Happy New Water Year 2026 !
May this year be better than last year !

Here's a Summary about:

1. **Last year's winter snowpack and spring/summer runoff to see how the forecasts did.**
   Always good to verify your forecasts rather then just talking about them.

2. **2025 April 1 Snowpack – looking good !**

3. **Spring Precipitation – what happened ?**

4. **Summer Precipitation – not much better.**

5. **Fall Precipitation – October storms are moving in with half the month still come.**

6. **Winter Outlooks – lots of outlooks out there. Find your favorite, watch, learn and see how they preform.**

7. **Here are some I still watch and a few more. We'll talk about Pete's analog years of 1968, 1982 & 2018, and Runner Up year 2001-02. And interesting Severe Weather Europe Oct 21 post that shows similarities with 1981-82 winter !!!**

Get Ready to Enjoy the Ride & Let It Snow !!

This has been fun to watch over the years – Years Following Strong El Nino Events. **2025 Runoff is updated at the bottom.**

2025 - Only a few basins had normal runoff, and a few were less than 80% of average.

The early Mar Forecasts were looking pretty good ! Now I must wait for another strong El Nino year to share again.

			Streamflow as % of 1991 - 2020 Average							
			Feb-Sep	Apr-Sep	Apr-Sep	Apr-Sep	Apr-Sep	Apr-Sep	Apr-Sep	Apr-Sep
					Sorted high to low					
Strong & Very Strong El Nino Years	Year Following a Strong & Very Strong El Nino Year		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		ENSO								
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
					Sorted high to low					
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%
	110-150%
	> 150%

Color Code for Streamflow as % of Average

Maybe we'll see an El Nino sooner then we think… Always interesting learning and watching what drives the Pacific. We'll keep an eye on this for winter of 2026-2027.

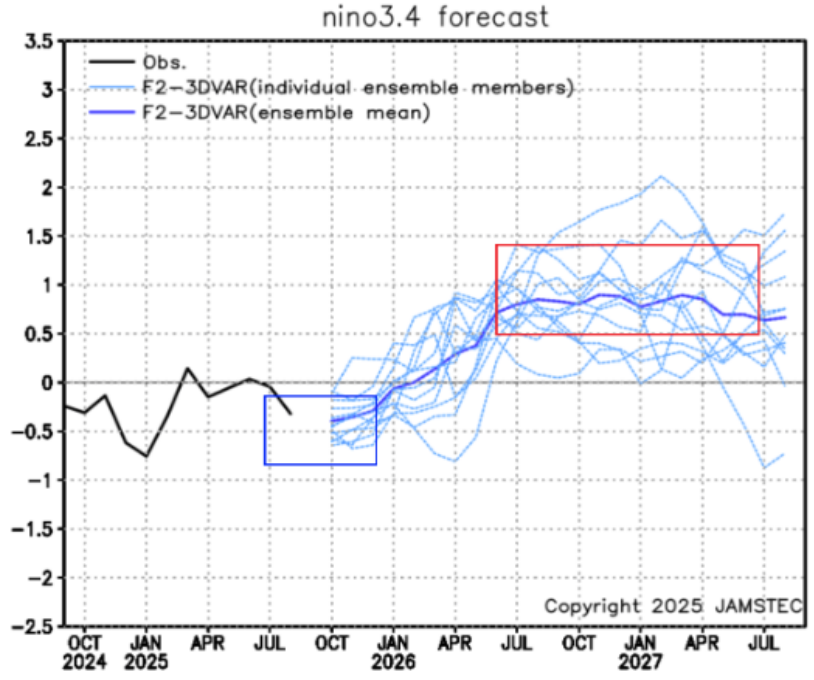
One great thing about long-range forecasting is not trying to predict the temperature 6 months from now in a nearby town at noon, as that is impossible. But we can observe and interpret the various signals provided by the oceans and the atmosphere, which can tell us a great deal about what weather patterns are coming.

EL NINO 2026 IS COMING

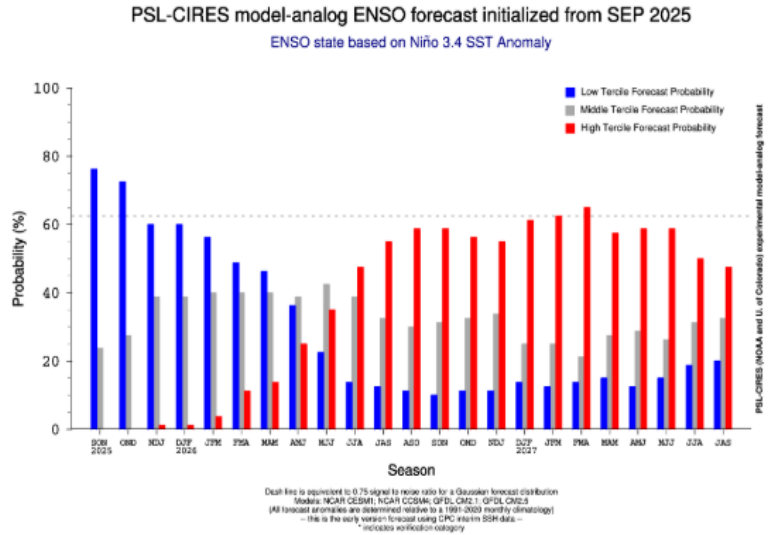
For details and ads: https://www.severe-weather.eu/long-range-2/la-nina-has-formed-winter-2025-2026-latest-impacts-el-nino-reversal-united-states-canada-europe-fa/

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.

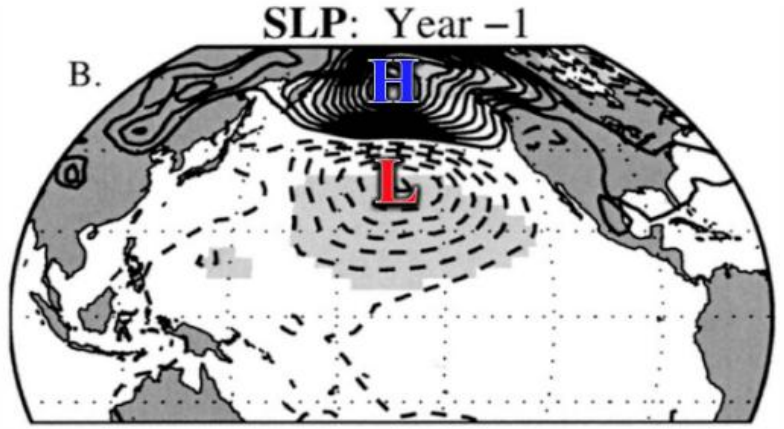


Below is also an extended analog forecast by the PSL for the main ENSO region. It clearly shows an active cold phase going into the upcoming winter, with a weakening of the cold phase toward Spring. The chances of an El Niño event increase significantly in mid-2026 and continue to rise in 2027, possibly even indicating a double or "Super El Niño" event.

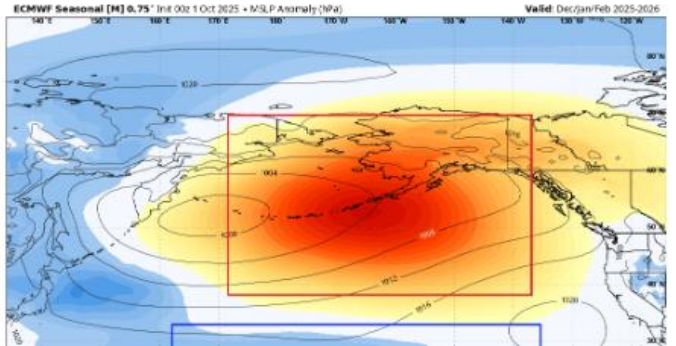


Another sign of an upcoming El Niño development is provided by the atmosphere itself. Below is an image from a study by Vimont et al. (2002) on how specific North Pacific pressure patterns precede El Niño events. Below is the expected pressure pattern a few months ahead of new El Niño events.

As you can see, the main predictor pattern is a high-pressure system in the far North Pacific. Under that system is a low-pressure area, driving westerly winds across the equatorial Pacific, which limits upwelling and enables warm ocean anomalies to build.



The latest EMCWF pressure forecast for the upcoming winter shows a very similar pattern. A strong surface high-pressure system with an underlying low-pressure area. This raises confidence for a proper El Niño event developing next year, which could be far stronger than the last one in 2023.



Why we study and wonder about the Pacific? It's Huge! Here's a Pacific Ocean view you don't always see and explanation of the SOI correlation with our western watershed's spring /summer runoff. Same relationship can be found using the Pacific's sea surface temps.

Key is – what happens July-Nov in Pacific doesn't stay in the Pacific and correlates with our winter snowfall and summer streamflow in Western US.

Southern Oscillation Index (SOI) measure of the Pacific Atmosphere

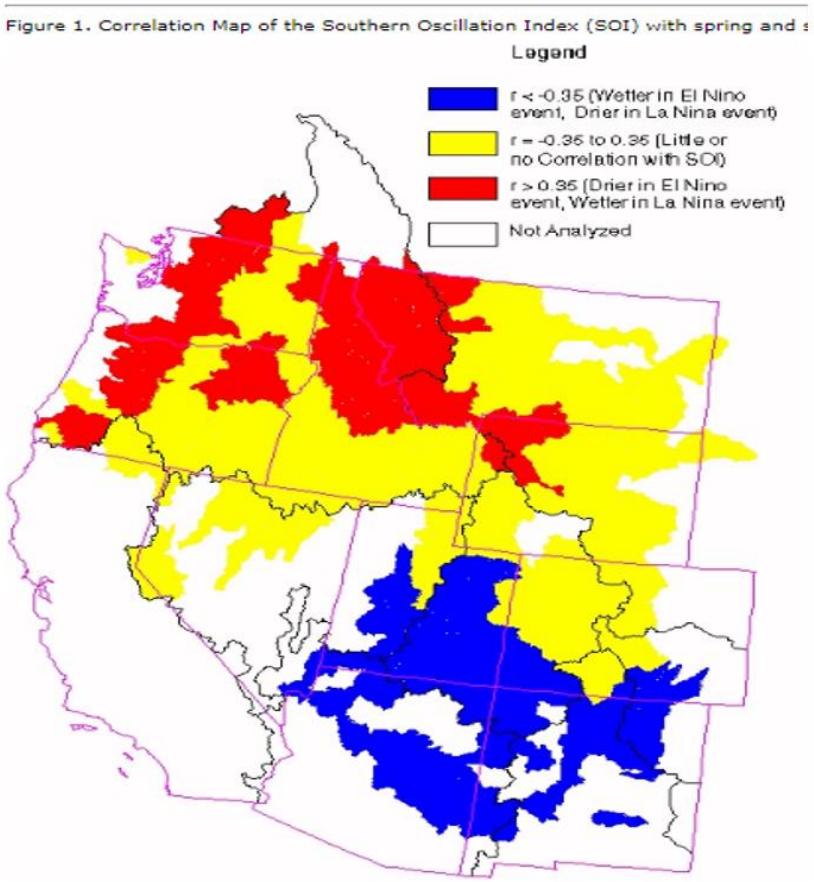
Correlation Map of SOI with Spring-Summer Streamflow

Red wetter in La Nina years.

Blue wetter in El Nino years.

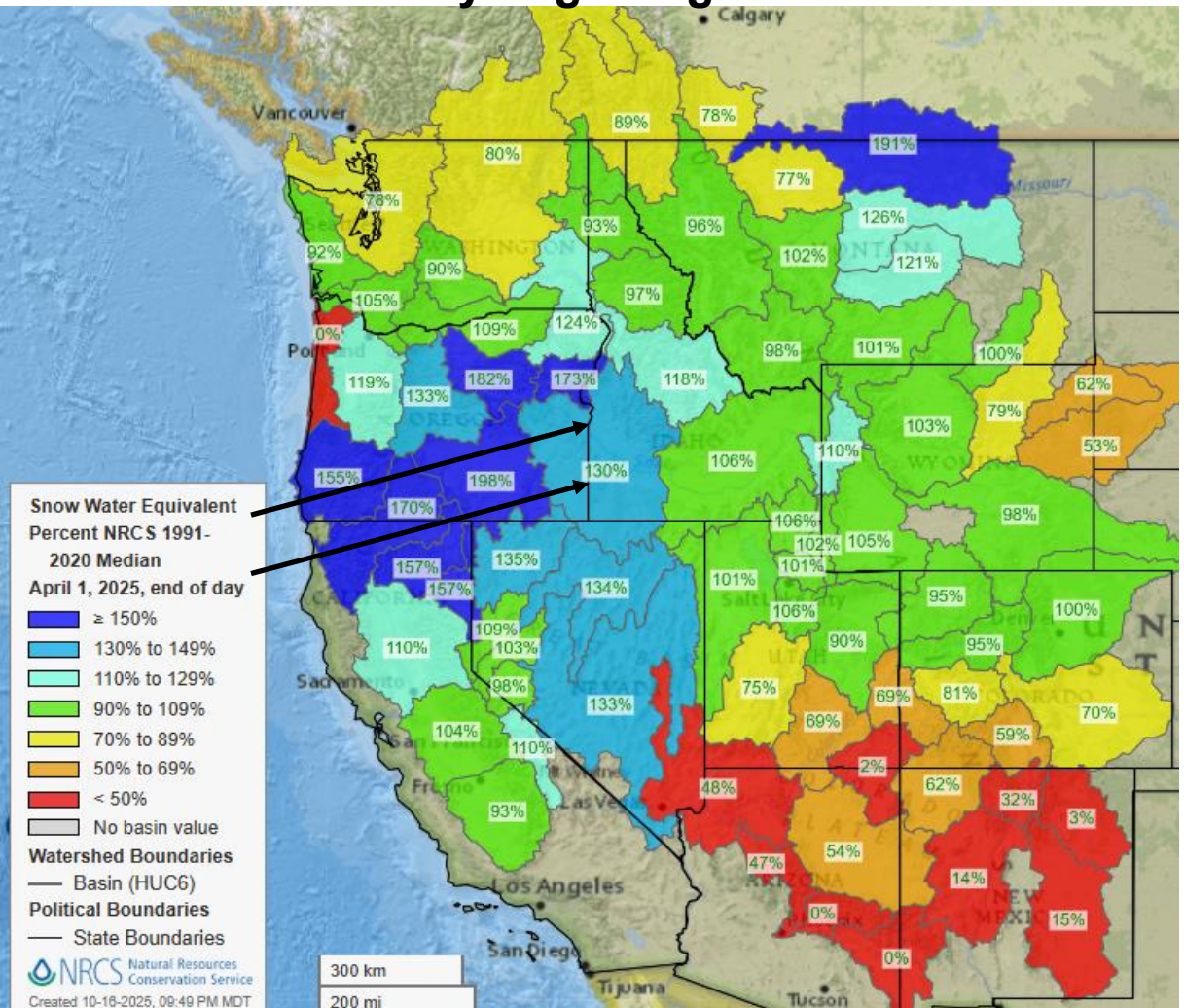
Key is – what happens July-Nov in Pacific correlates with snowfall and summer streamflow in Western US.

Clearwater Basin has correlation value of 0.67

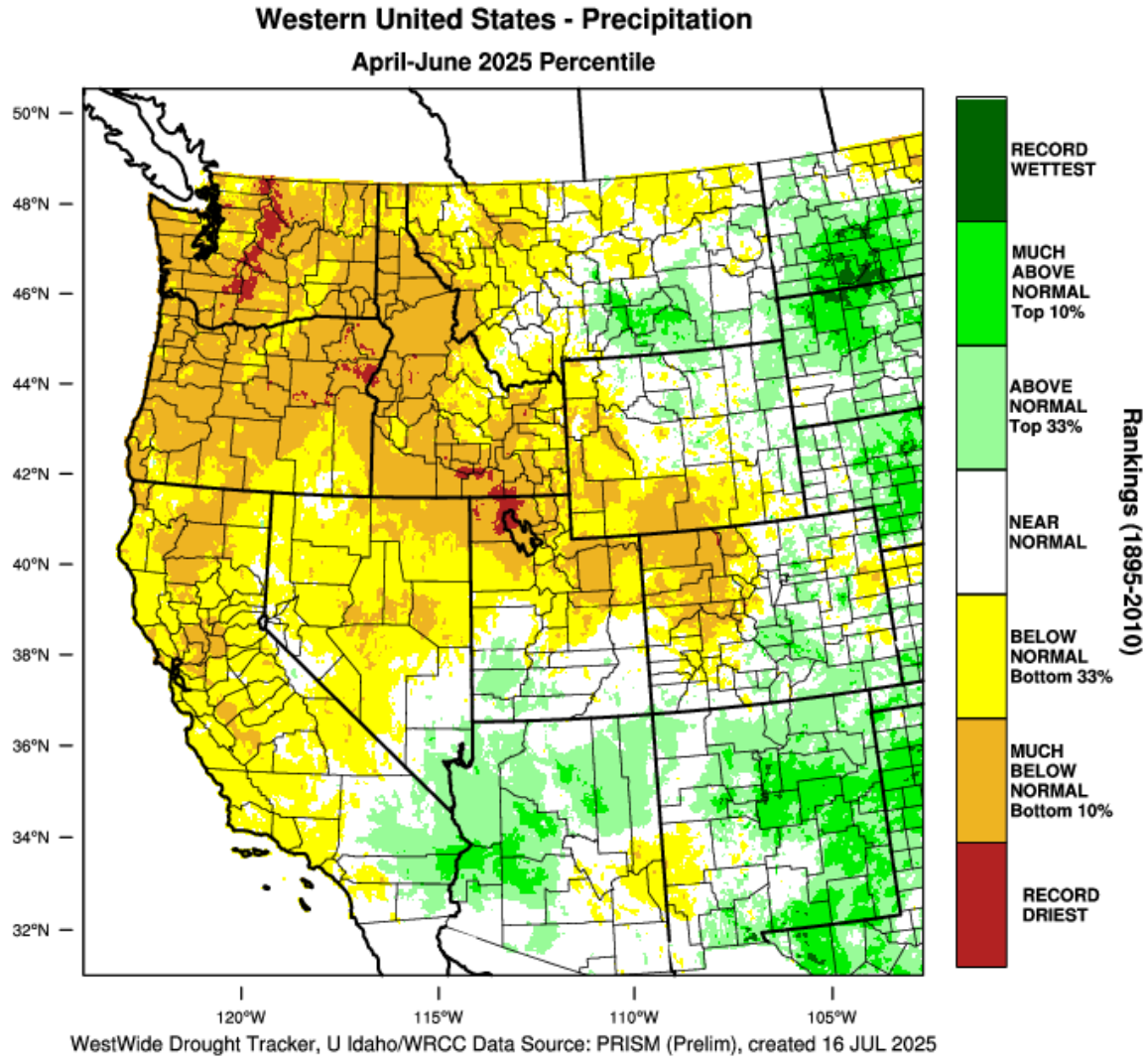


2025 April 1 snow was near average or better except for the SW US. Way to go Klamath – just what you needed after removing the dams and to help the fish! This also brought good snowfall to SW and West Central Idaho.

