

ALBENI FALLS DAM AND LAKE PEND OREILLE

26 February 2024

Low Snowpack and LPO Water Management

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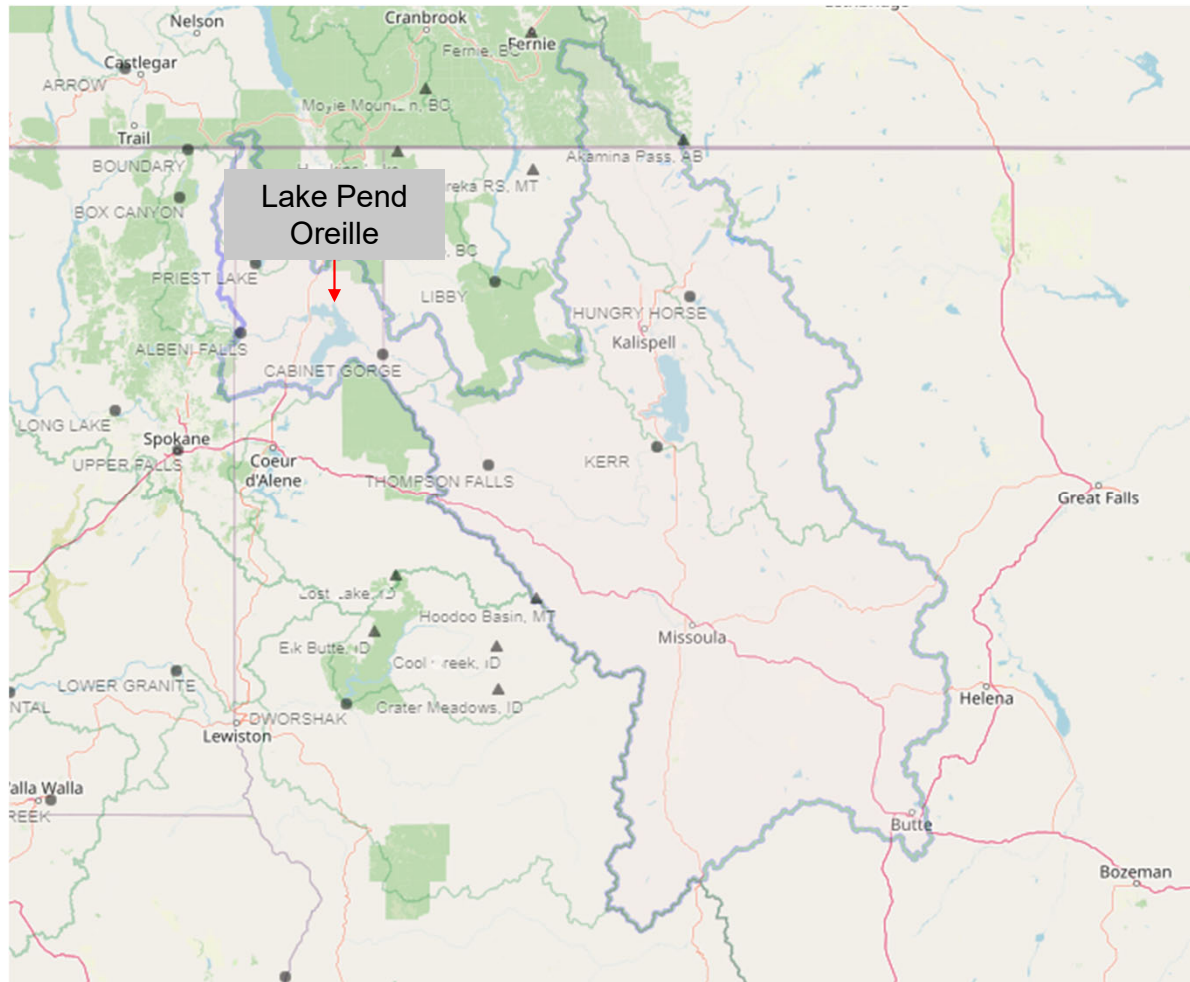


