



# Spokane River Forecast 2023 For Spokane River Forum

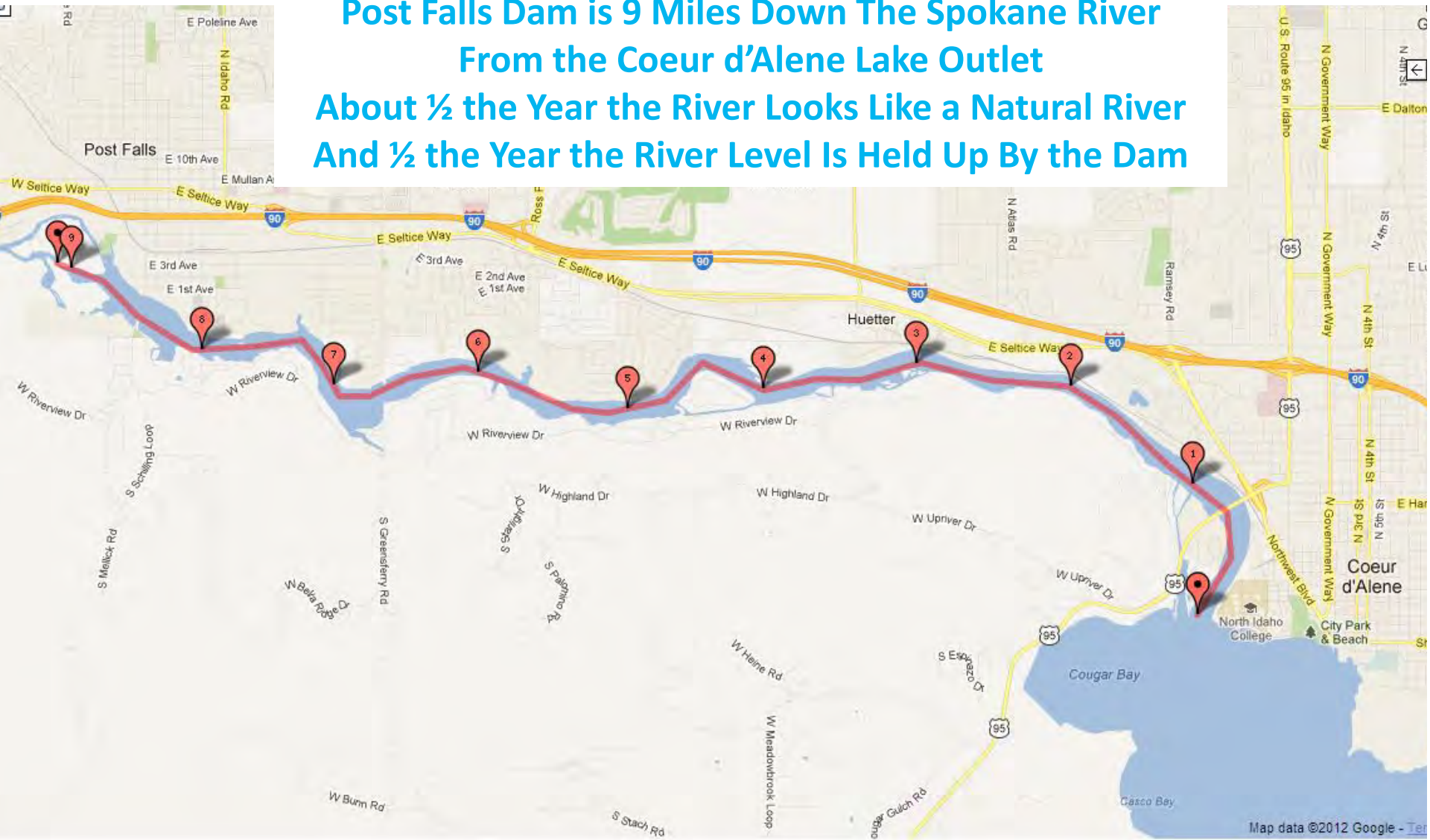
**Patrick Maher – Avista – 509- 495- 4283**

**Daily Message – 509- 495- 8043**

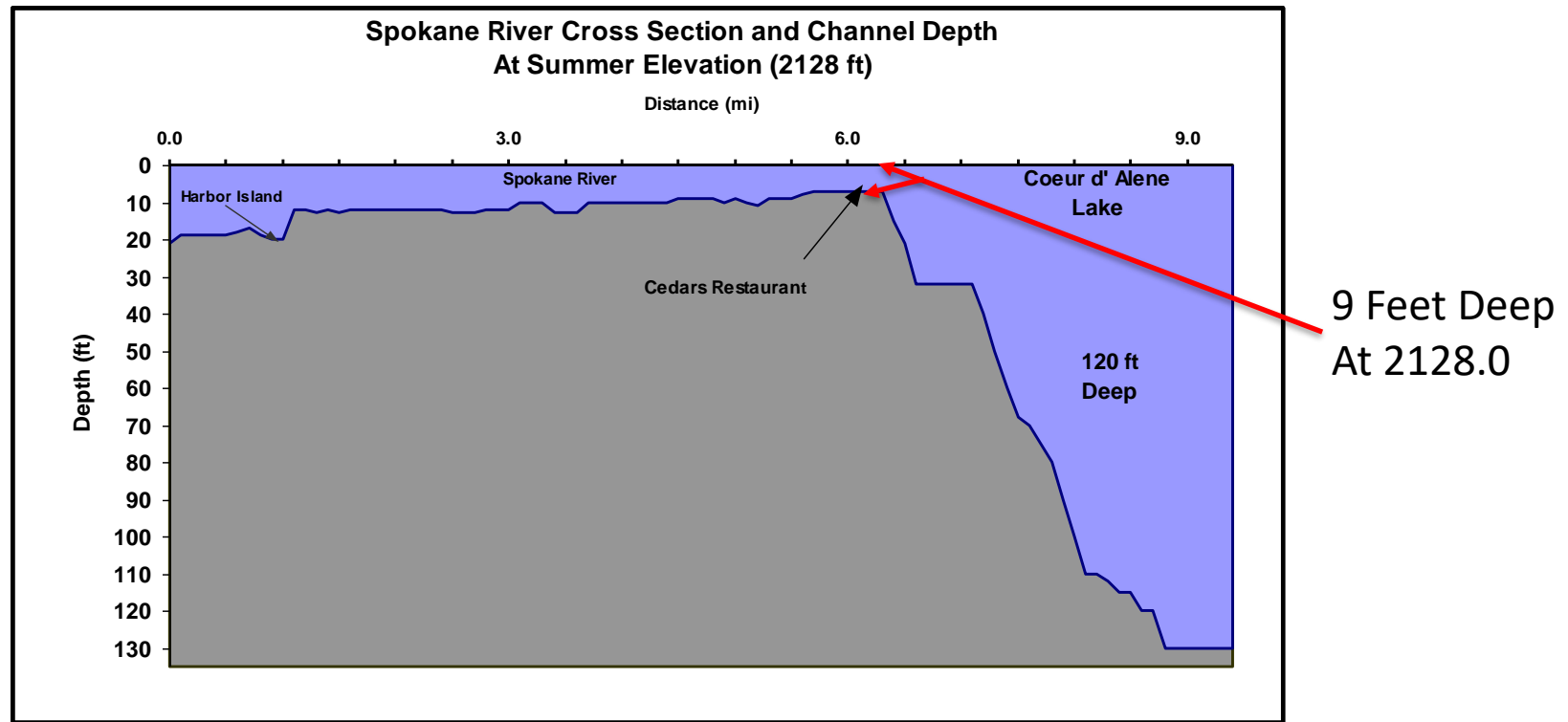
**[myavista.com/waterflow](http://myavista.com/waterflow)**



**Post Falls Dam is 9 Miles Down The Spokane River  
From the Coeur d'Alene Lake Outlet  
About ½ the Year the River Looks Like a Natural River  
And ½ the Year the River Level Is Held Up By the Dam**



