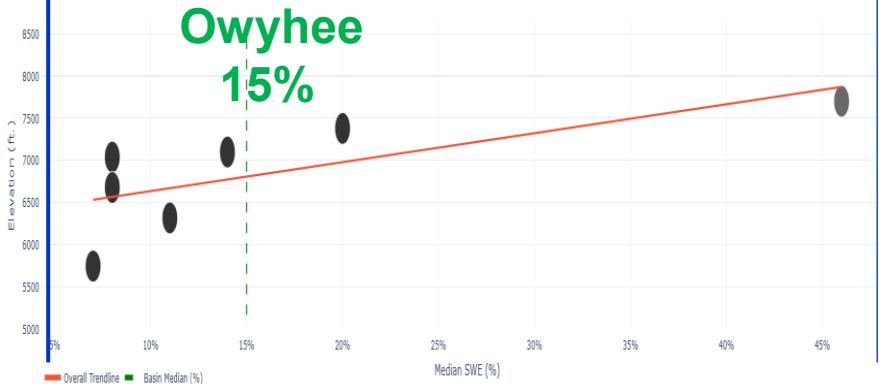
SNOWPACK BY ELEVATION IN BOISE JANUARY 1, 2026



SNOWPACK BY ELEVATION IN PAYETTE JANUARY 1, 2026



SNOWPACK BY ELEVATION IN Owyhee JANUARY 1, 2026

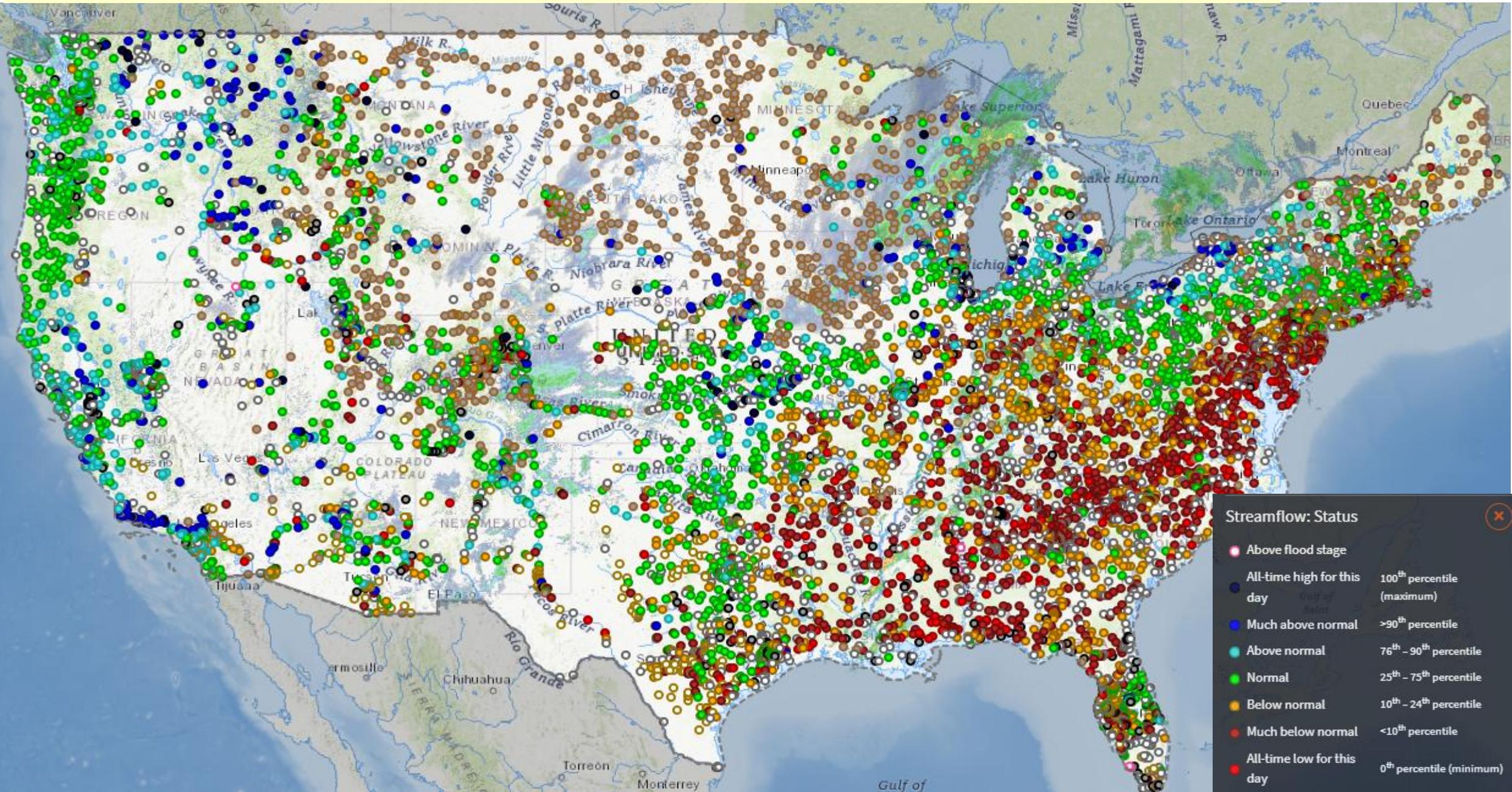


Jan 1, 2026
Snowpack by Elevation

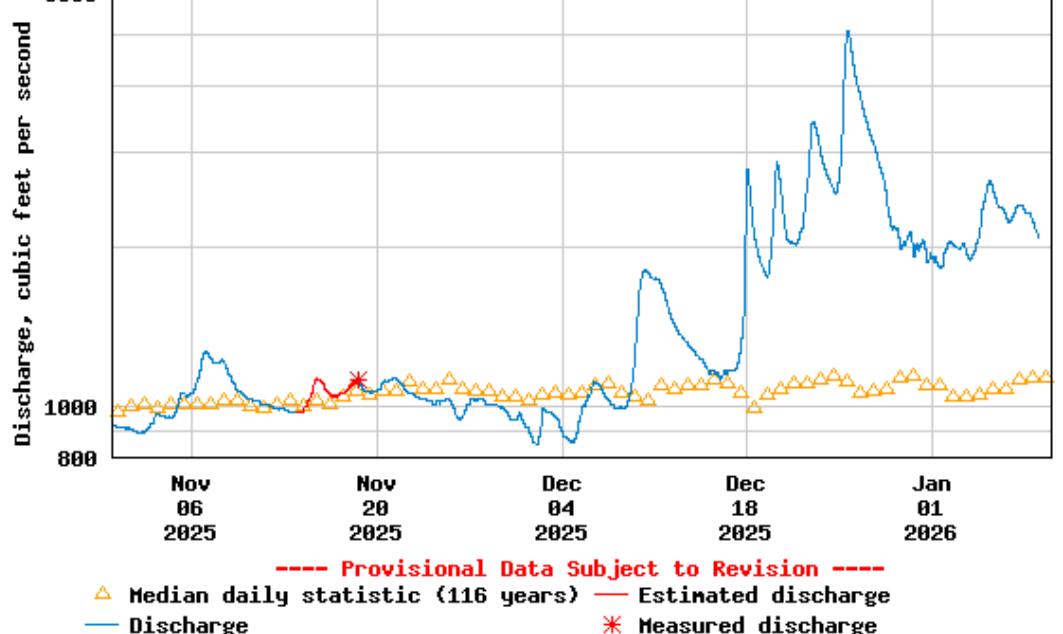
Overall Snowpack:
Boise 57%
Payette 50%
Owyhee 15%

Snapshot of Current River Flow for Jan 8, 2026

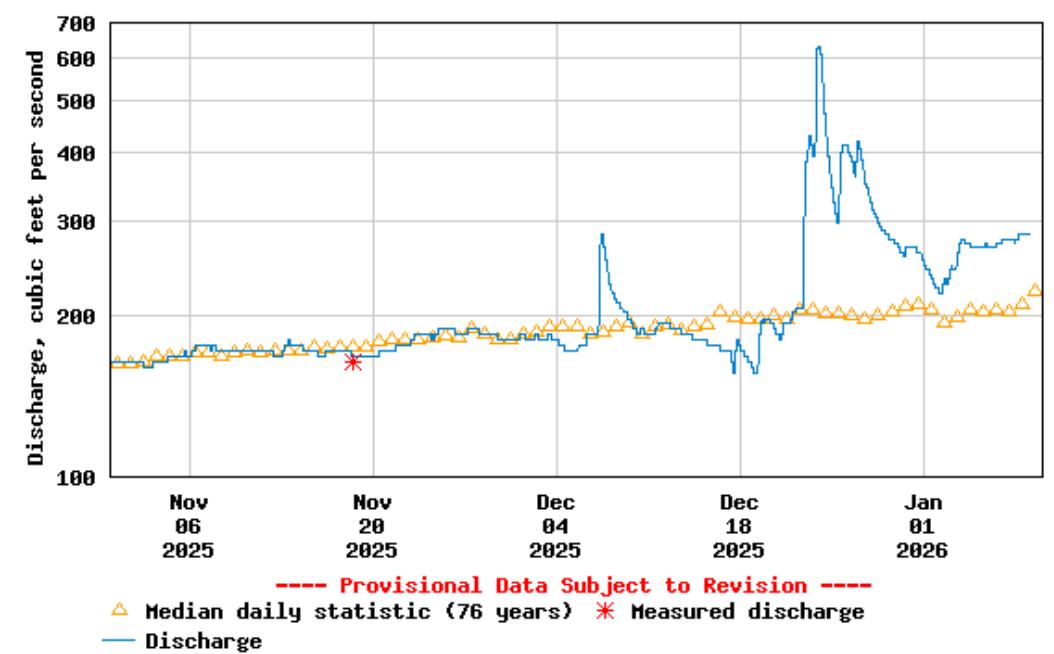
Red Much Below or Record Low --- Blue Much Above Avg --- Black Record High



USGS 13247500 PAYETTE RIVER NR HORSHOE BEND ID

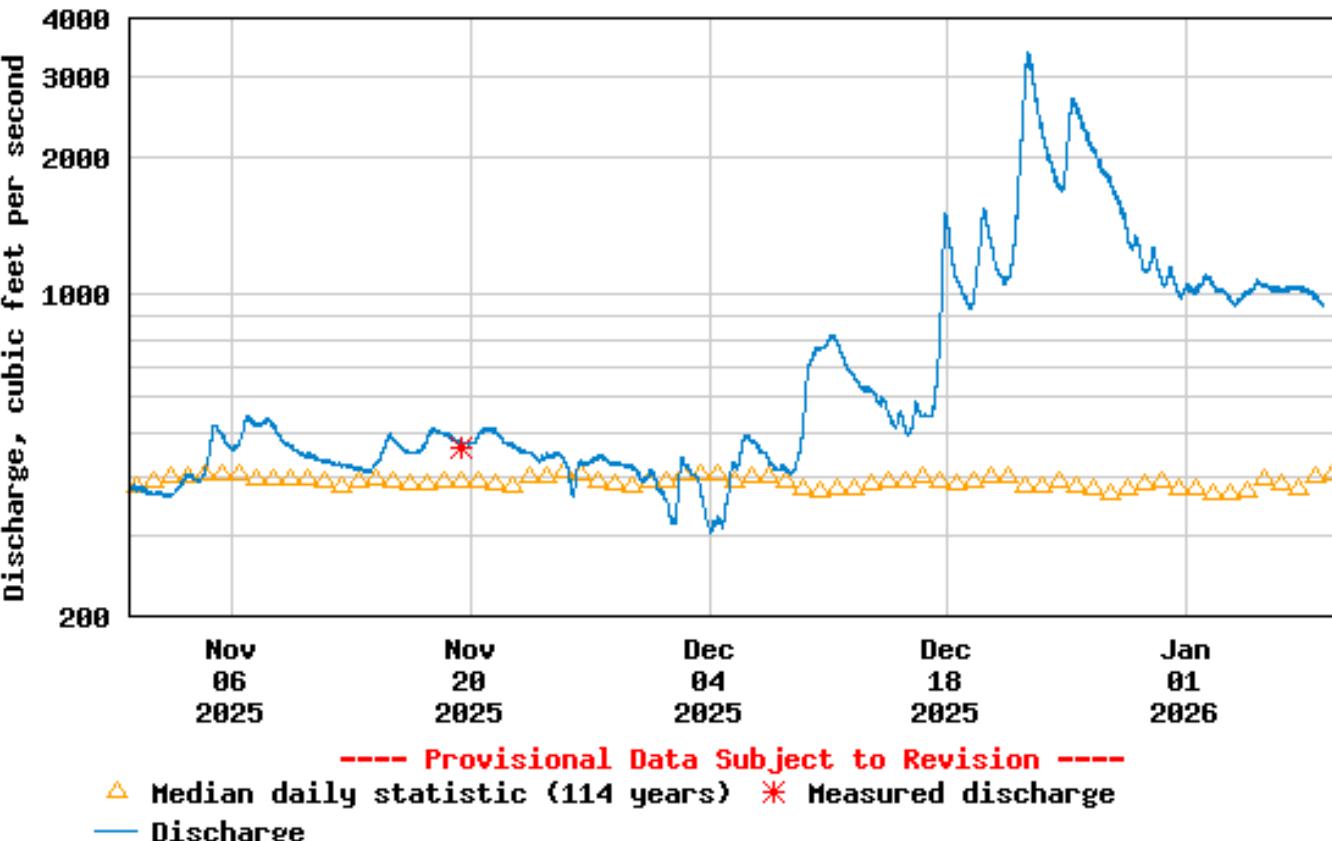


USGS 13181000 Owyhee River NR Rome OR



December Flow Increase after Dec 18 Weather Pattern Change

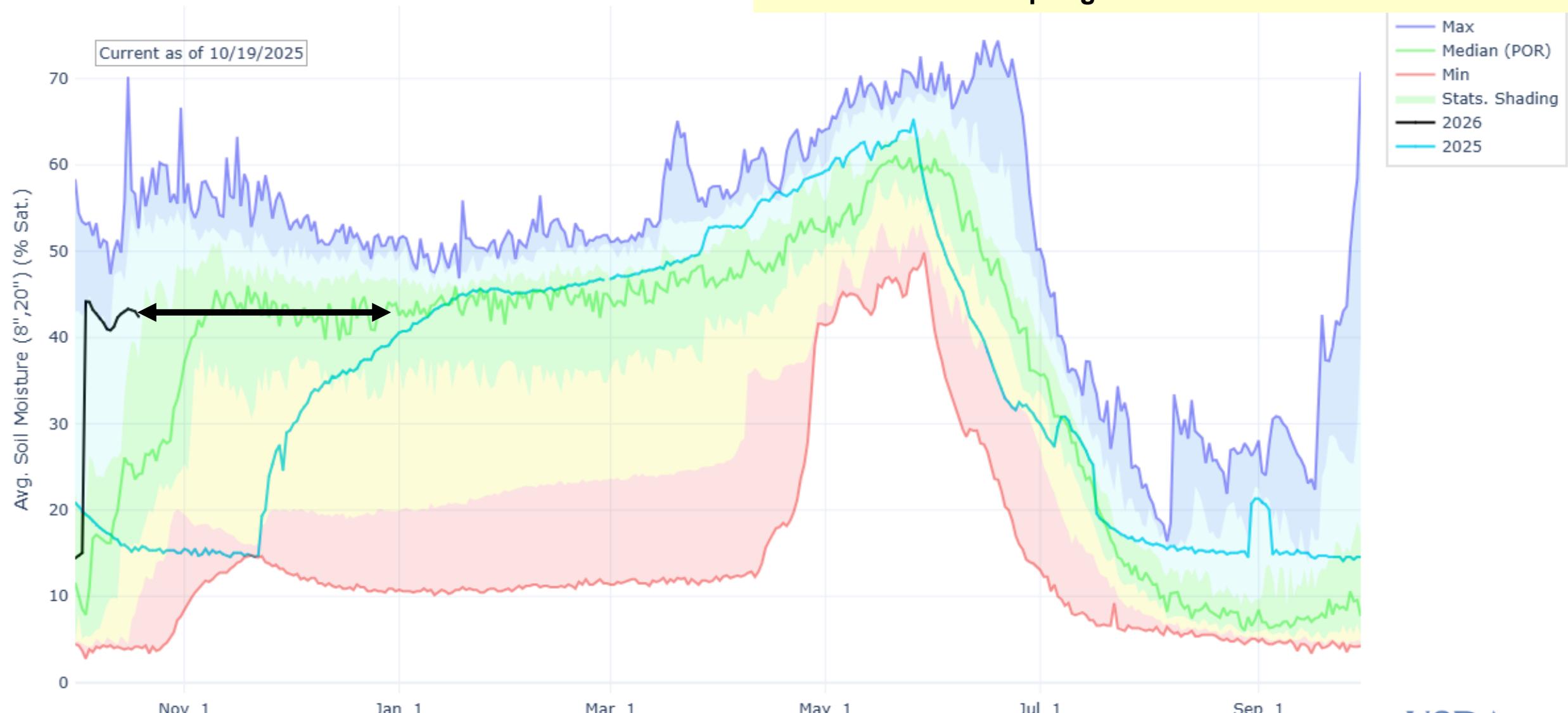
USGS 13185000 BOISE RIVER NR TWIN SPRINGS ID



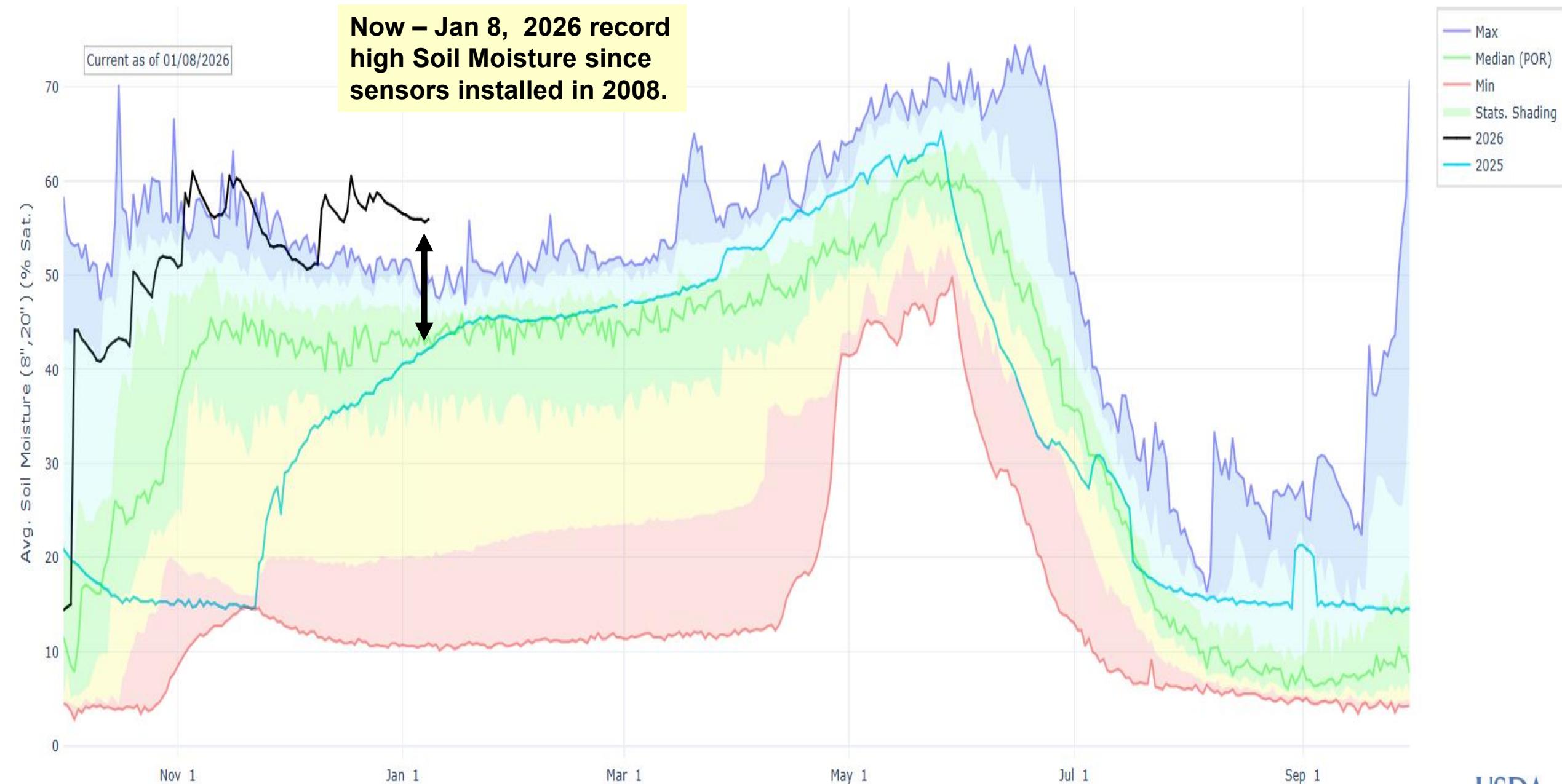
Soil Moisture Increase from Oct Rains

BANNER SUMMIT, ID (312) AVG. SOIL MOISTURE (8",20")