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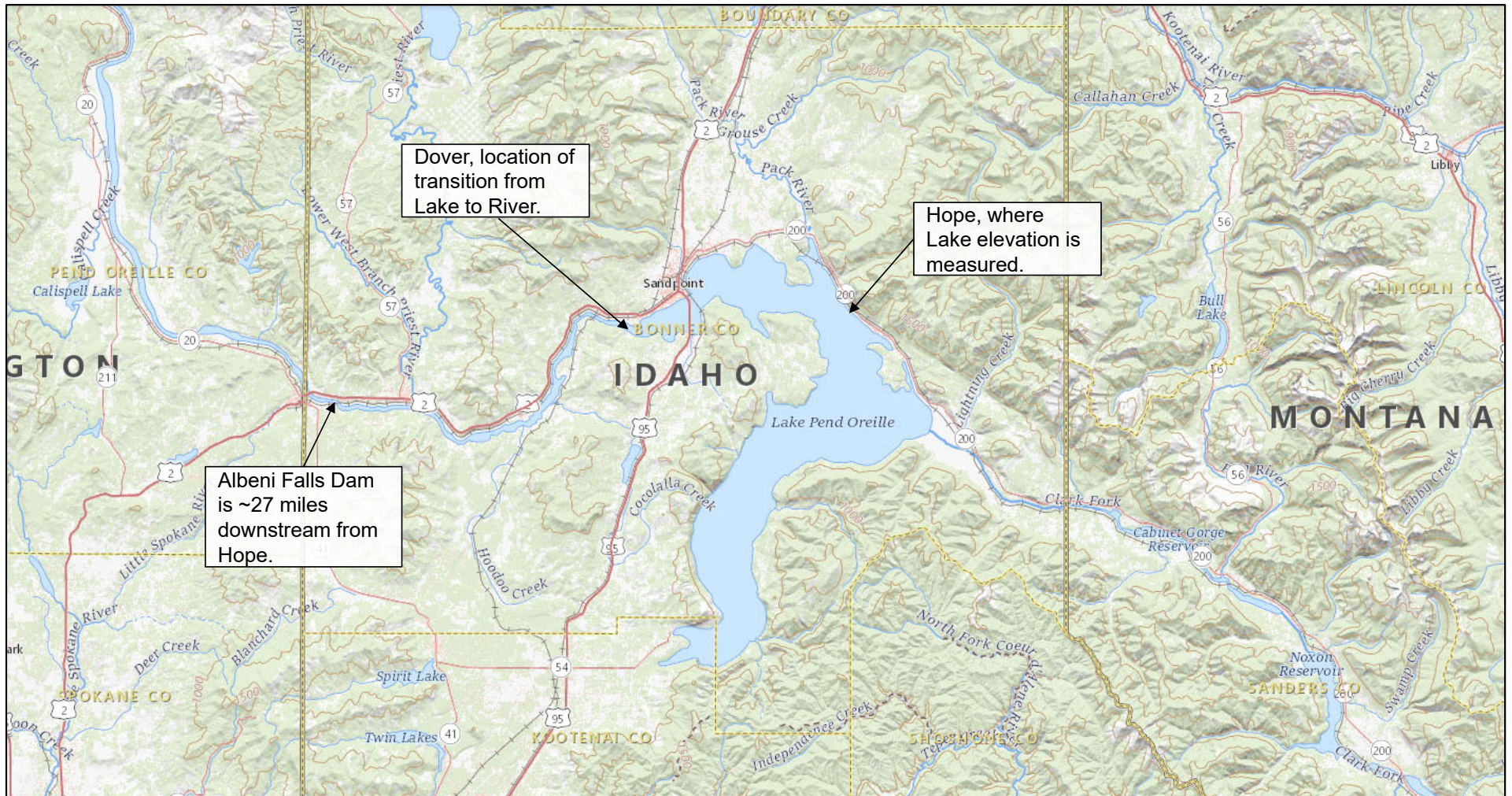