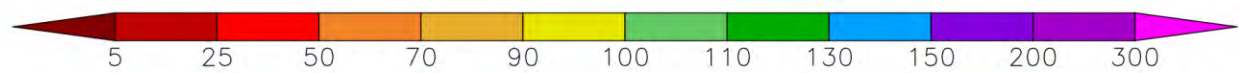
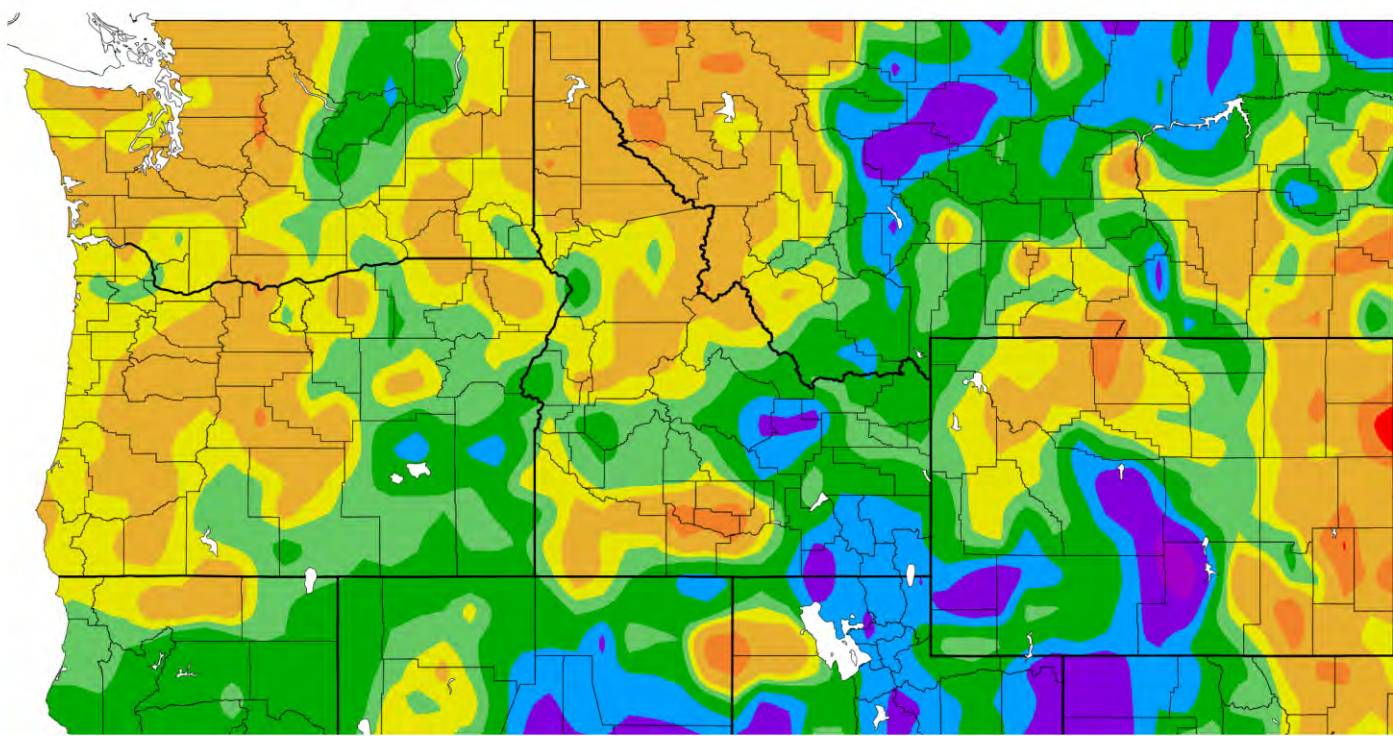
# The Outlet Restriction Determines How Much Water Flows in the River at a Particular Lake Elevation



- Outlet channel capacity at summer level = 18,316 CFS
- Outlet channel capacity at 2131.27 (average high) = 29,980 CFS
- Outlet channel capacity at 2122.5 (average low) = 4,160 CFS
- Outlet channel capacity at 2121.5 = 2,100 CFS

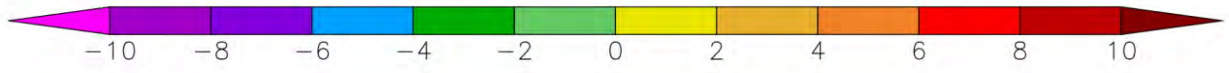
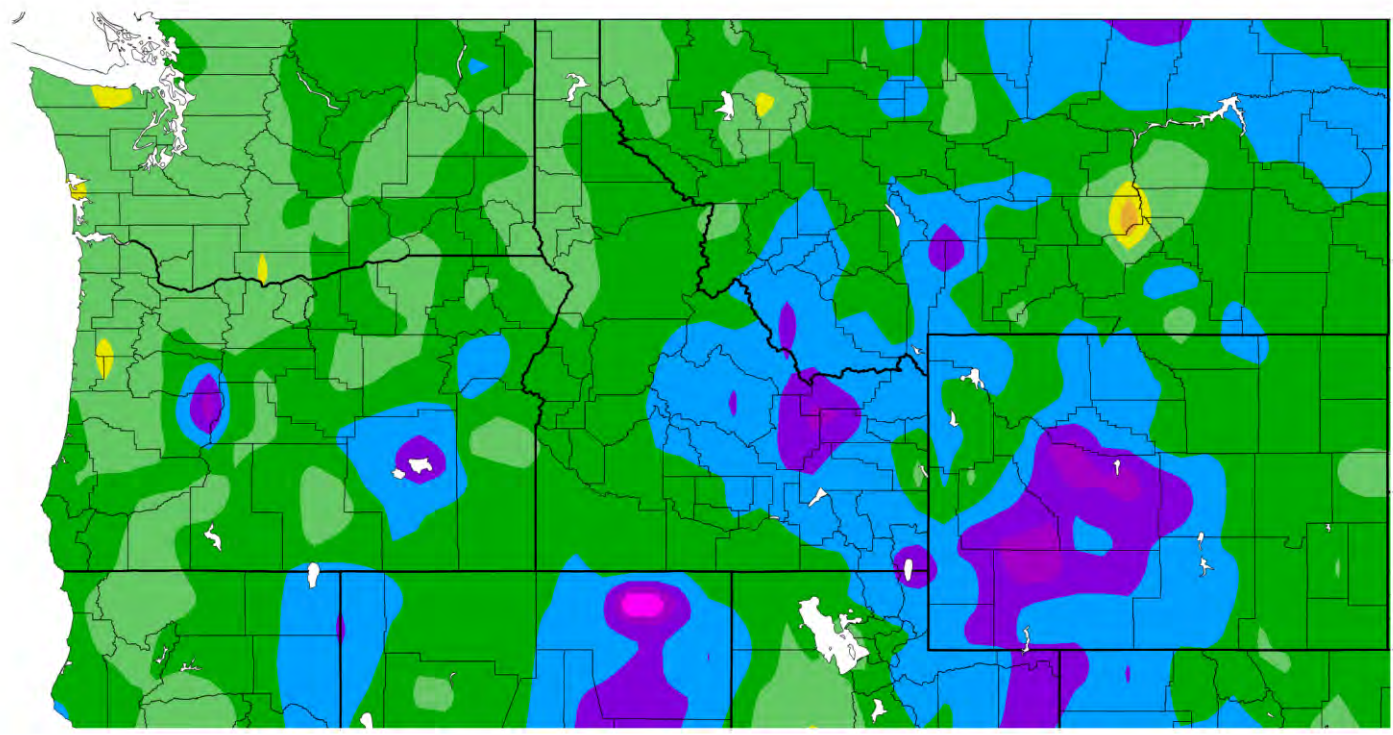
# Winter 2022-2023 In The Spokane River Drainage Has Been Cold and Dry