Bogus Basin reached 100” of snow depth for the 8th time since 1942. Way to go Bogus!



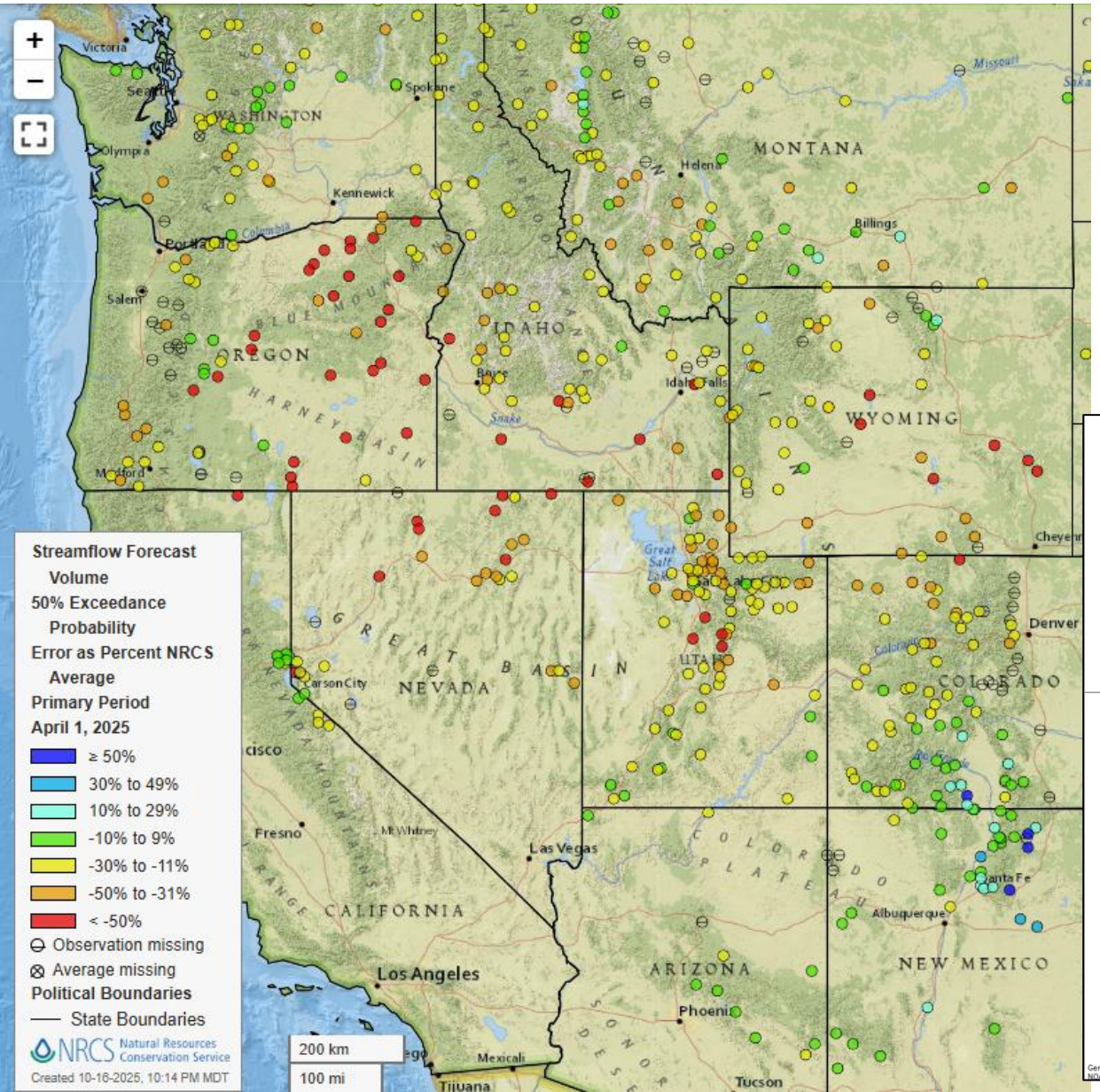
Lessons learned - Spring Precipitation can make your break the streamflow runoff forecasts. And it shattered them this year. This map shows PNW amounts were much below, Bottom 10% and even pushing RECORD DRIEST.



Lessons Learned – lack of Spring Precipitation pushed runoff forecasts down to the minimum forecast volumes, the 90% Exceedance levels.

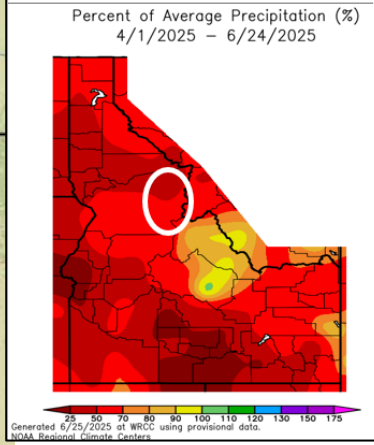
I've seen spring precip impact projected runoff when it was 75 or 125% of normal, but I don't recall having a near normal snowpack and record low spring precip like this year.

Many Lessoned Learned and a runoff year to remember.

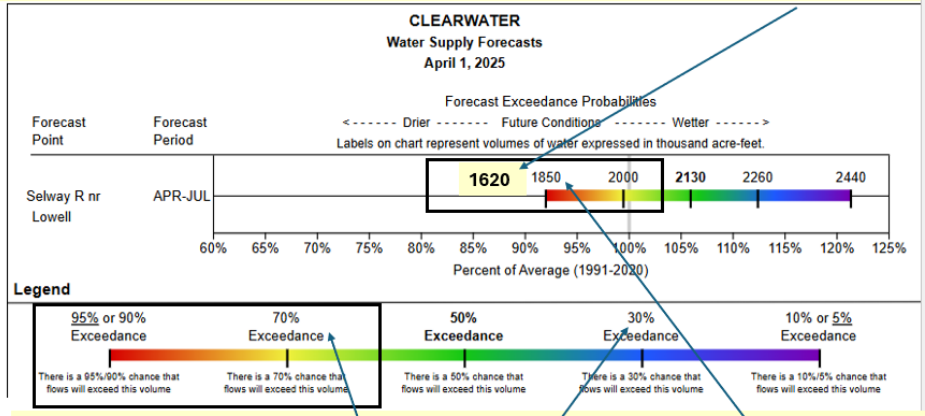


Lesson Learned about Living in the Extremes

Selway Basin Apr-Jun precip was only 50-70% of average



Selway River Runoff Volume Forecasts for Apr-Jul
NRCS April 1, 2025 Table in 1000 Acre-Feet
As of June 24, 2025, Selway River Apr-Jul Runoff Volume should be around 1620 KAF

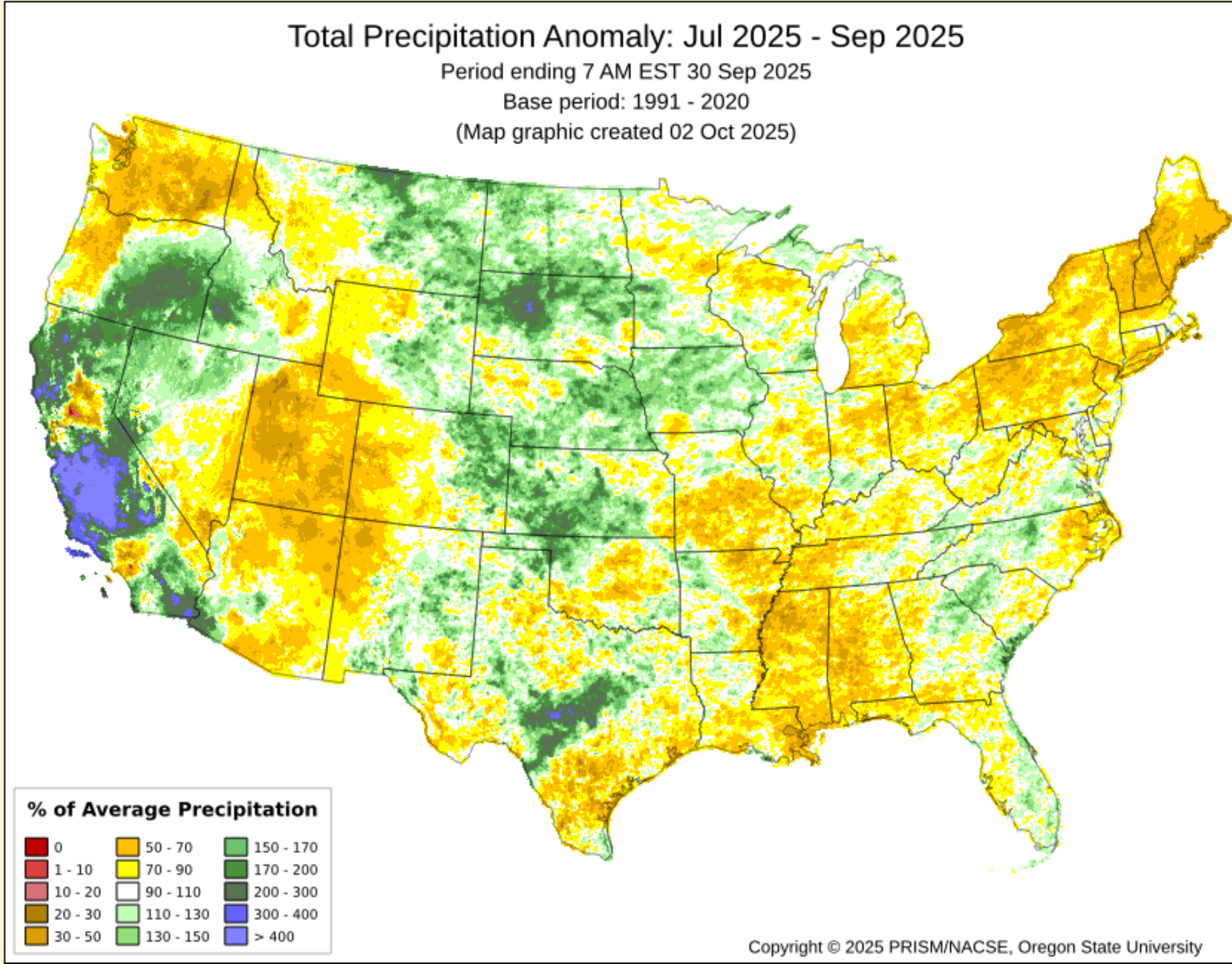


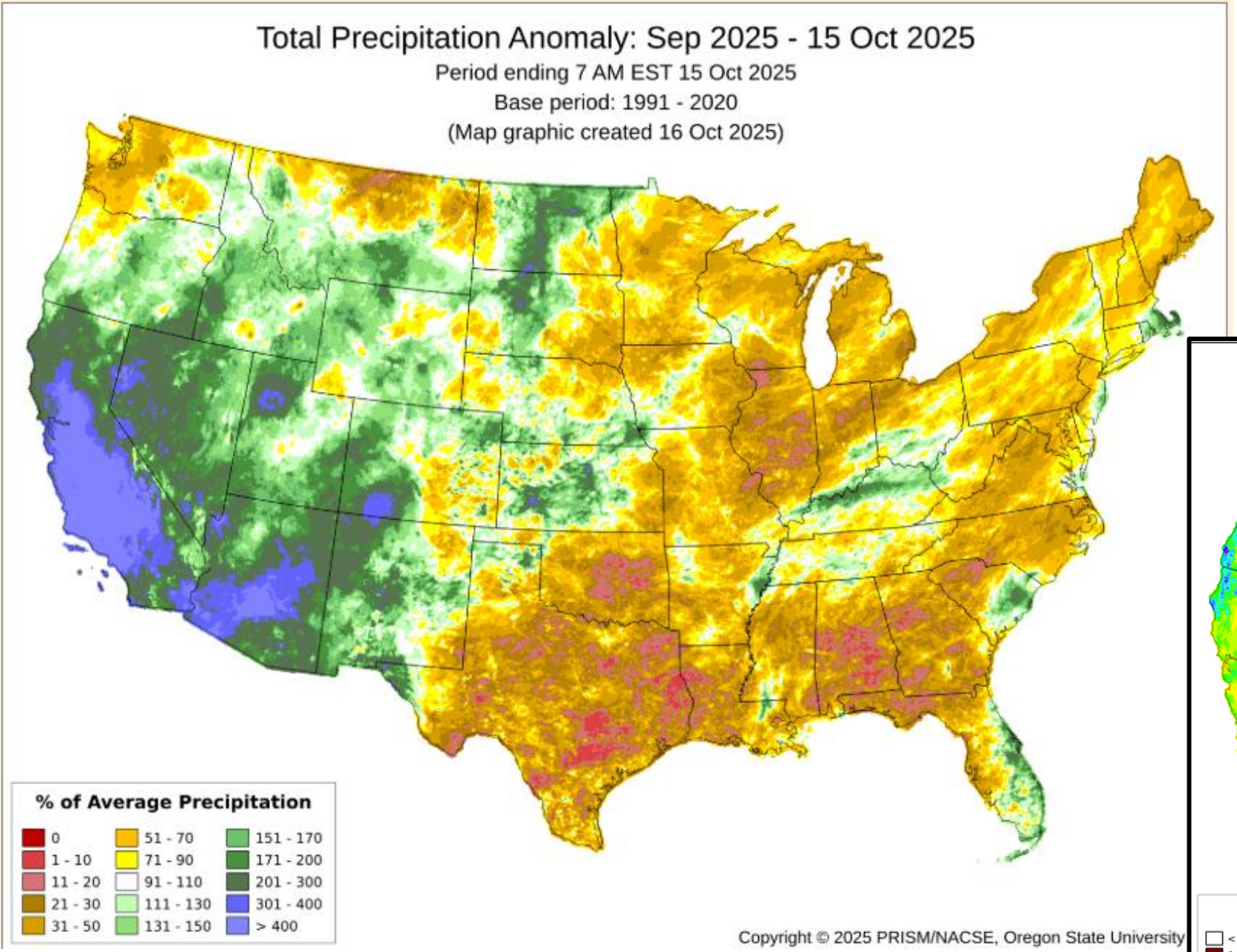
Spring precip was only 50-70% of average and resulted in runoff less than the 90% Exceedance Forecast. This is why it's important to adjust the volume you are using in your decision-making process. FYI – it takes normal spring precip for the 50% Exceedance Forecast Range to occur.

Lessons learned in the past:

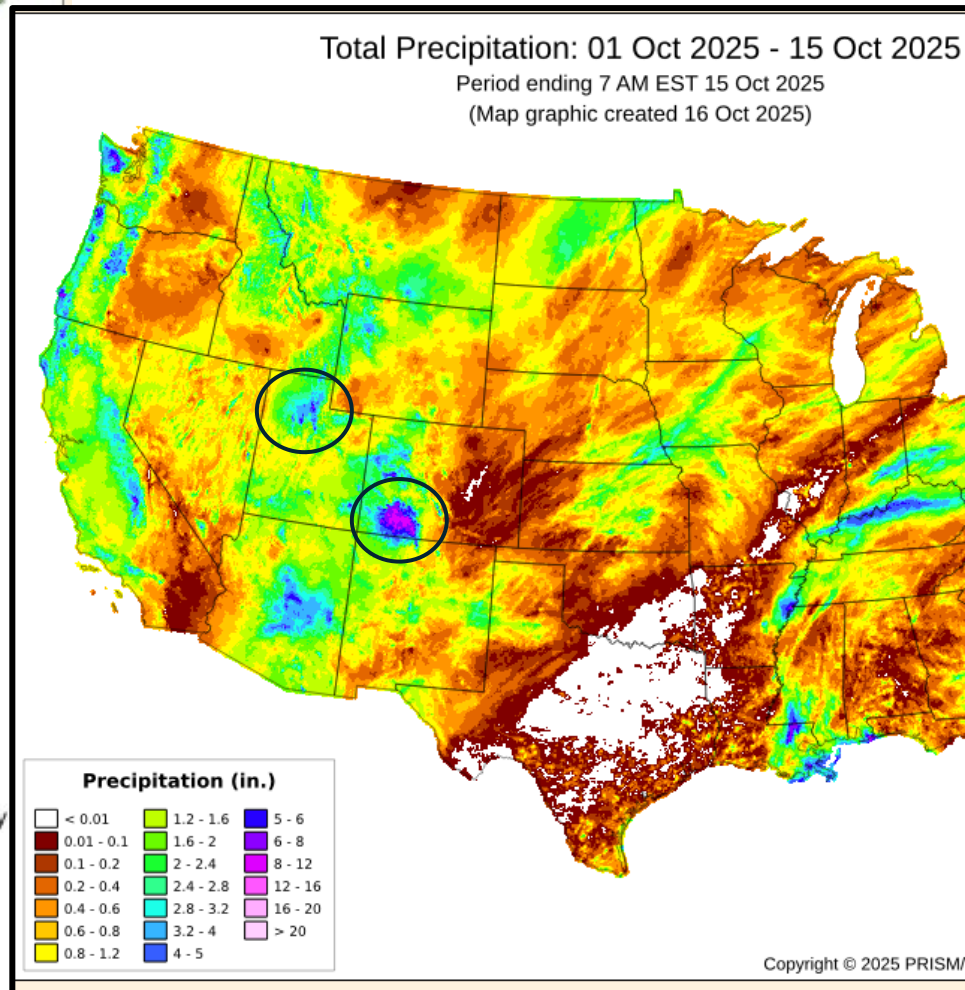
- **When Apr-Jun spring precip was dry, 75% of average, runoff volumes would be in the 70% Exceedance Forecast Range.**
- **And if Apr-Jul spring precip was wet, 125% of average, runoff volumes would be in the 30% Exceedance Forecast Range.**

Summer brought some precip pushing normal or better in Idaho, but nothing to brag about because we all know how little normal rains are in a western summer.





Fall Precip so far, shows storms are moving in, and some are huge. Mountains of SW Colorado received 8-12”, SLC is pushing new monthly precip records with half of of Oct still to come. Washington was dry but not for long.



Old News from Sept 25 - Blob is mixing away from recent major storms.

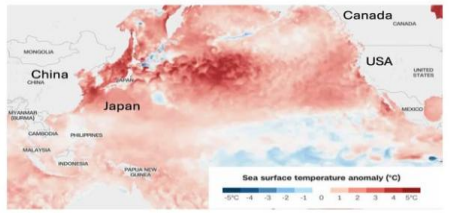
What is really needed – are studies about what causes onset of these warm spots – winds, ocean currents, underwater sea volcanoes… never stop learning and wondering.