PEND OREILLE BASIN



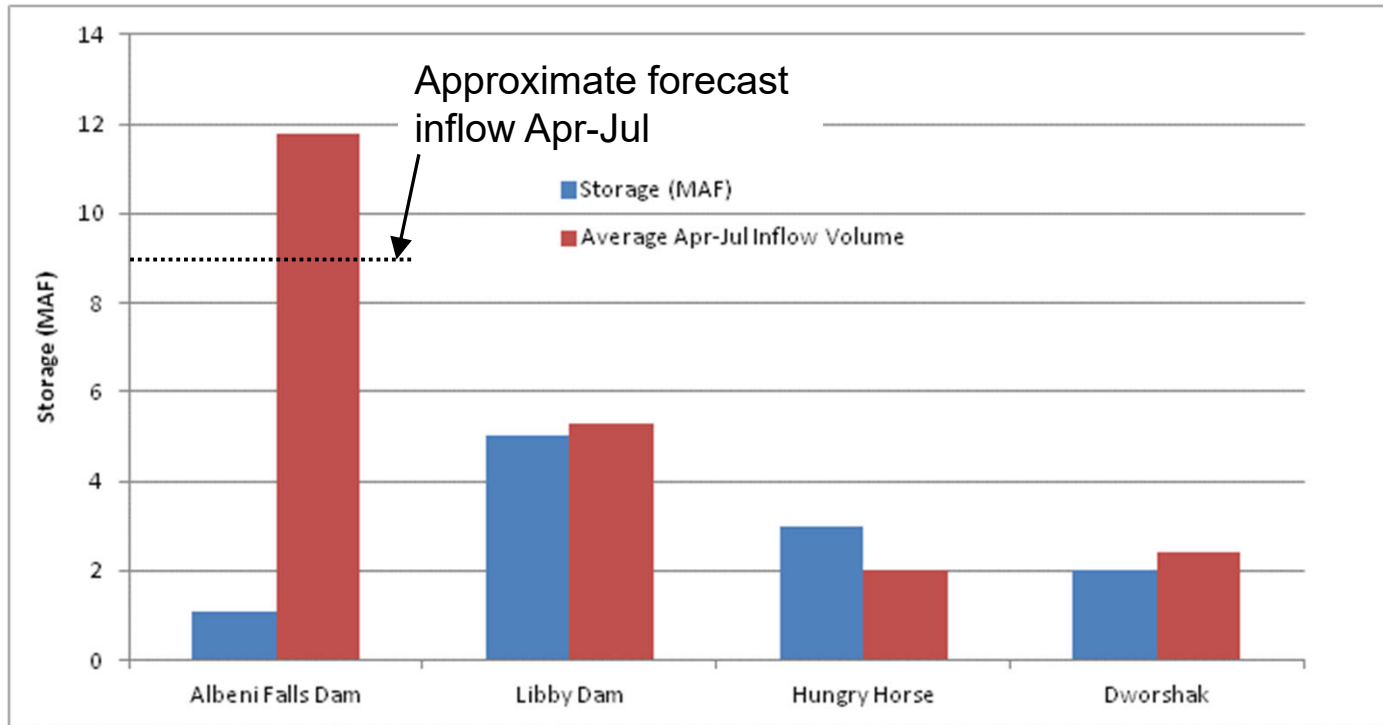


LAKE PEND OREILLE & ALBENI FALLS DAM





COLUMBIA RIVER PROJECTS STORAGE VS SPRING RUNOFF





ENSEMBLE STREAMFLOW PREDICTION (ESP)



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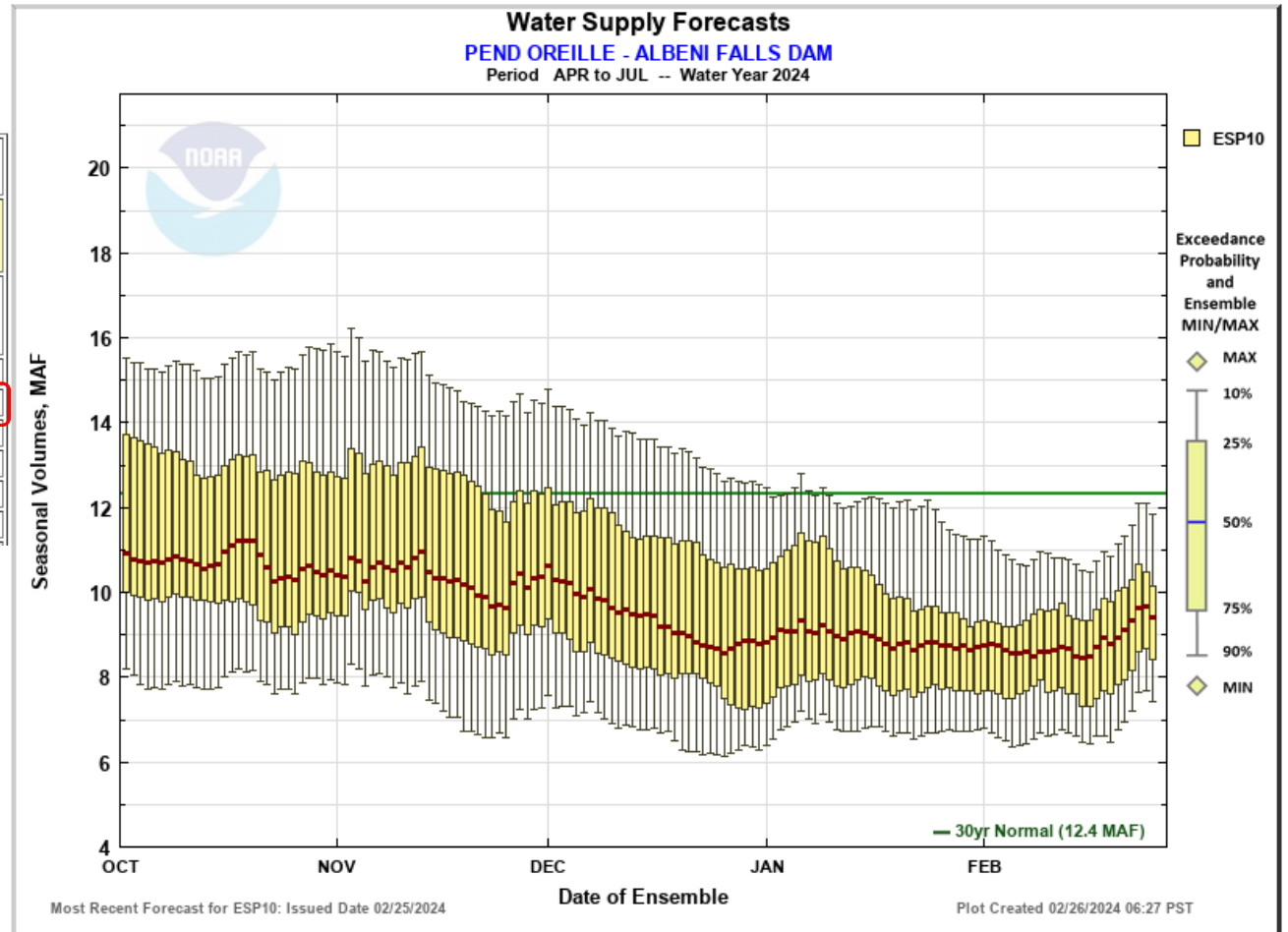
- Northwest River Forecast Center (NWRFC) currently uses ESP technique to make water supply forecasts for the Columbia River Basin.
- Modeling system to simulate soil moisture, snowpack, regulation, and streamflow.
 - Uses the current hydrologic conditions, and
 - Then uses historical meteorological data to create equally likely sequences of future hydrological conditions, each starting with the current hydrological conditions.
- Statistical analysis is performed on these sequences to generate probabilistic forecasts of seasonal water supply