Percent of Normal Precipitation (%)  
10/1/2022 - 4/25/2023



# Winter 2022-2023 In The Spokane River Drainage Has Been Cold and Dry

Departure from Normal Temperature (F)  
10/1/2022 – 4/25/2023



## Washington SNOTEL Snow/Precipitation Update Report

Based on Mountain Data from NRCS SNOTEL Sites

**\*\*Provisional data, subject to revision\*\***

Data based on the first reading of the day (typically 00:00) for Wednesday, April 26, 2023

Basin Site Name	Elev (ft)	Snow Water Equivalent			Water Year-to-Date Precipitation		
		Current (in)	Median (in)	Pct of Median	Current (in)	Median (in)	Pct of Median
<b>SPOKANE</b>							
Sherwin	3200	4.5	0.0 <sub>(29)</sub>	*	24.5	30.6 <sub>(29)</sub>	80
Ragged Mountain	4210	20.6	10.8 <sub>(14)</sub>	191	34.0	36.4 <sub>(14)</sub>	93
Humboldt Gulch	4250	15.1	4.5 <sub>(29)</sub>	336	29.0	40.6	71
Mica Creek	4510	22.3	14.4	155	37.7	41.6	91
Quartz Peak	4700	18.5	13.4	138	36.0	36.3	99
Lookout	5190	25.1	23.9	105	30.6	41.1	74
Mosquito Ridge	5260	32.0	30.7 <sub>(29)</sub>	104	36.3	47.8	76
Sunset	5540	19.7	19.9	99	23.0	37.3	62
Lost Lake	6110	53.7	52.5	102	55.0	62.7	88
<b>Basin Index (%)</b>		<b>124</b>			<b>82</b>		

## Natural Resources Conservation Service

# Idaho Water Supply Outlook Report

## April 1, 2023

### Panhandle Region Streamflow Forecasts - April 1, 2023

Forecast Point	Forecast Period	Forecast Exceedance Probabilities for Risk Assessment						
		←-Drier-----Projected Volume-----Wetter→					30yr Med (KAF)	
		90% (KAF)	70% (KAF)	50% (KAF)	% Median	30% (KAF)		10% (KAF)
Moyie R at Eastport								
Kootenai R at Leonia 1 & 2								
Boundary Ck nr Porthill								
Clark Fork R bl Cabinet Gorge Dam 2	APR-JUL	7760	8870	9620	96%	10400	11500	9980
	APR-SEP	8390	9650	10500	96%	11400	12600	10900
Pend Oreille Lake Inflow 2	APR-JUL	8880	10100	11000	94%	11800	13000	11700
	APR-SEP	9610	11000	11900	94%	12900	14300	12600
Priest R nr Priest River 2	APR-JUL	520	625	695	83%	765	870	840
	APR-SEP	550	660	735	84%	810	920	880
NF Coeur d'Alene R at Enaville	APR-JUL	490	590	655	92%	720	820	715
	APR-SEP	520	620	690	92%	760	860	750
St. Joe R at Calder 2	APR-JUL	695	815	895	85%	975	1100	1050
	APR-SEP	745	870	955	85%	1040	1160	1120
Spokane R nr Post Falls 2	APR-JUL	1510	1870	2120	84%	2360	2730	2510
	APR-SEP	1570	1940	2190	85%	2440	2820	2570

Normals based on 1991-2020 reference period: streamflow, snowpack, precipitation, & reservoir 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, 2023			
Reservoir Name	Current (KAF)	Last YR	Median (KAF)	Capacity (KAF)	Basin Name	# of Sites	% of Median 2023	% of Median 2022
Hungry Horse Lake	2388.8	2846.6	2357.0	3451.0	Moyie River	1	82%	85%
Flathead Lake		826.9	739.1	1791.0	Priest River	8	95%	90%
Noxon Rapids Reservoir		317.2	320.0	335.0	Rathdrum Creek	3	115%	56%
Lake Pend Oreille	591.0	577.9	755.3	1561.3	Coeur d' Alene River	7	106%	89%
Priest Lake	53.9	61.1	64.4	119.3	St. Joe River	6	97%	90%
Lake Coeur d' Alene	68.8	203.1	153.8	238.5	Pend Oreille Lake	6	96%	79%
					Palouse River	2	129%	53%
					Lower Kootenai	2	84%	86%
					Pend Oreille-Kootenai	17	94%	86%
					Coeur d' Alene-St. Joe Total	12	102%	88%