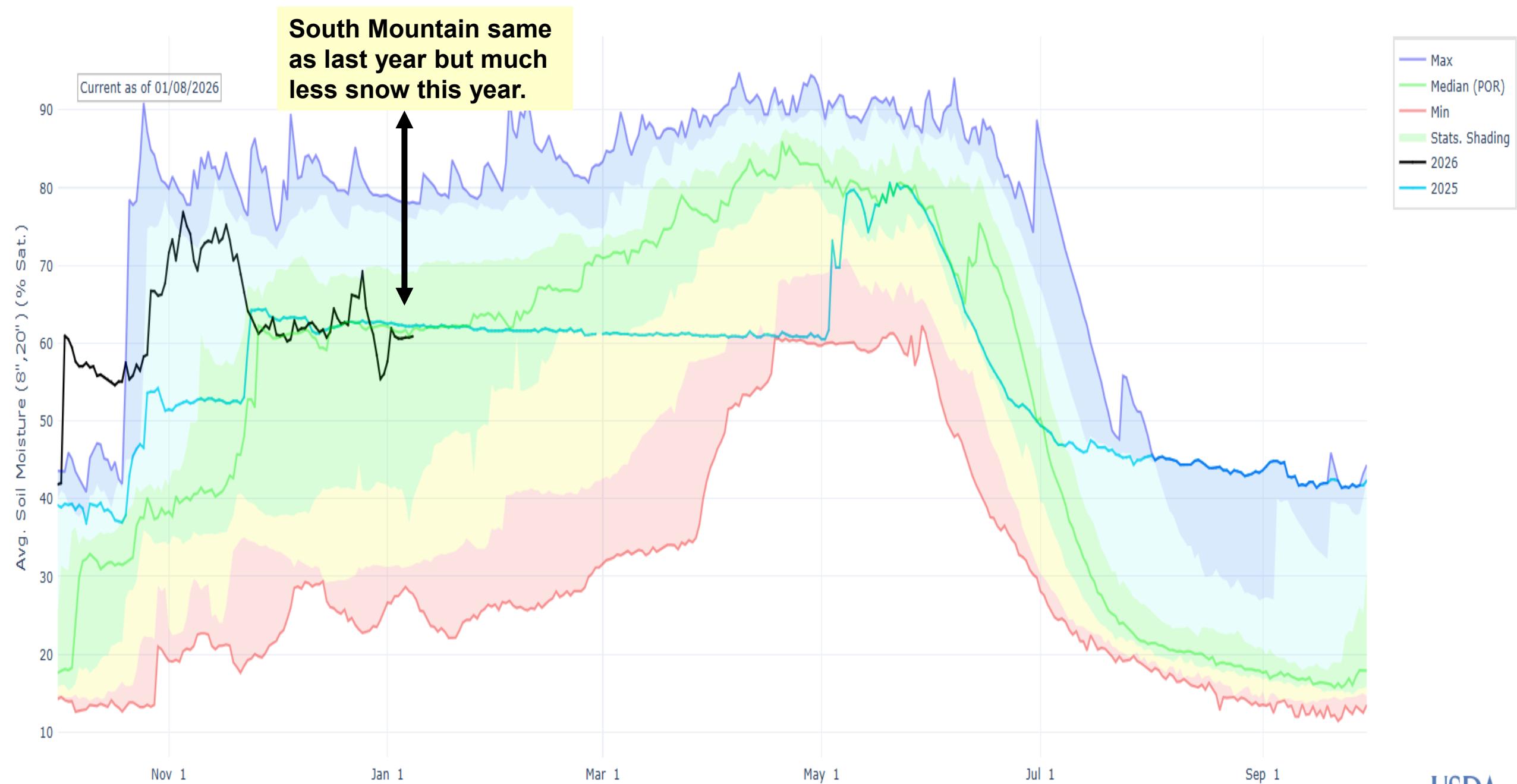
Early October rains benefitted soil moisture in the mountains around Banner Summit. Soil moisture levels were approaching January 2025. This is all good news to improve forest conditions and runoff for next spring.



BANNER SUMMIT, ID (312) AVG. SOIL MOISTURE (8",20")



SOUTH MTN., ID (774) AVG. SOIL MOISTURE (8",20")



Seasonal Climate Forecast

January – March 2026

Issued: December 18, 2025



Contact: ODF Lead Meteorologist Pete Parsons
503-945-7448 or peter.qj.parsons@odf.oregon.gov

Forecast Highlights

- This forecast is based on weather that occurred during the 1968, 1982, & 2018 analog years. No changes to these years from last month.

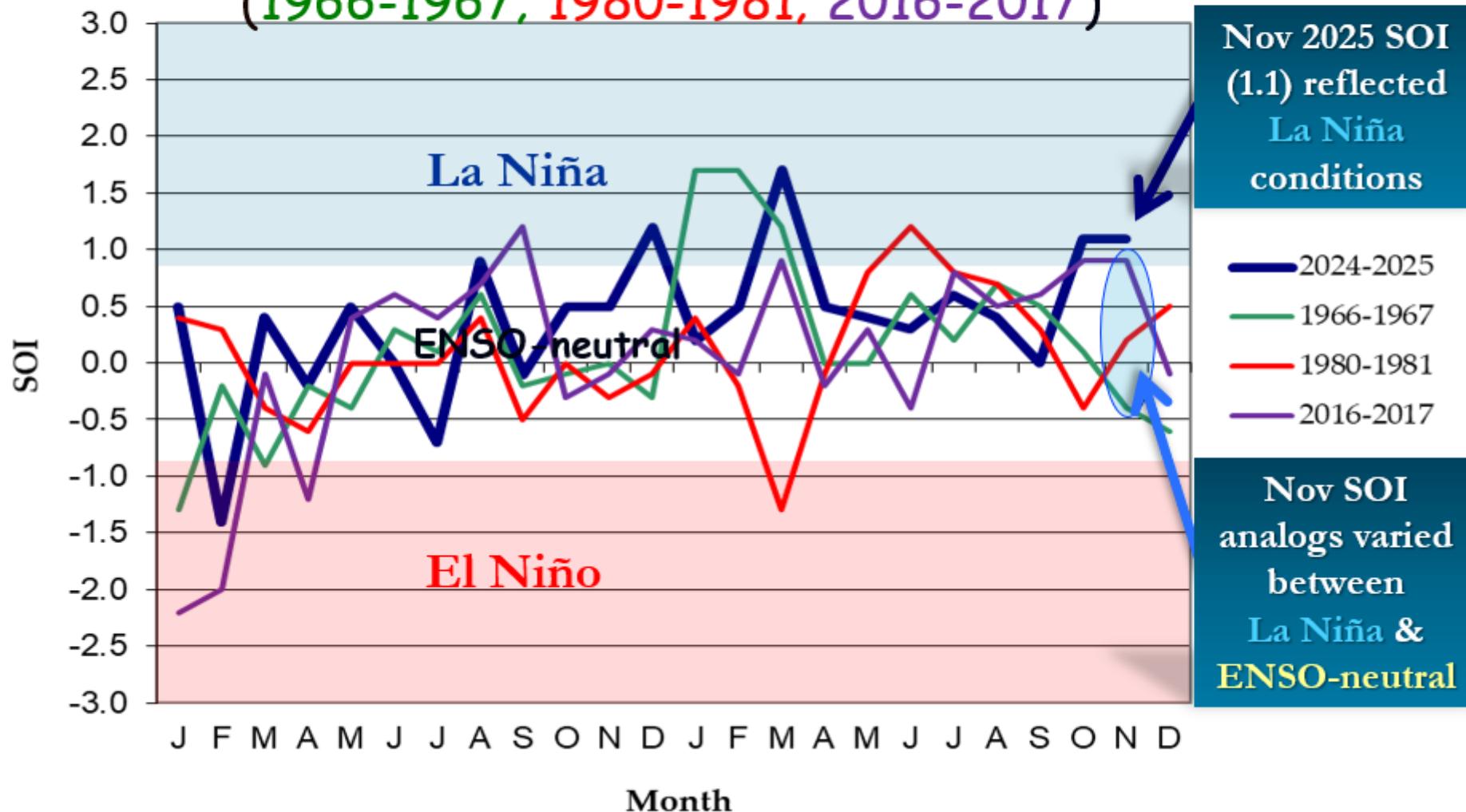
Current Analog Years Based on Current SOI, ONI and PDO conditions:
1967-68 1981-82 2017-18 2001-02 is/was a runner up

Southern Oscillation Index (SOI)

SOI values from the top "analog years" compared

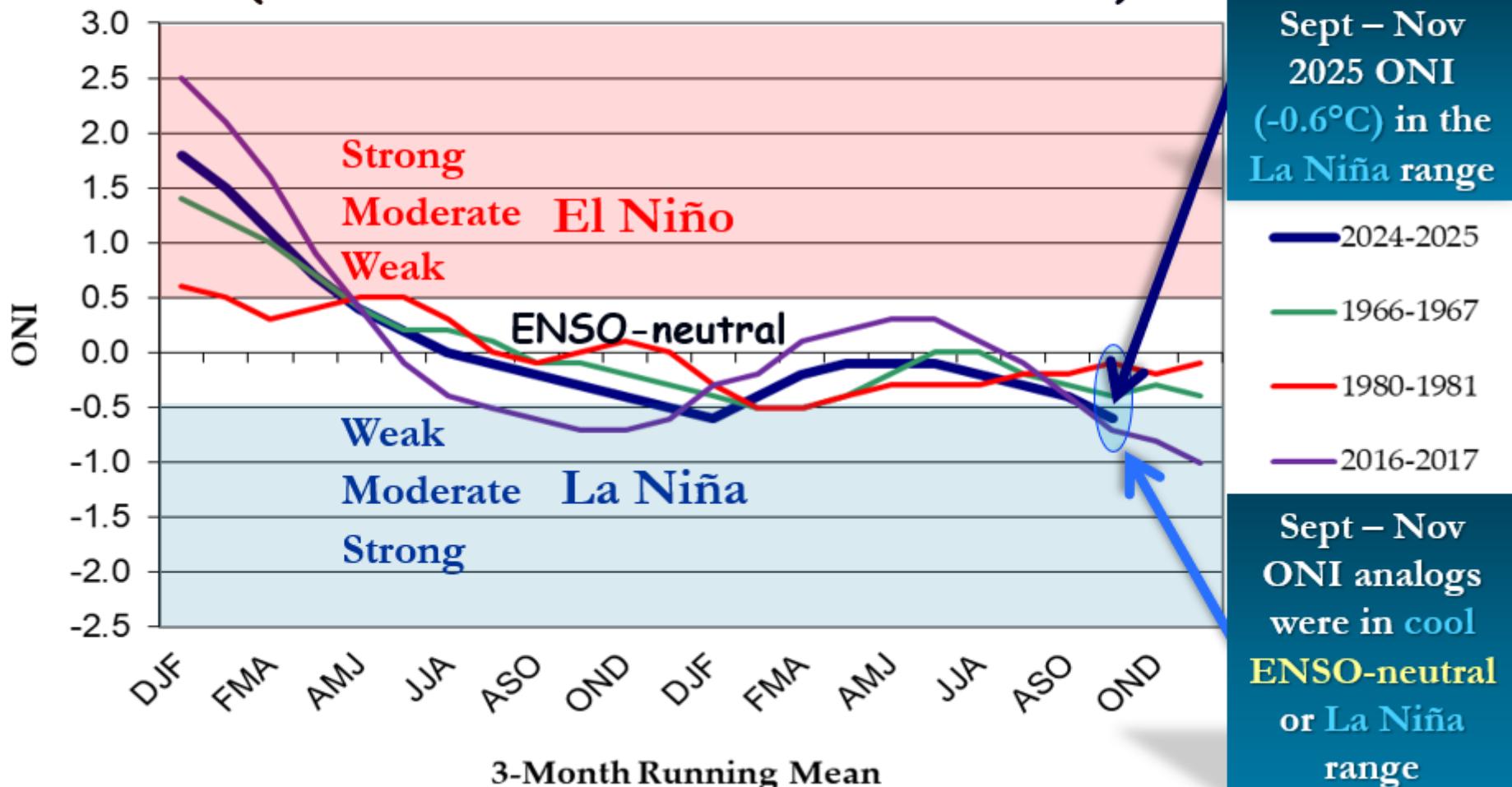
with the current period (2024-2025)

(1966-1967; 1980-1981; 2016-2017)



Oceanic Niño Index (ONI)

ONI values from the top "analog years"
compared with the current period (2024-2025)
(1966-1967; 1980-1981; 2016-2017)



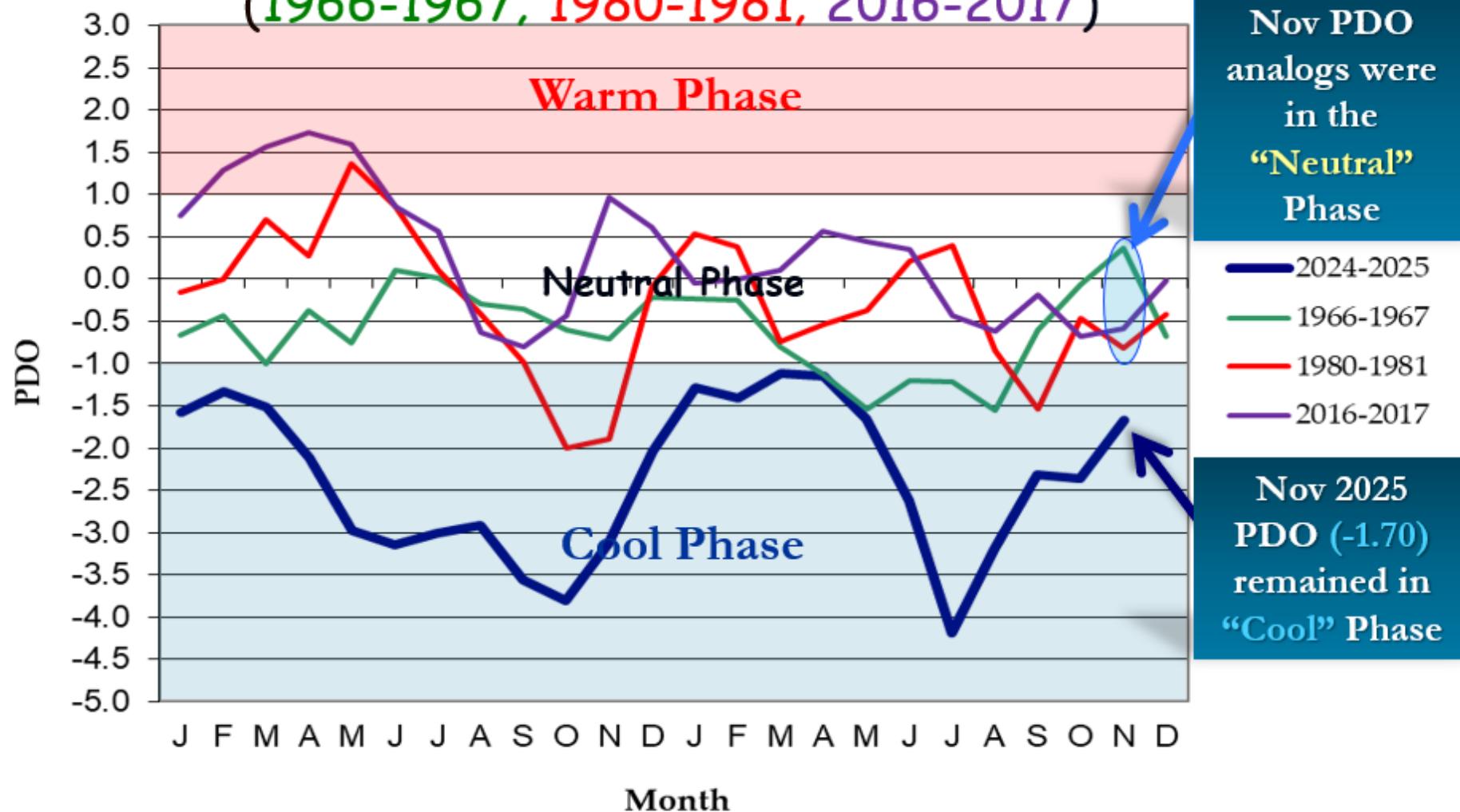
North Pacific Ocean

(Poleward of 20°N Latitude)

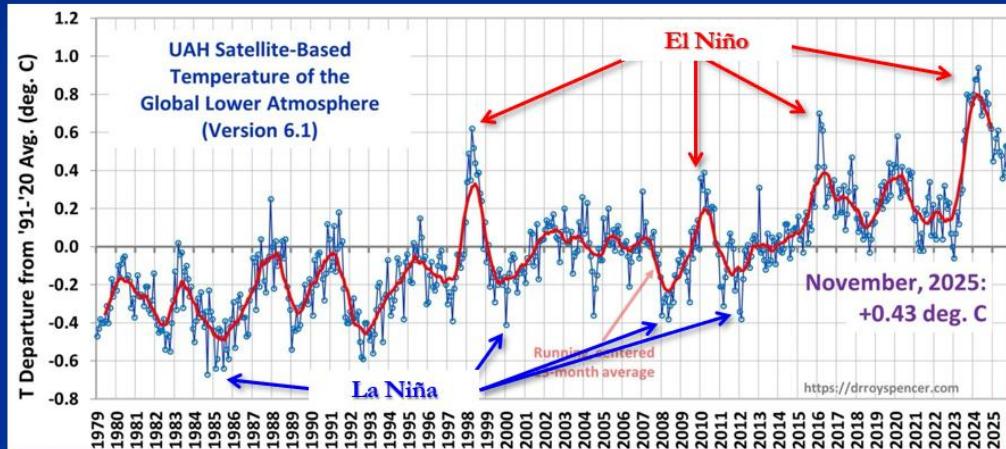
PDO values from the top "analog years" compared

with the current period (2024-2025)

(1966-1967; 1980-1981; 2016-2017)

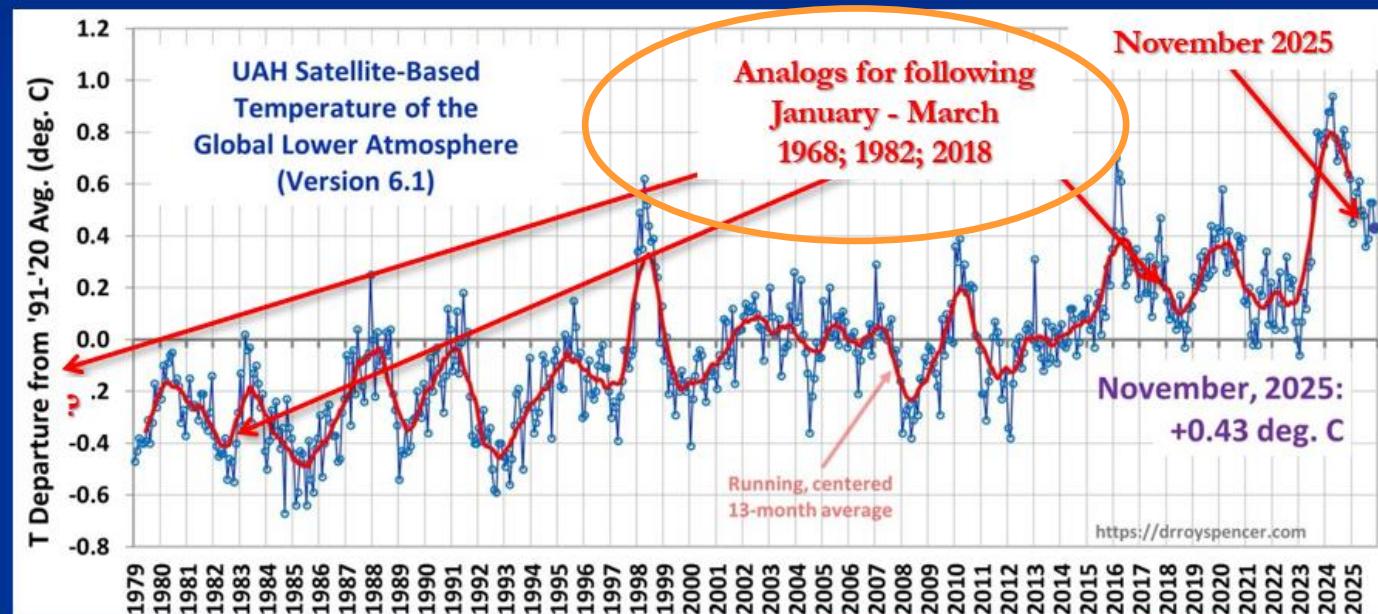


El Niño & La Niña Impact Global Temperatures...