CURRENT ESP SEASONAL DATA

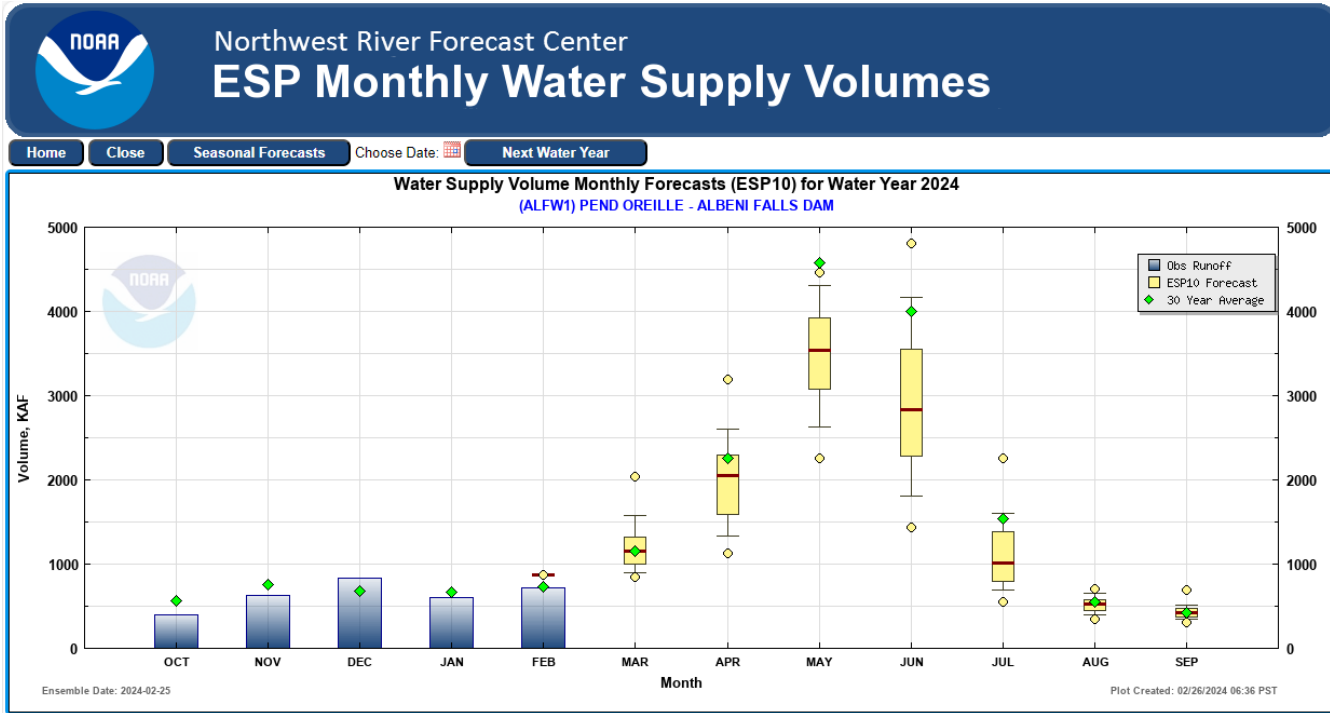


PEND OREILLE - ALBENI FALLS DAM (ALFW1) Forecasts for Water Year 2024					
Official Water Supply					
ESP with 10 Days QPF Ensemble: 2024-02-25 Issued: 2024-02-25					
Forecast Period	Forecasts Are in KAF				30 Year Average (1991-2020)
	90 %	50 %	% Average	10 %	
APR-SEP	8243	10352	78	13028	13347
APR-JUL	7478	9476	77	11902	12369
APR-AUG	7878	9971	77	12517	12919
JAN-SEP	10935	13054	82	15762	15900
JAN-JUL	10209	12101	81	14635	14922
OCT-SEP	12782	14902	83	17610	17911





CURRENT ESP MONTHLY DATA



- Observed runoff is about 92 % of average so far in WY 2024.
- Predicted runoff for May and June is well below average.
- February 26 SNOTEL snowpack is about 66% of median in the Pend Oreille Basin.
- Current water supply forecast is 77% of Average (9.5 MAF) for Apr-Jul.