# Northwest River Forecast Center Current Station Snow Conditions

Quartz Peak | 4700

Mosquito Ridge | 5260

Ragged Mountain | 4210

SNOTEL Sites in the Spokane River Drainage

Sunset | 5540

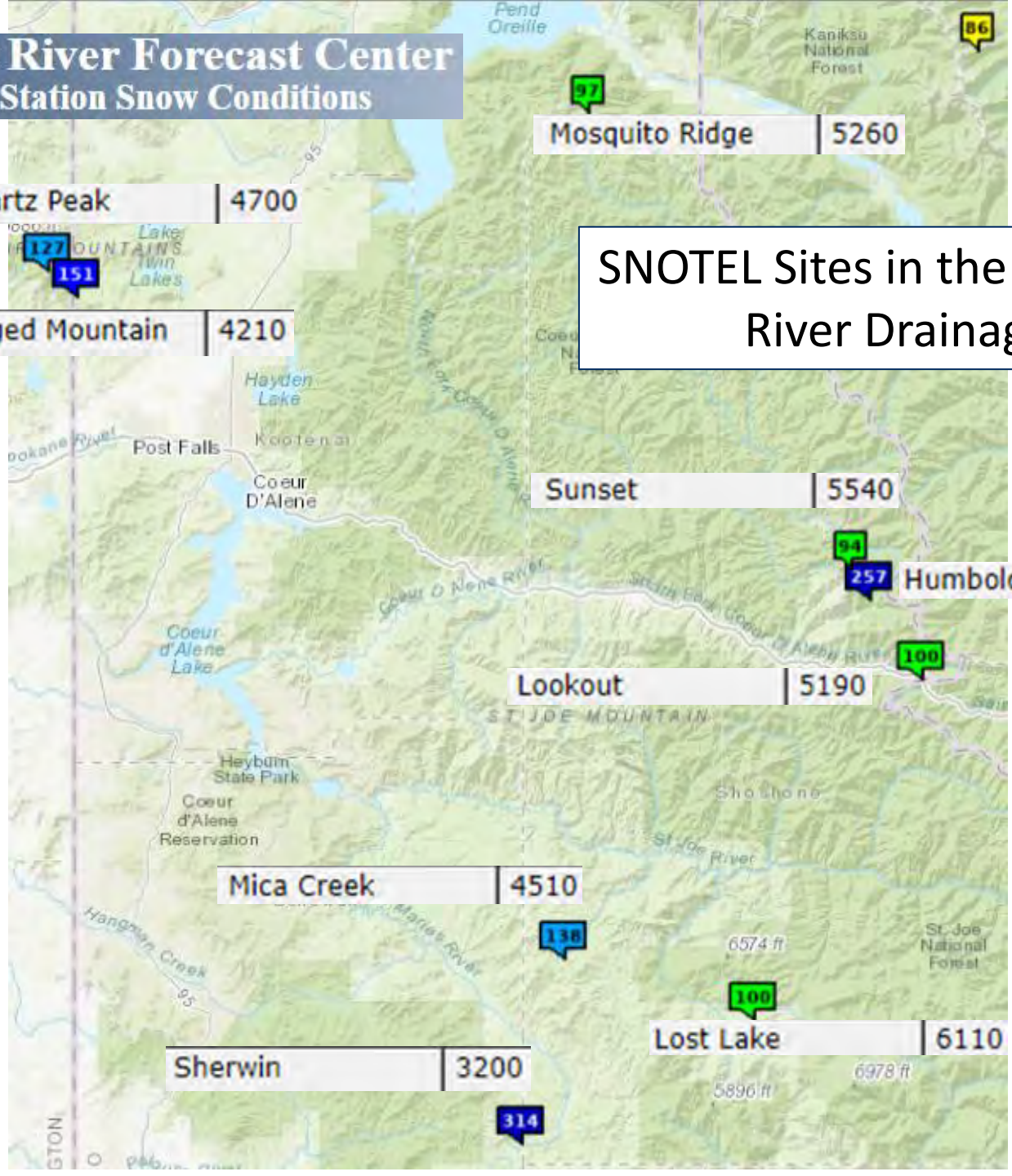
Humboldt Gulch | 4250

Lookout | 5190

Mica Creek | 4510

Lost Lake | 6110

Sherwin | 3200



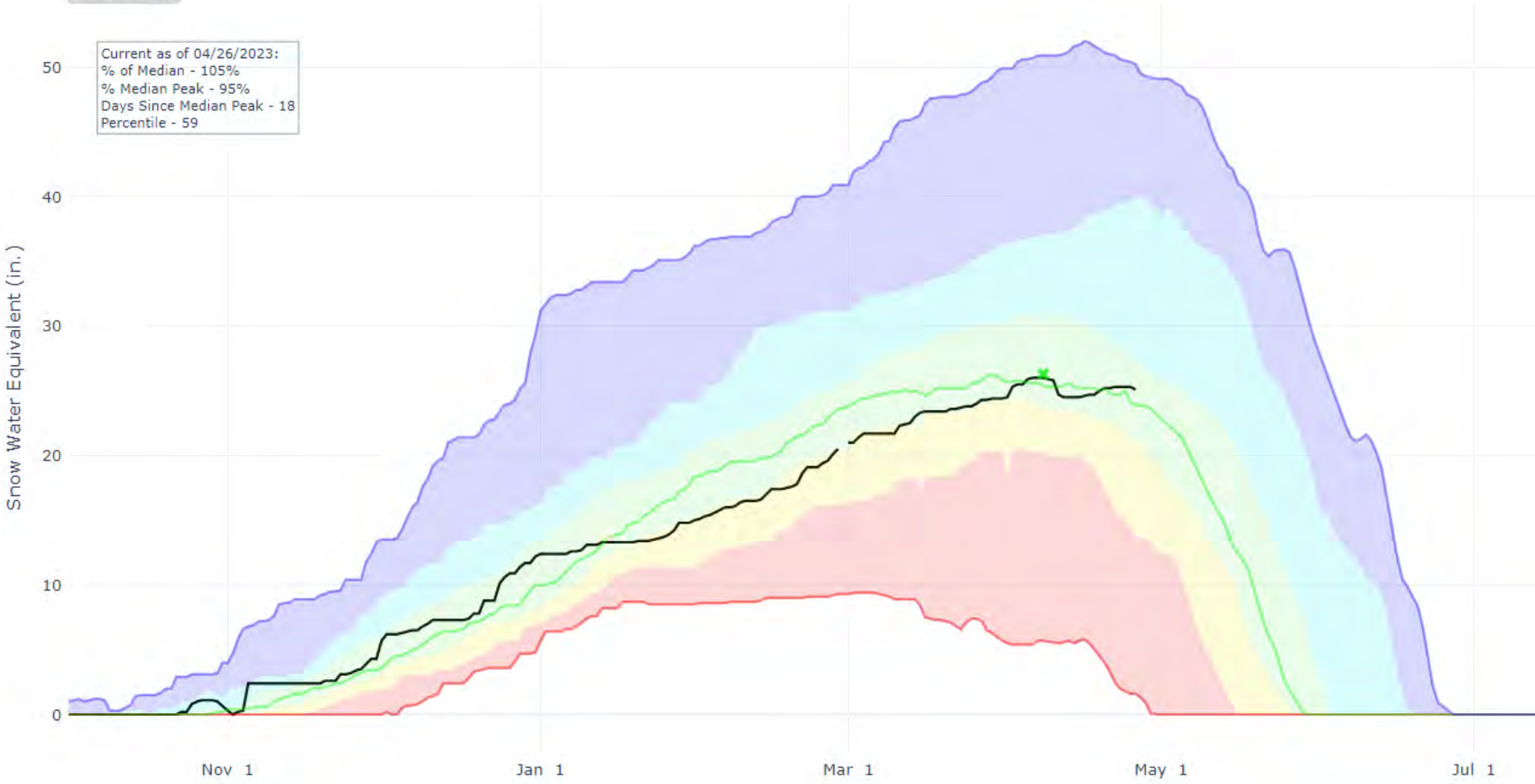


# Lookout SNOTEL 5,190 ft. Snow Water Equivalent

SNOW WATER EQUIVALENT AT  
LOOKOUT

Reset Range

Current as of 04/26/2023:  
% of Median - 105%  
% Median Peak - 95%  
Days Since Median Peak - 18  
Percentile - 59