Courtesy: <http://www.drroyspencer.com/latest-global-temperatures/>

Using ENSO Signal To Find Analog Years



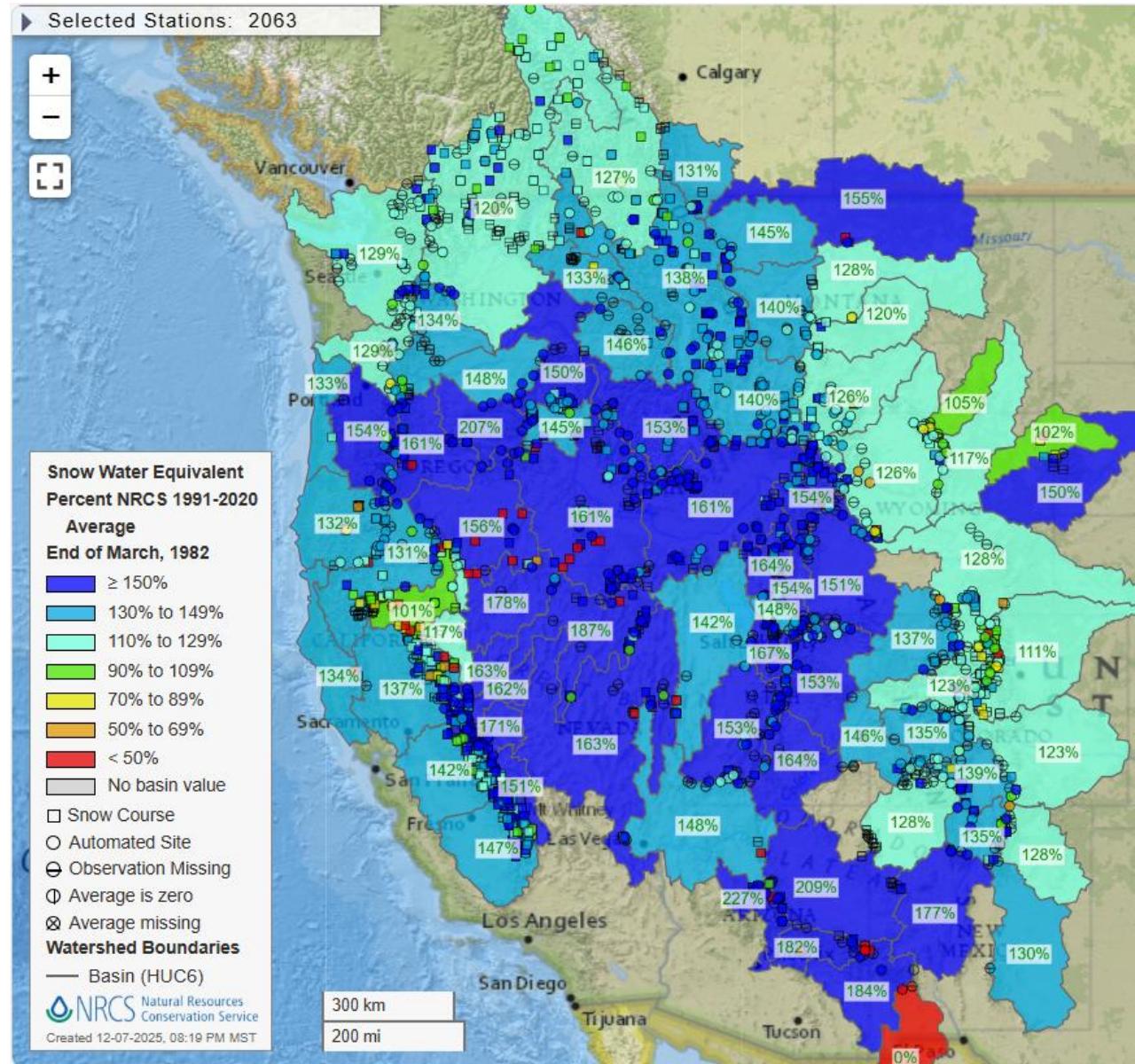
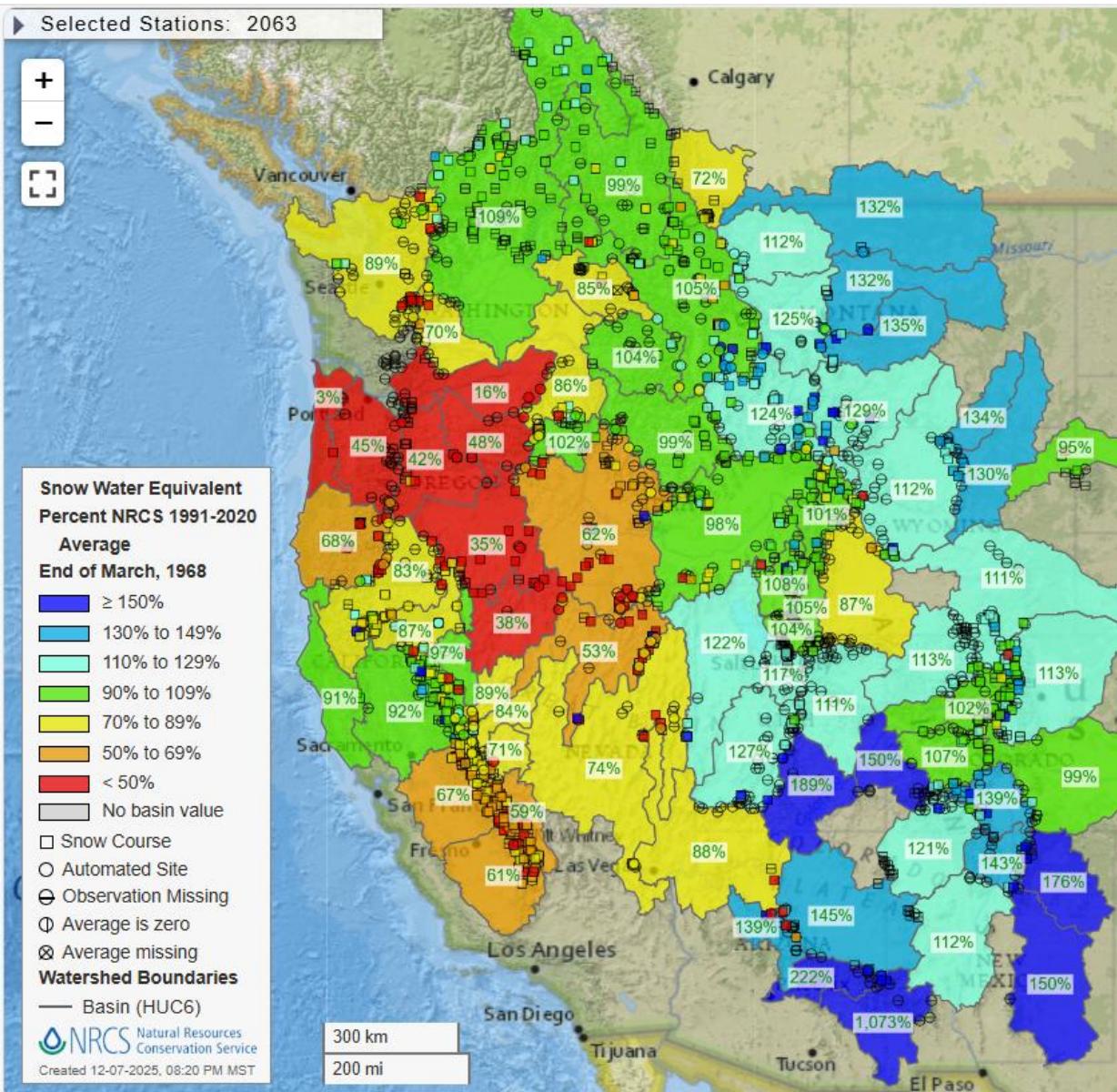
Courtesy: <http://www.drroyspencer.com/latest-global-temperatures/>

Here's Westwide picture of the Snowpack % of Average for April 1 for these Analog Years.

April 1 1968 Snowpack

Based on SNOTEL & Snow Course

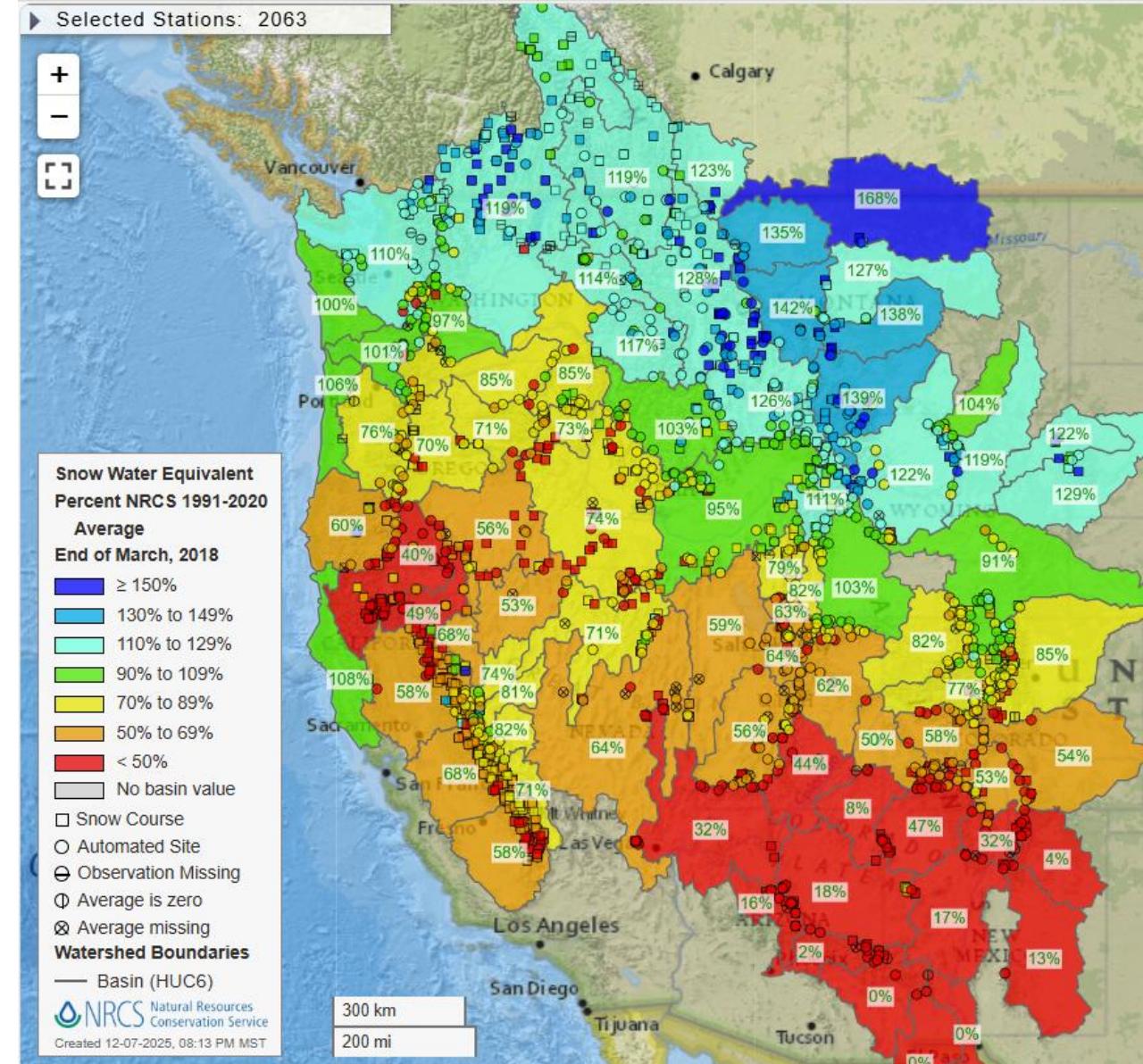
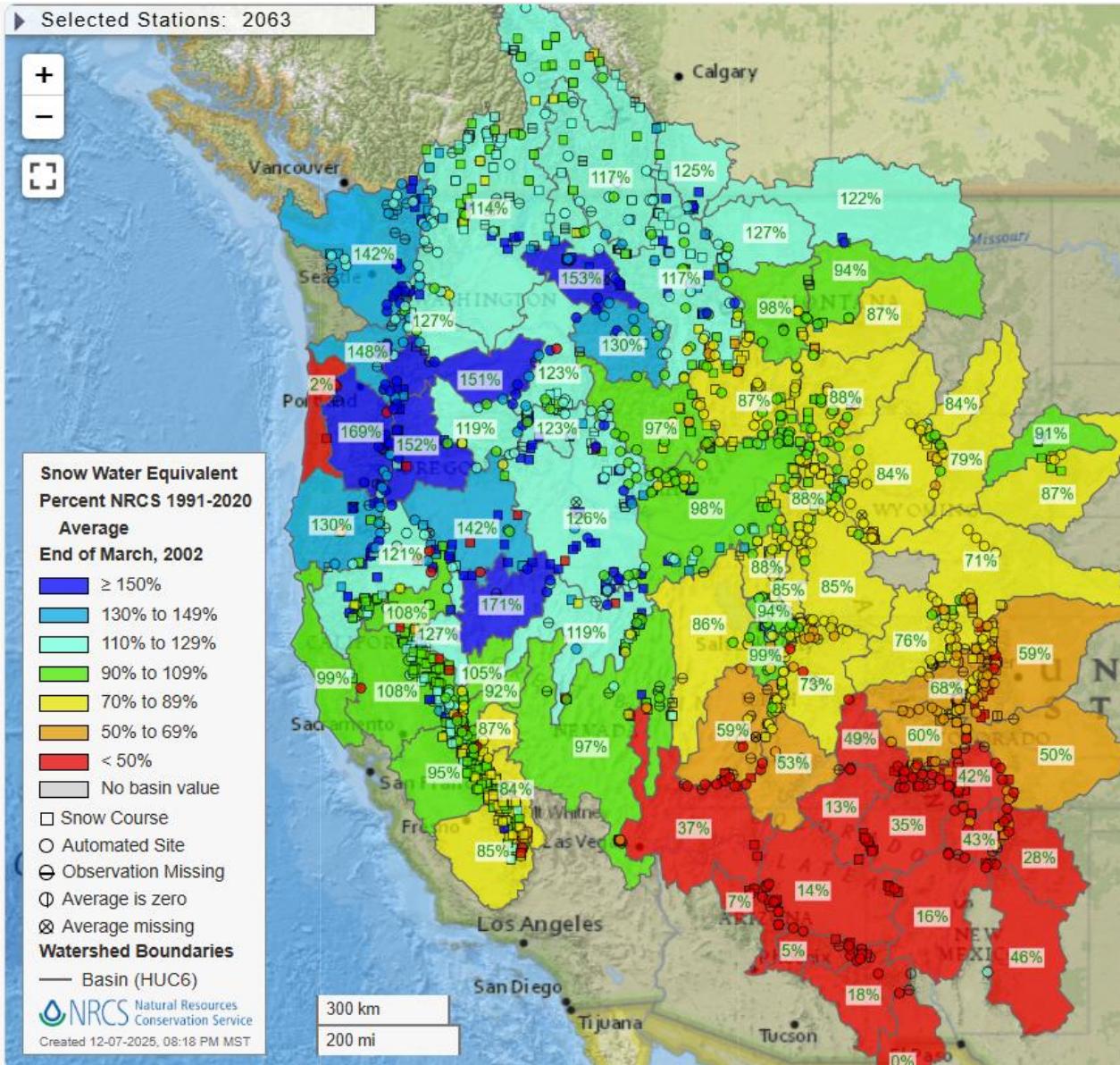
April 1 1982