Peter Carter
Sep 25 ·

The 'blob' is back — except this time it stretches across the entire North Pacific

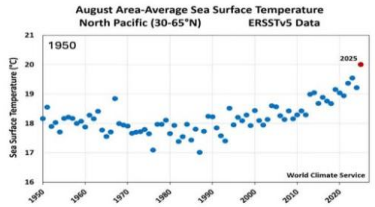
19 Sept. 2025
CNN

The North Pacific area-average monthly sea surface temperature reached 20°C for the first time on record in August.



The hot blob has devastating effects on marine life

The sea surface temperature difference from average across the entire North Pacific smashed an all-time record for the month of August.



Record August 2025 Sea surface temperature

Peter Carter, Climate Emergency Institute

THE PACIFIC HOT SEA SURFACE 'BLOB' IS BACK- BUT MUCH WORSE
CNN, 19 Sept. 2025 It's a Record Marine heat wave. Big Record high N Pacific August sea surface temperature. This time it stretches across the entire North Pacific. 'Blob' Pacific Ocean surface high temperature, first detected off the coast of North America 2013 to 2015.

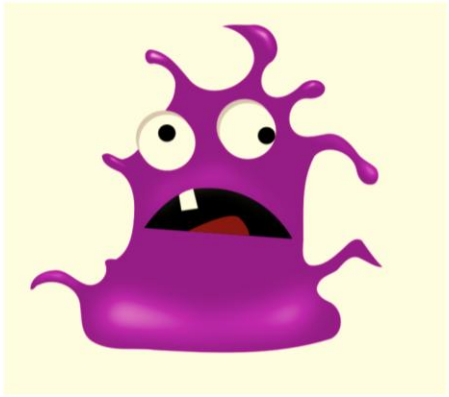
cliffmass.blogspot.com

October 17, 2025

The BLOB is Dying

I have gotten several worried emails from readers this week, asking about the health of the BLOB--an area of warmer-than-normal water off our coast.

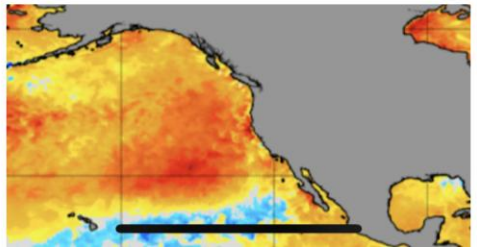
Unfortunately, I have some sad news: the BLOB is weakening rapidly. It may not have long to live.



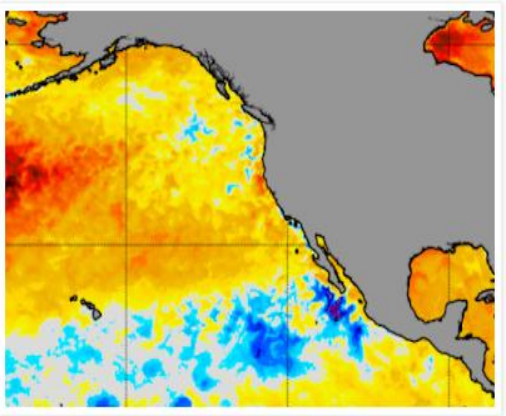
Let's go back a month, to September 17.

The map below shows the difference in the sea surface temperature from normal. A big area of warmer-than-normal temperatures offshore of the West Coast.

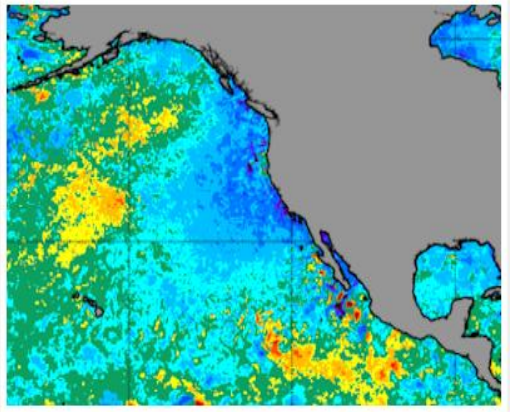
The BLOB LIVES.

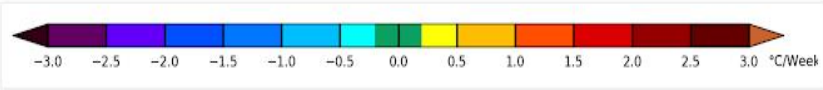


One month later (yesterday), the story is very different, with a very weakened BLOB. Hardly any reds just offshore and even some blues---which indicated cooler than normal temperatures.



Below is the change in sea surface temperature for the past week, with blues indicating substantial cooling. The BLOB's days are numbered.

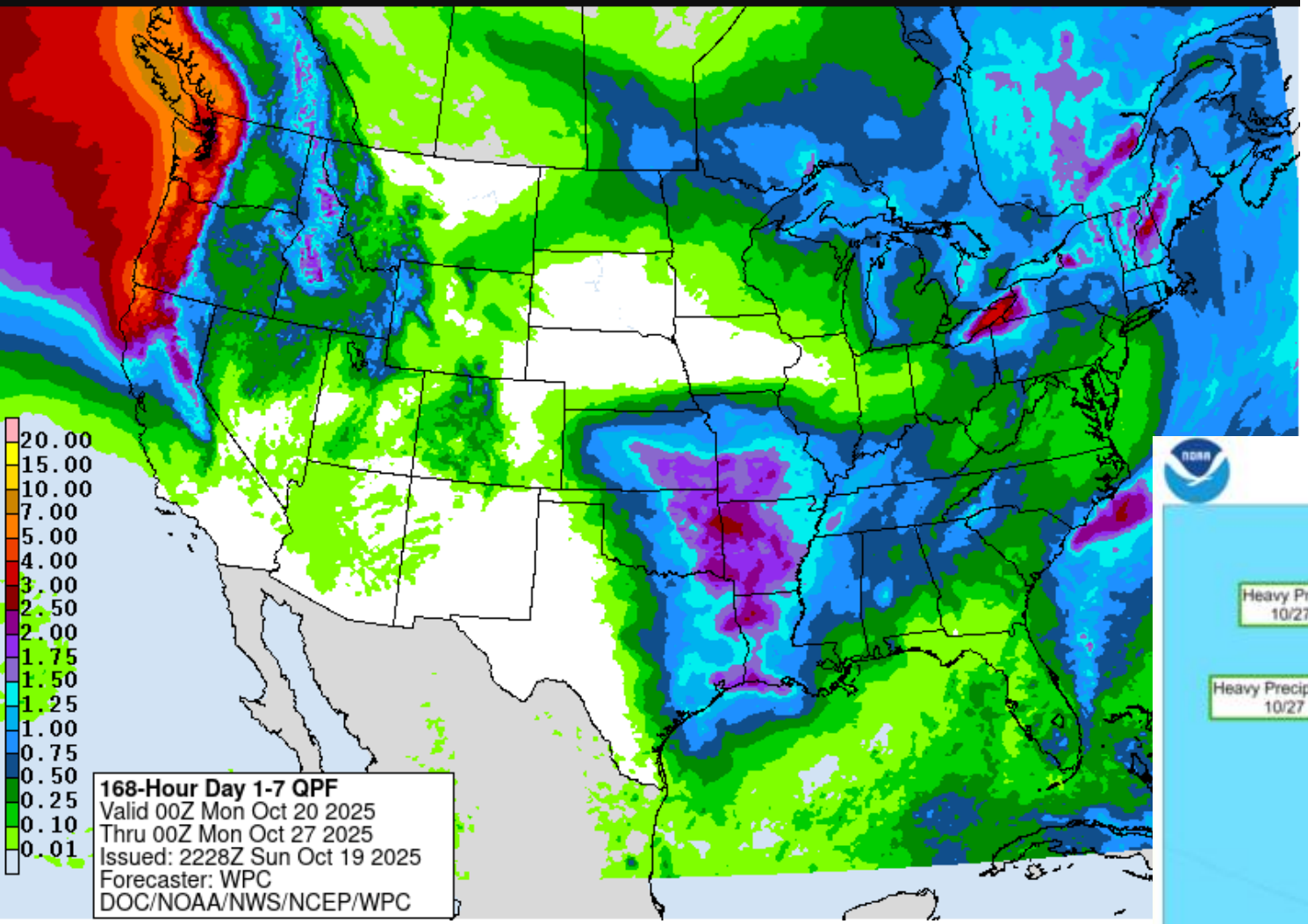


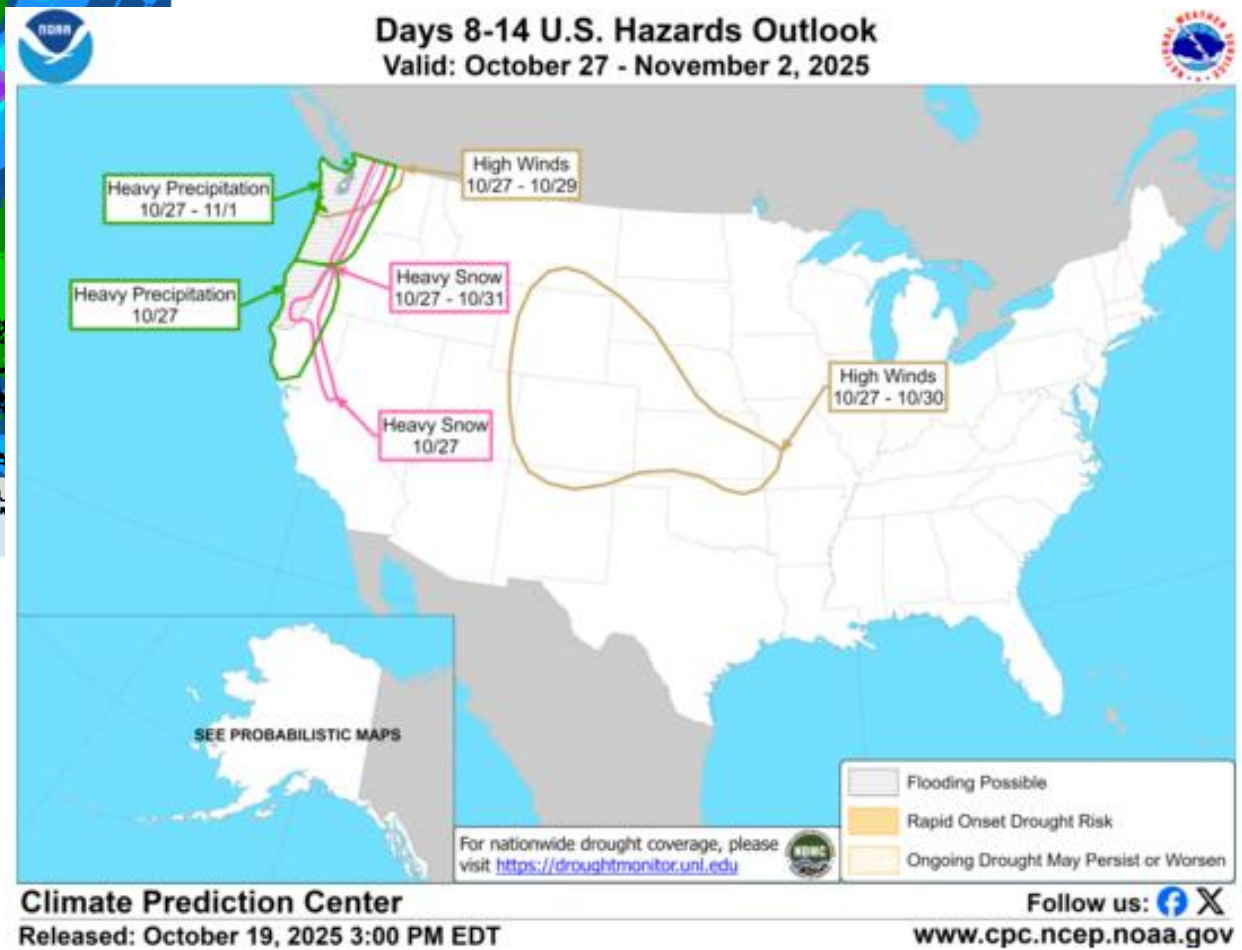


The cause of this change is the rapid increase in storms over the Northwest Pacific. Storms that mix colder water from below to the surface.

Short term forecasts are looking wet with abundant moisture that will increase soil moisture and low streamflow levels.

And hopefully set the track for winter future storms.

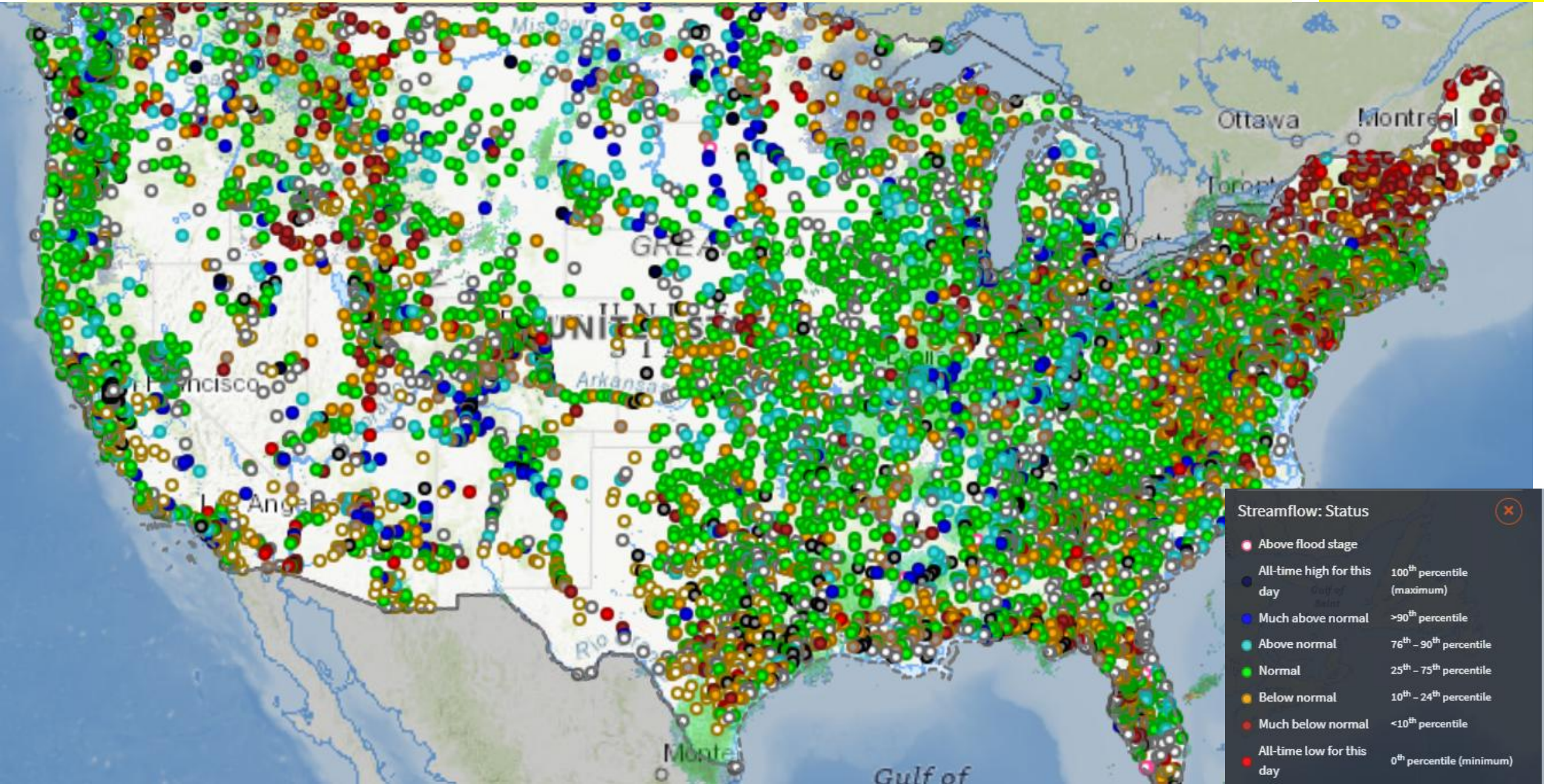




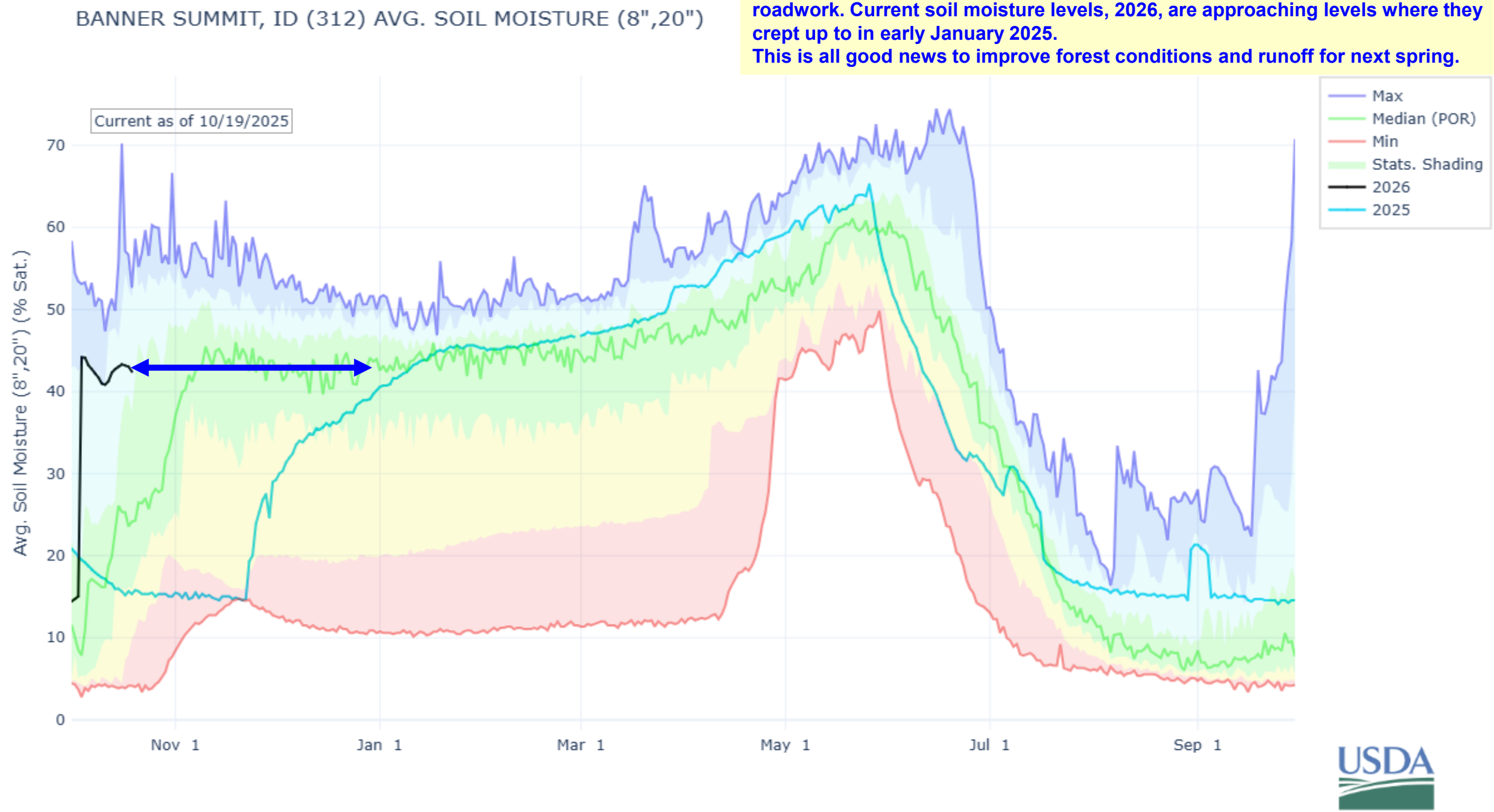
Snapshot of current river flow for October 19, 2025