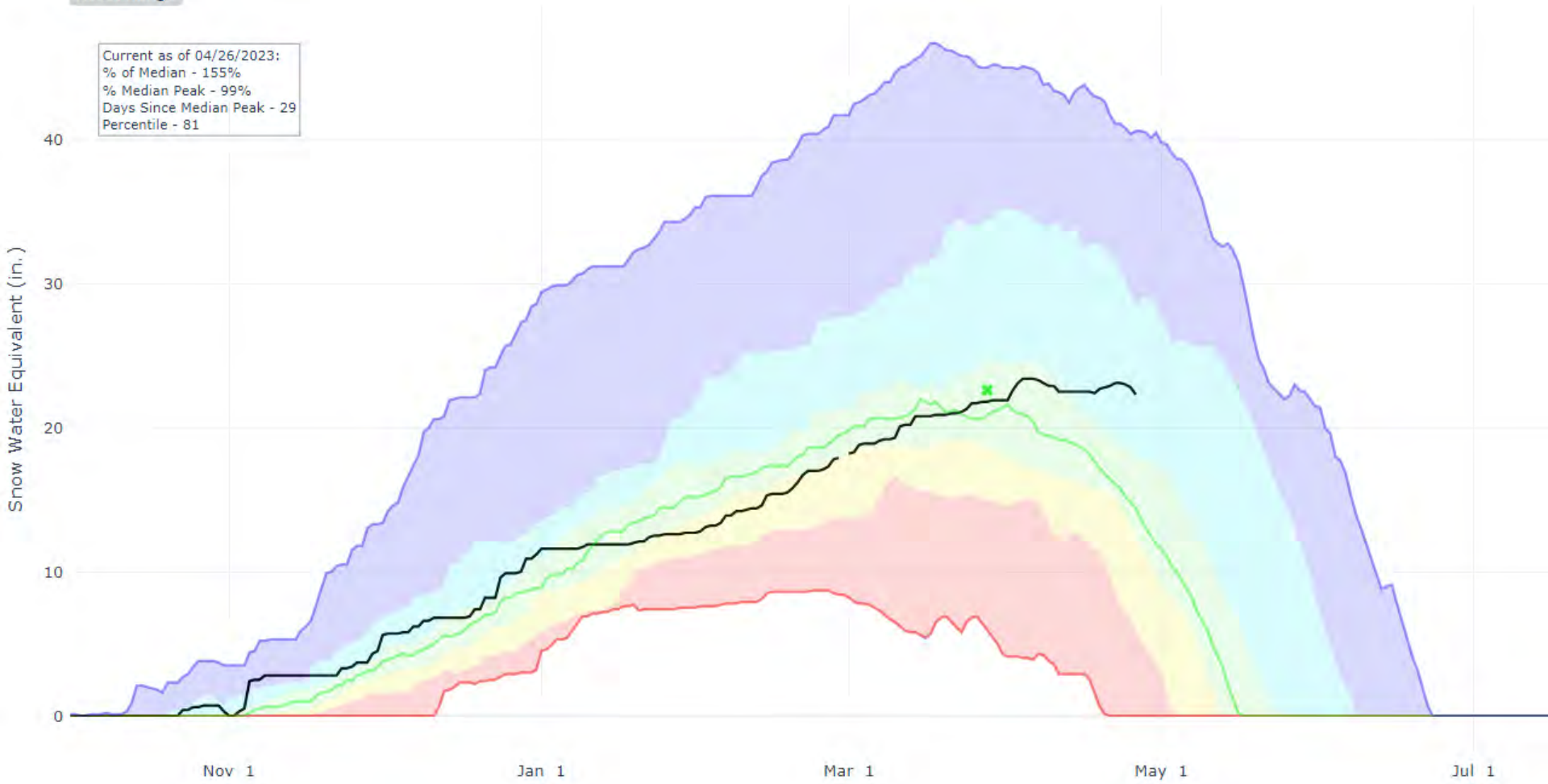


# Mica Creek SNOTEL 4,510 ft. Snow Water Equivalent

## SNOW WATER EQUIVALENT AT MICA CREEK

Reset Range

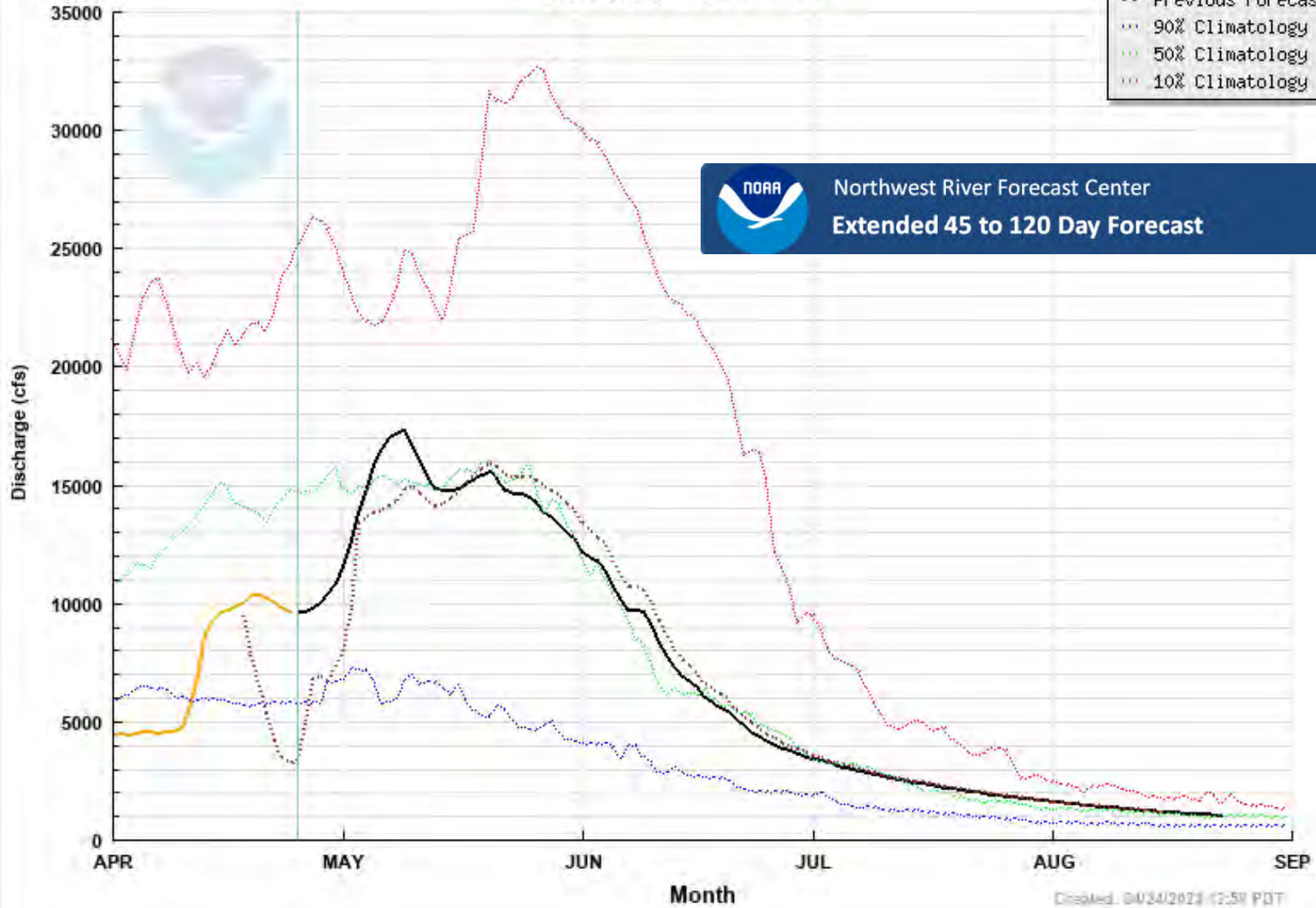
Current as of 04/26/2023:  
% of Median - 155%  
% Median Peak - 99%  
Days Since Median Peak - 29  
Percentile - 81




# STP Extended Forecast SPOKANE-AT SPOKANE (SPOW1)

Forecast Period 04-24 to 08-22

- Observation
- Current Forecast
- Previous Forecast
- 90% Climatology
- 50% Climatology
- 10% Climatology



 Northwest River Forecast Center  
Extended 45 to 120 Day Forecast

Created: 04/24/2023 12:58 PDT

# April 26, 2023

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Lookout	5190	25.1	23.9	105	30.6	41.1	74
Mosquito Ridge	5260	32.0	30.7 <sub>(29)</sub>	104	36.3	47.8	76
Sunset	5540	19.7	19.9	99	23.0	37.3	62
Lost Lake	6110	53.7	52.5	102	55.0	62.7	88
<b>Basin Index (%)</b>				<b>124</b>			<b>82</b>

# April 26, 2020

## Washington SNOTEL Snow/Precipitation Update Report

Based on Mountain Data from NRCS SNOTEL Sites

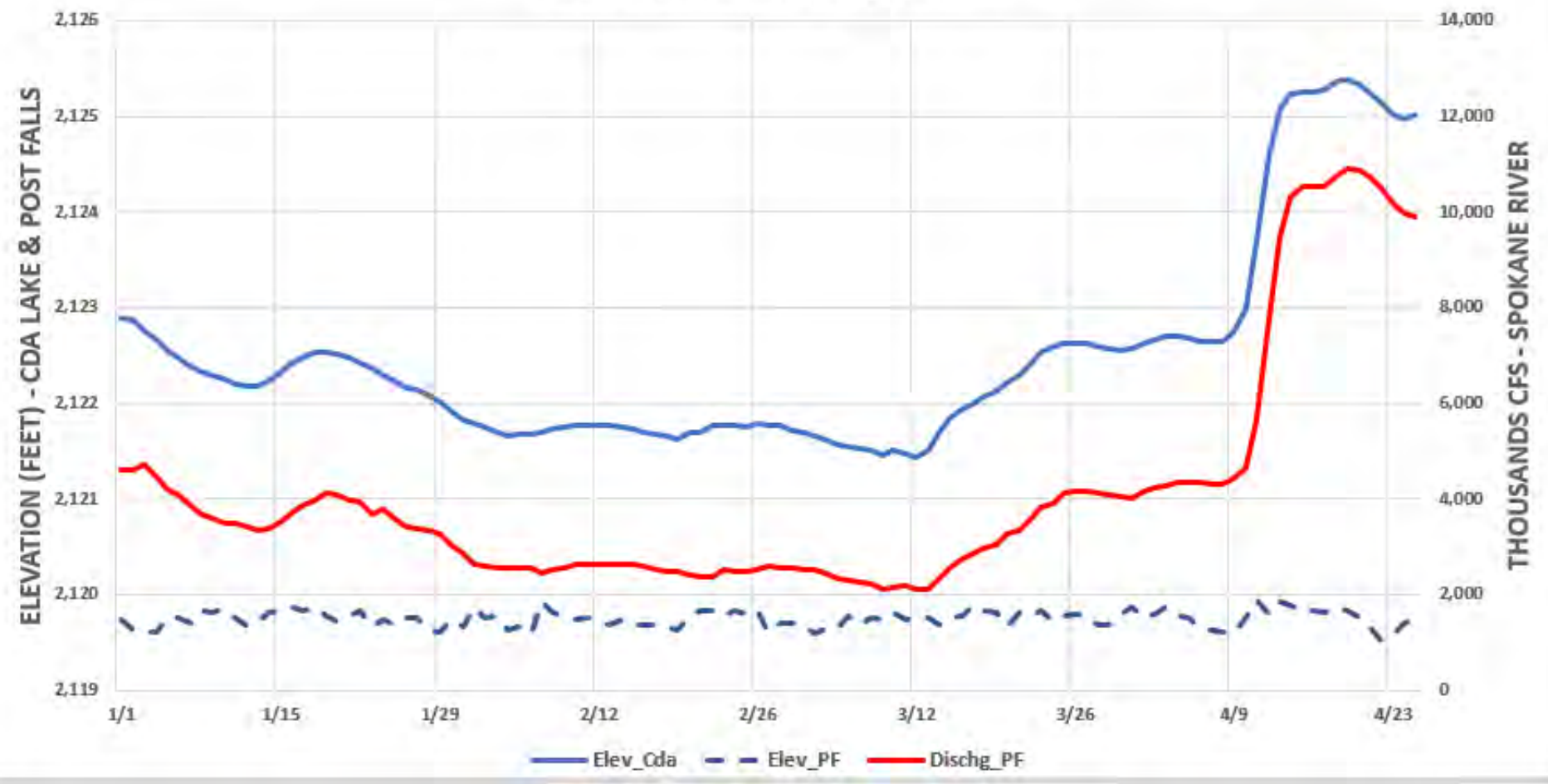
\*\*\*Provisional data, subject to revision\*\*