April 1 2002 Snowpack

Based on SNOTEL & Snow Course

April 1 2018

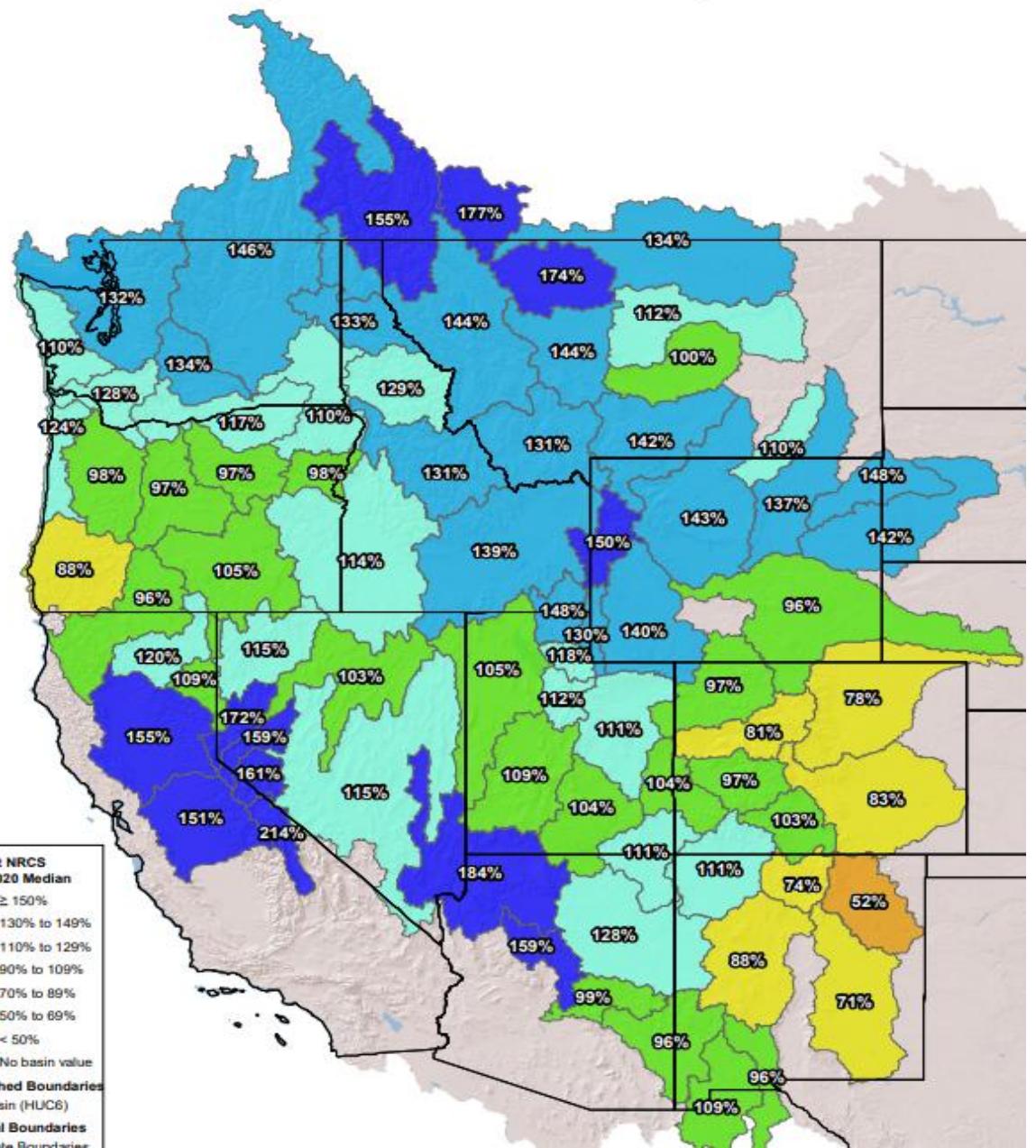


Westwide Water Year to Date Precipitation Oct 1 – Jan 8

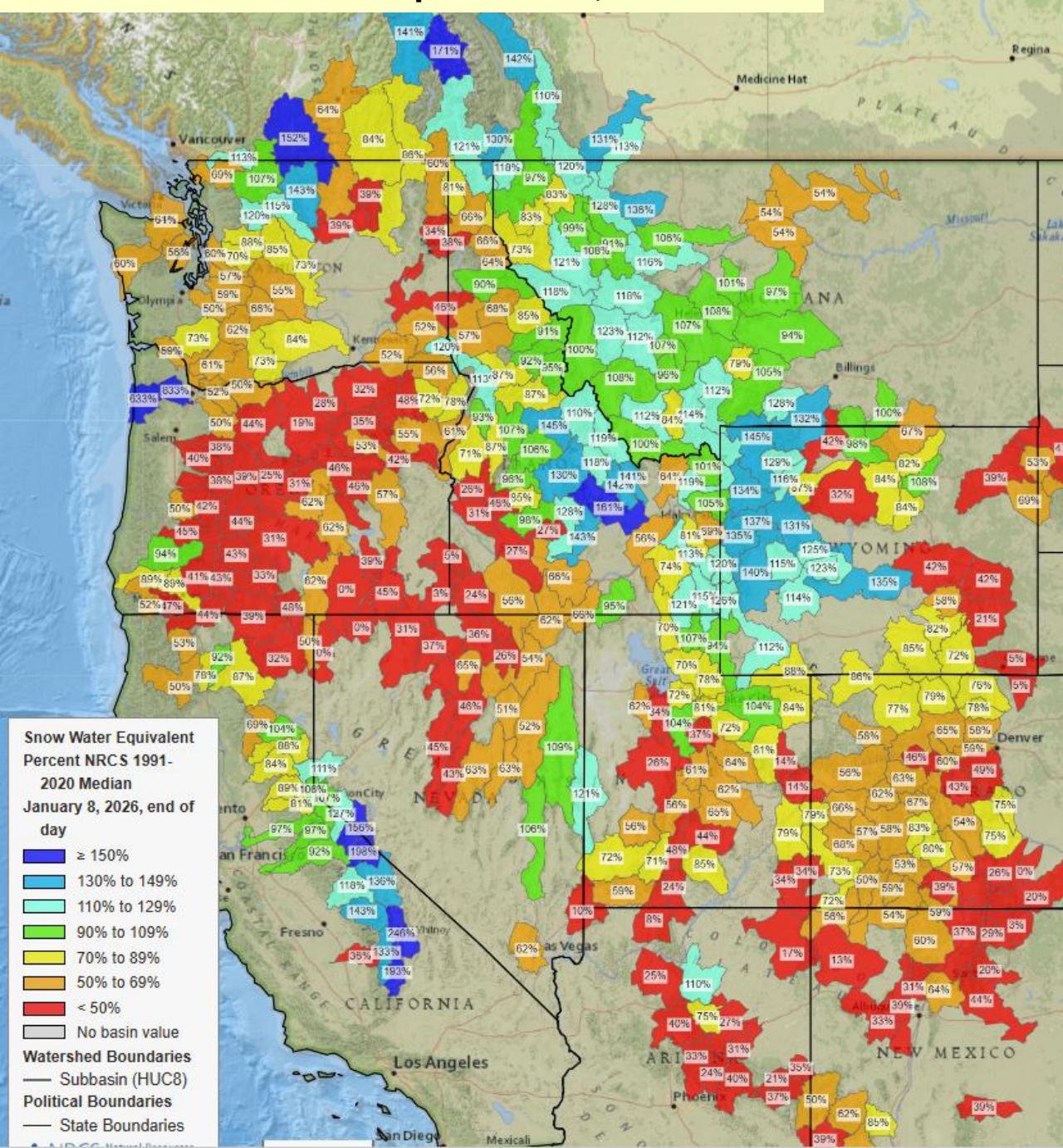
Water Year to Date Precipitation

Westwide SNOTEL Percent NRCS 1991-2020 Median

October 1, 2025 -
January 8, 2026

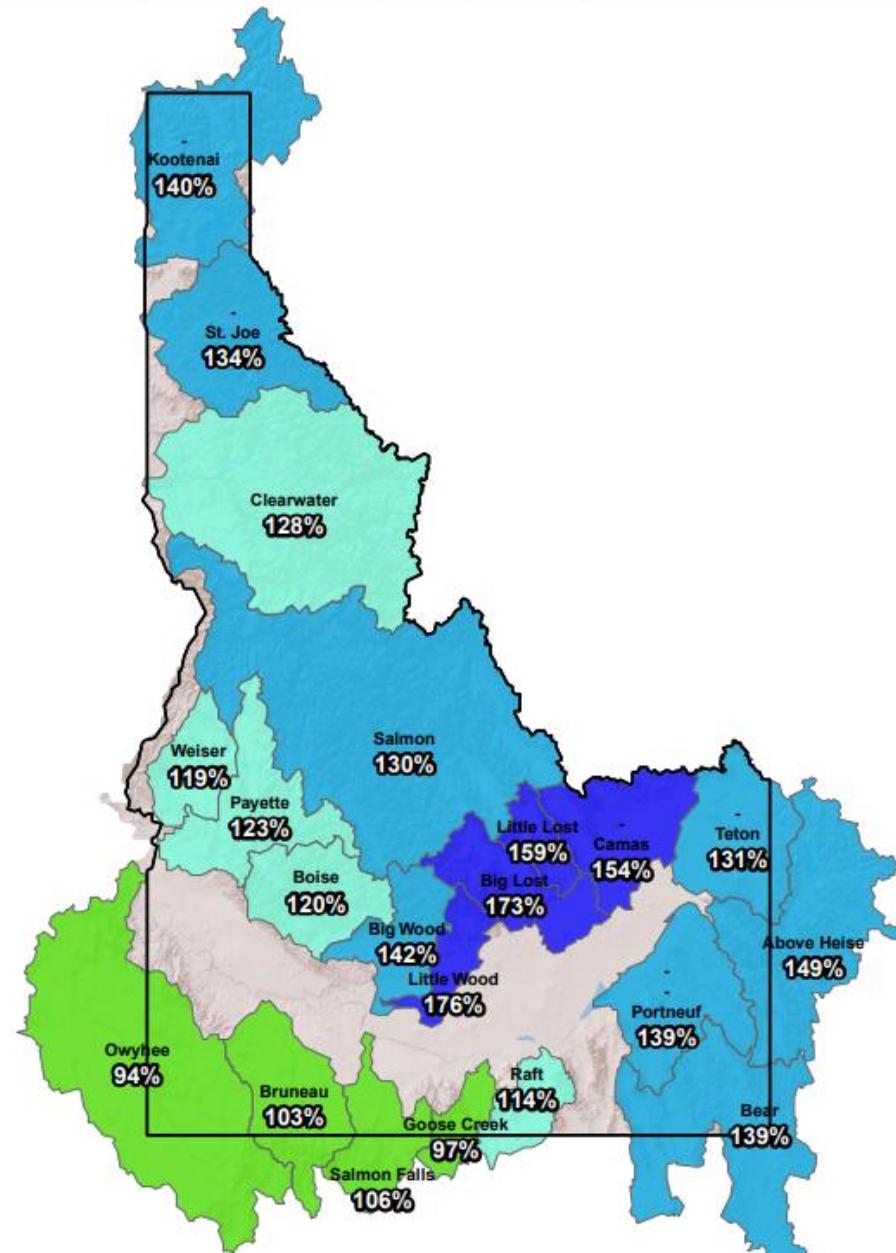


Snowpack Jan 8, 2026



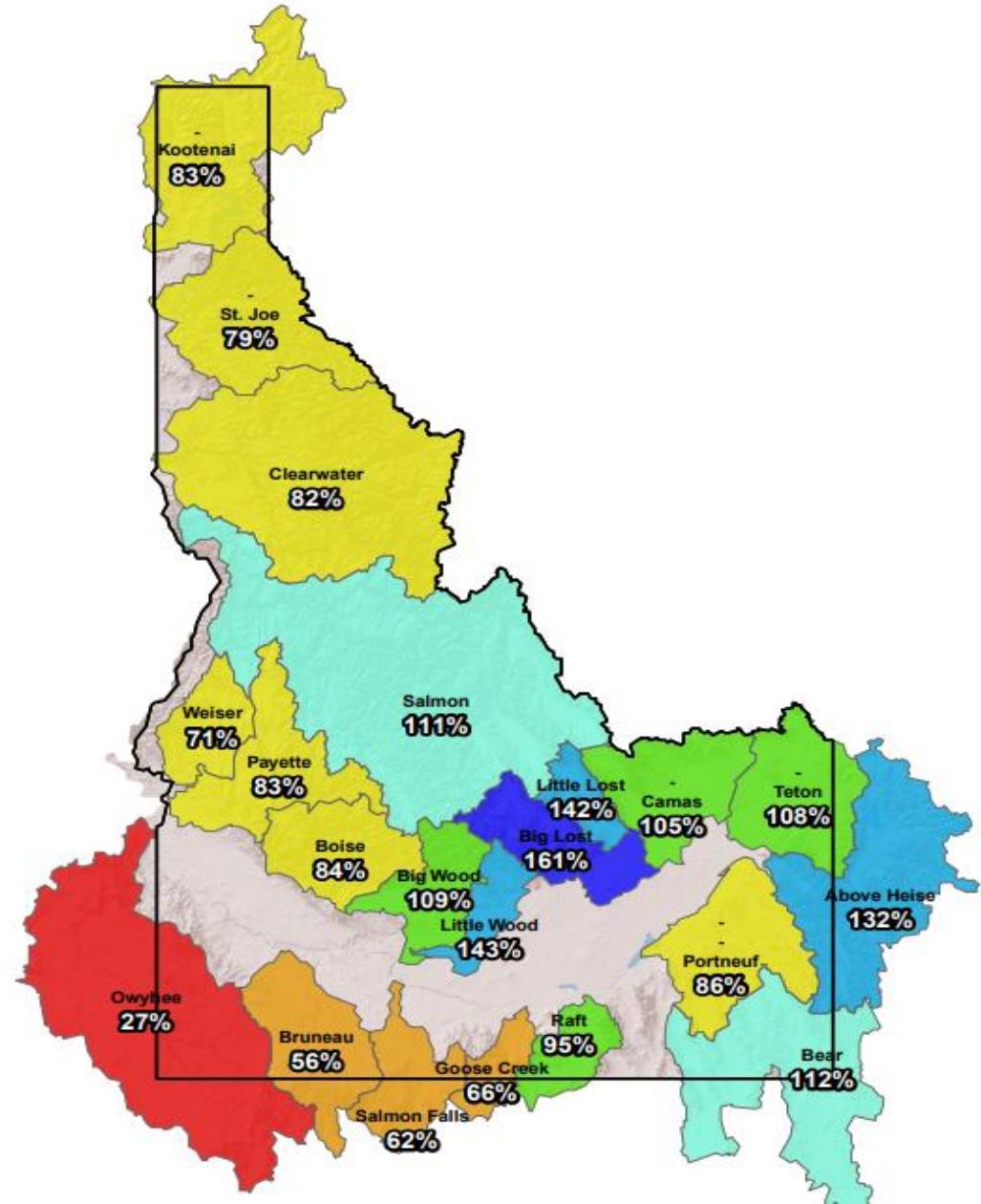
Idaho Water Year to Date Precipitation Oct 1 – Jan 9

Water Year to Date Precipitation	Idaho SNOTEL Percent NRCS 1991-2020 Median	October 1, 2025 - January 9, 2026
----------------------------------	---	--------------------------------------



Snowpack Jan 8, 2026

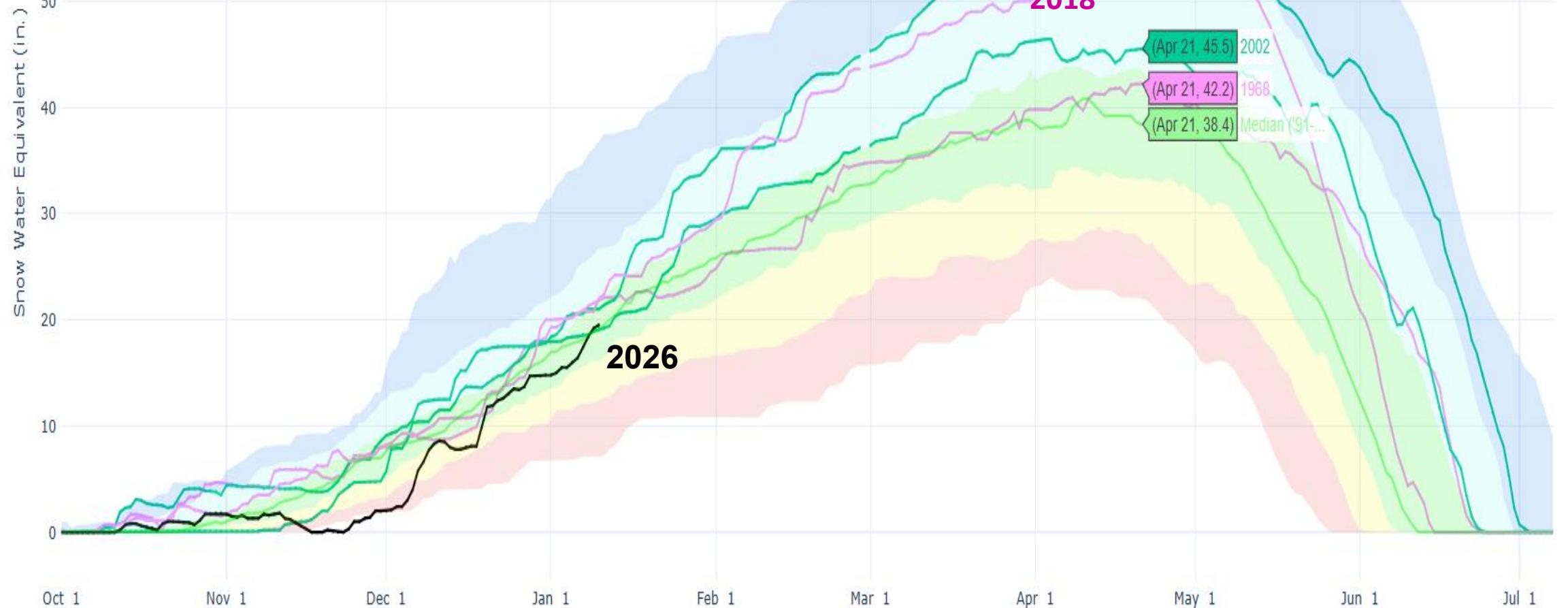
Snow Water Equivalent	Idaho SNOTEL Percent NRCS 1991-2020 Median	January 8, 2026, end of day
-----------------------	---	-----------------------------



**SWE for Analog Years at Twin Lakes
in the Selway River headwaters.
All years are currently tracking
closely with 2026 SWE.**
**Analog Years:
1967-68 1981-82 2001-02 2017-18**

Current as of 01/10/2026:
% of Median - 102%
% Median Peak - 48%
Days Until Median Peak - 99
Percentile - 57

Median ('91-'20)
Stats. Shading
2026
2018
2002
1982
1968

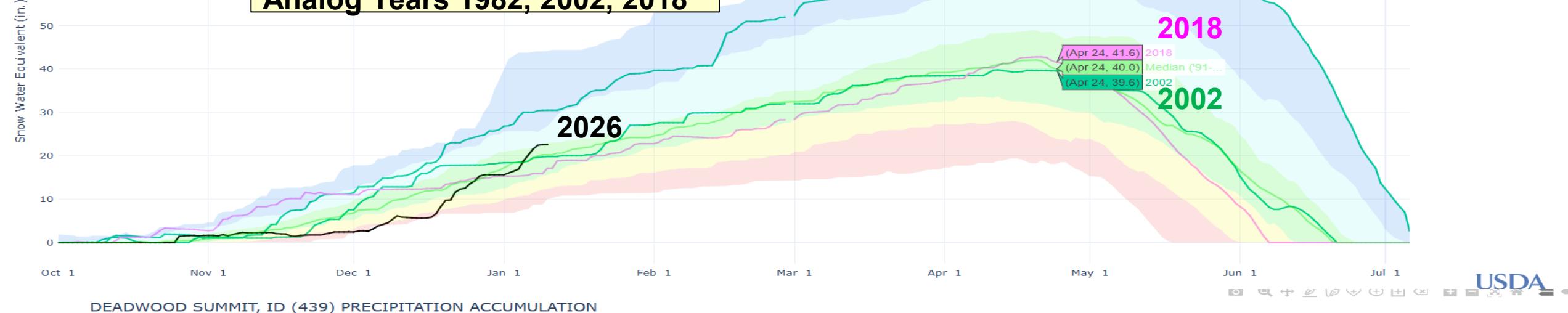


Deadwood Summit

Current SWE & Water Year to Date Precipitation Compared to Analog Years 1982, 2002, 2018

Current as of 01/10/2026:
 % of Median - 112%
 % Median Peak - 53%
 Days Until Median Peak - 99
 Percentile - 68

Median ('91-'20)
 Stats. Shading
 2026
 2018
 2002
 1982

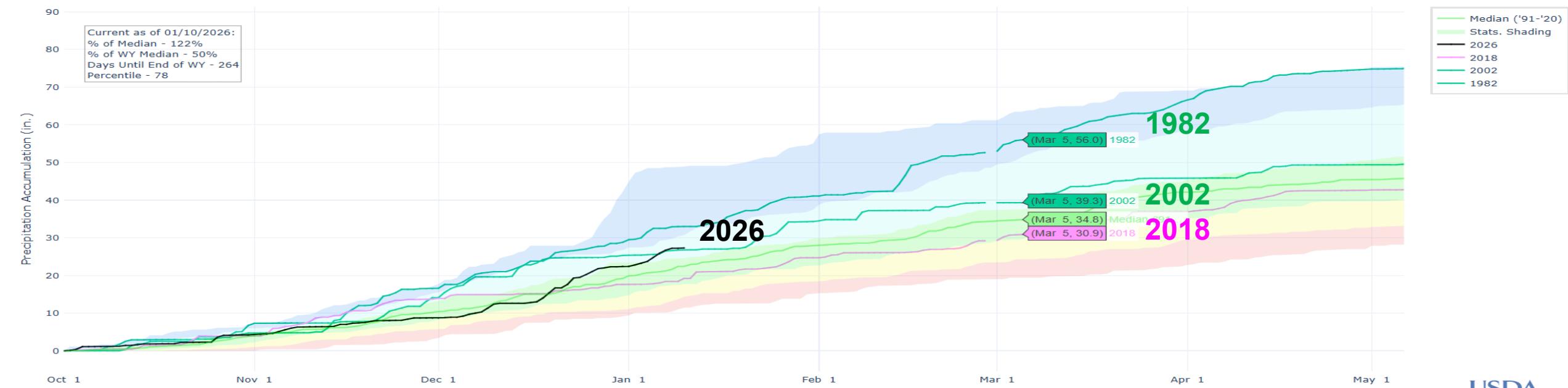


DEADWOOD SUMMIT, ID (439) PRECIPITATION ACCUMULATION

Current as of 01/10/2026:
 % of Median - 122%
 % of WY Median - 50%
 Days Until End of WY - 264
 Percentile - 78