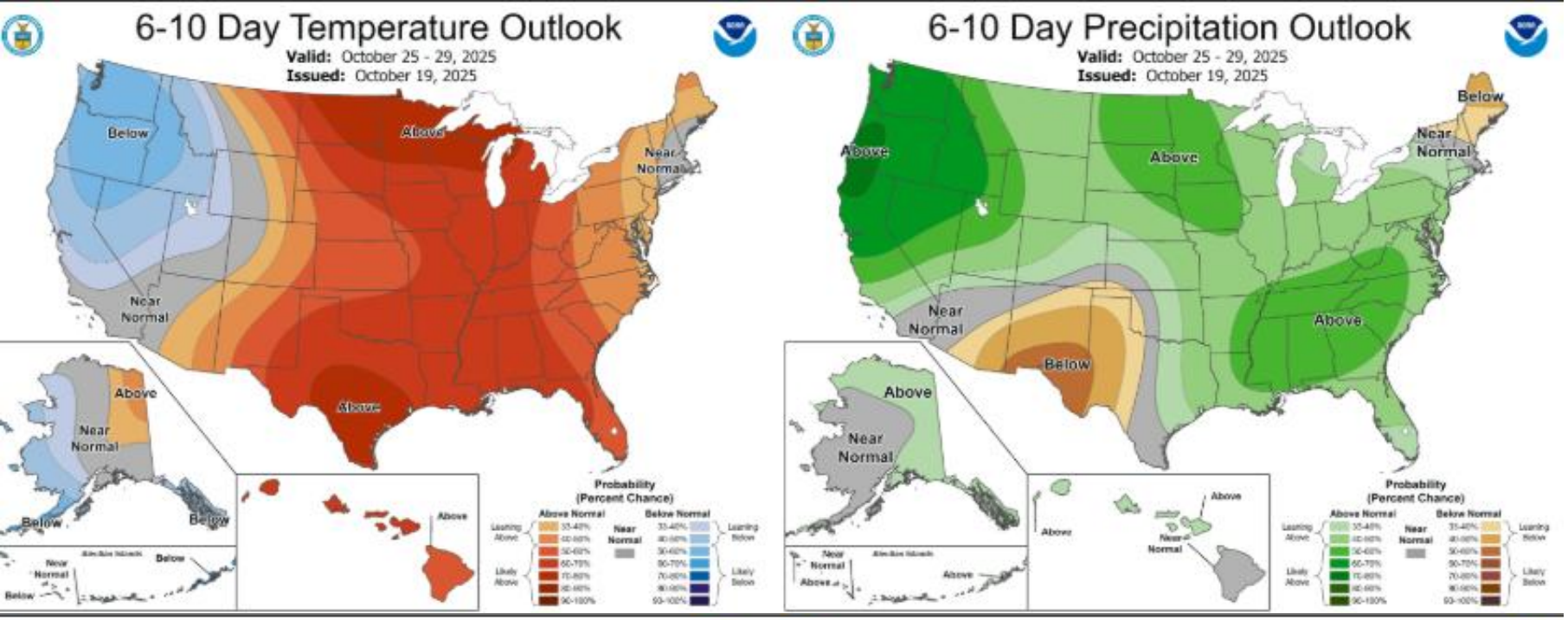
Red Much Below or Record Low --- Blue Much Above Avg --- Black Record High

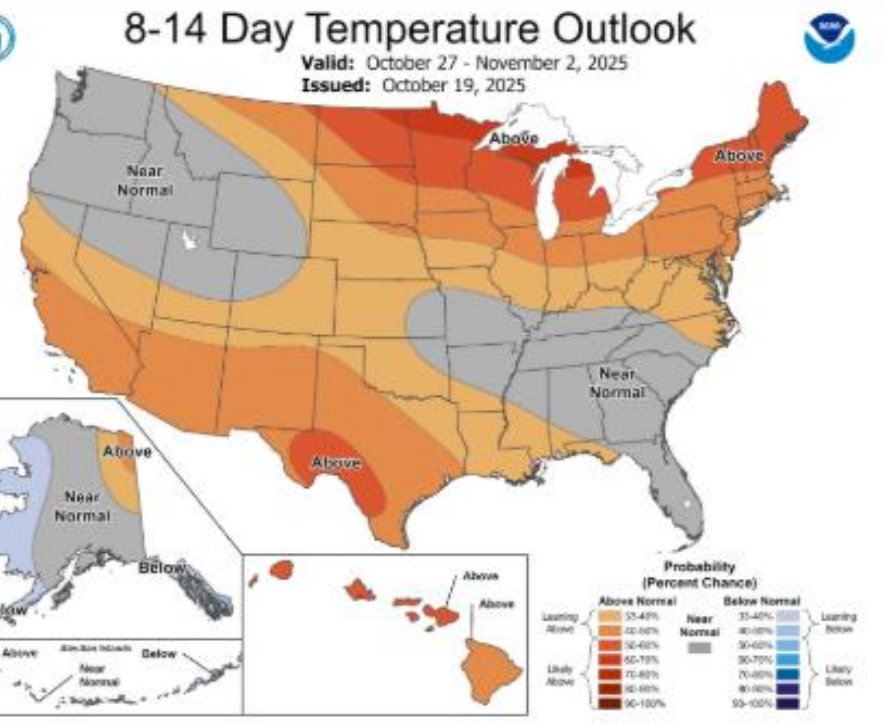
Click here next week to see difference a week makes: https://dashboard.waterdata.usgs.gov/app/nwd/en/

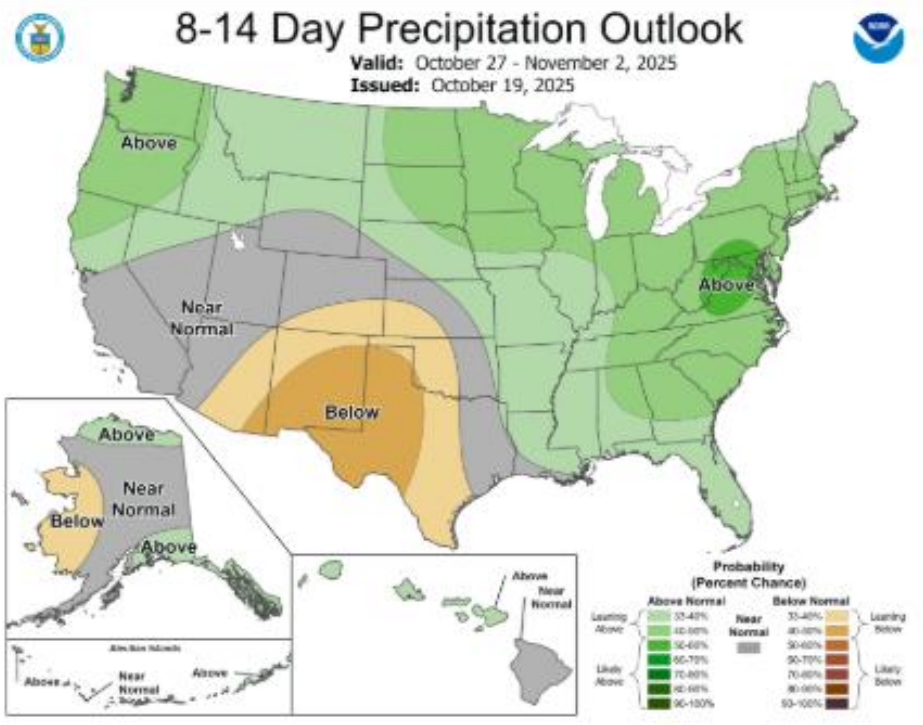


You can see here how the early October rains already benefitted soil moisture in the mountains around Banner Summit. This was when ITD closed Hwy 21 to complete roadwork. Current soil moisture levels, 2026, are approaching levels where they crept up to in early January 2025.
This is all good news to improve forest conditions and runoff for next spring.

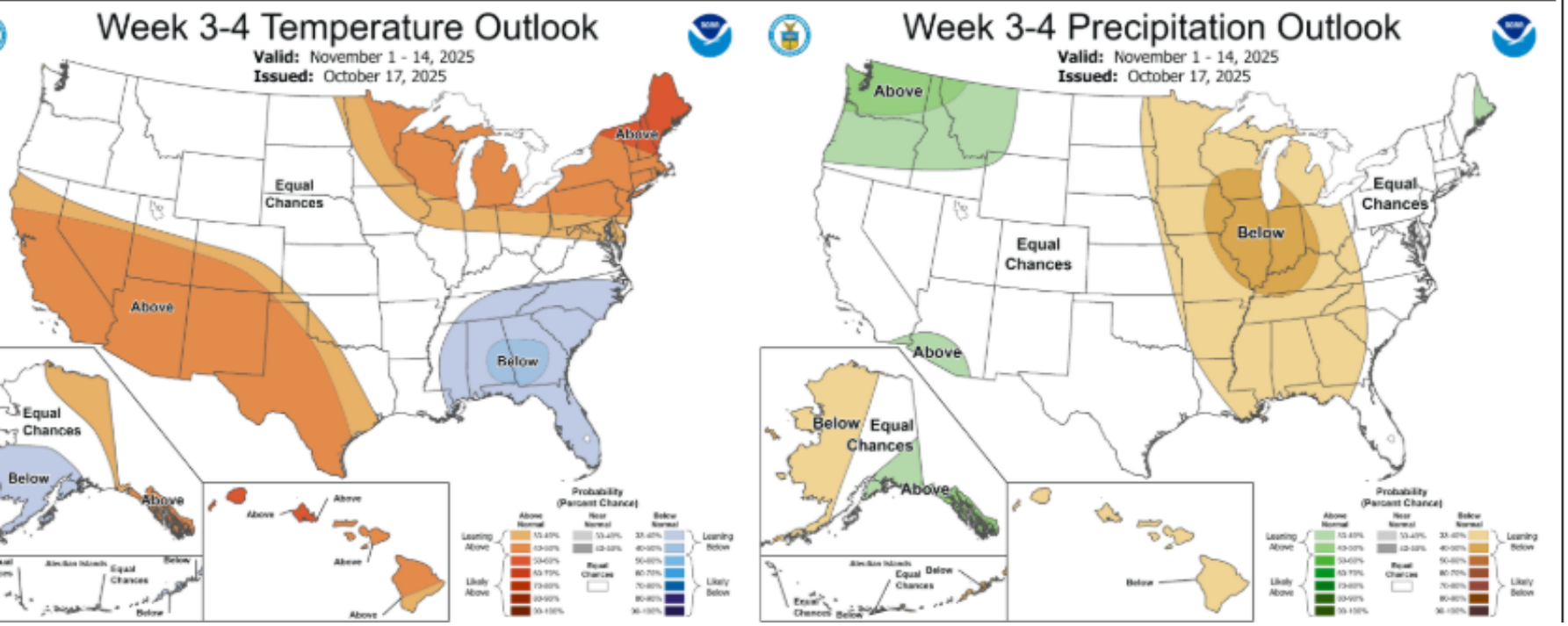


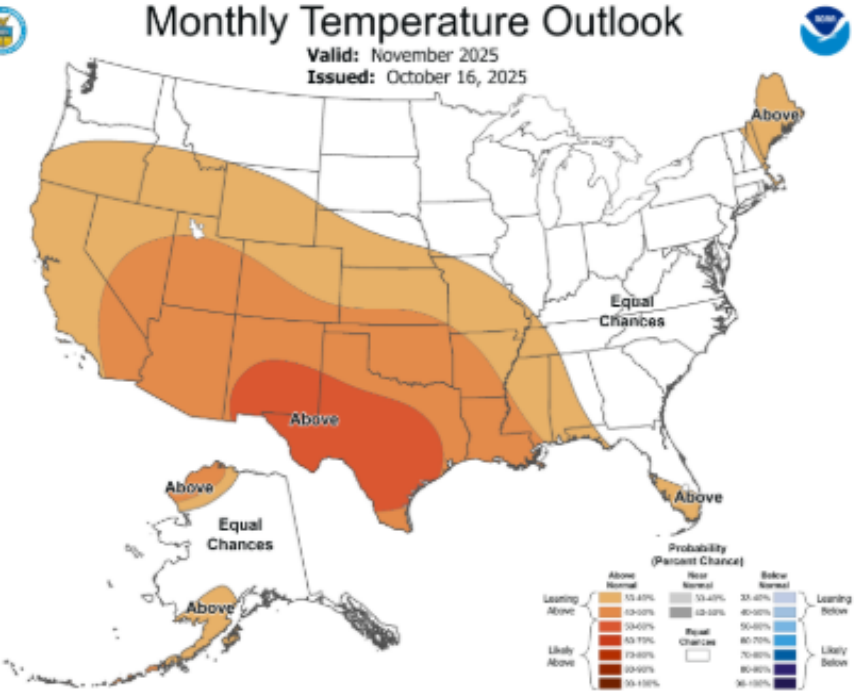


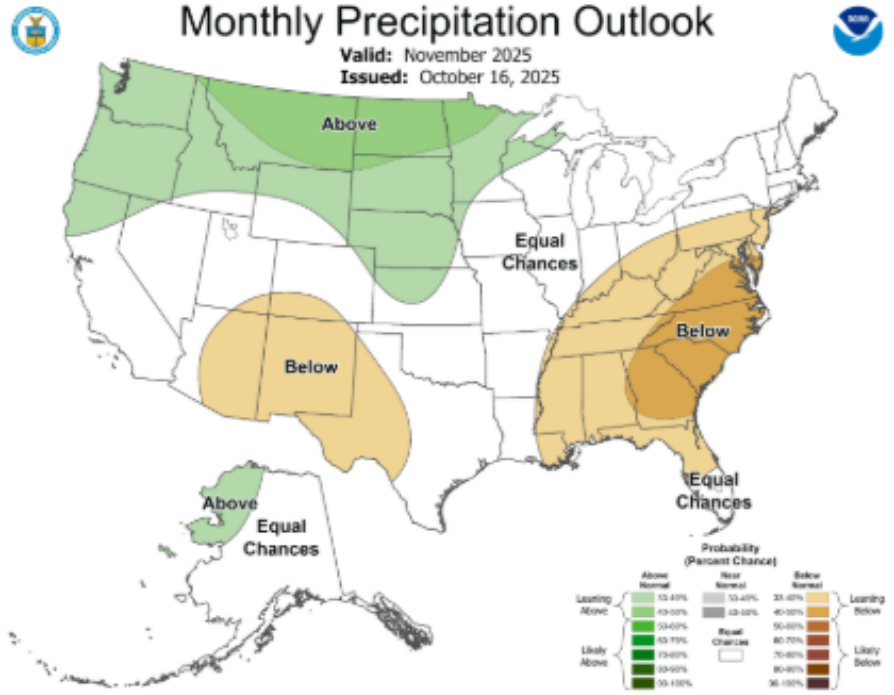




More good news with the 6-10 and 8-14 Day Outlooks looking promising into early November.