Data based on the first reading of the day (typically 00:00) for Sunday, April 26, 2020

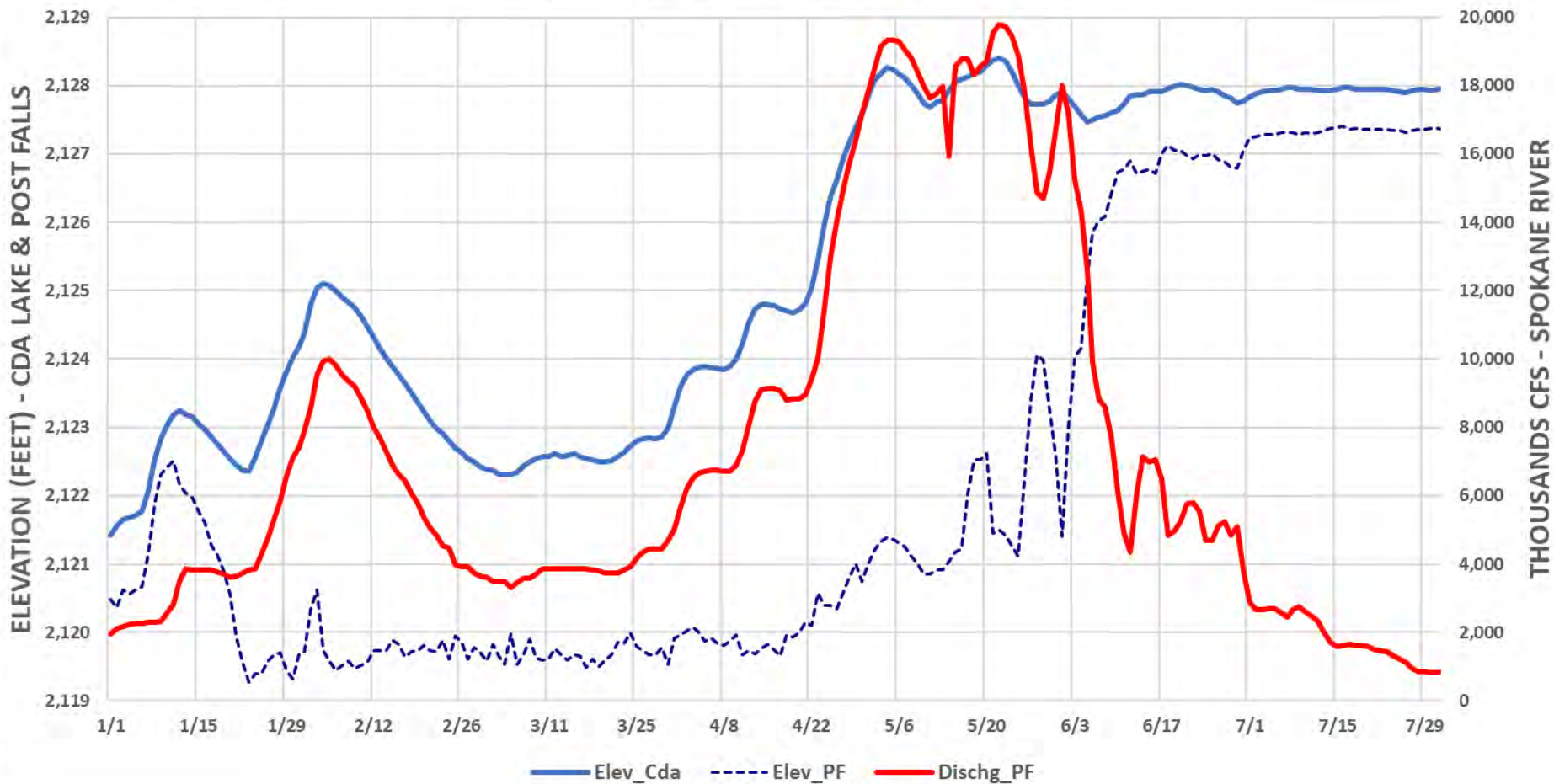
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<b>SPOKANE</b>							
Sherwin	3200	0.0	0.0 <sub>(29)</sub>	*	24.1	30.6 <sub>(29)</sub>	79
Ragged Mountain	4210	17.2	10.8 <sub>(14)</sub>	159	34.8	36.4 <sub>(14)</sub>	96
Humboldt Gulch	4250	9.9	4.5 <sub>(29)</sub>	220	33.7	40.6	83
Mica Creek	4510	14.0	14.4	97	39.0	41.6	94
Quartz Peak	4700	12.6	13.4	94	36.5	36.3	101
Lookout	5190	22.6	23.9	95	34.4	41.1	84
Mosquito Ridge	5260	39.3	30.7 <sub>(29)</sub>	128	43.5	47.8	91
Sunset	5540	21.0	19.9	106	27.2	37.3	73
Lost Lake	6110	54.7	52.5	104	58.1	62.7	93
<b>Basin Index (%)</b>				<b>112</b>			<b>88</b>

Comparing similar years 2020 and 2023 in terms of SWE and seasonal precipitation on April 26th