USDA

Median ('91-'20)
 Stats. Shading
 2026
 2018
 2002
 1982

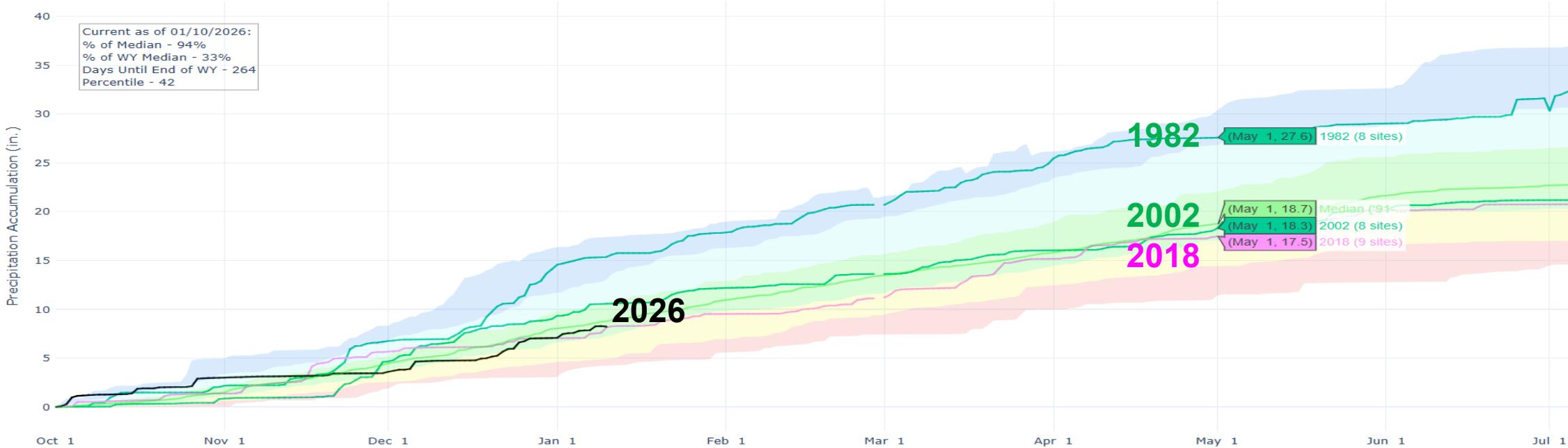


Current as of 01/10/2026:
 % of Median - 21%
 % Median Peak - 9%
 Days Until Median Peak - 69
 Percentile - 0

Owyhee Basin

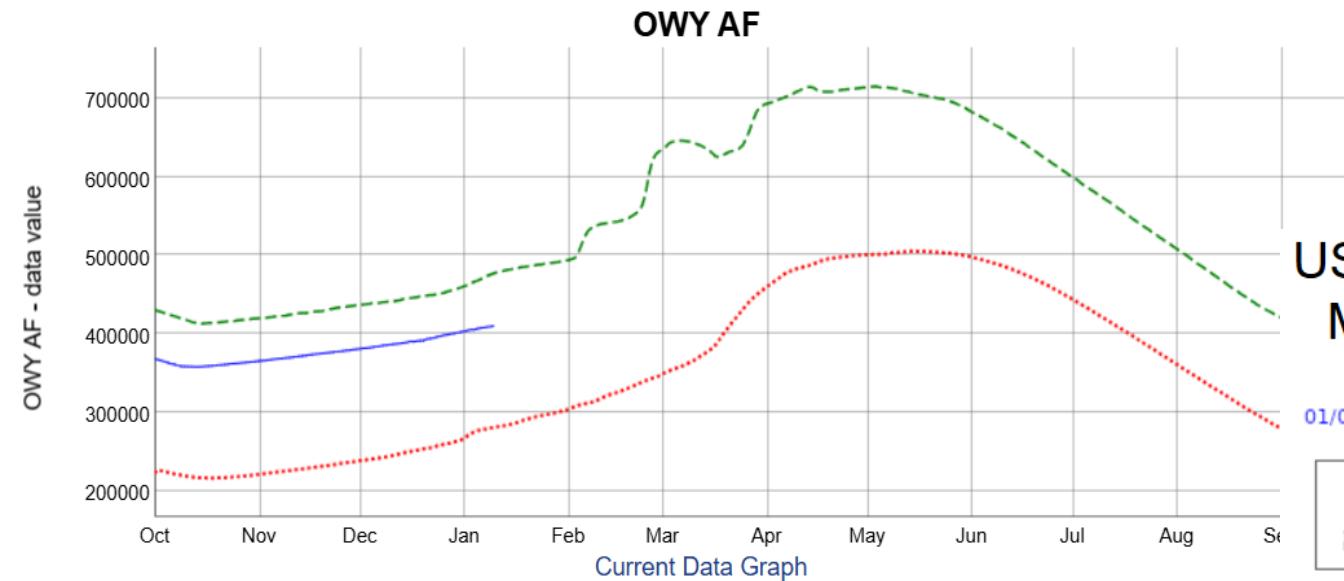
Current SWE & Water Year to Date Precipitation Compared to Analog Years 1982, 2002, 2018

Median ('91-'20)
 Stats. Shading
 2026 (8 sites)
 2018 (8 sites)
 2002 (7 sites)
 1982 (7 sites)



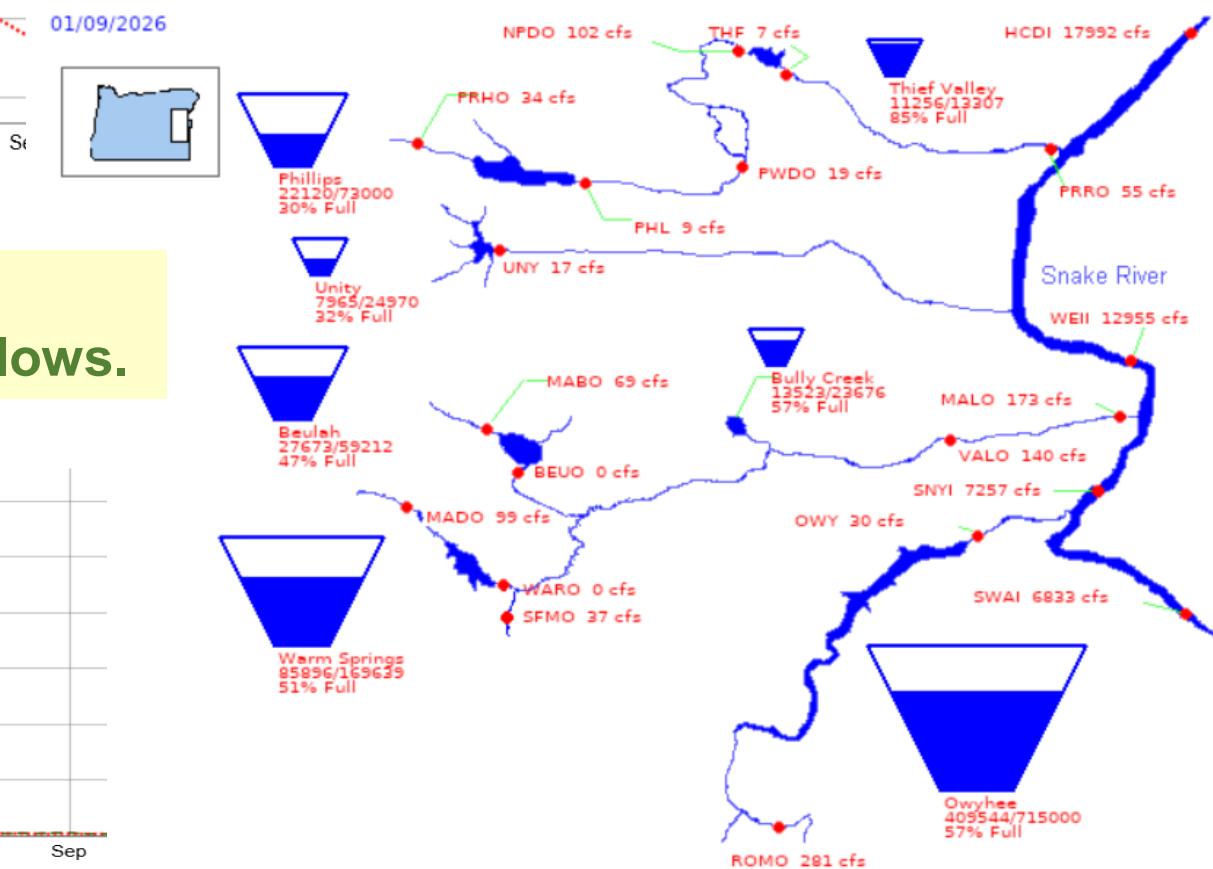
— Current Year
-- Previous Year
... Average

Owyhee River didn't increase as much from Dec rains. Reservoir filling at normal rate.



Owyhee Basin Reservoir 57% Full

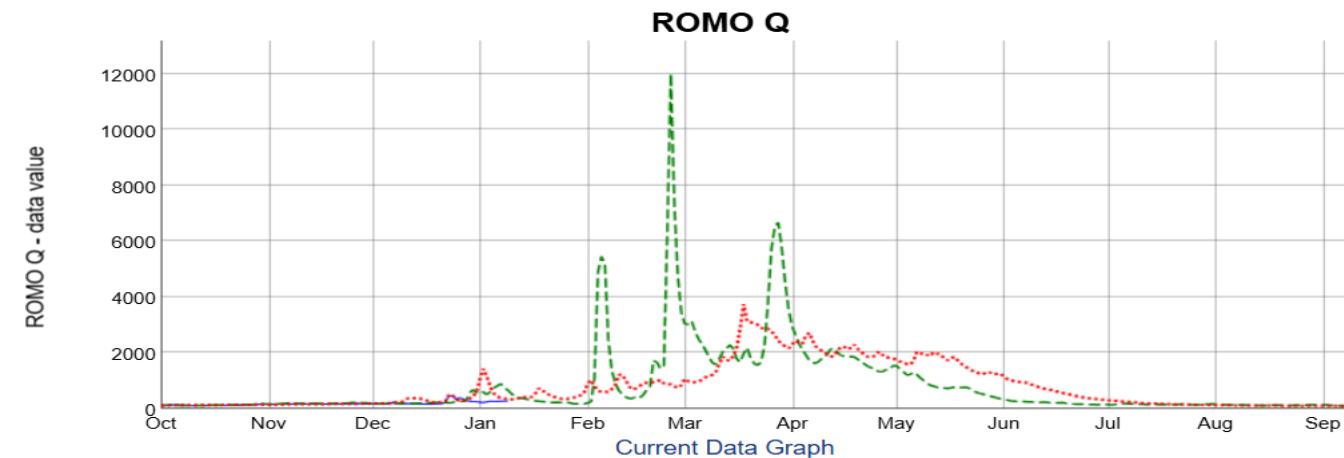
US Bureau of Reclamation, Pacific Northwest Region
Major Storage Reservoirs in Southeastern Oregon



Water Year Graph

— Current Year
-- Previous Year
... Average

2025 Owyhee River peaked early.
Dry spring led to below normal summer flows.



OWYHEE - Owyhee Dam (OWY03)

Forecasts for Water Year 2026

Official Water Supply

ESP with 10 Days QPF Ensemble: 2026-01-10 Issued: 2026-01-10

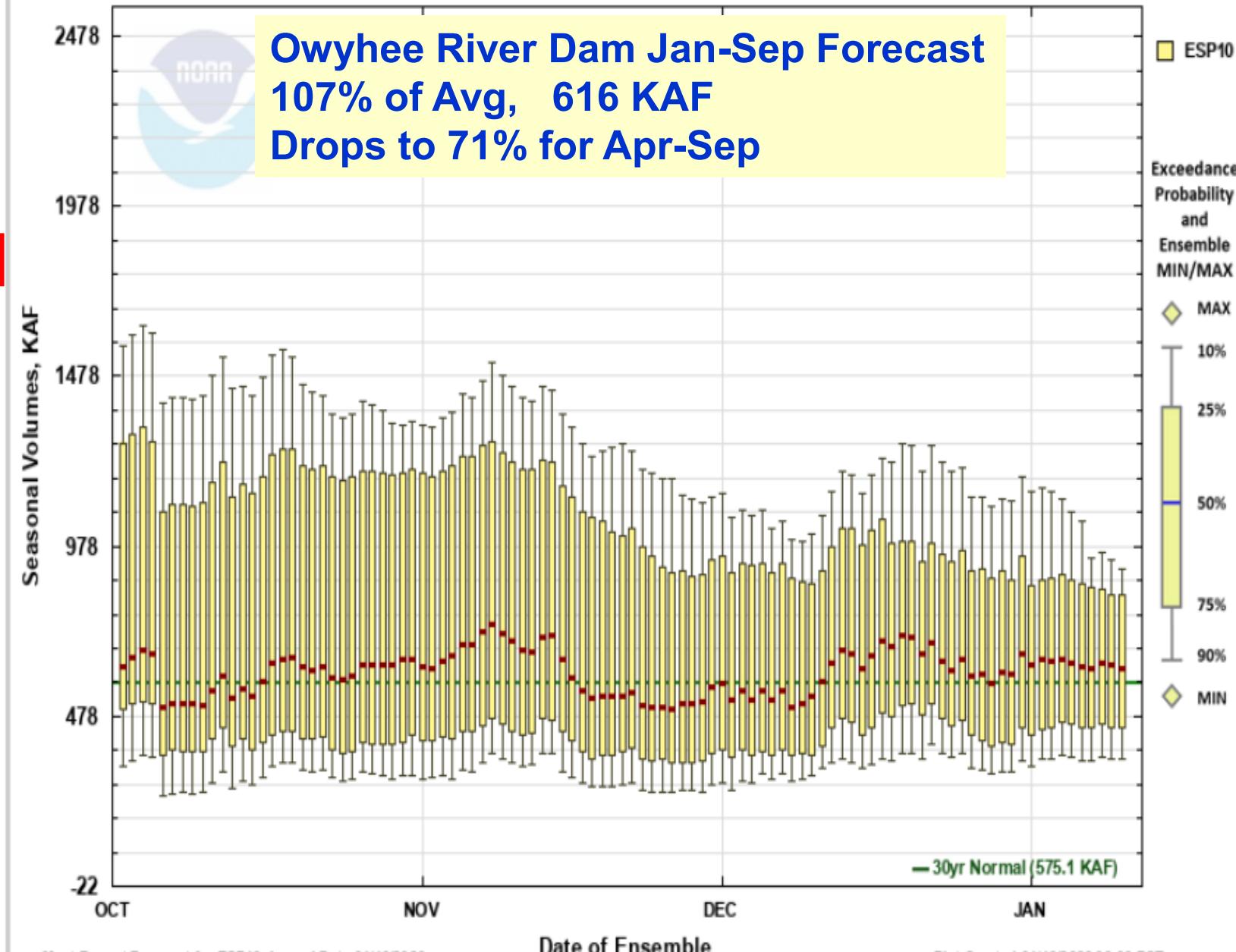
Forecast Period	Forecasts Are in KAF				30 Year Average (1991-2020)
	90 %	50 %	% Average	10 %	
APR-SEP	124	238	71	546	336
APR-JUL	106	214	70	502	307
JAN-SEP	352	616	107	909	575
JAN-JUL	331	588	108	869	547
OCT-SEP	408	672	105	965	641

Water Supply Forecasts

OWYHEE - Owyhee Dam

Period JAN to SEP -- Water Year 2026

Owyhee River Dam Jan-Sep Forecast
107% of Avg, 616 KAF
Drops to 71% for Apr-Sep



Owyhee Basin SWSI

Adequate Water Supply Greater than -1.5 SWSI or 575 KAF

Station ID	Station Name	Period	Data Type	Years	# of Years
13183000	Owyhee R blw Owyhee Dam	Feb-Sep	strm	1991-2024	34 Units KAF
13182500	Lake Owyhee nr Nyssa	31-Dec	resv	1991-2024	34 Units KAF
ENSO Classification					
SE Strong El Nino - EN Mild El Nino - N Neutral - LN Mild La Nina - SL Strong La Nina					
Rank	Year	Enso	Stream Flow Feb- Sep	Streamflow Reservoir 31-Dec + Reservoir Sum	Non-Exceedance Probability SWSI
2025 10% Chance Exceedance Forcast		N	1090	459	1549 99% 4.0
1	2006	N	1161	474	1635 97% 3.9
2	2011	SL	1347	215	1561 94% 3.7
3	1998	SE	897	438	1336 91% 3.5
4	1996	N	825	479	1304 89% 3.2
5	2024	N	858	395	1253 86% 3.0
6	2017	LN	1024	213	1236 83% 2.7
7	1997	N	784	443	1227 80% 2.5
2025 30% Chance Exceedance Forcast		N	760	459	1219 79% 2.4
8	1999	SL	662	480	1142 77% 2.3
9	1993	EN	1097	37	1134 74% 2.0
2025 50% Chance Exceedance Forcast		N	575	459	1034 73% 1.9
10	2019	N	746	254	1000 71% 1.8
11	1995	SE	825	85	910 69% 1.5
2025 70% Chance Exceedance Forcast		N	440	459	899 67% 1.4
12	2005	EN	660	152	813 66% 1.3
13	2020	N	331	481	812 63% 1.1
14	2000	N	349	426	775 60% 0.8
15	2023	LN	667	94	761 57% 0.6
2025 90% Chance Exceedance Forcast		N	295	459	754 56% 0.5
16	2012	LN	257	492	749 54% 0.4
17	2007	EN	241	448	689 51% 0.1
18	2018	LN	226	461	687 49% -0.1
19	2008	N	504	174	678 46% -0.4
20	2009	N	442	186	628 43% -0.6
21	2016	SE	545	70	614 40% -0.8
22	2010	EN	425	160	585 37% -1.1
23	2004	N	524	56	580 34% -1.3
24	1994	SE	152	423	575 31% -1.5
25	2001	LN	316	251	567 29% -1.8
26	2002	N	459	103	562 26% -2.0
27	2021	LN	186	329	515 23% -2.3
28	1991	N	291	201	491 20% -2.5
29	2013	N	198	264	462 17% -2.7
30	2022	LN	322	119	441 14% -3.0
31	2003	EN	220	113	334 11% -3.2
32	2015	EN	179	75	254 9% -3.5
33	2014	N	185	61	246 6% -3.7
34	1992	EN	129	94	223 3% -3.9

Adequate
Shortage

2026 Summary – Based on some estimated data.
Using NWS Jan 1 forecasts, NRCS SWSI, and est
Dec 31 reservoir storage:
Looking at similar water supplies as in 2025

2025

Owyhee River 2025 Feb-Sep Runoff 588 KAF
Owyhee Reservoir Storage Jan 1 459 KAF
Sum 1047 KAF