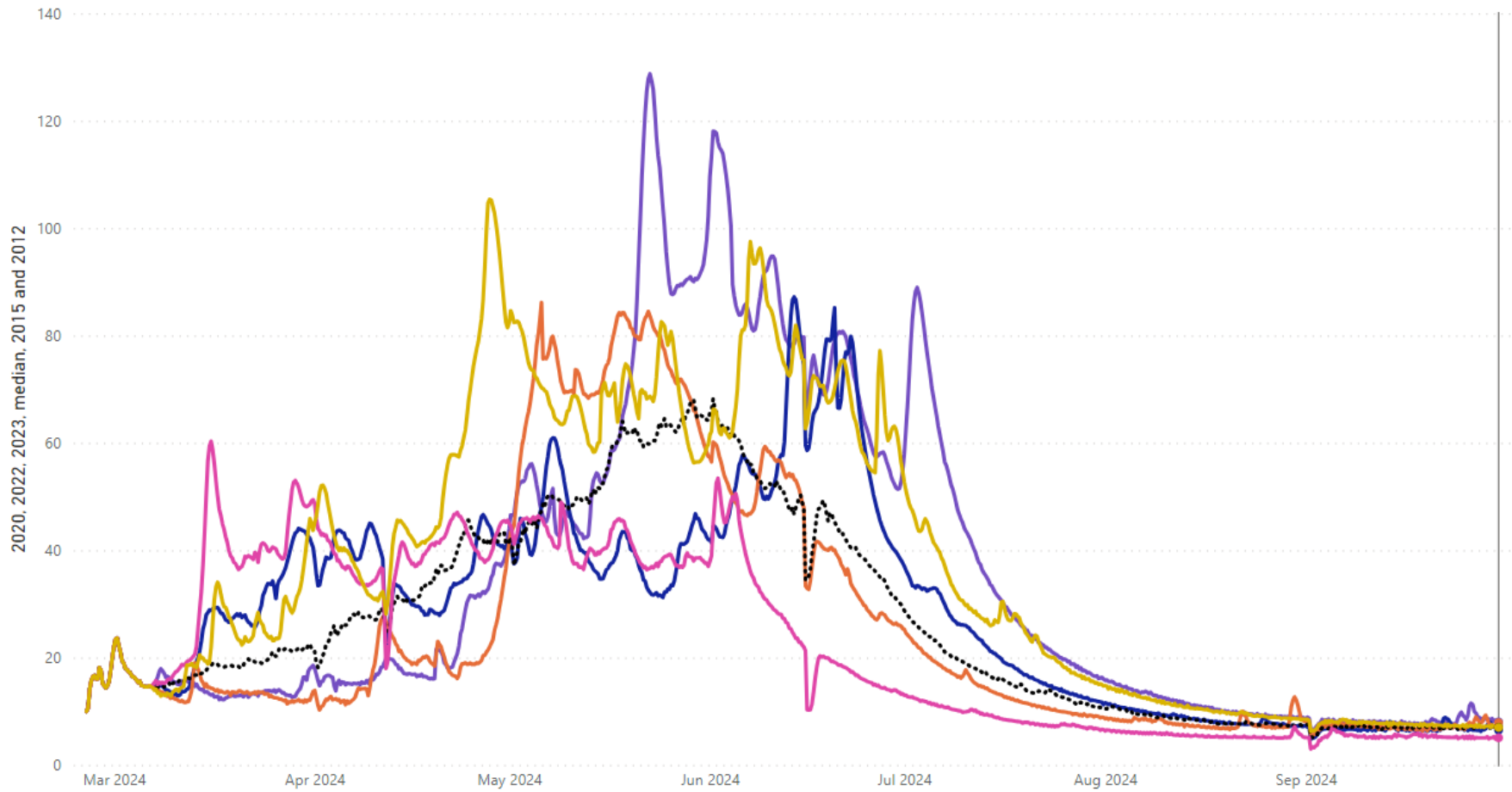
CURRENT ESP DAILY DATA



2020, 2022, 2023, median, 2015 and 2012 by FCST_VALID_TIME_GMT



● 2020 ● 2022 ● 2023 ● median ● 2015 ● 2012





RUNOFF RANKING



PEND OREILLE - ALBENI FALLS DAM (ALFW1) Period Rankings - 1949 to 2024 <small>APR-JUL Normal -- 12369 (KAF)</small>				
Rank	Year	Period Volume (KAF)	Percent of Normal	Exceedance Probability'
1	1997	21169.94	171	1.30%
2	2011	20064.44	162	2.60%
3	1974	19749.75	160	3.90%
4	1956	18377.93	149	5.20%
5	1972	18318.32	148	6.49%
6	1971	17639.18	143	7.79%
7	1950	17444.29	141	9.09%
8	1965	17176.54	139	10.39%
9	1959	17109.22	138	11.69%
10	2018	17018.62	138	12.99%
11	1954	16887.55	137	14.29%
12	1996	16437.14	133	15.58%
13	1982	16252.65	131	16.88%
14	2012	16060.3	130	18.18%
15	1976	15975.7	129	19.48%
16	1975	15684.71	127	20.78%
17	1951	15612.24	126	22.08%
18	1964	15573.31	126	23.38%
19	1967	15397.64	124	24.68%
20	2014	15332.97	124	25.97%
21	1991	15209.52	123	27.27%
22	1969	15179.41	123	28.57%
23	2002	14653.72	118	29.87%
24	2008	14493.02	117	31.17%
25	1978	14357.27	116	32.47%
26	1961	14277.22	115	33.77%
27	1990	14071.59	114	35.07%
28	1981	13869.35	112	36.36%
29	2017	13815.7	112	37.66%
30	1999	13703.5	111	38.96%
31	1962	13668.26	111	40.26%
32	1960	13665.16	110	41.56%
33	1953	13628.77	110	42.86%
34	2022	13608.52	110	44.16%
35	1957	13570.88	110	45.46%
36	1970	13564.37	110	46.75%

Rank	Year	Period Volume (KAF)	Percent of Normal	Exceedance Probability'
37	2006	13453.56	109	48.05%
38	2020	13407.29	108	49.35%
39	1955	13368.84	108	50.65%
40	1949	13287.68	107	51.95%
41	1980	12629.85	102	53.25%
42	1952	12255.46	99	54.55%
43	1958	12210.26	99	55.84%
44	1989	12182.15	98	57.14%
45	2009	11911.54	96	58.44%
46	2013	11862.49	96	59.74%
47	1966	11851.28	96	61.04%
48	1979	11650.21	94	62.34%
49	1983	11509.41	93	63.64%
50	1998	11457.08	93	64.94%
51	1984	11361.63	92	66.23%
52	2000	11261.99	91	67.53%
53	1968	10909.84	88	68.83%
54	1985	10889.8	88	70.13%
55	1995	10789.2	87	71.43%
56	1993	10741.98	87	72.73%
57	1963	10665.9	86	74.03%
58	2019	10607.31	86	75.33%
59	2010	10263.56	83	76.62%
60	2003	10212.72	83	77.92%
61	1986	10182.19	82	79.22%
62	2007	9726.4	79	80.52%
63	2016	9641.18	78	81.82%
64	2021	9598.2	78	83.12%
65	2004	9592.94	78	84.42%
66	2023	9393.89	76	85.71%
67	2024	9172.28	74	87.01%
68	2005	8859.09	72	88.31%
69	1987	8327.93	67	89.61%
70	1994	8322.72	67	90.91%
71	1988	8075.48	65	92.21%
72	1973	7464.58	60	93.51%
73	2015	7081.31	57	94.81%
74	1992	7014.3	57	96.10%
75	2001	6910.79	56	97.40%
76	1977	5454.66	44	98.70%