### Lake Coeur d'Alene Hydrograph 2023



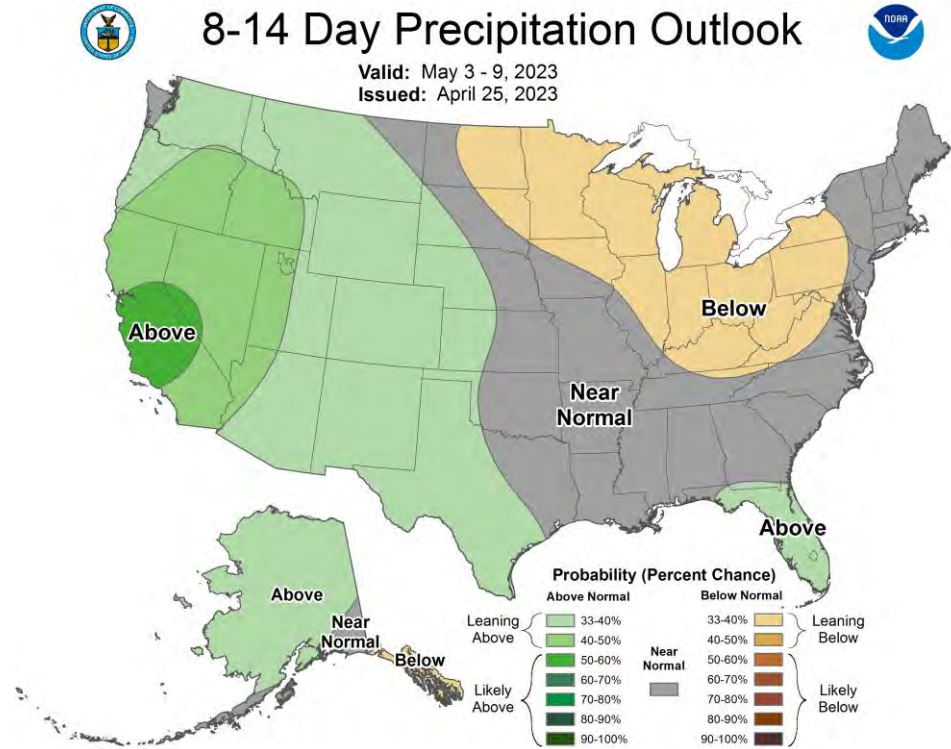
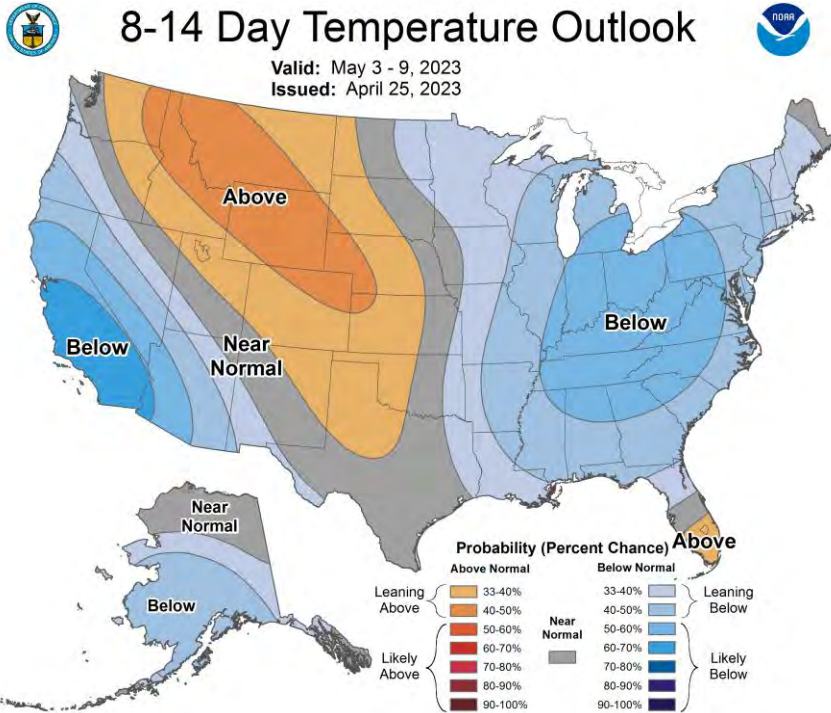
### Lake Coeur d'Alene Hydrograph 2020



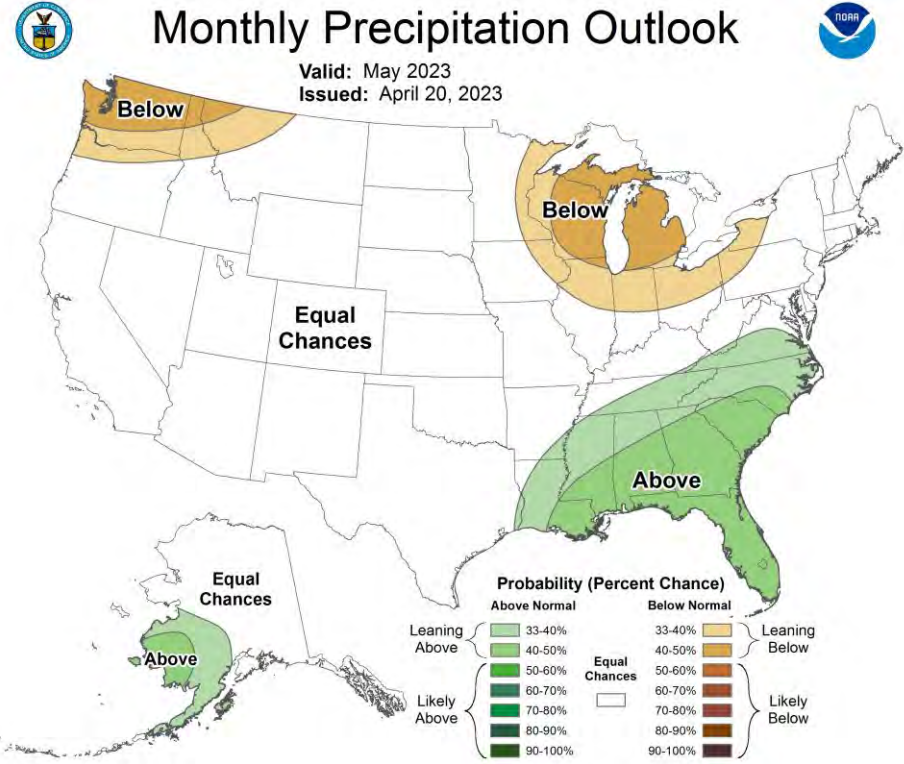
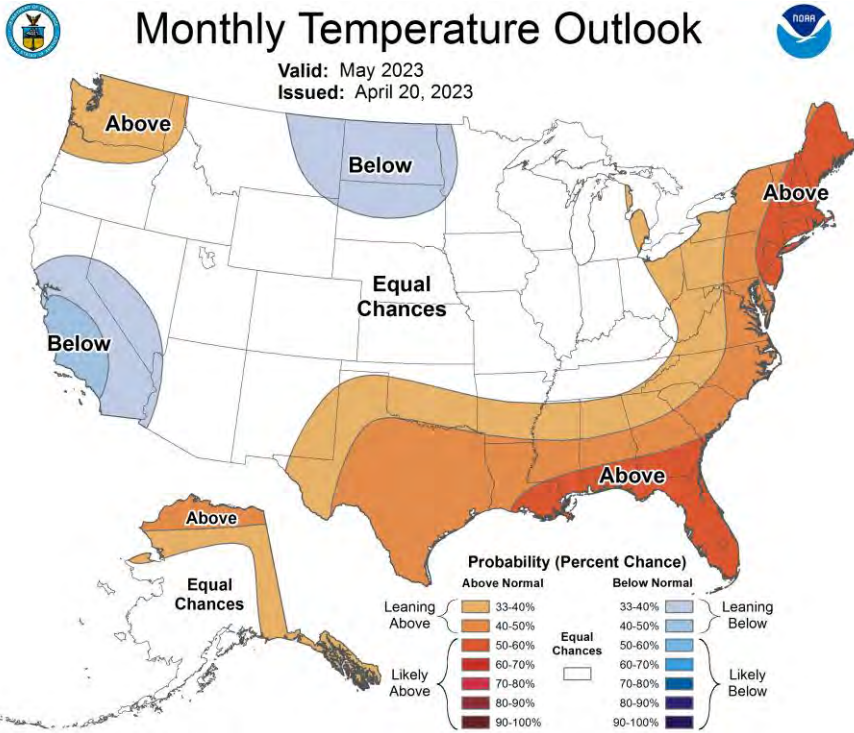
# 8 to 14 Day Outlooks