Owyhee Basin SWSI

Adequate Water Supply Greater than -1.5 SWSI or 575 KAF

Station ID	Station Name	Period	Data Type	Years	# of Years
13183000	Owyhee R blw Owyhee Dam	Feb-Sep	strm	1991-2024	34 Units KAF
13182500	Lake Owyhee nr Nyssa	31-Dec	resv	1991-2024	34 Units KAF
ENSO Classification					
SE Strong El Nino - EN Mild El Nino - N Neutral - LN Mild La Nina - SL Strong La Nina					
Rank	Year	Enso	Stream Flow Feb- Sep	Streamflow Reservoir 31-Dec + Reservoir Sum	Non-Exceedance Probability SWSI
2025 10% Chance Exceedance Forecast	N		1090	459	1549 99% 4.0
1	2006	N	1161	474	1635 97% 3.9
2	2011	SL	1347	215	1561 94% 3.7
3	1998	SE	897	438	1336 91% 3.5
4	1996	N	825	479	1304 89% 3.2
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11	1995	SE	825	85	910 65% 1.5
2025 70% Chance Exceedance Forecast	N		440	459	899 67% 1.4
12	2005	EN	660	152	813 66% 1.3
13	2020	N	331	481	812 63% 1.1
14	2000	N	349	426	775 60% 0.8
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2025 90% Chance Exceedance Forecast	N		295	459	754 58% 0.5
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18	2018	LN	226	461	687 49% -0.1
19	2008	N	504	174	678 46% -0.4
20	2009	N	442	186	628 43% -0.6
21	2016	SE	545	70	614 40% -0.8
22	2010	EN	425	160	585 37% -1.1
23	2004	N	524	56	580 34% -1.3
24	1994	SE	152	423	575 31% -1.5
25	2001	LN	316	251	567 29% -1.8
26	2002	N	459	103	562 26% -2.0
27	2021	LN	186	329	515 23% -2.3
28	1991	N	291	201	491 20% -2.5
29	2013	N	198	264	462 17% -2.7
30	2022	LN	322	119	441 14% -3.0
31	2003	EN	220	113	334 11% -3.2
32	2015	EN	179	75	254 9% -3.5
33	2014	N	185	61	246 6% -3.7
34	1992	EN	129	94	223 3% -3.9

Adequate Shortage

2026 Minimum Forecast 90% Exceedance Sum 762 KAF

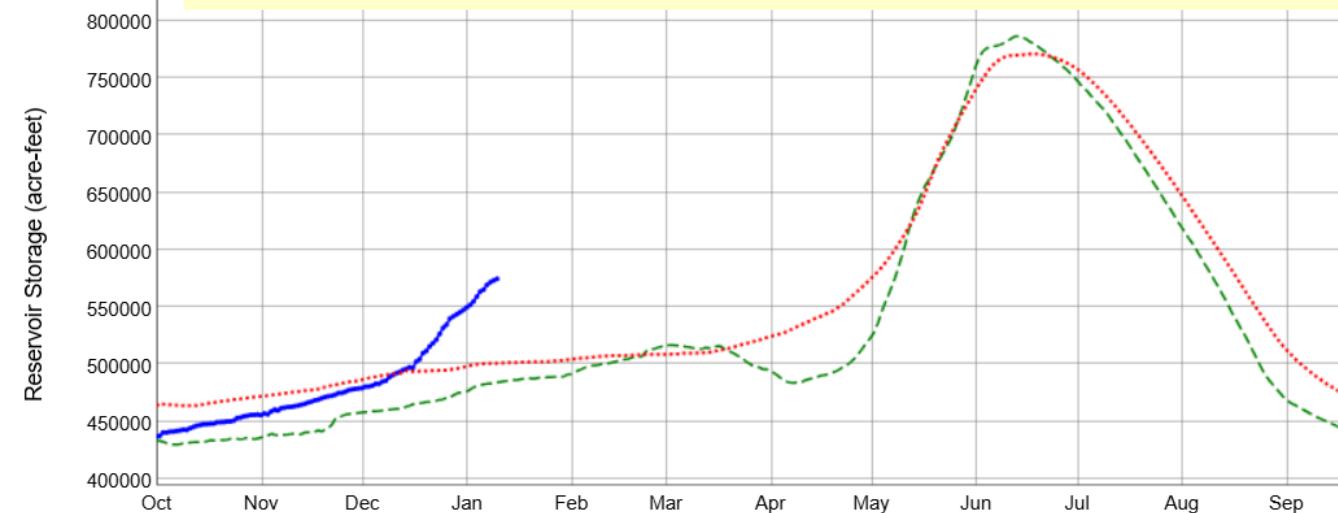
2025
Sum 1047 KAF

2026 50% Exceedance Forecast
Owyhee River 2026 Jan-Sep Forecast 616 KAF
Owyhee Resv Dec 31 2025 Storage 410 KAF
Sum 1026 KAF

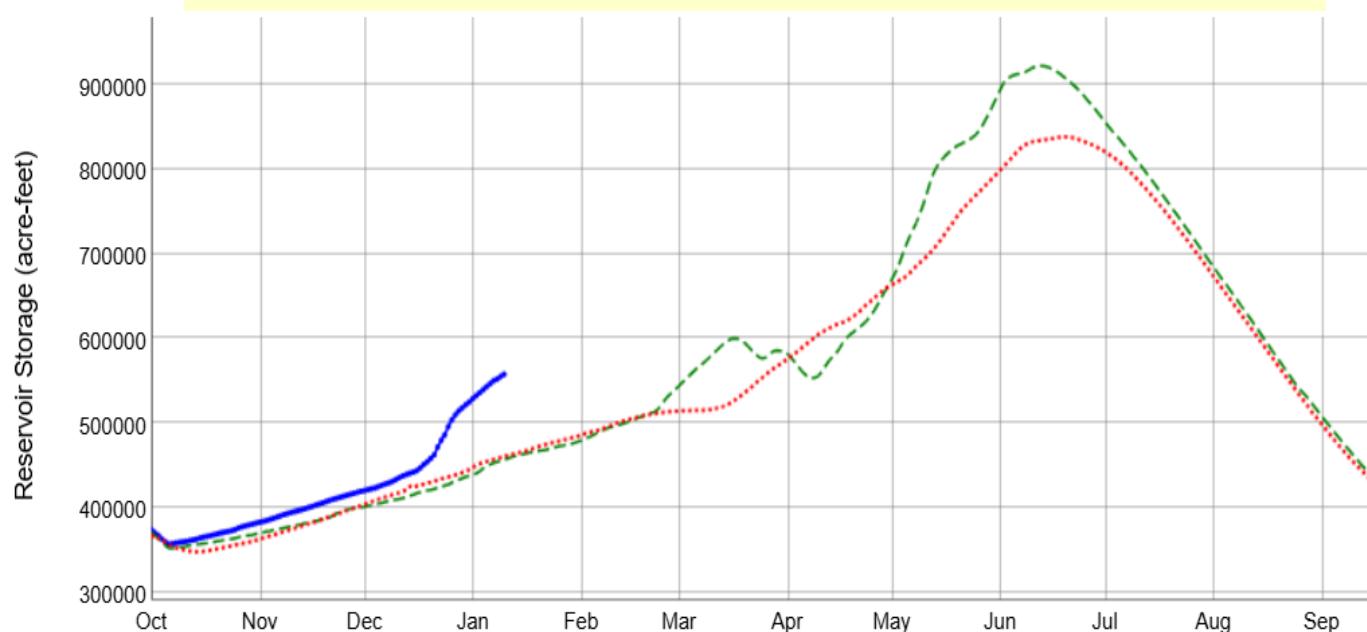
2026 Summary – Based on some estimated data.
Using NWS Jan 1 forecasts, NRCS SWSI, and
Dec 31 reservoir storage:
Looking at similar water supplies as in 2025

— Current Year
-- Previous Year
... Average

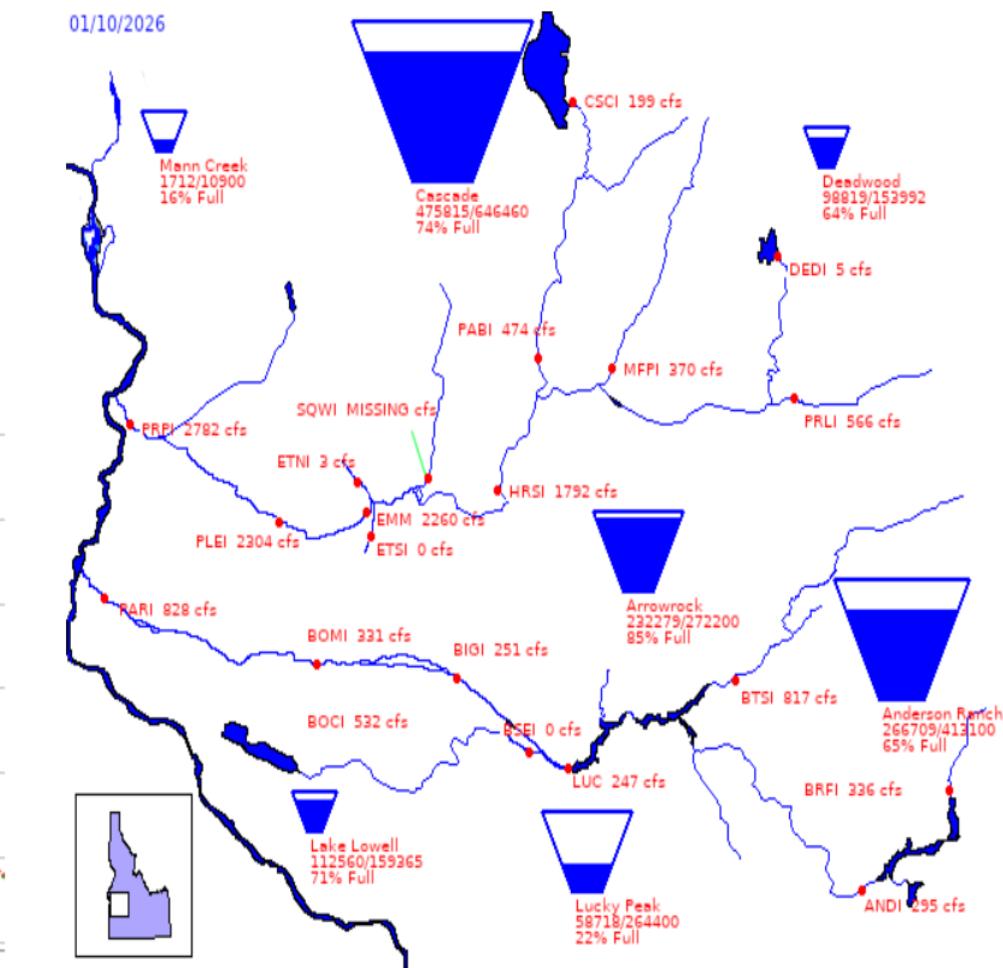
Payette River bump in flows captured in reservoirs Payette Reservoir System 72% of Capacity



Boise bump in flows captured in reservoirs Reservoir System 59% of Capacity



Bureau of Reclamation, Pacific Northwest Region
Major Storage Reservoirs in the Boise & Payette River Basins



PAYETTE - NEAR HORSESHOE BEND (HRSI1)

Forecasts for Water Year 2026

Natural Forecast

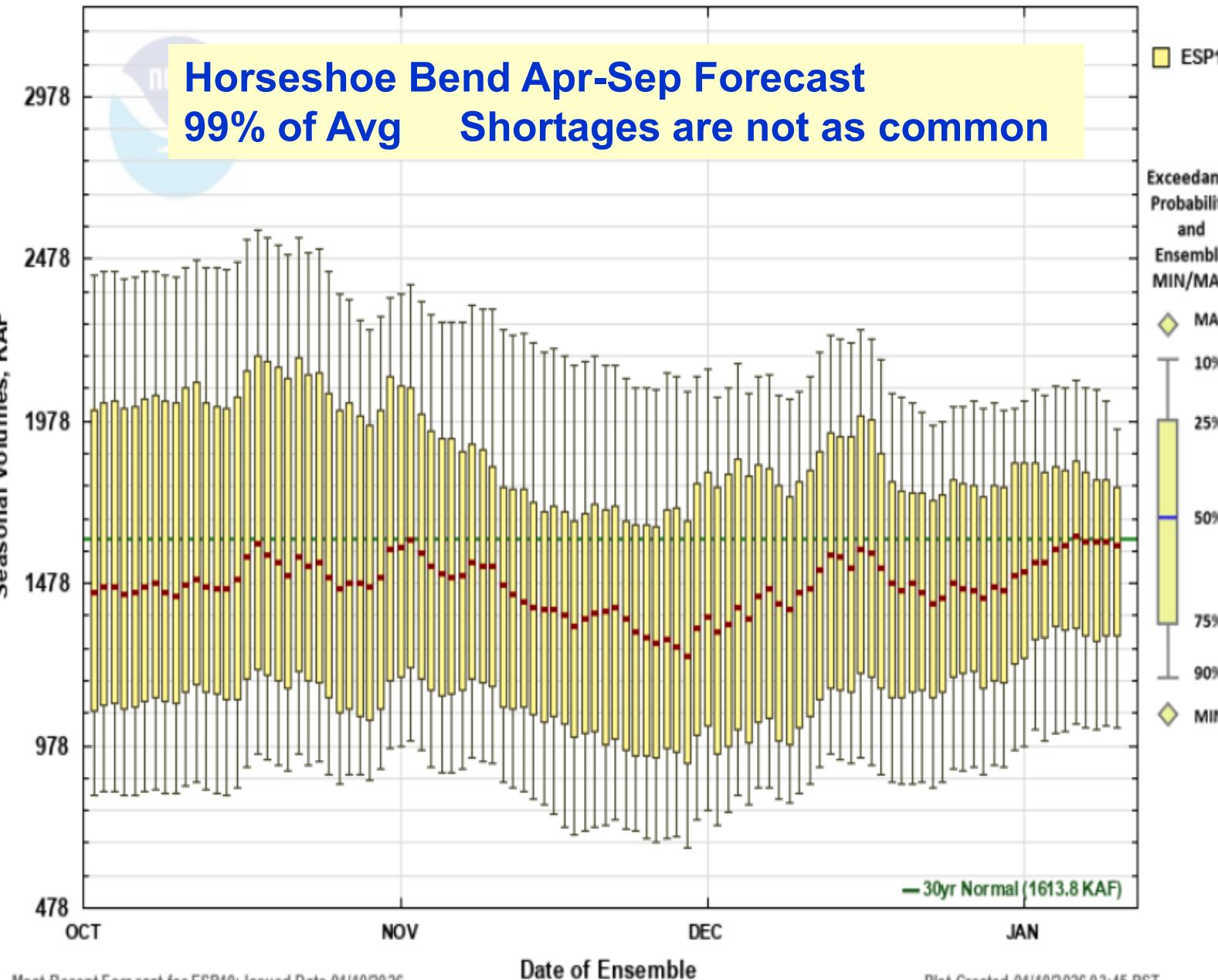
ESP with 10 Days QPF Ensemble: 2026-01-10 Issued: 2026-01-10

Forecast Period	Forecasts Are in KAF				30 Year Average (1991-2020)
	90 %	50 %	% Average	10 %	
APR-SEP	1032	1596	99	1953	1614
APR-JUL	943	1481	99	1823	1499
JAN-SEP	1479	2022	102	2644	1978
JAN-JUL	1389	1906	102	2484	1863
OCT-SEP	1835	2377	107	2999	2215

Natural Volume Forecasts

PAYETTE - NEAR HORSESHOE BEND

Period APR to SEP -- Water Year 2026



BOISE - LUCKY PEAK DAM (LUCI1)

Forecasts for Water Year 2026

Natural Forecast

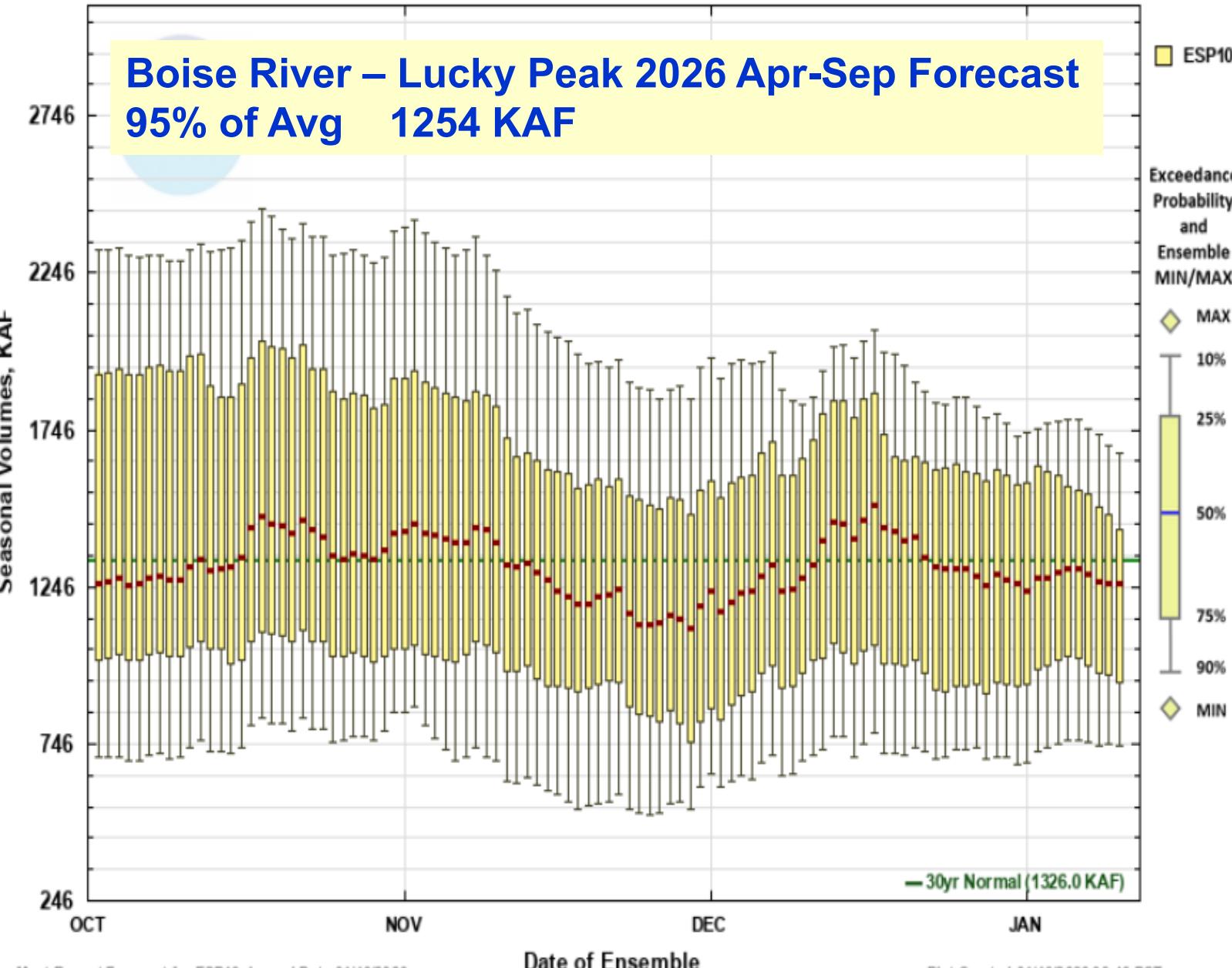
ESP with 10 Days QPF Ensemble: 2026-01-10 Issued: 2026-01-10

Forecast Period	Forecasts Are in KAF				30 Year Average (1991-2020)
	90 %	50 %	% Average	10 %	
APR-SEP	742	1254	95	1670	1326
APR-JUL	666	1156	94	1535	1230
JAN-SEP	1133	1599	97	2112	1643
JAN-JUL	1064	1506	97	1976	1547
OCT-SEP	1354	1821	100	2333	1816