Table from 2/20/2024

As of 2/26/2024, now a little higher (9.476 MAF)

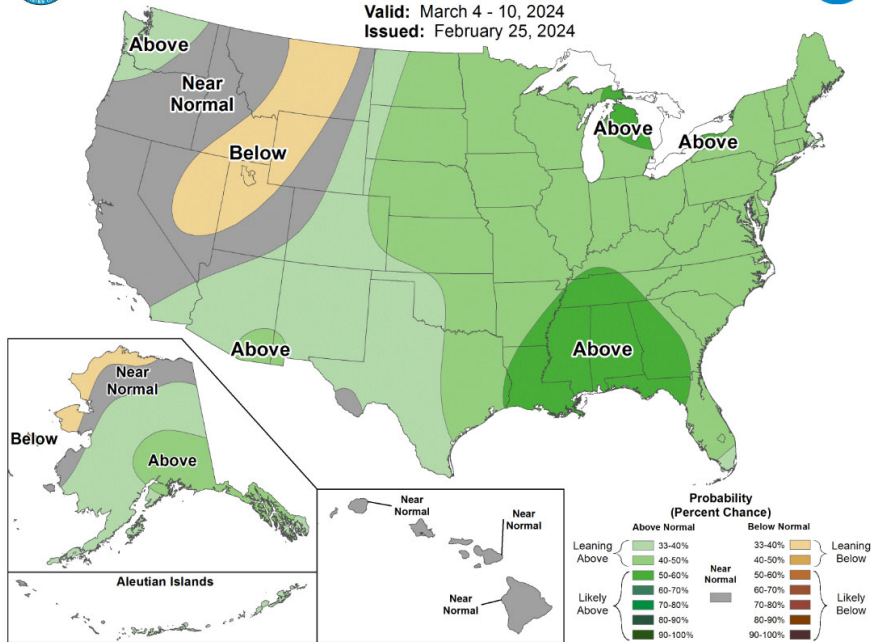


8-14 DAY OUTLOOKS



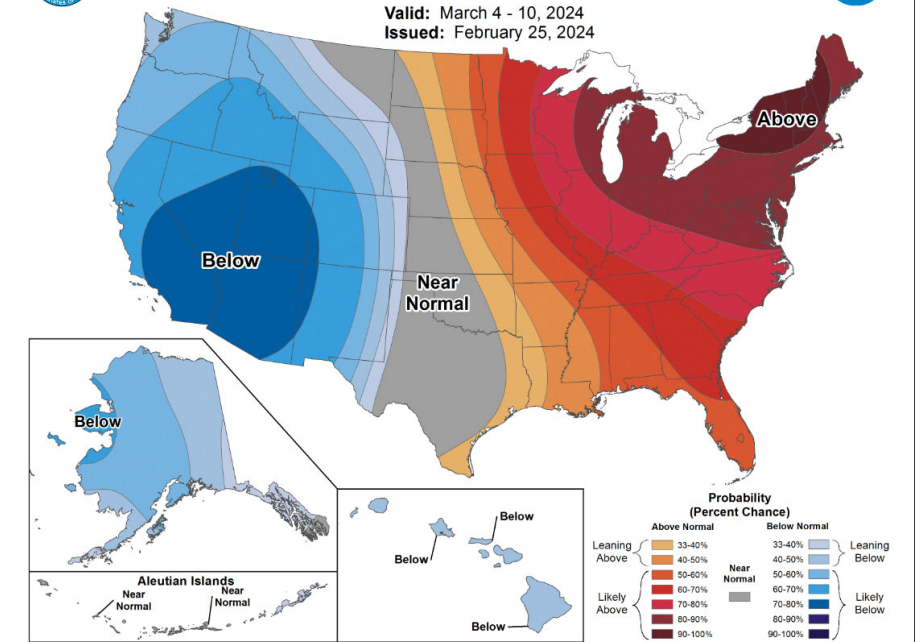
8-14 Day Precipitation Outlook

Valid: March 4 - 10, 2024
Issued: February 25, 2024



8-14 Day Temperature Outlook

Valid: March 4 - 10, 2024
Issued: February 25, 2024

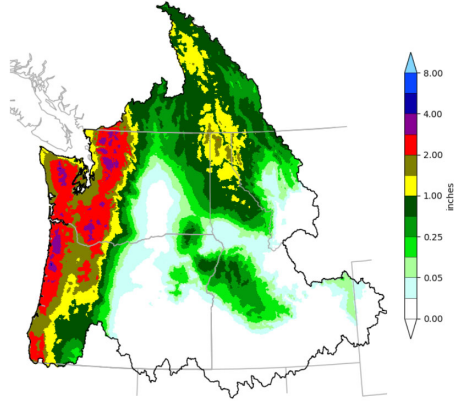




NEXT CHANCE FOR SIGNIFICANT PRECIPITATION

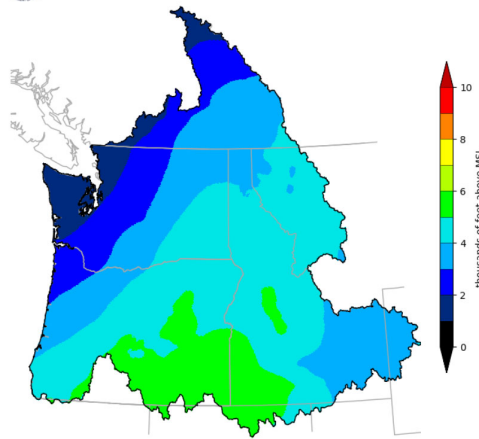


Northwest River Forecast Center
DAY 3 QPF, 24hr Period Ending 12Z, 02/29/24



Creation Time: Mon Feb 26 15:50:33 UTC 2024

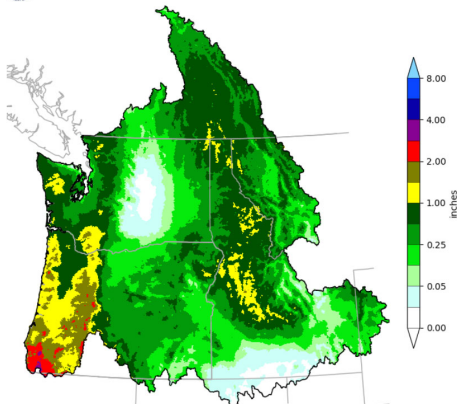
Northwest River Forecast Center
Forecast Snow Level, Ending 12Z, 02/29/24



Creation Time: Mon Feb 26 15:52:24 UTC 2024

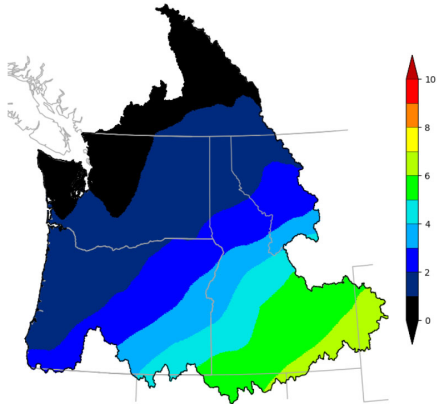
Wednesday

Northwest River Forecast Center
DAY 4 QPF, 24hr Period Ending 12Z, 03/01/24



Creation Time: Mon Feb 26 15:50:34 UTC 2024

Northwest River Forecast Center