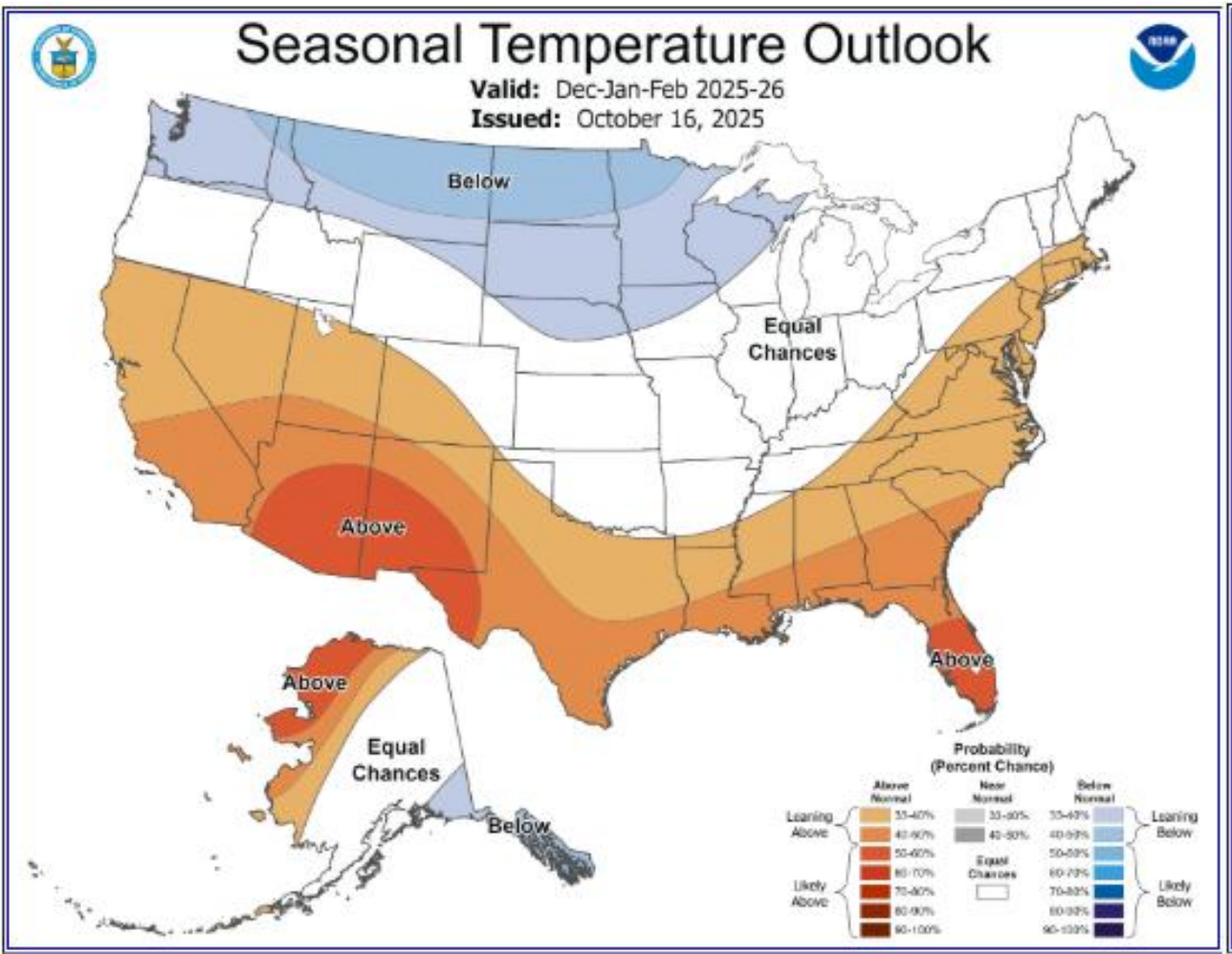


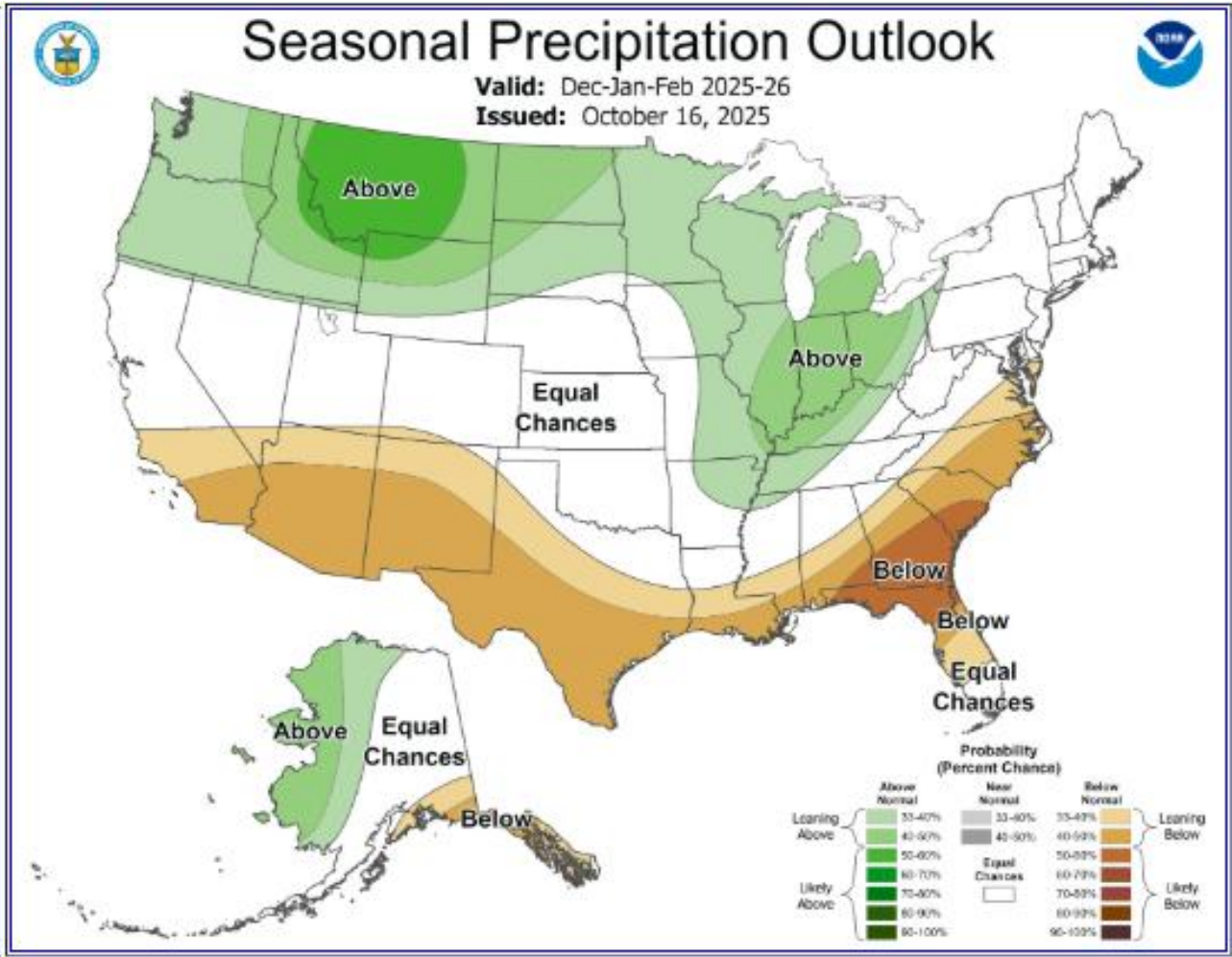


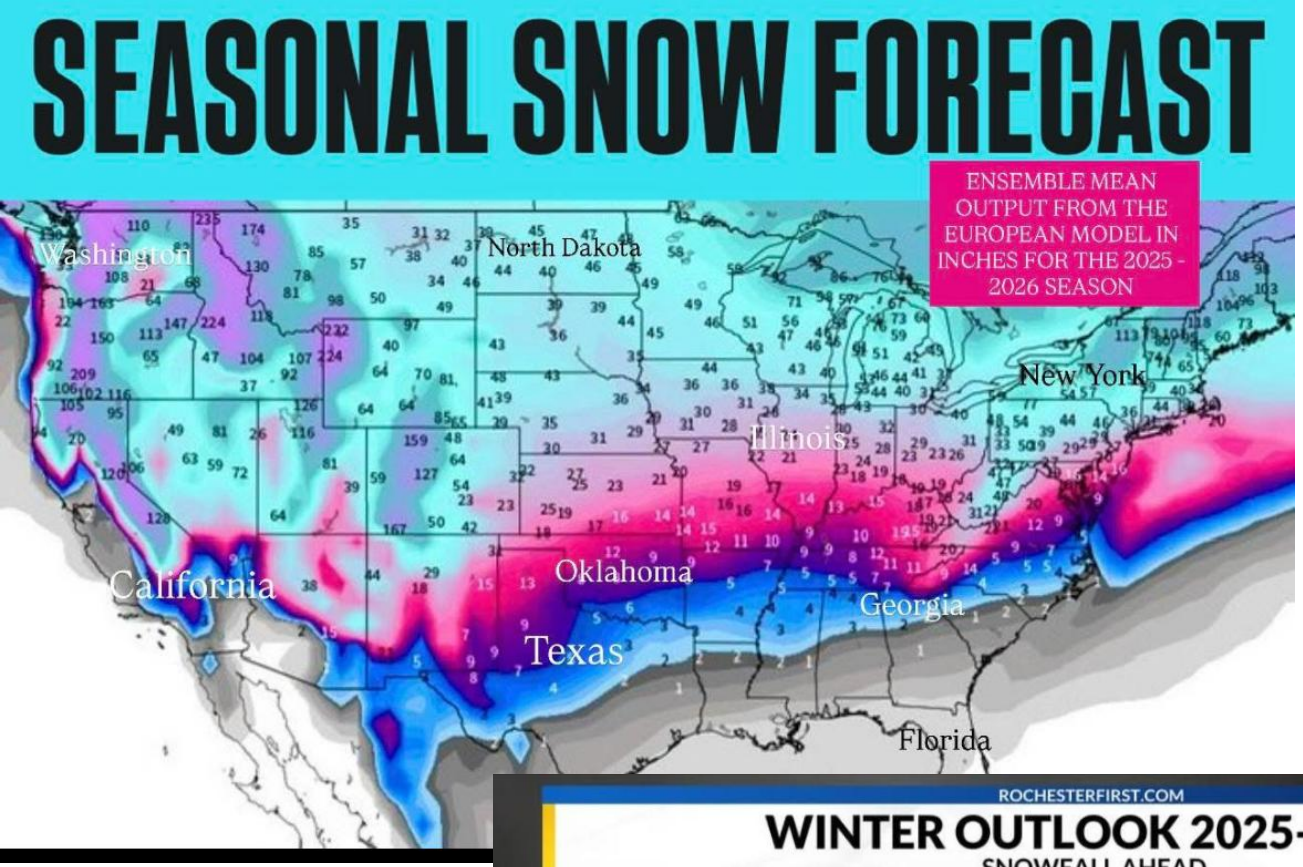


And NOAA's 3 - 4 week Outlook and November Outlooks also show better chance for above normal chance of precip.

Winter Outlooks:
NOAA's 3-month winter forecast Outlook for Dec-Jan-Feb also looks encouraging for the PNW as they flow with typical La Nina trends – wetter and cooler across the Canada / US border.







Unofficial Networks
1d ·

Weather: Snowfall Forecast For 2025-2026 Winter

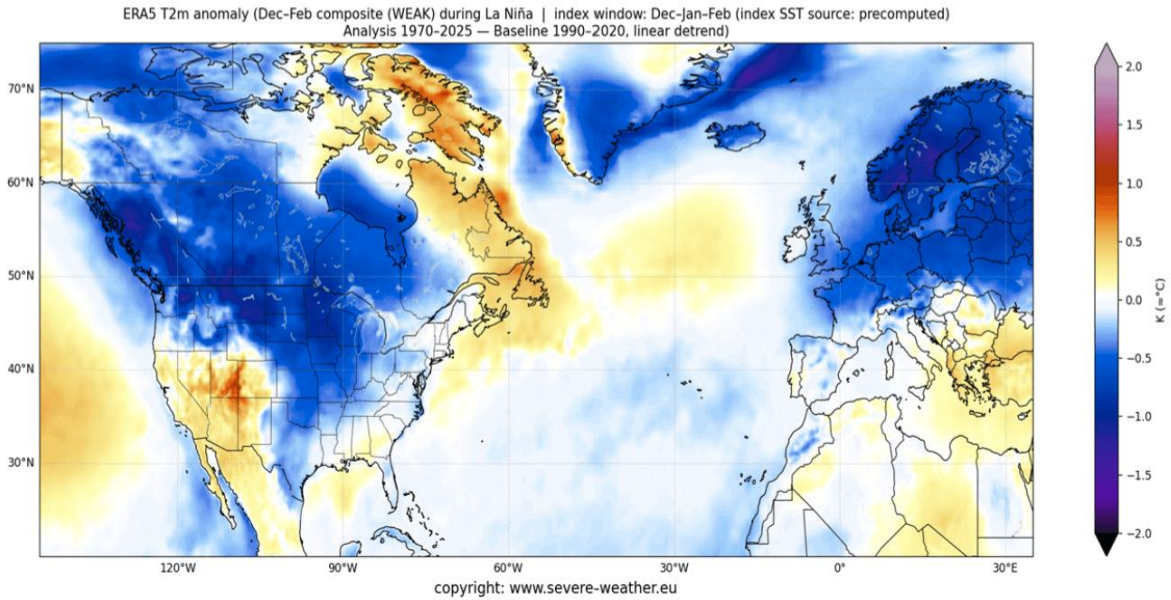
Lots of forecasts available to watch and wonder about…

Here's a new one!

There are different ways to look at La Nina conditions / impacts.

One could be a lumper and lump ALL La Nina winters together or splitter and analyze by Weak, Moderate or Strong conditions, or current conditions.

Looking at the temperature analysis data for past weak La Niña winters, you can see the cold anomaly area under the jet stream in western Canada, extending deep into the United States. Negative anomalies also covered the Midwest and reached into the central and eastern United States, which is the usual corridor for cold air outbreaks.



El Niño - 27				La Niña - 25		
Weak - 11	Moderate - 7	Strong - 6	Very Strong - 3	Weak - 12	Moderate - 6	Strong - 7
1952-53	1951-52	1957-58	1982-83	1954-55	1955-56	1973-74
1953-54	1963-64	1965-66	1997-98	1964-65	1970-71	1975-76
1958-59	1968-69	1972-73	2015-16	1971-72	1995-96	1988-89
1969-70	1986-87	1987-88		1974-75	2011-12	1998-99
1976-77	1994-95	1991-92		1983-84	2020-21	1999-00
1977-78	2002-03	2023-24		1984-85	2021-22	2007-08
1979-80	2009-10			2000-01		2010-11
2004-05				2005-06		
2006-07				2008-09		
2014-15				2016-17		
2018-19				2017-18		
				2022-23		

If you are a splitter, let's have a some fun & look at the whole winter based on these analog years.

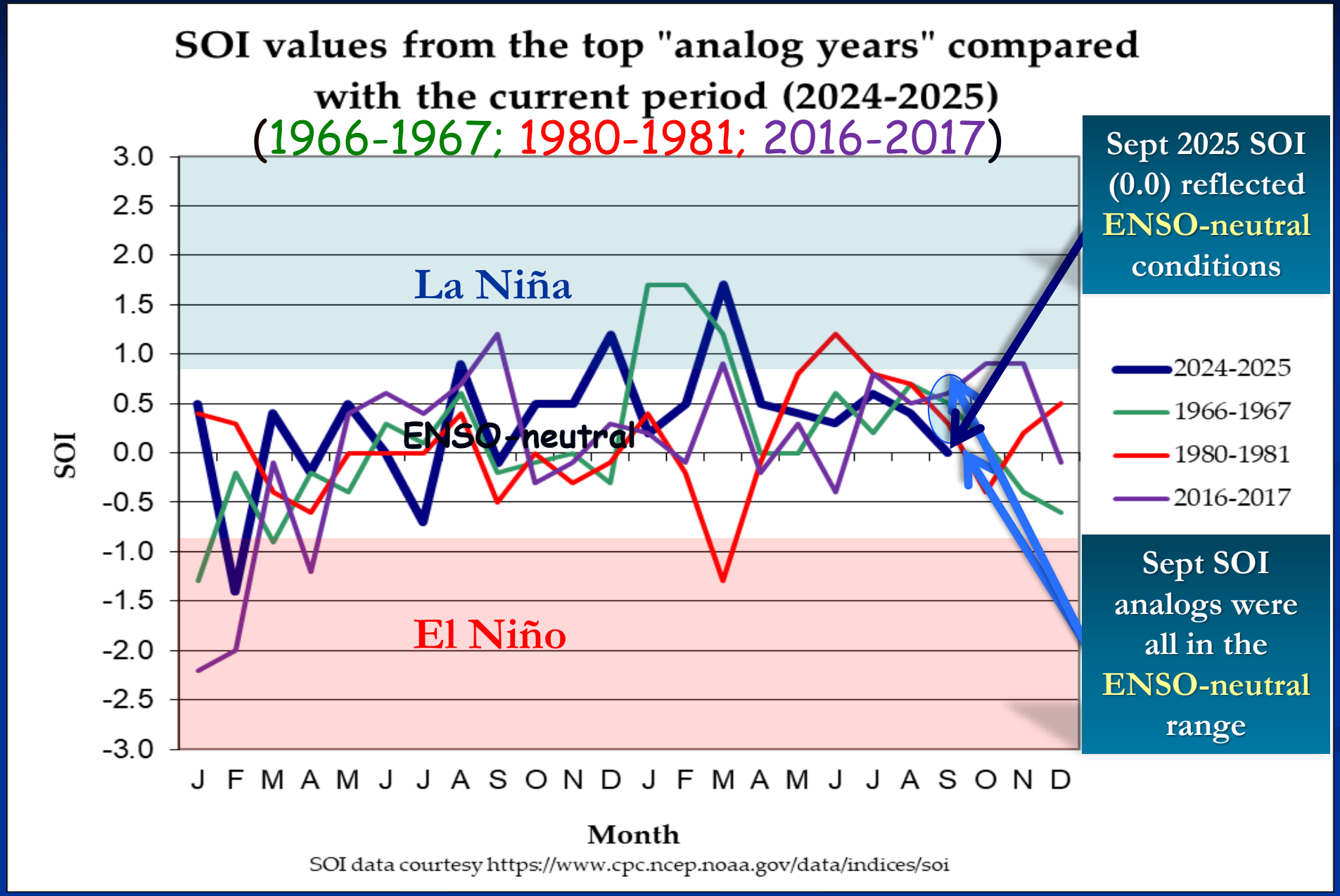
Pete's been watching the Pacific for a while and how each year sets up primally by watching the SOI, ONI and PDO. Current analog years based on current conditions are:
1967-68 1981-82 2017-18 2001-02 is a runner up.

These years many still change as Jul-Nov is the key Pacific period to watch.

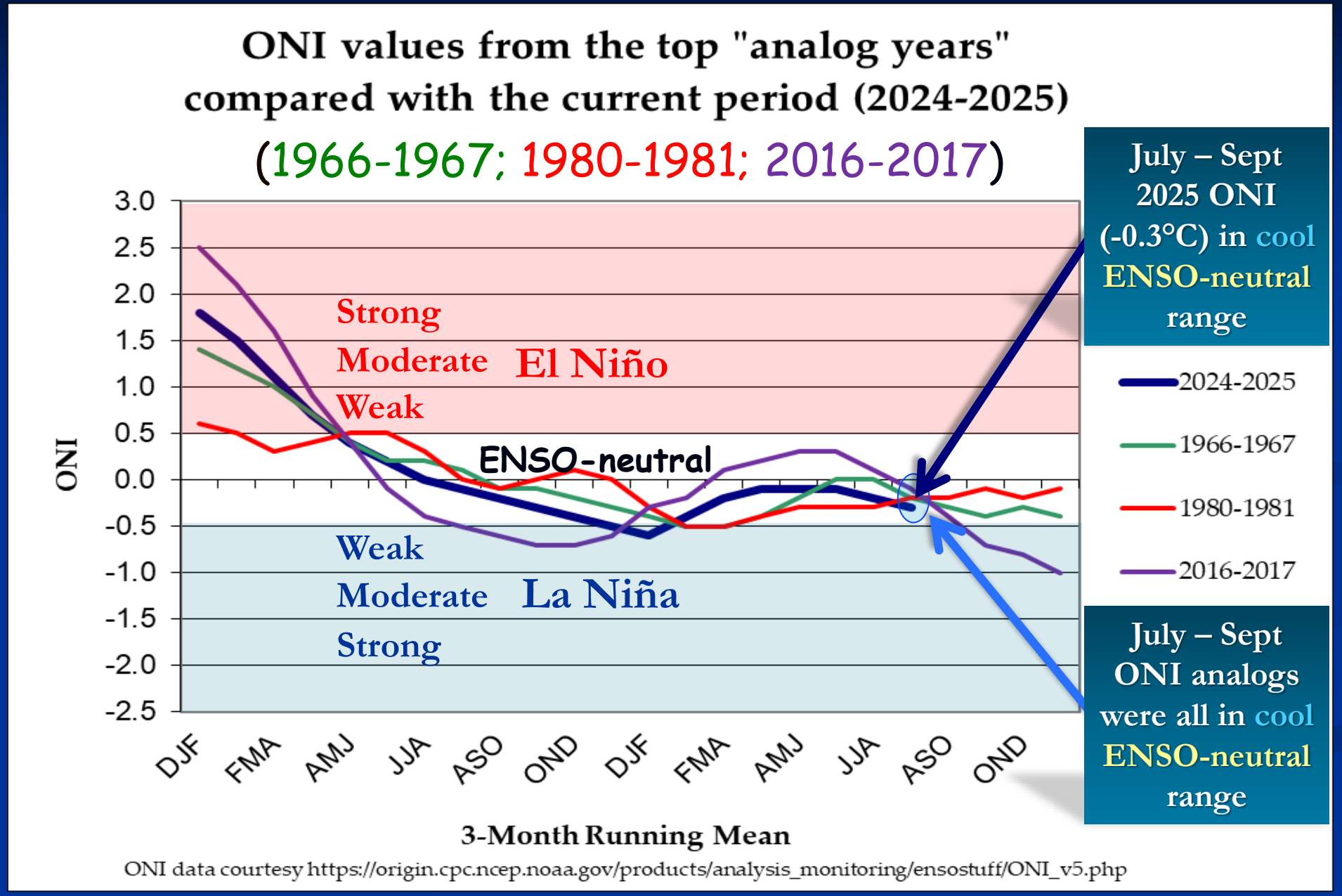
Forecast Highlights

- This forecast is based on weather that occurred during the (1967-68; 1981-82; 2017-18) analog years. 2001-02 was a "runner-up" (not used).
- Heightened chances of a windstorm (south winds) for the western zones in November & December (based on the 1967 & 1981 analogs).
- November looks mild. Large variation in temperatures among the analogs in December and January lowers forecast confidence. Extremes in either direction are possible (the analog "blend" skews slightly mild).
- Precipitation forecast is also tricky, with analogs showing wide-ranging solutions. Once gain, their "blend" produces a "near-average" rain and mountain snow, but that can be misleading. Significant departures from average are possible and chances for "extreme" events are hightened.