Natural Volume Forecasts

BOISE - LUCKY PEAK DAM

Period APR to SEP -- Water Year 2026

Boise River – Lucky Peak 2026 Apr-Sep Forecast
95% of Avg 1254 KAF

Boise River Basin SWSI

Adequate Water Supply Greater than -1.8 SWSI or 1,500 KAF

Station ID	Station Name	Period	Data Type	Years	# of Years		
13202000 BOISE RIVER NEAR BOISE, ID		Apr-Sep	strm	1991-2024	34 Units KAF		
13201500 LUCKY PEAK		31-Jan	resv	1991-2024	34 Units KAF		
13194000 ARROWROCK		31-Jan	resv	1991-2024	34 Units KAF		
13190000 ANDERSON RANCH		31-Jan	resv	1991-2024	34 Units KAF		
ENSO Classification							
SE Strong El Nino - EN Mild El Nino - N Neutral - LN Mild La Nina - SL Strong La Nina							
Rank	Year	Enso	Streamflow Flow Sep	Streamflow Reservoir 31-Jan	Non- Exceedance Probability	SWSI	
1	1997	N	2491	729	3220	97%	3.9
2	2017	LN	2463	546	3009	94%	3.7
3	1996	N	2066	750	2815	91%	3.5
4	2006	N	2162	559	2721	89%	3.2
5	2011	SL	1965	641	2606	86%	3.0
6	1999	SL	1838	741	2579	83%	2.7
7	1998	SE	1701	780	2481	80%	2.5
8	2023	LN	1734	596	2330	77%	2.3
9	2012	LN	1611	710	2321	74%	2.0
2025 10% Chance Exceedance Forecast						1.9	
10	2019	N	1724	529	2253	71%	1.8
11	1995	SE	1883	255	2139	69%	1.5
12	2018	LN	1221	776	1997	66%	1.3
2025 30% Chance Exceedance Forecast						1.2	
13	2009	N	1323	576	1899	63%	1.1
14	1993	EN	1656	195	1851	60%	0.8
15	2008	N	1382	449	1831	57%	0.6
16	2000	N	1154	660	1815	54%	0.4
17	2010	EN	1224	586	1810	51%	0.1
18	2016	SE	1254	515	1769	49%	-0.1
19	2024	LN	1084	673	1757	46%	-0.4
2025 50% Chance Exceedance Forecast						-0.5	
20	2014	N	1178	455	1633	43%	-0.6
21	2003	EN	1219	386	1605	40%	-0.8
22	2002	N	1178	387	1565	37%	-1.1
23	2020	N	922	628	1550	34%	-1.3
2025 70% Chance Exceedance Forecast						-1.4	
24	2022	LN	1071	438	1508	31%	-1.5
25	2004	N	974	442	1415	29%	-1.8
26	2007	EN	739	631	1369	26%	-2.0
27	2015	EN	750	602	1352	23%	-2.3
28	2005	EN	931	420	1351	20%	-2.5
2025 90% Chance Exceedance Forecast						-2.6	
29	2021	LN	745	555	1300	17%	-2.7
30	2013	N	704	575	1279	14%	-3.0
31	1994	SE	590	654	1243	11%	-3.2
32	1991	N	734	443	1177	9%	-3.5
33	2001	LN	546	507	1052	6%	-3.7
34	1992	EN	471	271	741	3%	-3.9

2026 Summary – Based on some estimated data.
Using NWS Jan 1 forecasts, NRCS SWSI, and
Dec 31 reservoir storage:
Looking at similar water supplies as in 2025

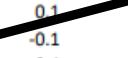
2025

Boise River 2025 Apr-Sep Runoff 1201 KAF
 Reservoir Storage Jan 31 544 KAF

Sum 1745 KAF

Adequate

Shortage



Boise River Basin SWSI

Adequate Water Supply Greater than -1.8 SWSI or 1,500 KAF

Station ID	Station Name	Period	Data Type	Years	# of Years		
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ENSO Classification							
SE Strong El Nino - EN Mild El Nino - N Neutral - LN Mild La Nina - SL Strong La Nina							
Rank	Year	Enso	Streamflow Flow Apr- Sep	Streamflow Reservoir 31- Jan	Non- Exceedance Probability	SWSI	
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2	2017	LN	2463	546	3009	94%	3.7
3	1996	N	2066	750	2815	91%	3.5
4	2006	N	2162	559	2721	89%	3.2
5	2011	SL	1965	641	2606	86%	3.0
6	1999	SL	1838	741	2579	83%	2.7
7	1998	SE	1701	780	2481	80%	2.5
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21	2003	EN	1219	386	1605	40%	-0.8
22	2002	N	1178	387	1565	37%	-1.1
23	2020	N	922	628	1550	34%	-1.3
2025 70% Chance Exceedance Forecast						-1.4	
24	2022	LN	1071	438	1508	31%	-1.5
25	2004	N	974	442	1415	29%	-1.8
26	2007	EN	739	631	1369	26%	-2.0
27	2015	EN	750	602	1352	23%	-2.3
28	2005	EN	931	420	1351	20%	-2.5
2025 90% Chance Exceedance Forecast						-2.6	
29	2021	LN	745	555	1300	17%	-2.7
30	2013	N	704	575	1279	14%	-3.0
31	1994	SE	590	654	1243	11%	-3.2
32	1991	N	734	443	1177	9%	-3.5
33	2001	LN	546	507	1052	6%	-3.7
34	1992	EN	471	271	741	3%	-3.9

2026 Summary – Based on some estimated data.
Using NWS Jan 1 forecasts, NRCS SWSI, and
Dec 31 reservoir storage:
Looking at similar water supplies as in 2025

2025
Sum 1745 KAF

2026 50% Exceedance Forecast
Boise River 2026 Apr-Sep Forecast 1257 KAF
Reservoir Storage Dec 31 2025 EST 560 KAF
Sum 1817 KAF

2026 Minimum Forecast 90% Exceedance
Sum 1302 KAF

Adequate

Shortage



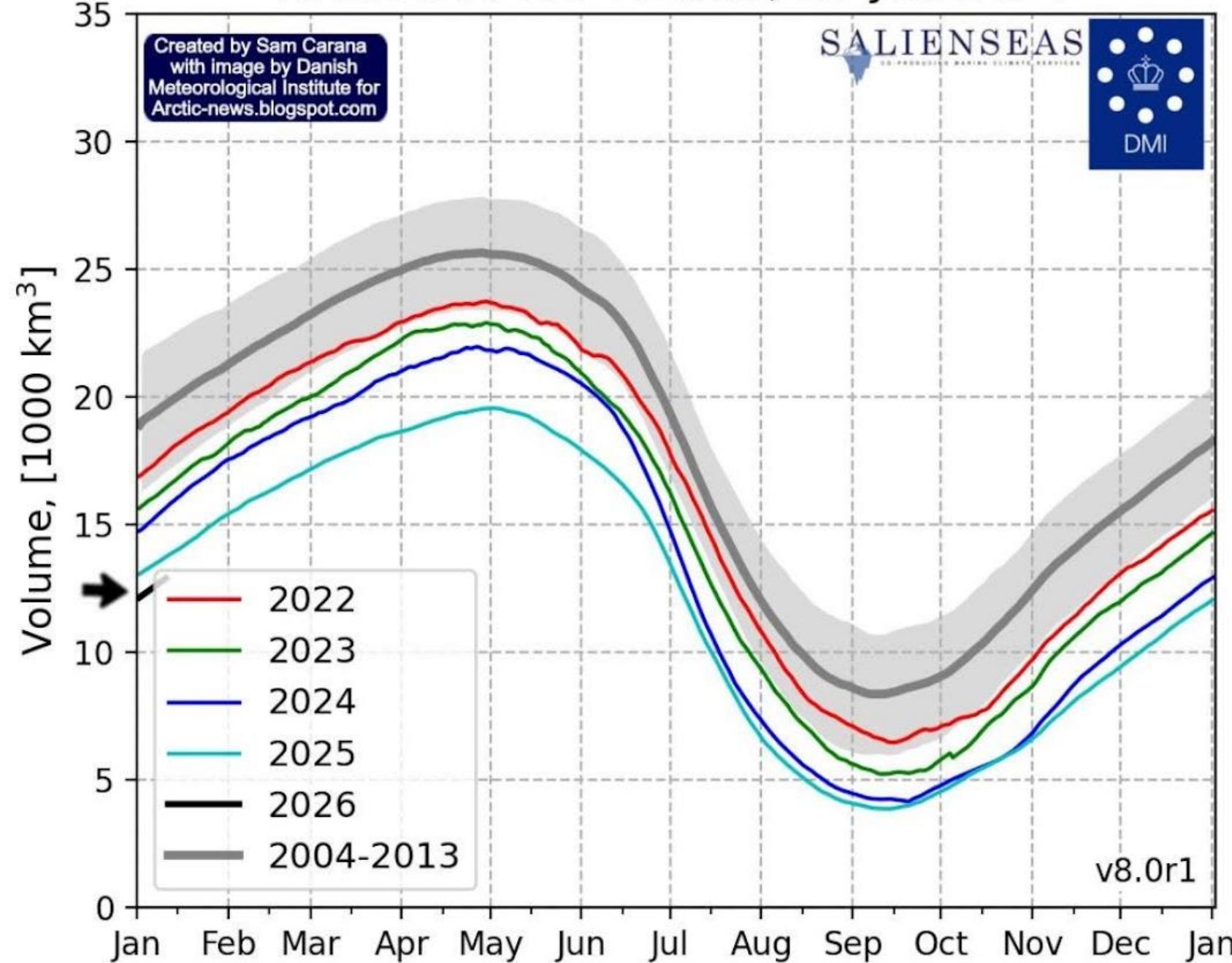
There is snow in the mountains !

Jan 10, 2026 Above Galena Summit looking south towards the Boulder Mountain in the Big Wood Basin.

So far – water supplies are similar to 2025.

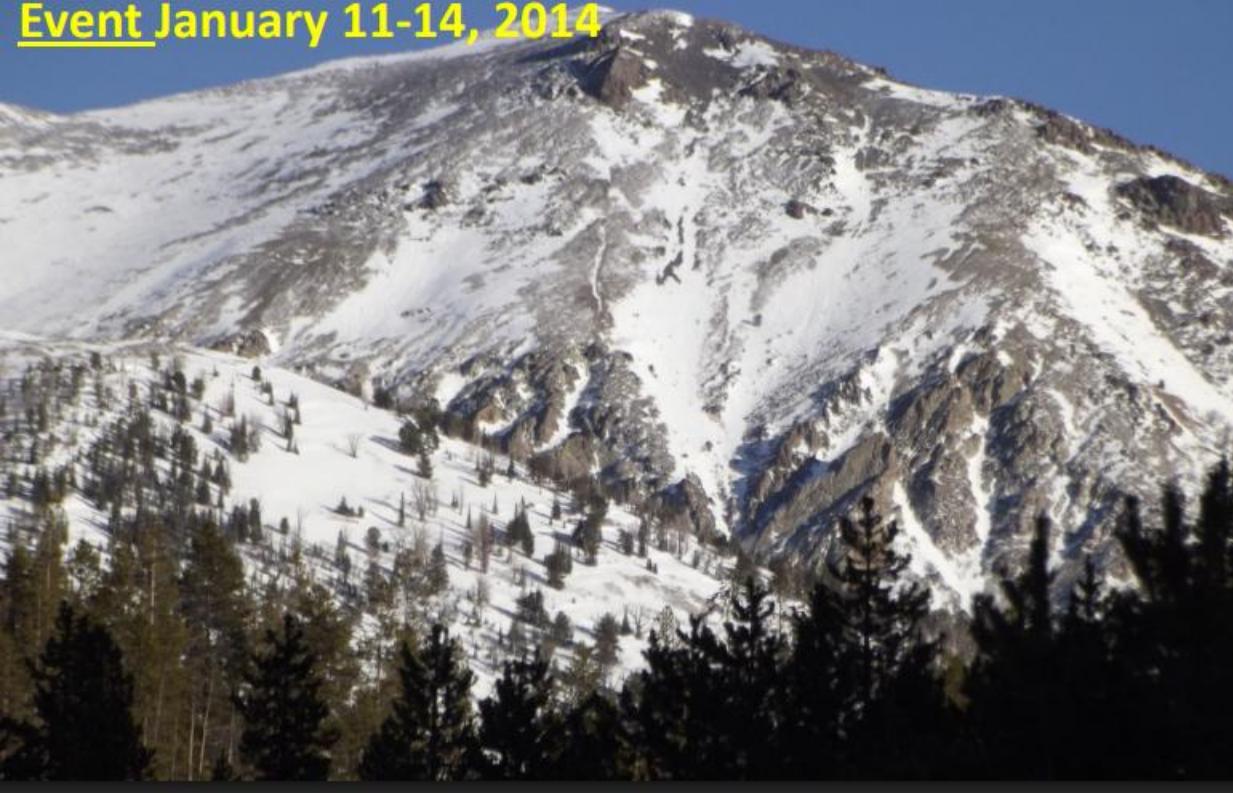
It will be interesting watching the weather for the rest of this season and seeing how the rain and snow distribution influences spring runoff.

Arctic Sea Ice Volume, 10-Jan-2026



Winter 2013-2014 What Happened?

Boulder Mountains near Sun Valley , looking SE from Hwy 93 South of Galena Lodge after Major Snow, Rain & Wind Event January 11-14, 2014



Surf's Up

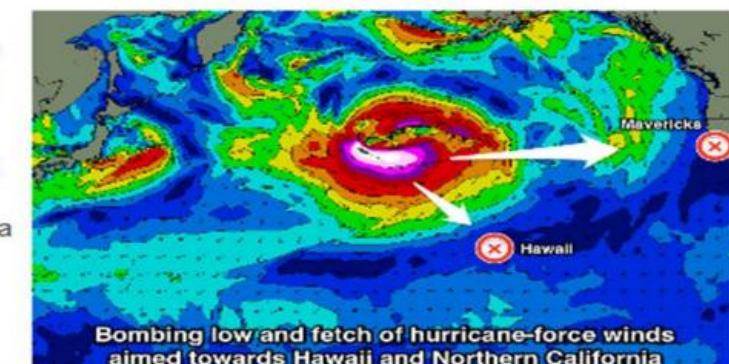
Jan 22, 2014

30-40 (60-80) foot
waves & erratic winds
cancel Hawaii Surfing
Event

All eyes on Hawaii as huge storm
approaches

A fortnight ago the eyes of the surfing world were on Europe and the 'Hercules' storm that burst out of the North Atlantic Ocean. At the time Hawaii was almost unsurfably small. Since then a series of storms in the North Pacific have wrested attention back to the Hawaiian Islands. The great run of swell will be capped by a beast of a system; a storm that has longtime forecasters cooing with excitement.

Three great barrels from Sunday 19/01 at Peahi.



Background Information on 3 Primary Atmospheric Teleconnections or Drivers

Southern Oscillation Index (SOI) - measure of Pacific Atmosphere

Oceanic Nino Index (ONI) – measure of Pacific Sea Surface Temperatures

Pacific Decadal Oscillation (PDO) – measure of north Pacific Sea Surface Temps

Many researchers, like Pete Parsons, look at these climate teleconnections that correlate with our wet season (winter) to better understand what the future may bring.

Key is if we can still use the past to predict the future in a changing climate.

Owyhee Basin SWSI

Adequate Water Supply Greater than -1.5 SWSI or 575 KAF

Station ID	Station Name	Period	Data Type	Years	# of Years
13183000	Owyhee R blw Owyhee Dam	Feb-Sep	strm	1991-2024	34 Units KAF
13182500	Lake Owyhee nr Nyssa	31-Dec	resv	1991-2024	34 Units KAF
ENSO Classification					
SE Strong El Nino - EN Mild El Nino - N Neutral - LN Mild La Nina - SL Strong La Nina					
Rank	Year	Enso	Stream Flow Feb- Sep	Streamflow Reservoir 31-Dec + Reservoir Sum	Non-Exceedance Probability SWSI
2025 10% Chance Exceedance Forecast	N		1090	459	1549 99% 4.0
1	2006	N	1161	474	1635 97% 3.9
2	2011	SL	1347	215	1561 94% 3.7
3	1998	SE	897	438	1336 91% 3.5
4	1996	N	825	479	1304 89% 3.2
5	2024	N	858	395	1253 86% 3.0
6	2017	LN	1024	213	1236 83% 2.7
7	1997	N	784	443	1227 80% 2.5
2025 30% Chance Exceedance Forecast	N		760	459	1219 79% 2.4
8	1999	SL	662	480	1142 77% 2.3
9	1993	EN	1097	37	1134 74% 2.0
2025 50% Chance Exceedance Forecast	N		575	459	1034 73% 1.9
10	2019	N	746	254	1000 71% 1.8
11	1995	SE	825	85	910 65% 1.5
2025 70% Chance Exceedance Forecast	N		440	459	899 67% 1.1
12	2005	EN	660	152	813 66% 1.3
13	2020	N	331	481	812 63% 1.1
14	2000	N	349	426	775 60% 0.8
15	2023	LN	667	94	761 57% 0.6
2025 90% Chance Exceedance Forecast	N		295	459	754 56% 0.5
16	2012	LN	257	492	749 54% 0.4
17	2007	EN	241	448	689 51% 0.1
18	2018	LN	226	461	687 49% -0.1
19	2008	N	504	174	678 46% -0.4
20	2009	N	442	186	628 43% -0.6
21	2016	SE	545	70	614 40% -0.8
22	2010	EN	425	160	585 37% -1.1
23	2004	N	524	56	580 34% -1.3
24	1994	SE	152	423	575 31% -1.5
25	2001	LN	316	251	567 29% -1.8
26	2002	N	459	103	562 26% -2.0
27	2021	LN	186	329	515 23% -2.3
28	1991	N	291	201	491 20% -2.5
29	2013	N	198	264	462 17% -2.7
30	2022	LN	322	119	441 14% -3.0
31	2003	EN	220	113	334 11% -3.2
32	2015	EN	179	75	254 9% -3.5
33	2014	N	185	61	246 6% -3.7
34	1992	EN	129	94	223 3% -3.9

Adequate Shortage

2026 Summary – Based on some estimated data.
Using NWS Jan 1 forecasts, NRCS SWSI, and Dec 31 reservoir storage:
Looking at similar water supplies as in 2025

2025

Owyhee River 2025 Feb-Sep Runoff 588 KAF
Owyhee Reservoir Storage Jan 1 459 KAF
Sum 1047 KAF

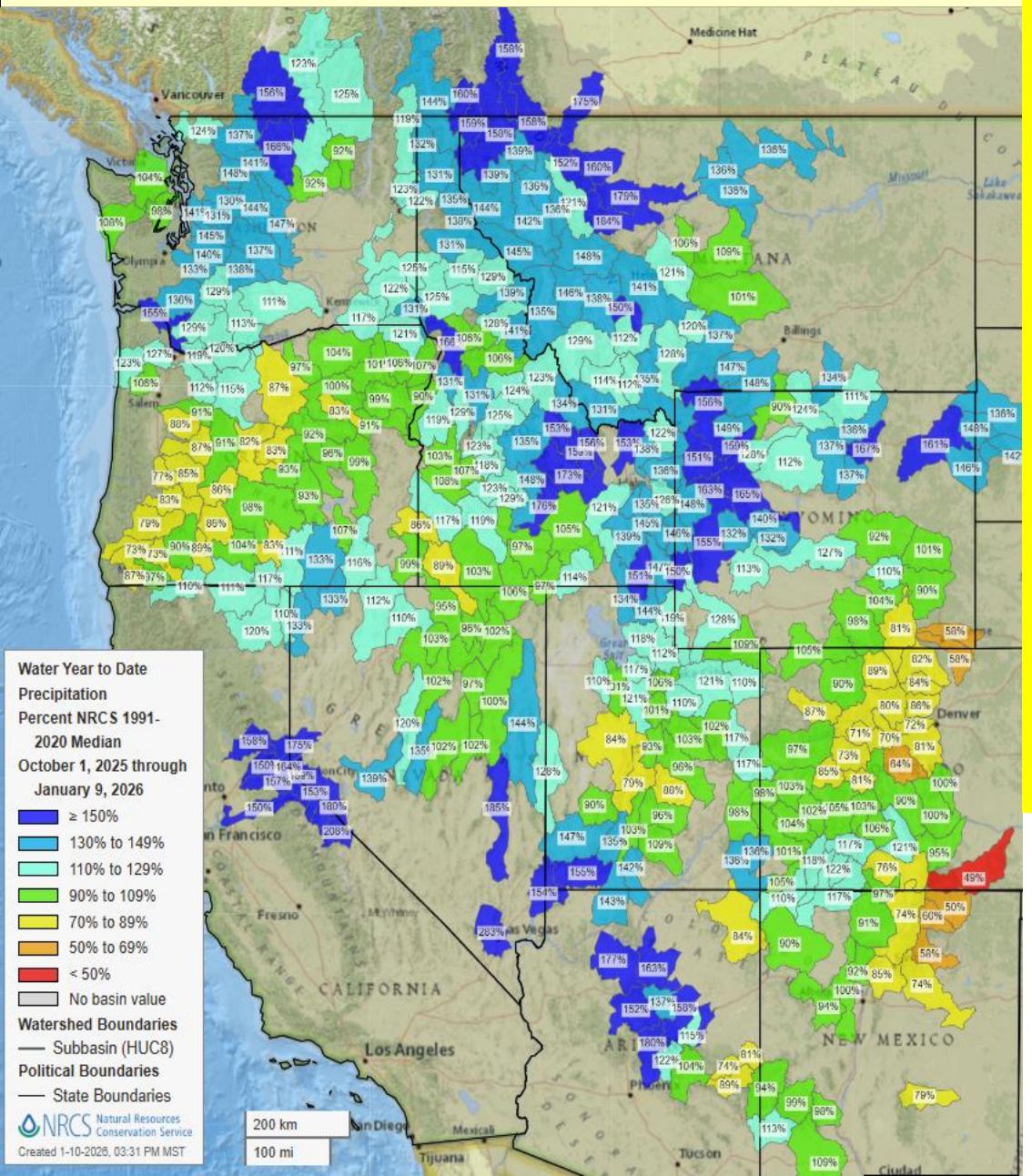
2026 50% Exceedance Forecast

Owyhee River 2026 Jan-Sep Forecast 616 KAF
Owyhee Resv Dec 31 2025 Storage 410 KAF
Sum 1026 KAF