Valid: May 03 to 09, 2023

Updated: 25 Apr 2023

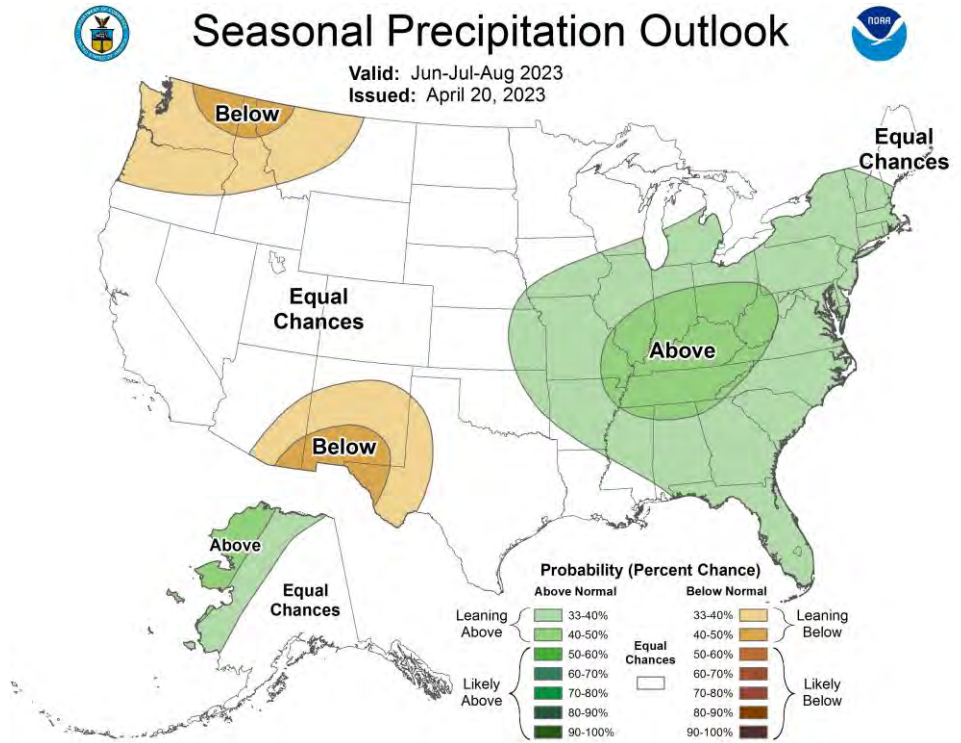
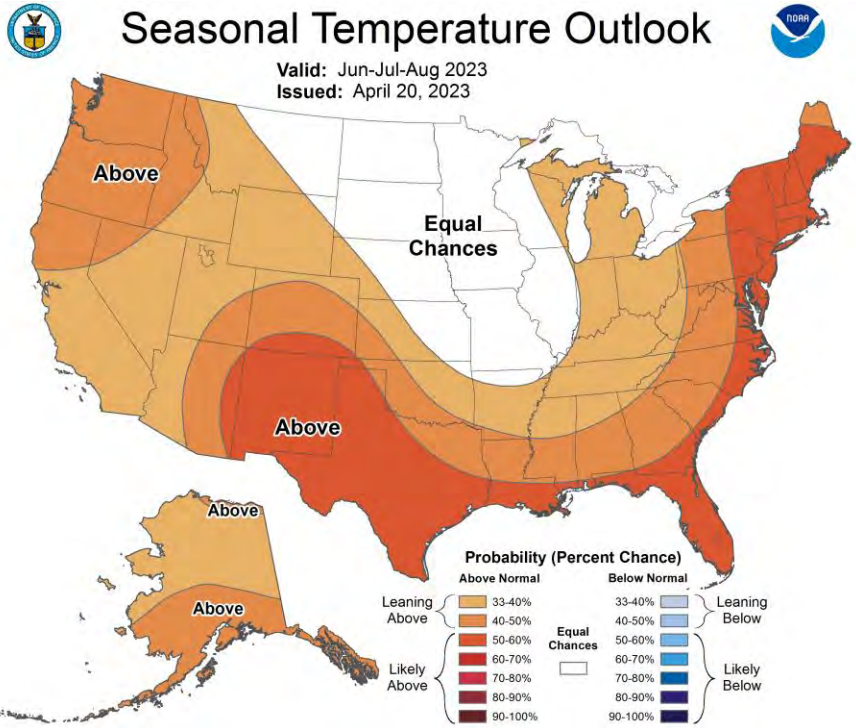


# May 2023 Forecast





# June – July - August 2023 Weather Forecast



# Official NOAA CPC ENSO Probabilities (issued Apr. 2023)

based on  $-0.5^{\circ}/+0.5^{\circ}\text{C}$  thresholds in ERSSTv5 Niño-3.4 index

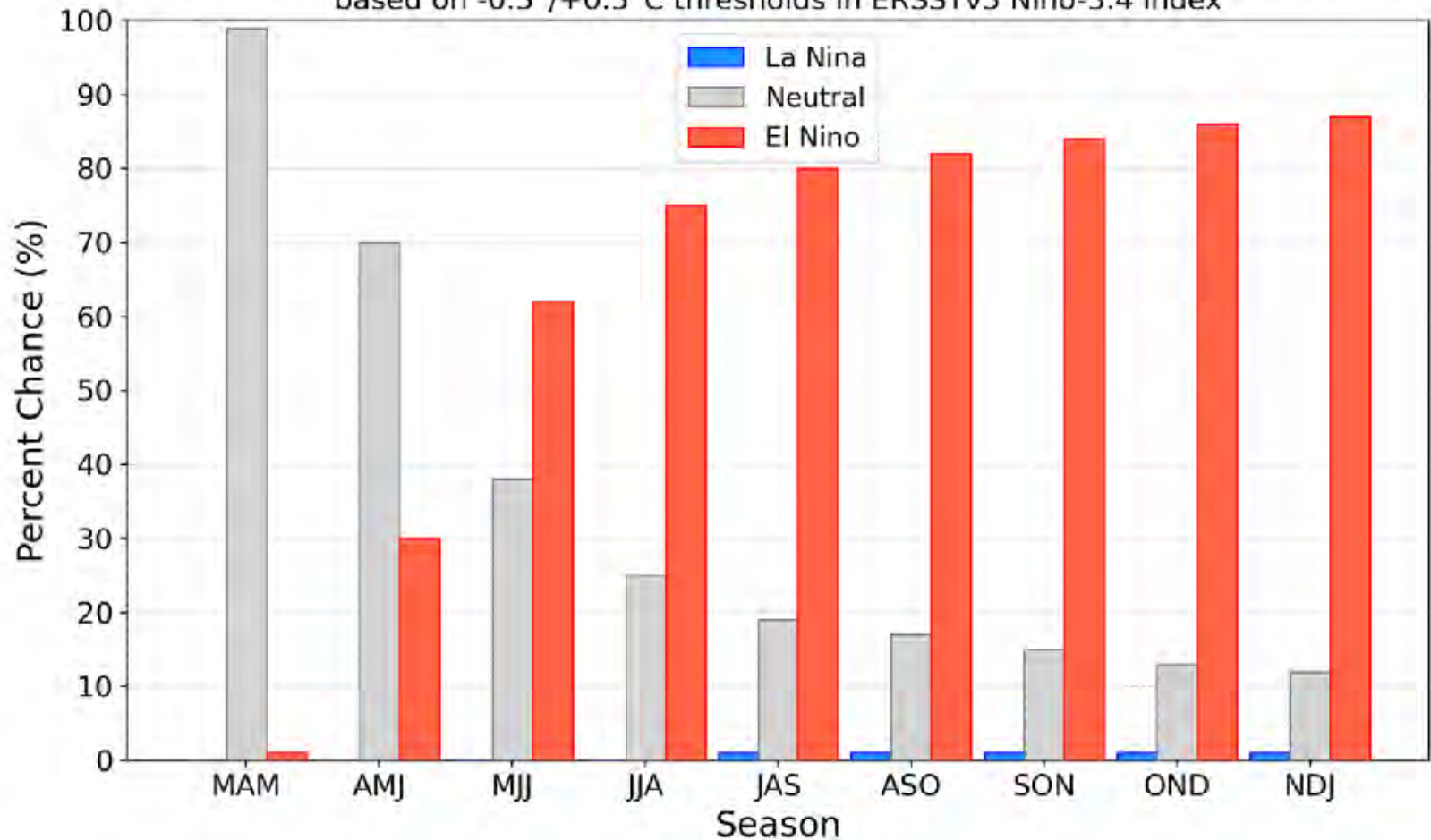


Figure 7. Official ENSO probabilities for the Niño 3.4 sea surface temperature index ( $5^{\circ}\text{N}$ - $5^{\circ}\text{S}$ ,  $120^{\circ}\text{W}$ - $170^{\circ}\text{W}$ ). Figure updated 13 April 2023.