Southern Oscillation Index (SOI)

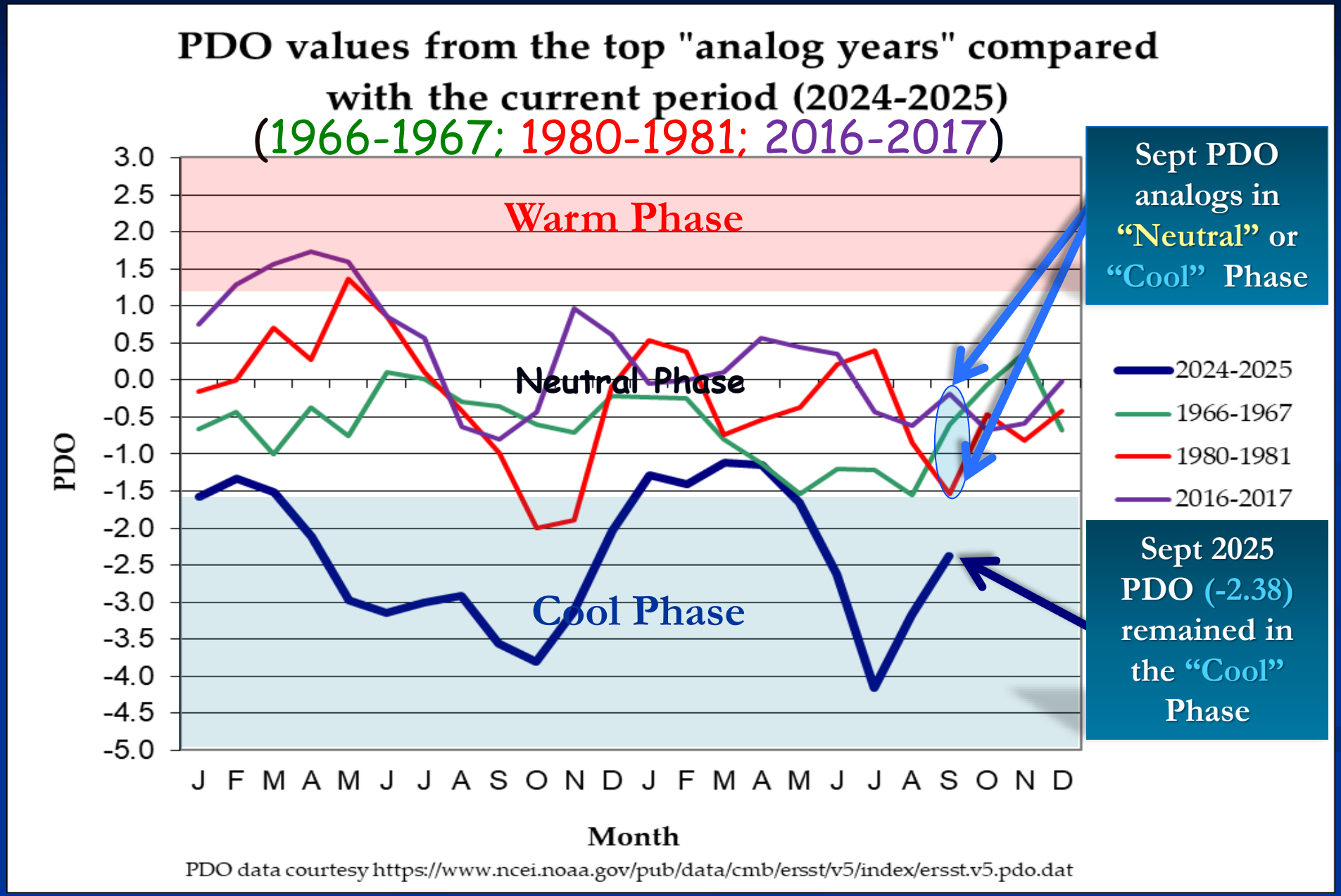


Oceanic Niño Index (ONI)



North Pacific Ocean

(Poleward of 20°N Latitude)



Forecast Highlights

- This forecast is based on weather that occurred during the (1967-68; 1981-82; 2017-18) analog years. 2001-02 was a "runner-up" (not used).

- Heightened chances of a windstorm (south winds) for the western zones in November & December (based on the 1967 & 1981 analogs).

- November looks mild. Large variation in temperatures among the analogs in December and January lowers forecast confidence. Extremes in either direction are possible (the analog "blend" skews slightly mild).

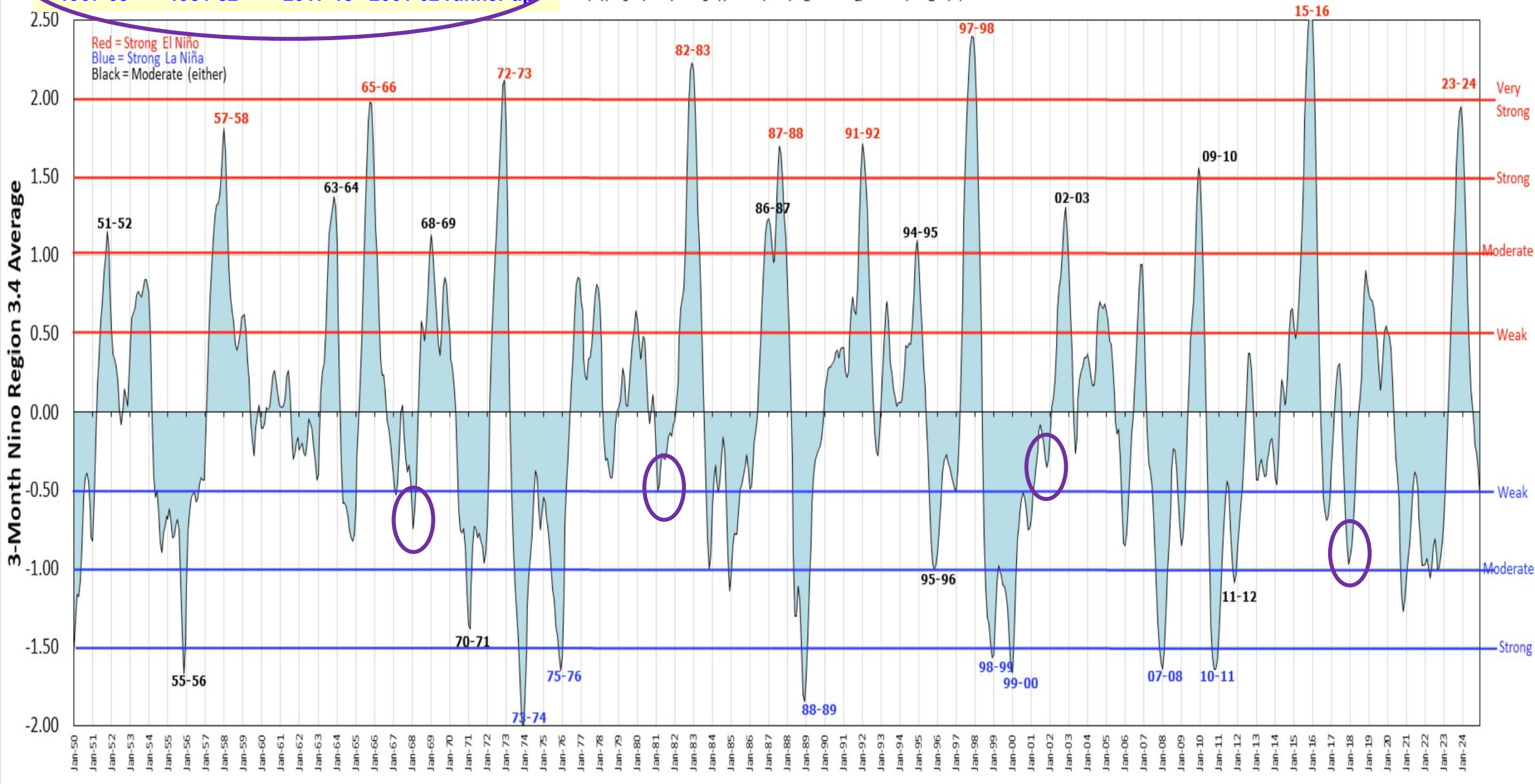
- Precipitation forecast is also tricky, with analogs showing wide-ranging solutions. Once gain, their "blend" produces a "near-average" rain and mountain snow, but that can be misleading. Significant departures from average are possible and chances for "extreme" events are heightened.

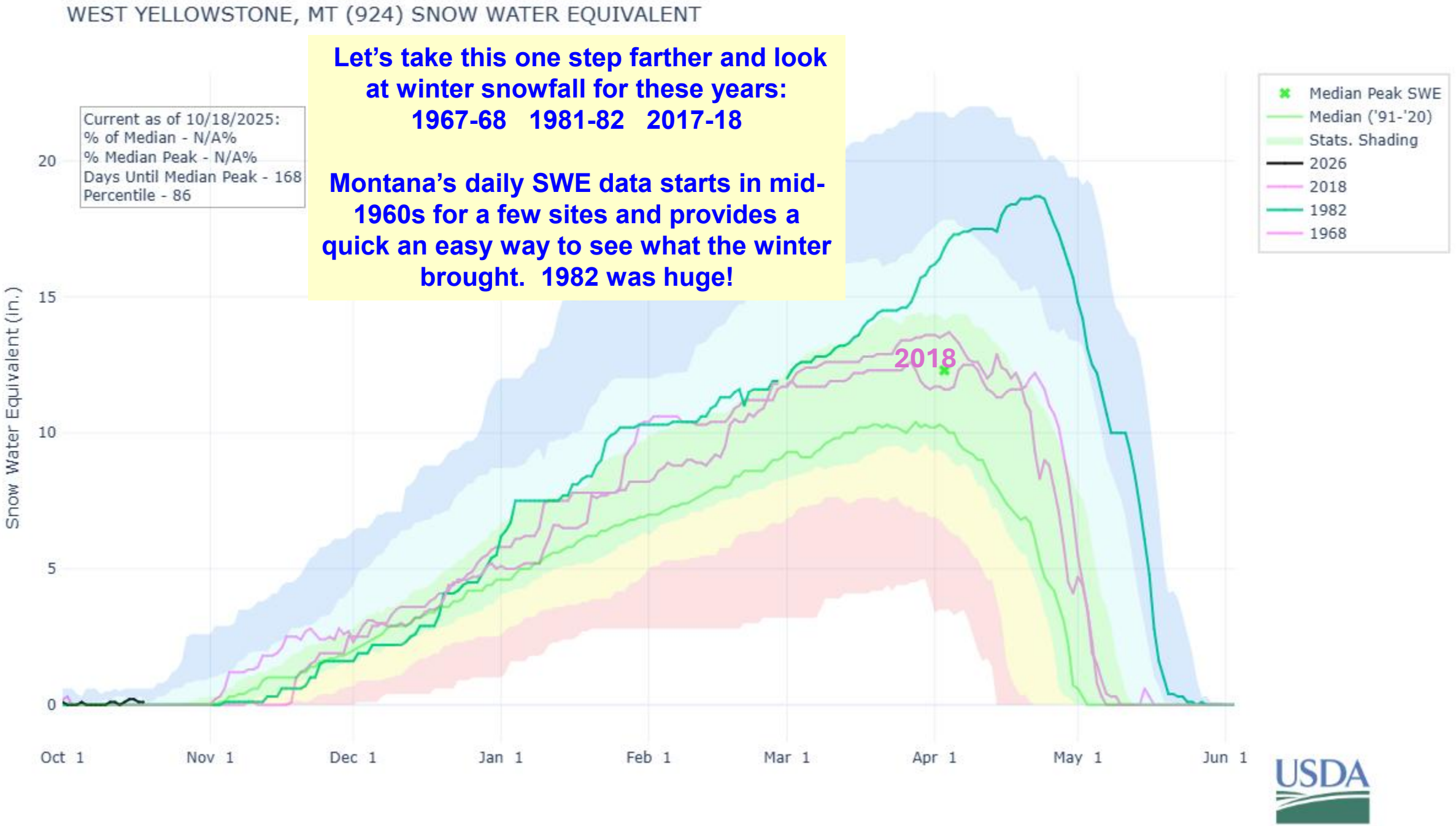
Disclaimer: This forecast is not associated with NOAA's Climate Prediction Center (CPC). See "Forecasting Methods…" at: https://www.oregon.gov/oda/natural-resources/pages/weather.aspx.

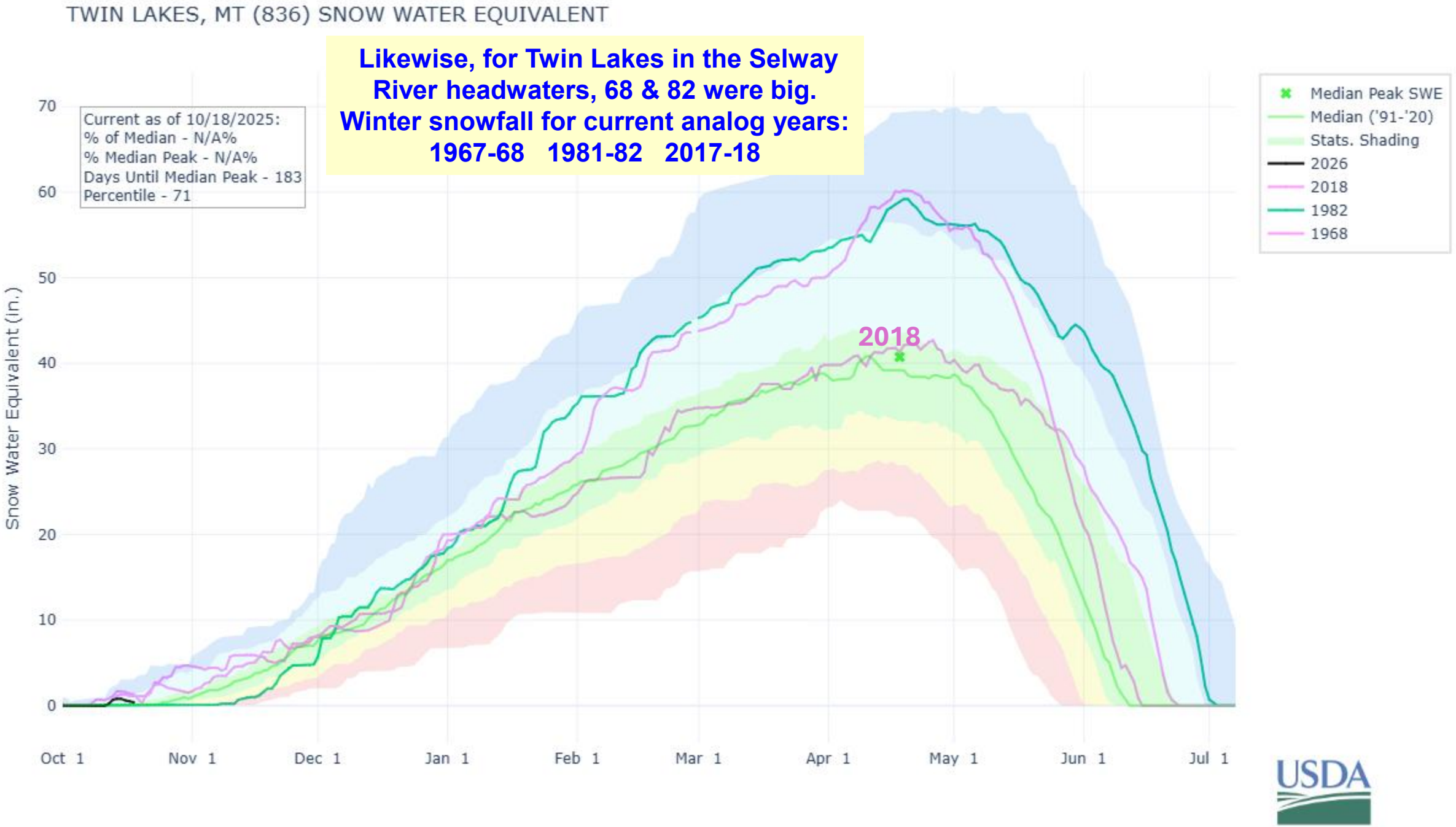
Here's a good visual to view these current analog years and their strengths with other years:
1967-68 1981-82 2017-18 2001-02 runner up

Oceanic Niño Index (ONI)