2026 Minimum Forecast 90% Exceedance
Owyhee River 2026 Jan-Sep Forecast 352 KAF
Owyhee Resv Storage Dec 31 2025 410 KAF
Sum 762 KAF

2026 Current Conditions:

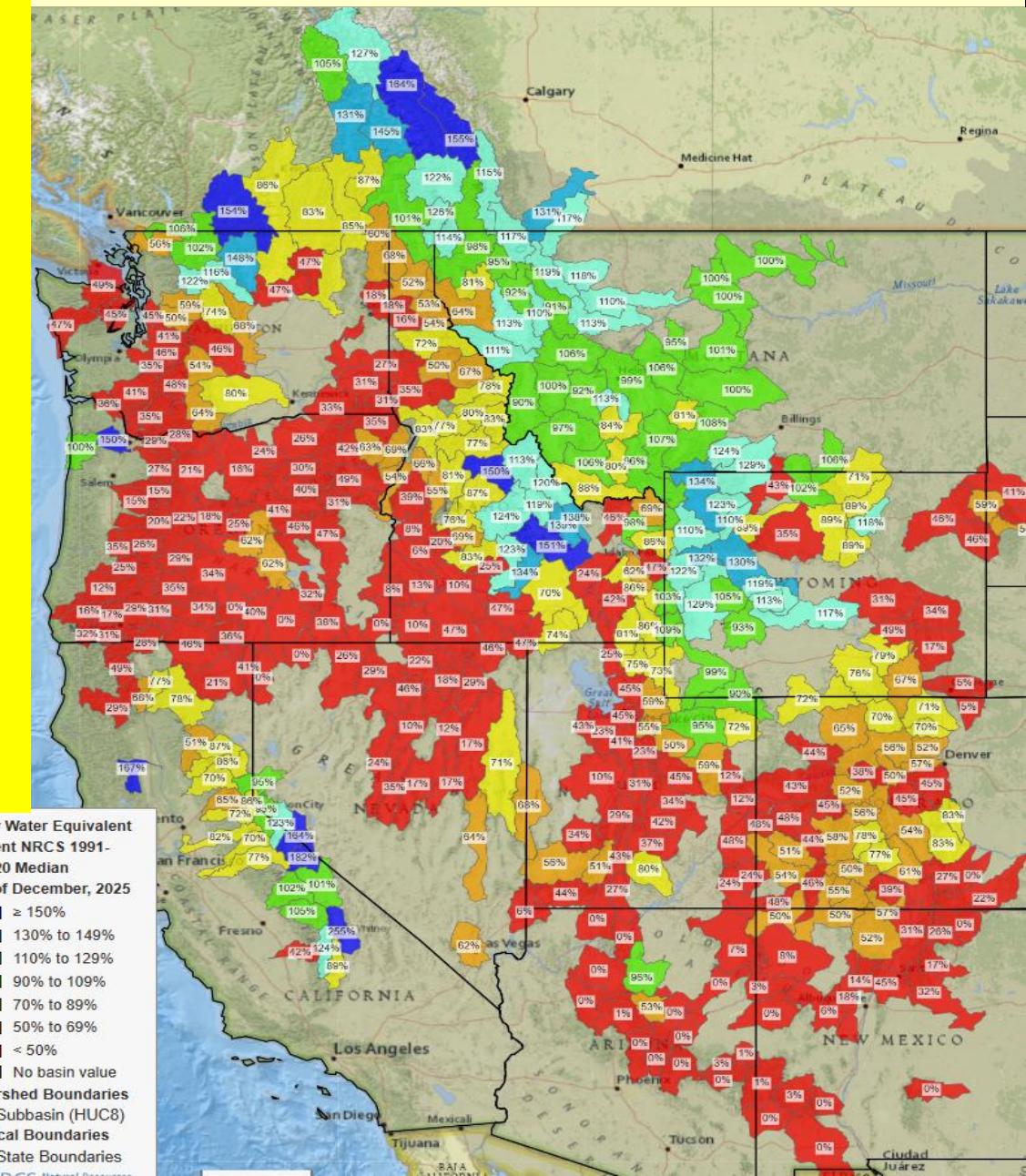
Jan 9 2026 Water Year to Date Precipitation



Water Year to Precipitation is near normal or better except in OR, CO, NM and southern UT.

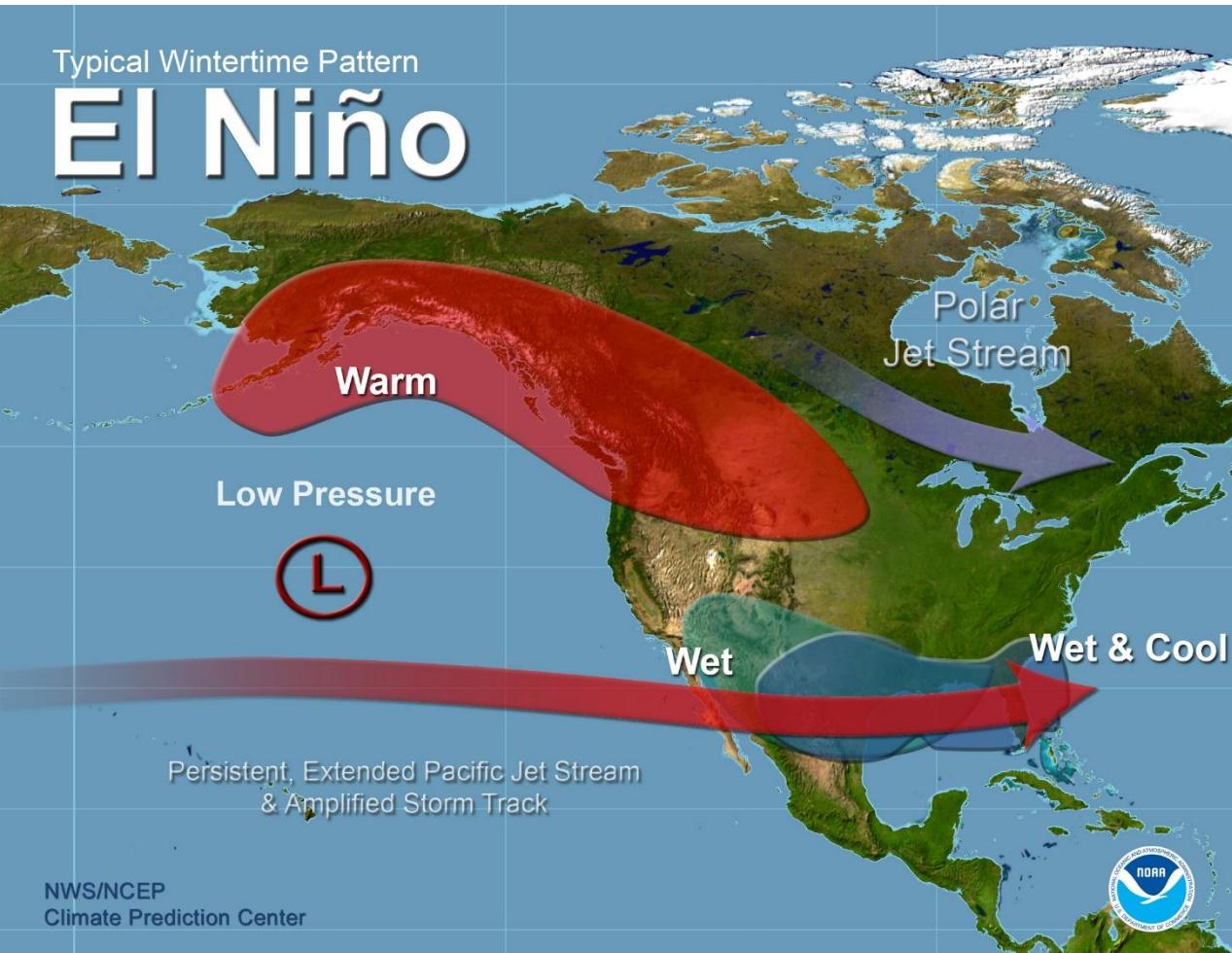
Lower snow values influenced by warmer temperatures, also need to look at elevation of snow sites.

Jan 1 2026 Snowpack (SNOTEL & Snow Course)

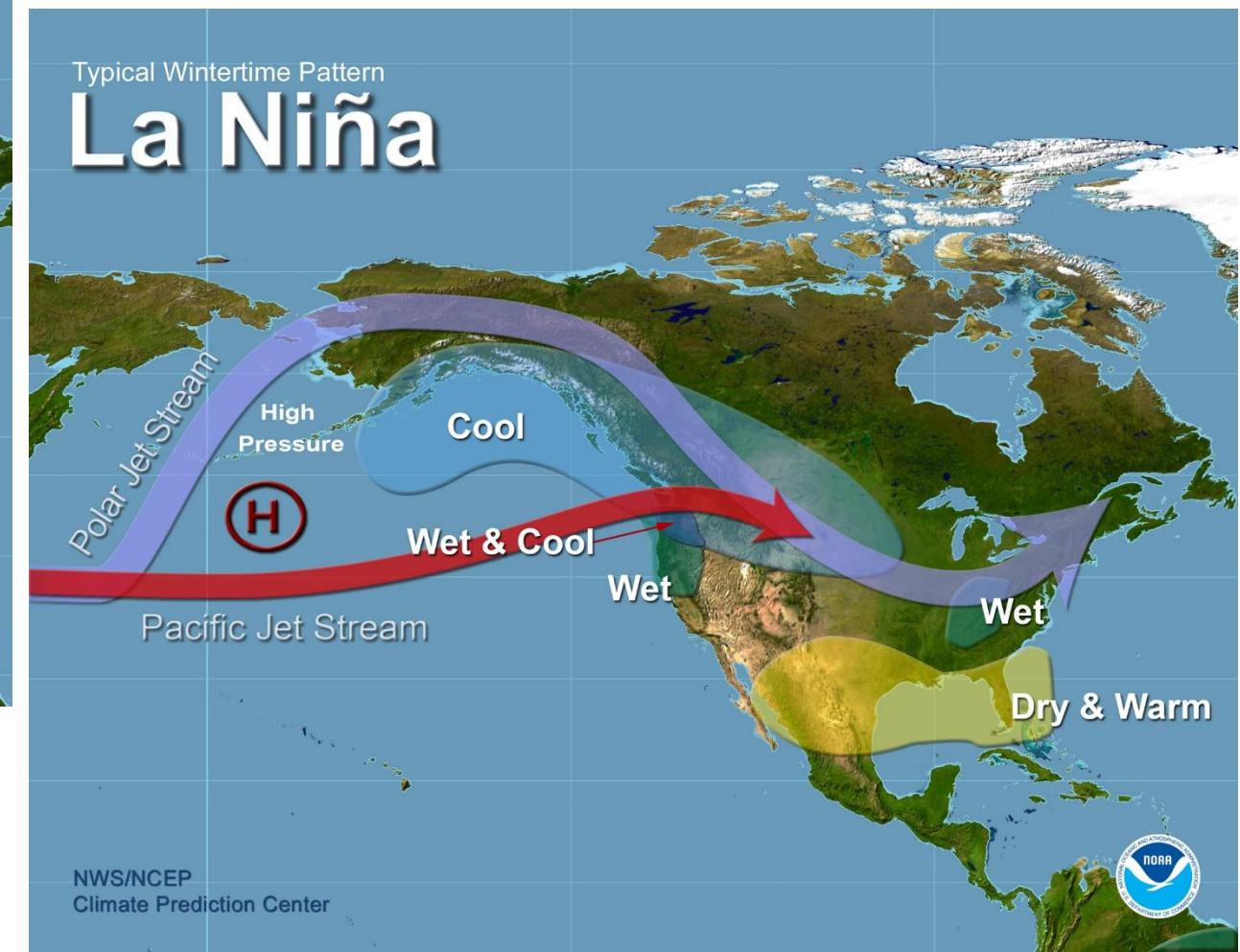


Quick Review

El Niño

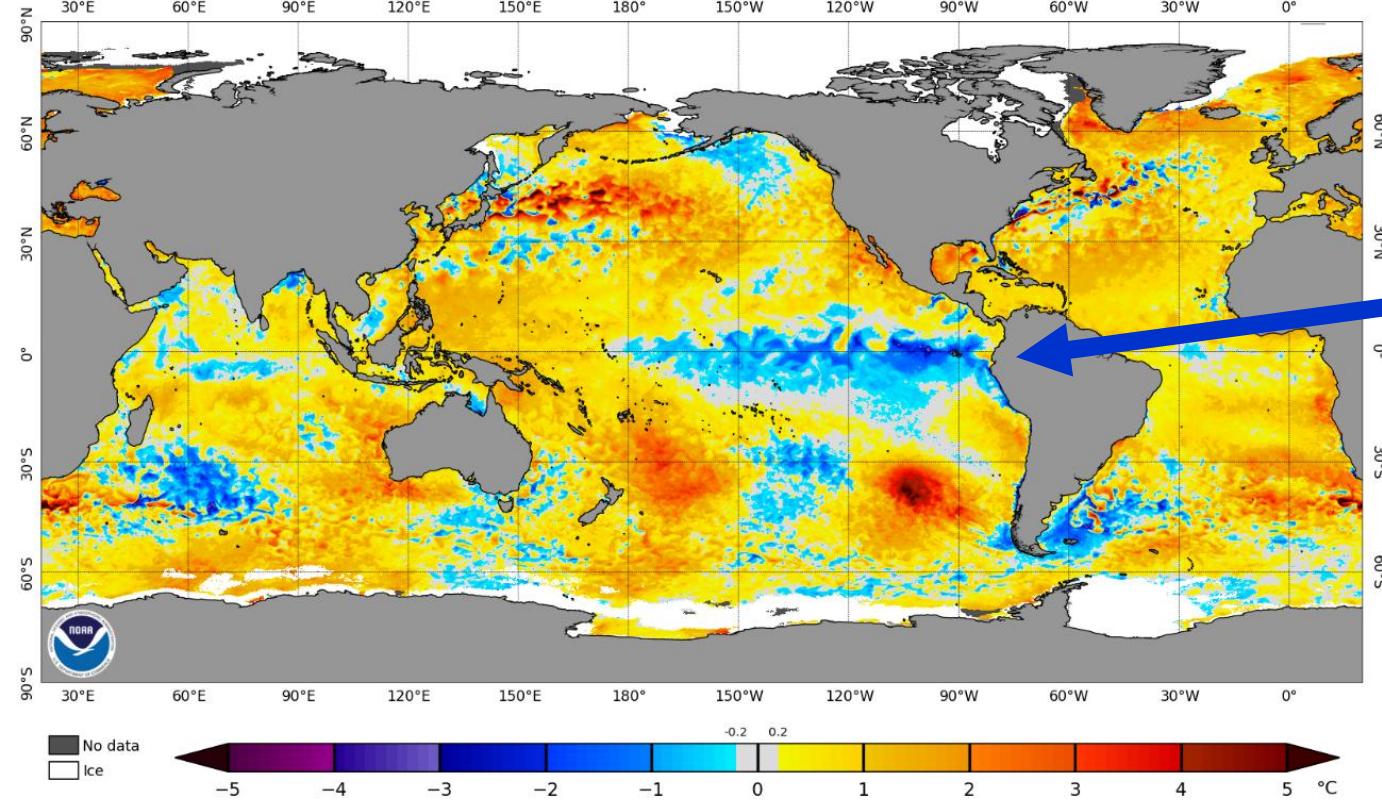


La Niña



SST Anomaly Charts

NOAA Coral Reef Watch Daily 5km SST Anomalies (v3.1) 4 Jan 2026

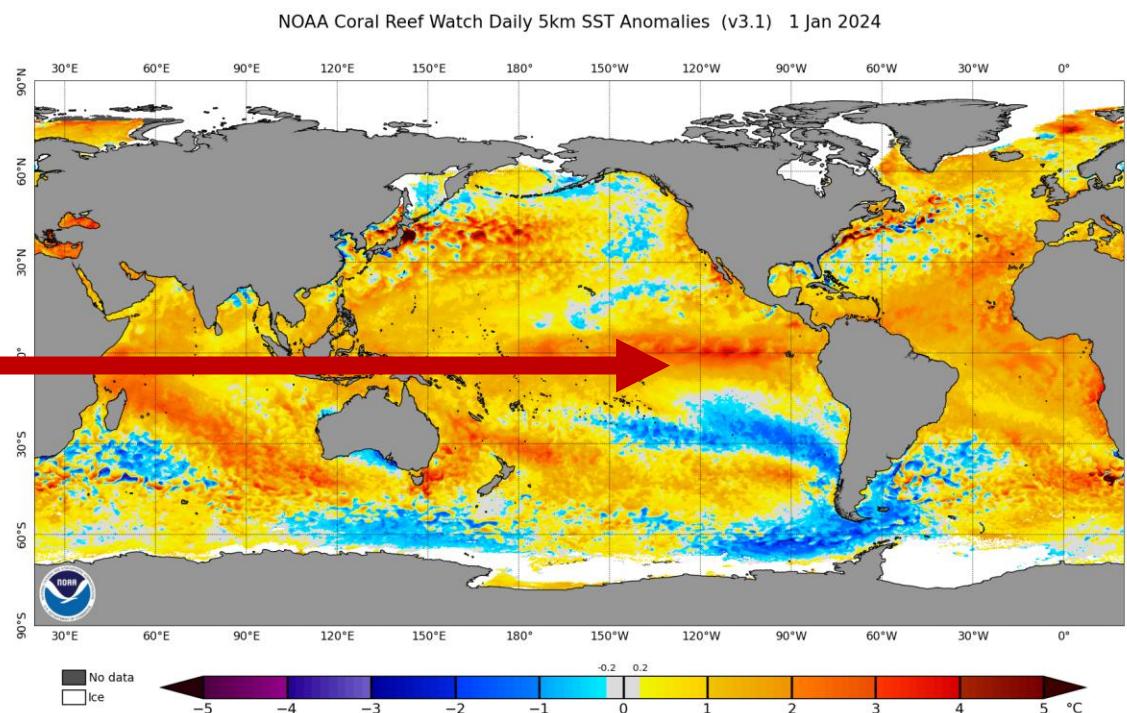


Sea Surface Temperatures

La Nina Conditions
Jan 4, 2026

El Nino Conditions
Jan 1, 2024

El Nino brewing for
2026-27 Winter



Good visual to view these current analog years and their strengths with other years:

1967-68 1981-82 2017-18 2001-02 runner up

Oceanic Niño Index (ONI)

https://origin.cpc.ncep.noaa.gov/products/analysis_monitoring/ensostuff/ONI_v5.php