Forecast Snow Level, Ending 12Z, 03/01/24



Creation Time: Mon Feb 26 15:52:24 UTC 2024

Thursday



SUMMARY



- Currently low SWE but still time to build snow
- Refill occurs as soon as possible after flood risk has passed
- Use real-time in season evaluation of snowmelt forecasts, storm forecasts, and flood conditions/risk
- Generally, mid-late June and can be earlier if in-season conditions allow (as in early June 2023).



QUESTIONS?

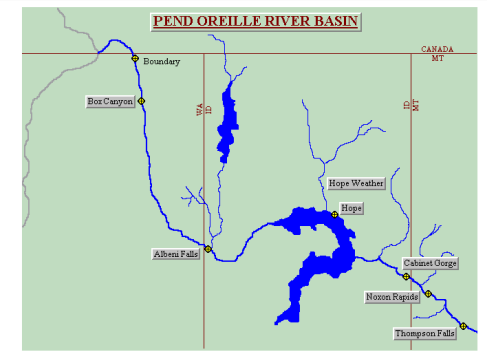
For emails regarding release changes and lake level updates email

- UpperColumbiaWM@usace.army.mil
- Leon.Basdekas@usace.army.mil

General Questions call (206) 764-6702

Seattle District water management data website :

<http://www.nwd-wc.usace.army.mil/nws/hh/www/index.html#>



Stations

Albani Falls	Box Canyon	Cabinet Gorge	Hope
Hope Weather	Noxon	Riley Creek	Riley Creek TA
Windbag Marina	Windbag Marina TA	Thompson Falls	Camp Above Cusick
Camp Above Cusick TA	Summary Hydrograph	Ice Station Images	ESP