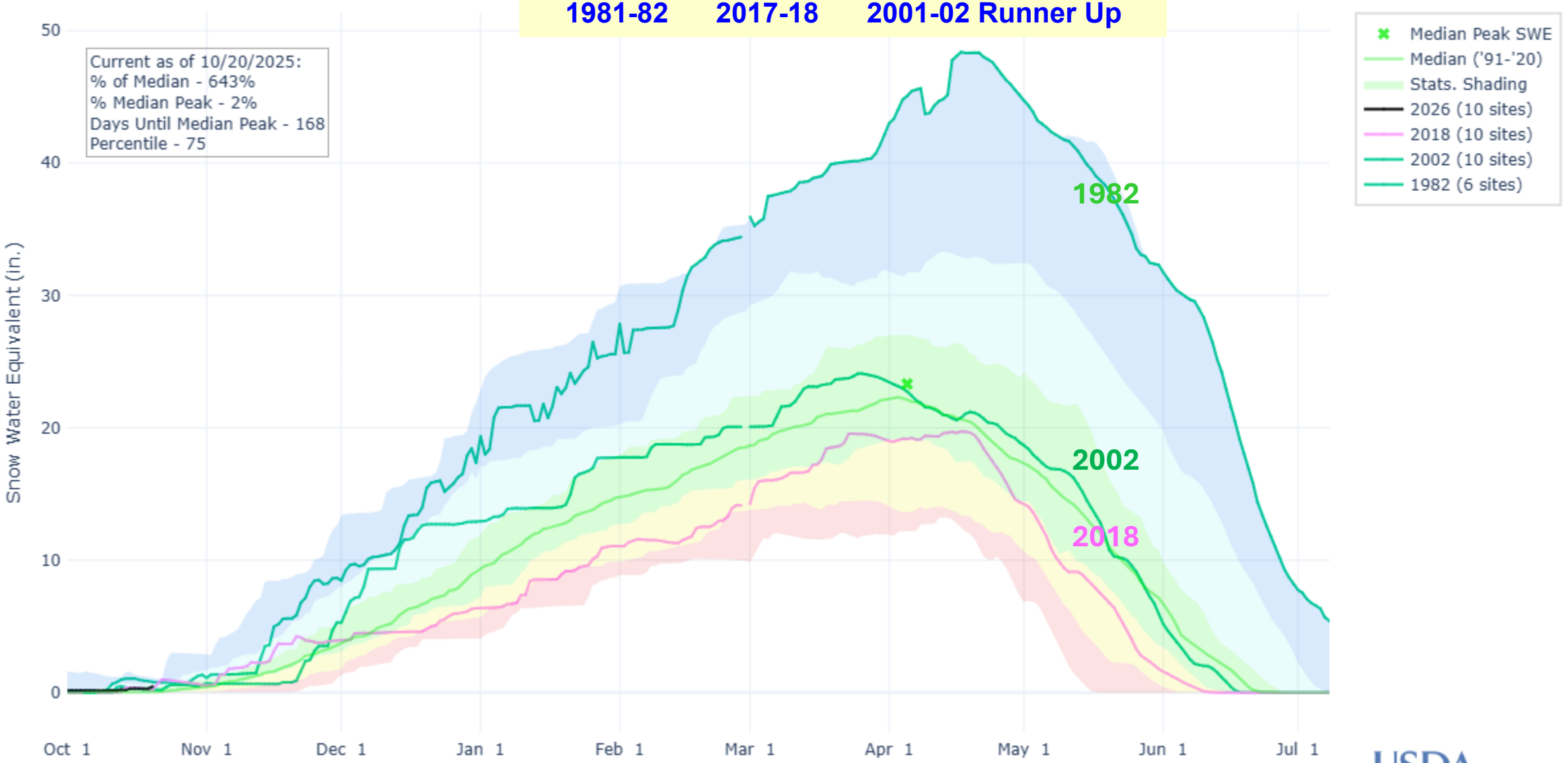
https://origin.cpc.ncep.noaa.gov/products/analysis_monitoring/ensostuff/ONI_v5.php




WEST YELLOWSTONE, MT (924) SNOW WATER EQUIVALENT
Let's take this one step farther and look at winter snowfall for these years:
1967-68 1981-82 2017-18
Montana's daily SWE data starts in mid-1960s for a few sites and provides a quick an easy way to see what the winter brought. 1982 was huge!
Current as of 10/18/2025:
% of Median - N/A%
% Median Peak - N/A%
Days Until Median Peak - 168
Percentile - 86
Median Peak SWE
Median ('91-'20)
Stats. Shading
2026
2018
1982
1968
2018
Snow Water Equivalent (in.)
0
5
10
15
20
Oct 1
Nov 1
Dec 1
Jan 1
Feb 1
Mar 1
Apr 1
May 1
Jun 1
USDA


TWIN LAKES, MT (836) SNOW WATER EQUIVALENT
Likewise, for Twin Lakes in the Selway River headwaters, 68 & 82 were big.
Winter snowfall for current analog years:
1967-68 1981-82 2017-18
Current as of 10/18/2025:
% of Median - N/A%
% Median Peak - N/A%
Days Until Median Peak - 183
Percentile - 71
Median Peak SWE
Median ('91-'20)
Stats. Shading
2026
2018
1982
1968
2018
Snow Water Equivalent (in.)
70
60
50
40
30
20
10
0
Oct 1
Nov 1
Dec 1
Jan 1
Feb 1
Mar 1
Apr 1
May 1
Jun 1
Jul 1
USDA

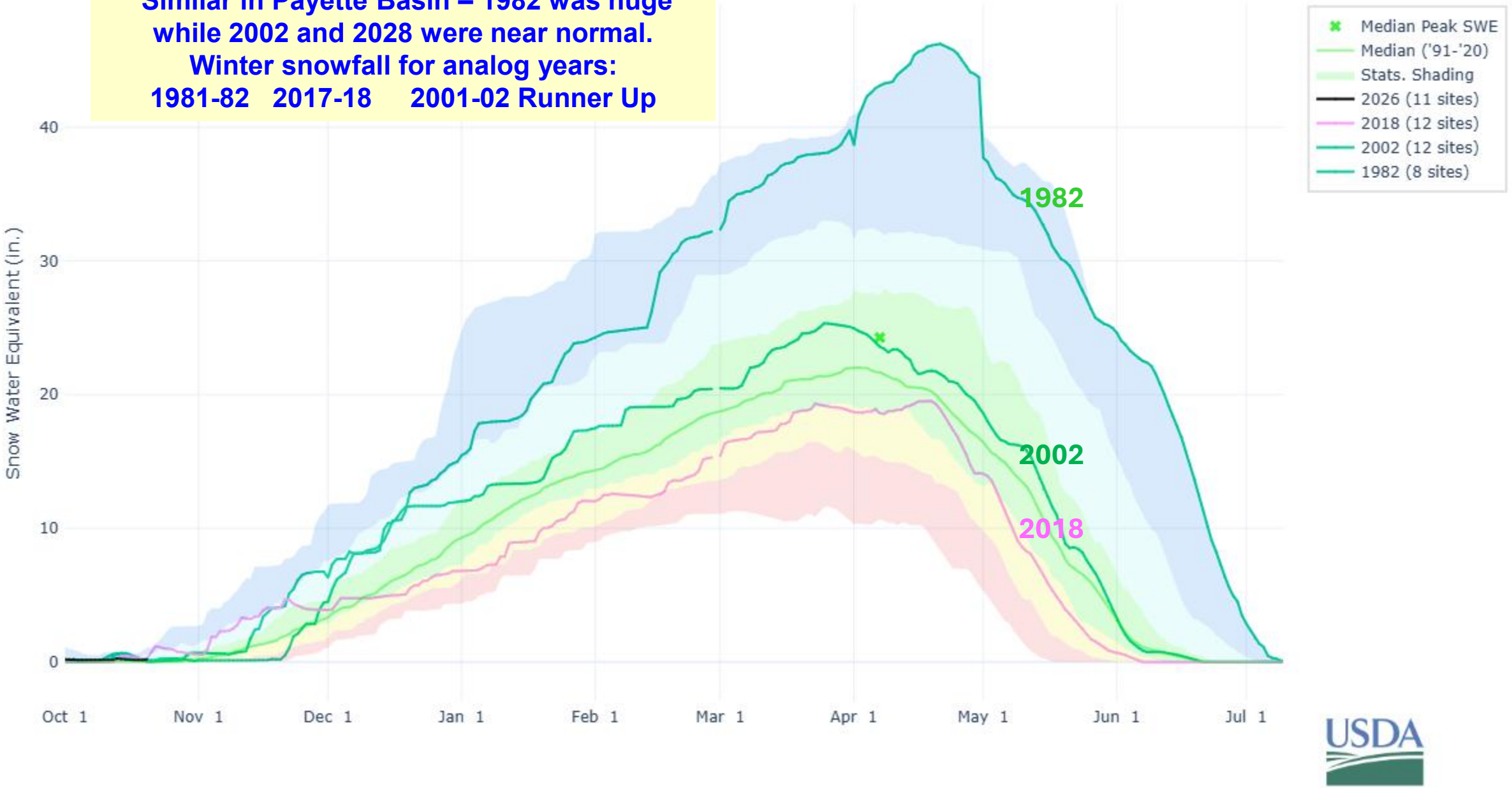
For the Boise Basin – 1982 was huge while 2002 and 2028 were near normal.
Winter snowfall for analog years:
1981-82 2017-18 2001-02 Runner Up



USDA

SNOW WATER EQUIVALENT IN PAYETTE

Similar in Payette Basin – 1982 was huge while 2002 and 2028 were near normal.
Winter snowfall for analog years:
1981-82 2017-18 2001-02 Runner Up



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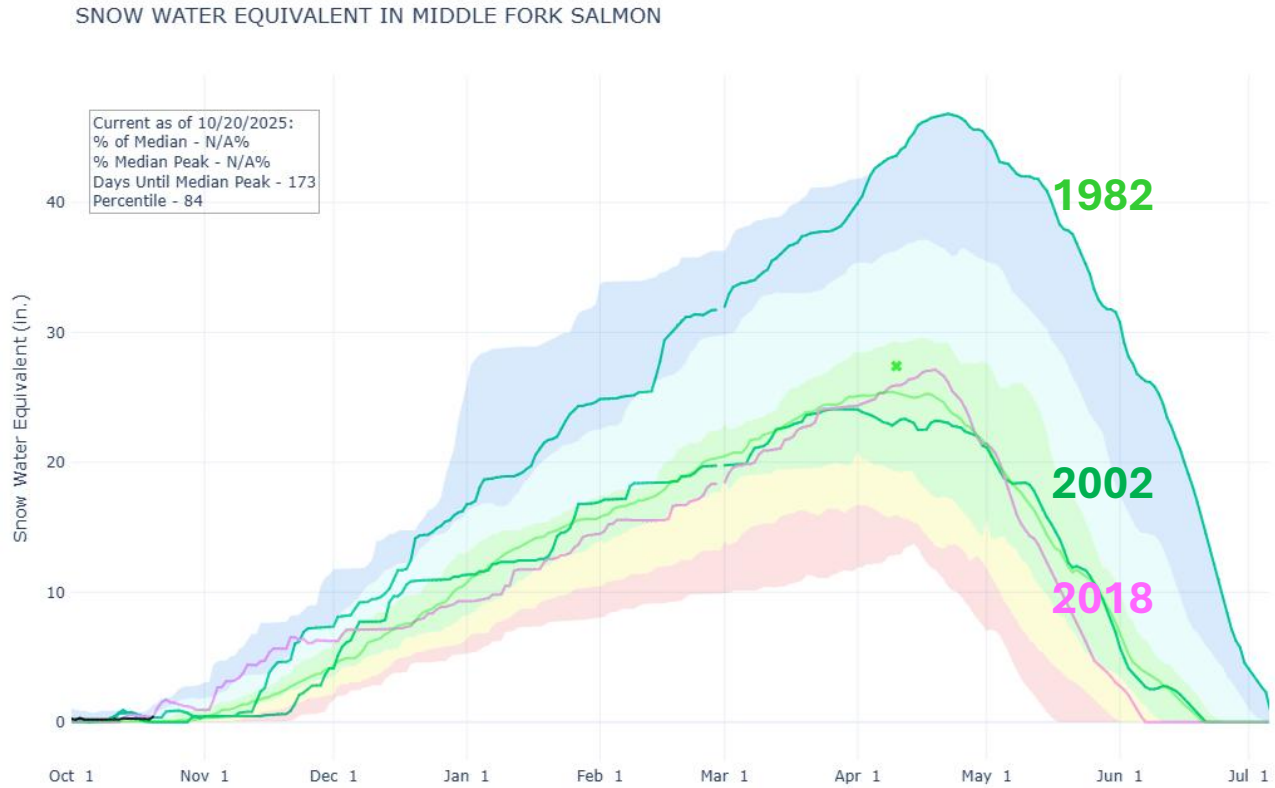
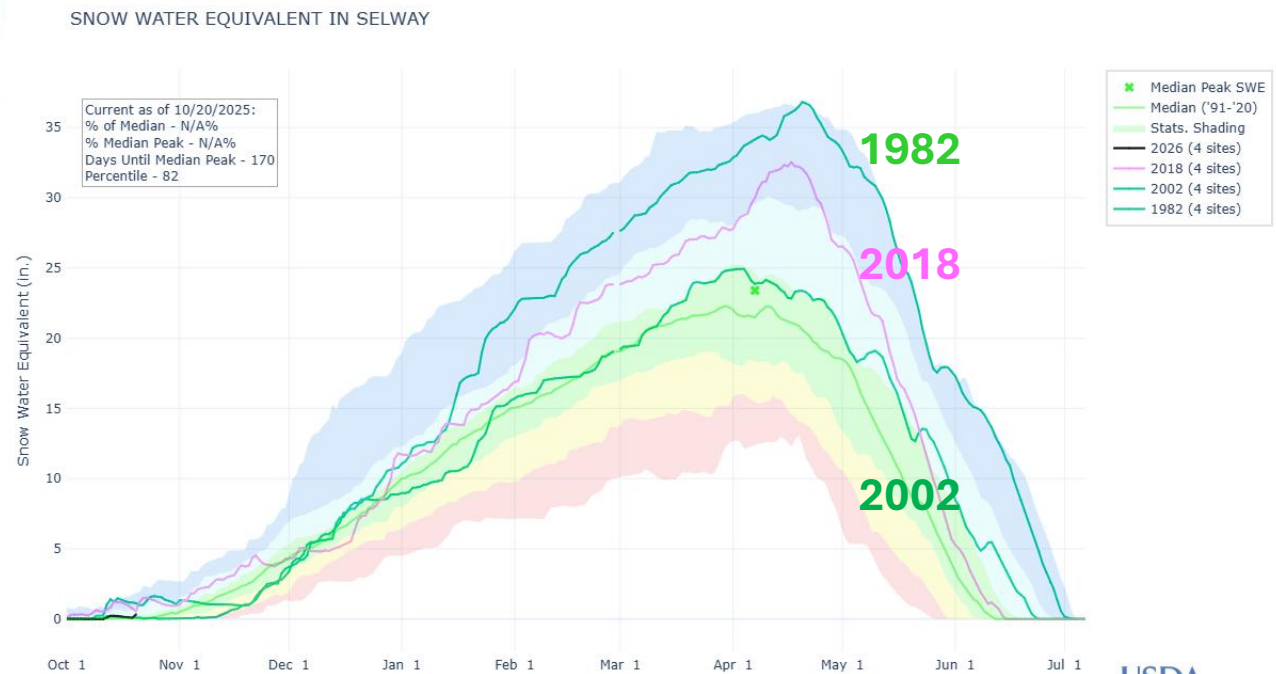


MF Salmon and Selway show similar snow accumulation trends for these years.

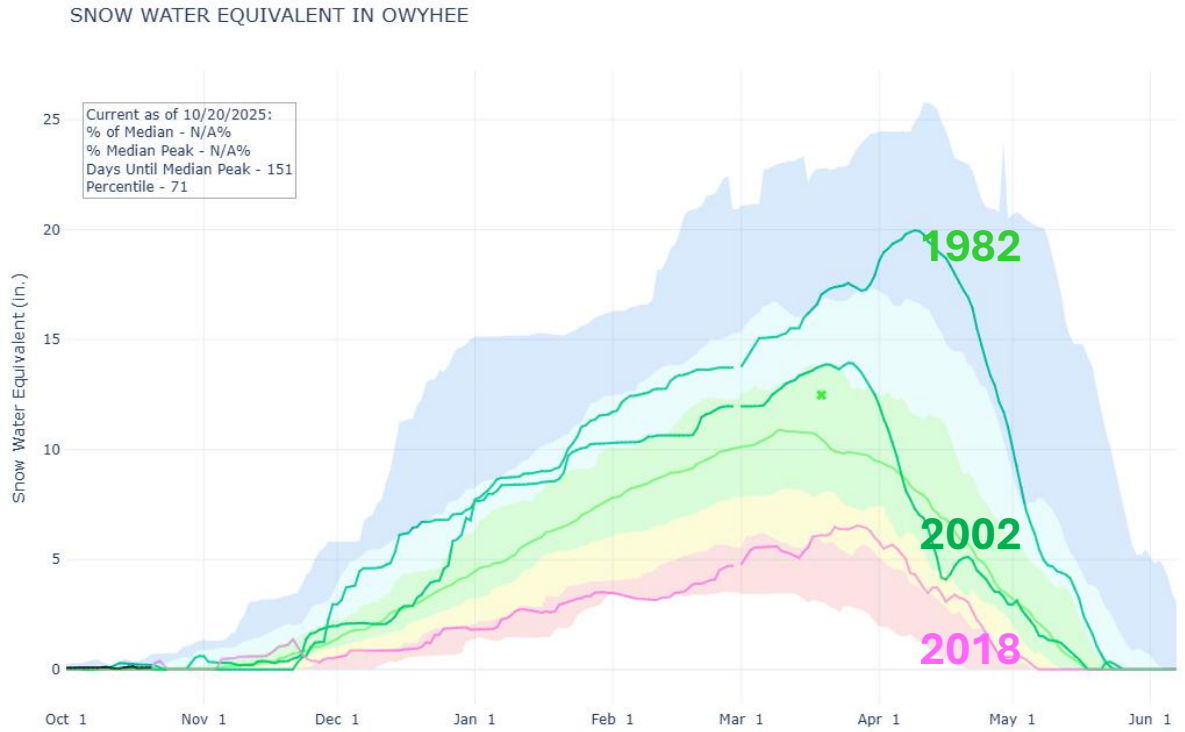
1981-82 2017-18 2001-02 Runner Up

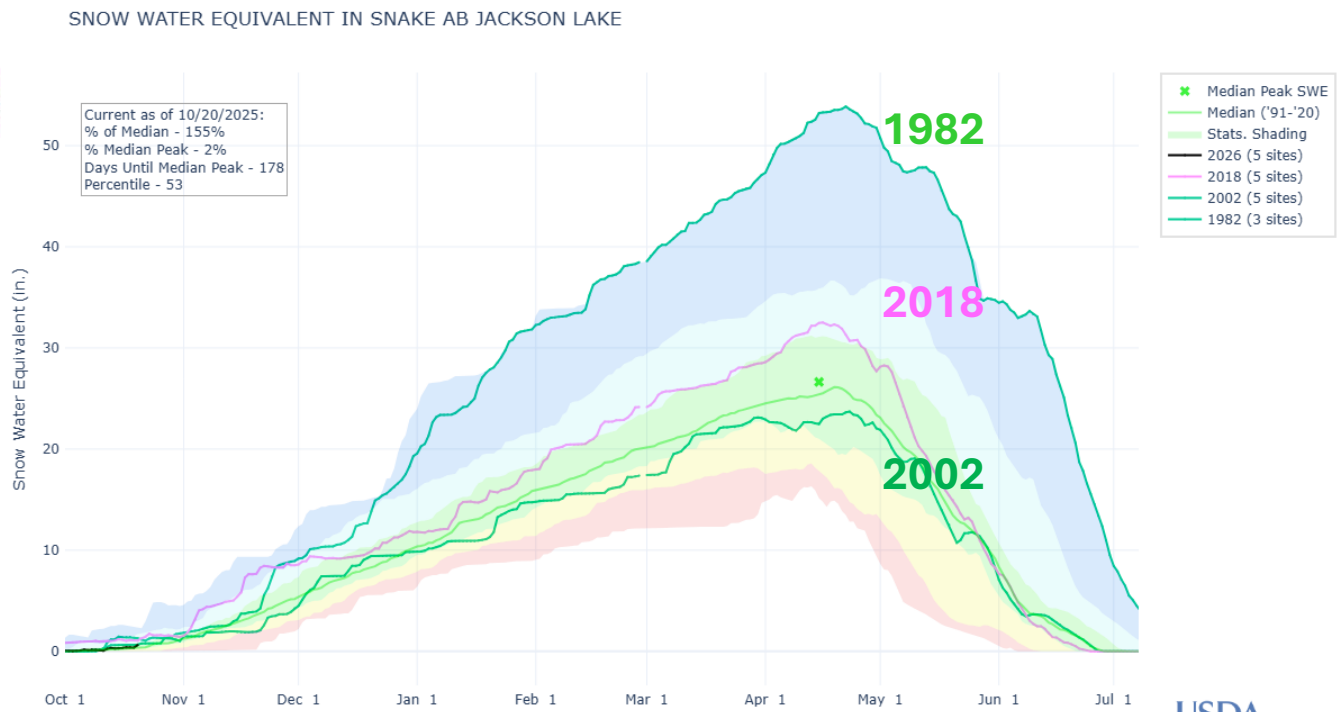


USDA

Owyhee & Upper Snake above Jackson Lake.

1981-82 2017-18 2001-02 Runner Up

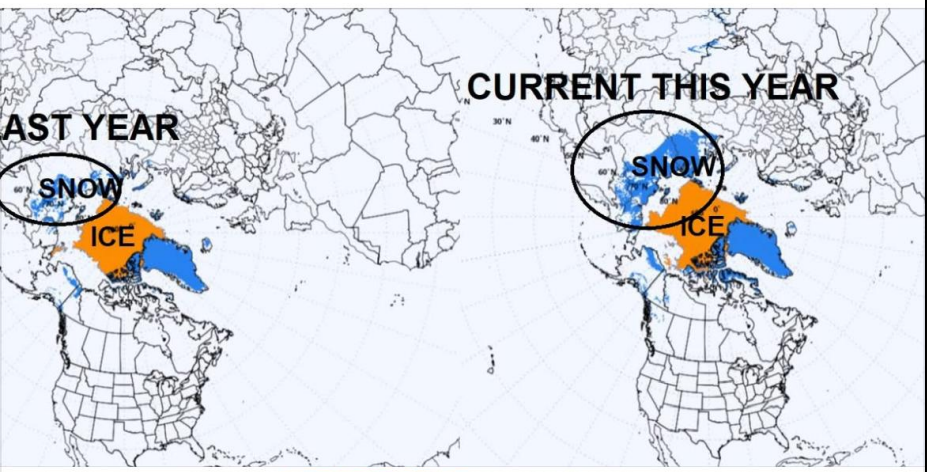


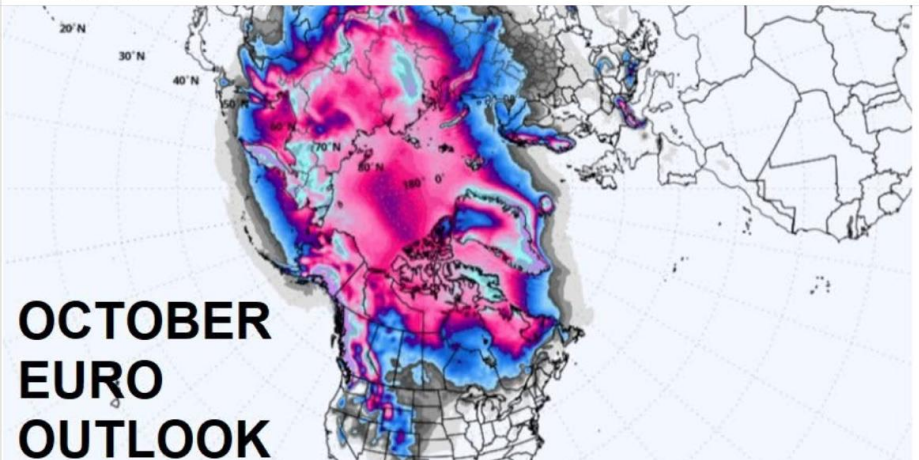


Extent of Siberian Snow Cover is another early index to watch and see how large of an area it covers and influences the jet stream. Current snow cover is better than last year and expected to grow even more.

Northeast Weather Alert.
1d ·

Siberian snow cover has been a recurring topic of discussio... See more



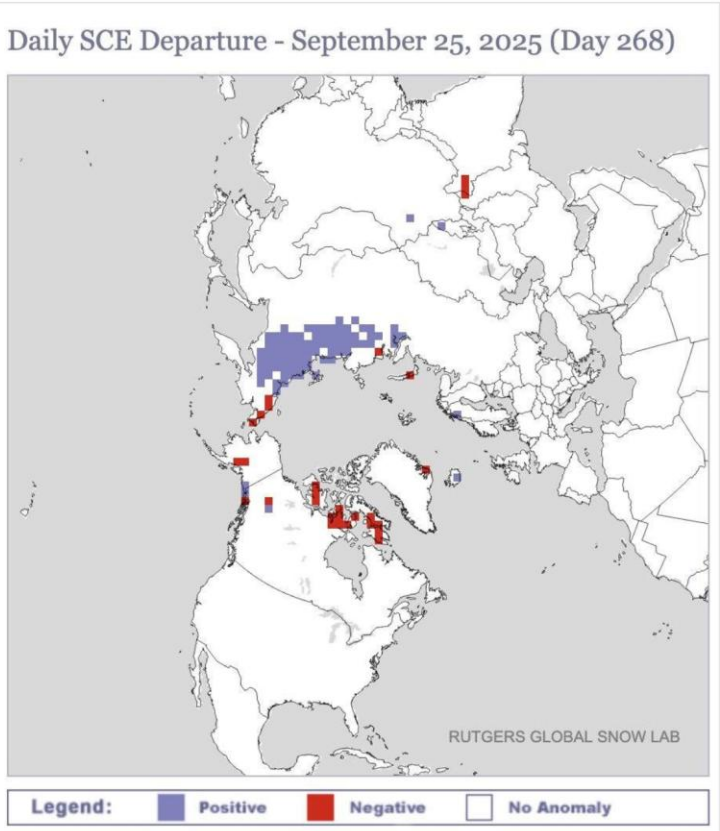


Northeast Weather Alert.
1d ·

Siberian snow cover is rapidly expanding this season, well ahead of pace compared to recent years—and the trend shows no sign of slowing down. As I've discussed in past updates, this development carries important connections to large-scale atmospheric patterns. The accelerated advance of snow cover across Siberia is a notable signal, and one that could have meaningful implications for the months ahead. Interesting times lie ahead as we continue to monitor this progression closely.

Northeast Weather Alert.
1d ·

Siberian snow cover is rapidly expanding this season, well... See more



An early Disruption event starts in the Polar Vortex, bringing Weather changes over the United States, Canada and Europe

By Andrej Flis

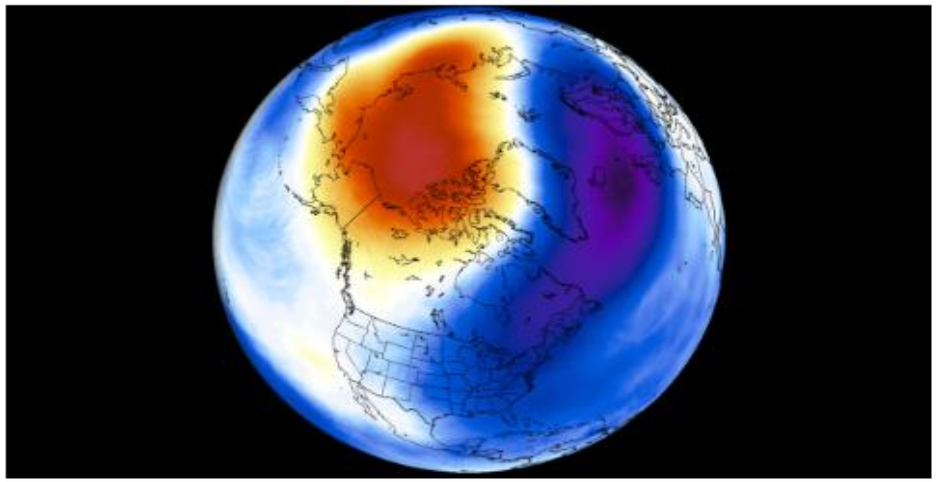
Published: 21/10/2025

Global weather

We are currently observing an unusual Polar Vortex development in the Stratosphere above the North Pole. This has implications and future weather development and is also connected to how weather patterns will develop over the United States, Canada, and Europe in the coming weeks and even into the Winter of 2025/2026.

We discussed the emergence of a new Polar Vortex for September. Since then, the Polar Vortex has shown pretty unusual development, and could be one of the wildcards for the upcoming winter season.

The Polar Vortex always plays a major role during the winter season for daily to weekly weather development. But this year, it is starting out unusually weak, allowing for a more dynamic weather pattern, with implications down the line that look good if you like a colder and snowier winter.

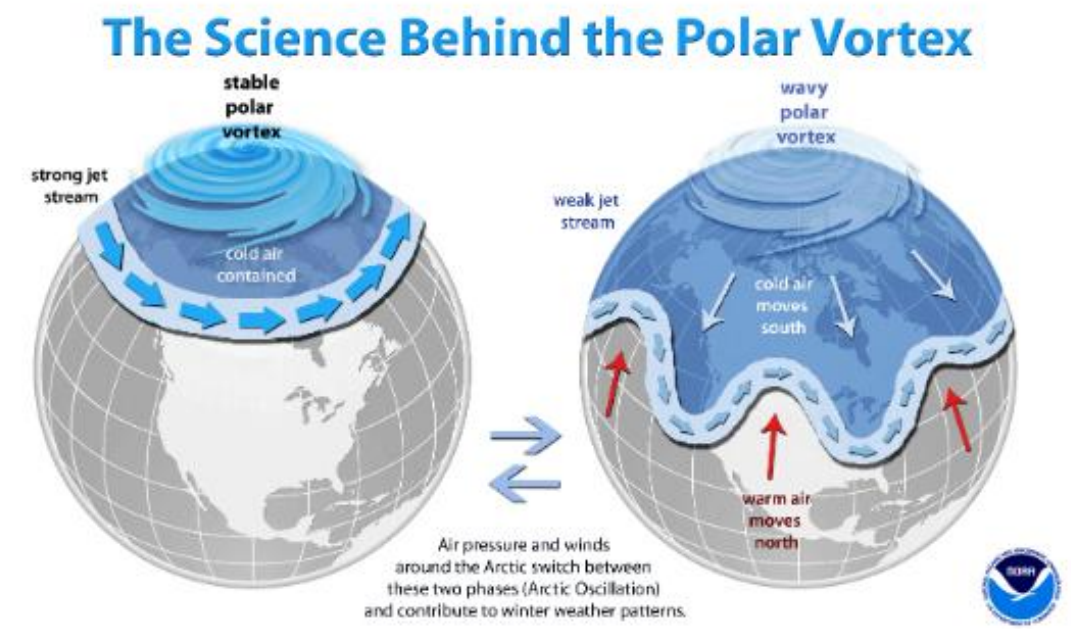


For those that like details, this was posted Oct 21 and shows similarities with Polar Vortex and the 1981-82 winter. We'll keep an eye on these analog years and update as needed.

https://www.severe-weather.eu/global-weather/polar-vortex-early-disruption-brings-colder-weather-winter-2025-2026-united-states-canada-europe-fa/

A **strong Polar Vortex** usually means strong polar circulation and jet stream. This contains the colder air into the Arctic Circle, creating milder conditions for most of the United States and Europe.

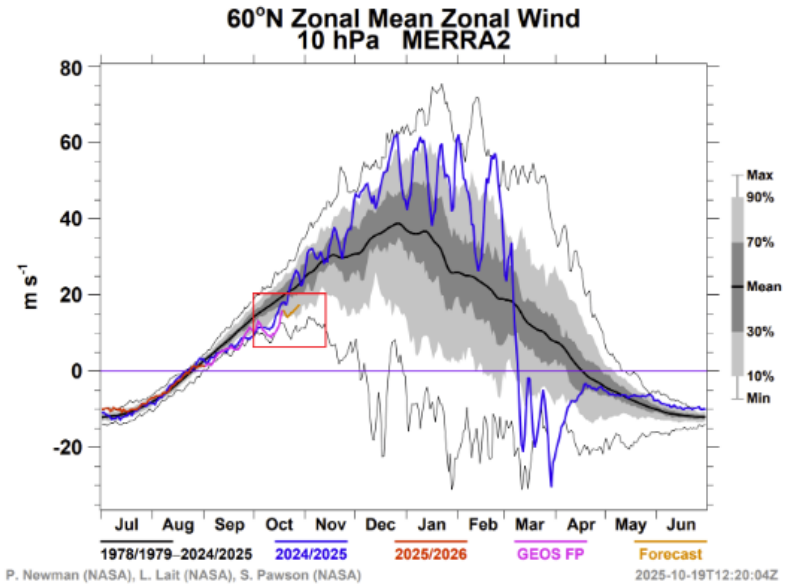
A **weak Polar Vortex** can create a disrupted jet stream pattern and a strong weather response. As a result, it has a harder time containing the cold air, which can now more freely escape from the polar regions into the United States or other mid-latitude regions.



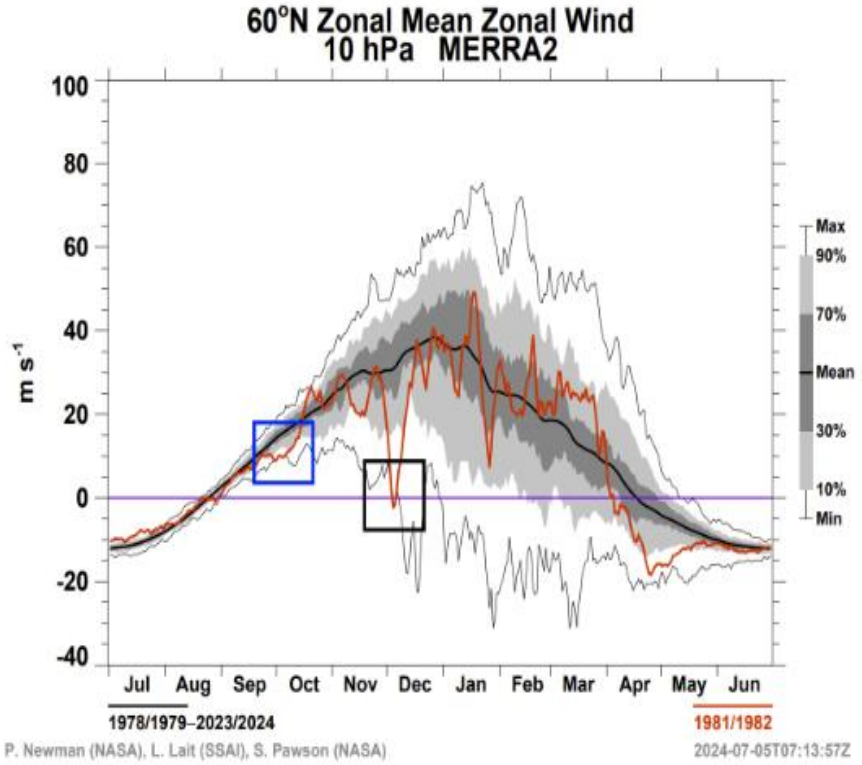
IMPACTS ON WINTER 2025/2026

Usually, such abnormal early Polar Vortex development can also influence long-range weather development. In some cases, these anomalies do not mean much. But we can actually find another similar event in October, dating back to the 1981/1982 season.

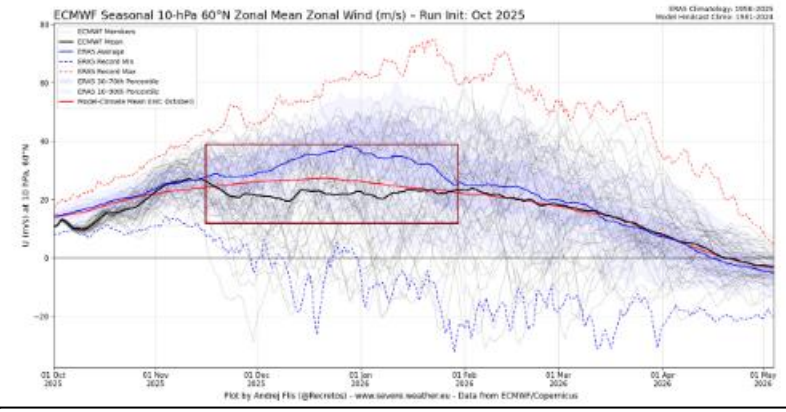
Below is NASA's stratospheric wind analysis/forecast for the current 2025/2026 season. Ignore the blue line, which shows the last year. You can see that we were drifting at record-low values early in the month and are now running well below normal.



Below is the same NASA analysis for the 81/82 season. You can see the same pattern in October, with half the month running at record-low values. The Polar Vortex did spin up to around normal values, but was never actually strong. In early December, the stratospheric winds got reversed due to a Sudden Stratospheric Warming event, which set the tone for the rest of Winter.



We have the long-range ensemble forecast for the Polar Vortex available, and below you can see that it shows below-normal strength for the first part of winter. The black line is the actual forecast. While we can't expect this range to show a polar vortex collapse event, it shows a clear weakening.



Of course, nobody can guarantee or even say that we will now have the same cold pattern in the upcoming winter as in 81/82. But we are looking at how past anomalies and unusual developments have continued into the following Winter, reminding us how small changes can have a far-reaching impact.

The main forecast images in this article are from WeatherBell and WeatherModels.com, using a commercial license.

https://www.severe-weather.eu/global-weather/polar-vortex-early-disruption-brings-colder-weather-winter-2025-2026-united-states-canada-europe-fa/