

The Official Water Supply Forecasts for January through July are computed on the 3rd workday of the month. Flood Risk Management (FRM) is computed at standard intervals and posted at: [www.nwd.usace.army.mil/Missions/Water/Columbia/FloodControl](http://www.nwd.usace.army.mil/Missions/Water/Columbia/FloodControl)

The **MARCH** Water Supply Forecast sets BiOp actions as highlighted in the table below:

Forecast Point	Forecast period	Forecast	BiOp Actions to be Determined
Hungry Horse	April – August Provided by Reclamation	January, February, <b>March</b>	Sets min. flows at Hungry Horse and Columbia Falls
	May – September Provided by Reclamation	January, February, <b>March</b>	Sets VARQ FRM targets
		April	Sets VARQ FRM targets and VARQ refill flows
		May	Sets VARQ refill flows Sets end of September draft target
		June	Sets VARQ refill flows
The Dalles	April – September Provided by NWRFC	<b>March</b>	Sets CRWMP adjustments at Grand Coulee
	April – August Provided by NWRFC	April	Sets spring flow objective at McNary Dam
		July	Sets end of August draft limit at Grand Coulee
Lower Granite	April – July Provided by NWRFC	April	Sets spring flow objective at Lower Granite
		June	Sets summer flow objective at Lower Granite
Libby	April – August Provided by Corps Seattle District	December	Sets end of December variable draft target
		January, February, <b>March</b>	Sets VARQ FRM targets
		April	Sets VARQ FRM targets and VARQ refill flows
		May	Sets Libby min. sturgeon flow volume and min. bull trout flows for after sturgeon pulse through Sept. Sets VARQ FRM targets and VARQ refill flows Sets end of September draft limit.
		June	VARQ refill flows
Dworshak	April – July Provided by NWRFC	<b>January to March</b>	Manage for reservoir FRM, VDL, and Flood Control Refill Curve (FCRC)
		April to June	Manage for reservoir FRM and FCRC

Source: 2023 Water Management Plan, page 15 - <https://pweb.crohms.org/tmt/documents/wmp/2023/>

## **Hungry Horse Dam – Official Water Supply Forecast MARCH 2023**

Below are the volumes for the MARCH 2023 final forecast for Hungry Horse:

- Mar-Jul: 1,950 kaf (93%)
- Apr-Aug: 1,960 kaf (96%)
- May-Sep: 1,760 kaf (99%)
- May-Jul: 1,634 kaf (98%)

The minimum flows downstream of Hungry Horse for the remainder of the calendar year are as follows:

- Columbia Falls: 3,500 cfs
- Hungry Horse: 900 cfs

**Joel Fenolio, P.E.**

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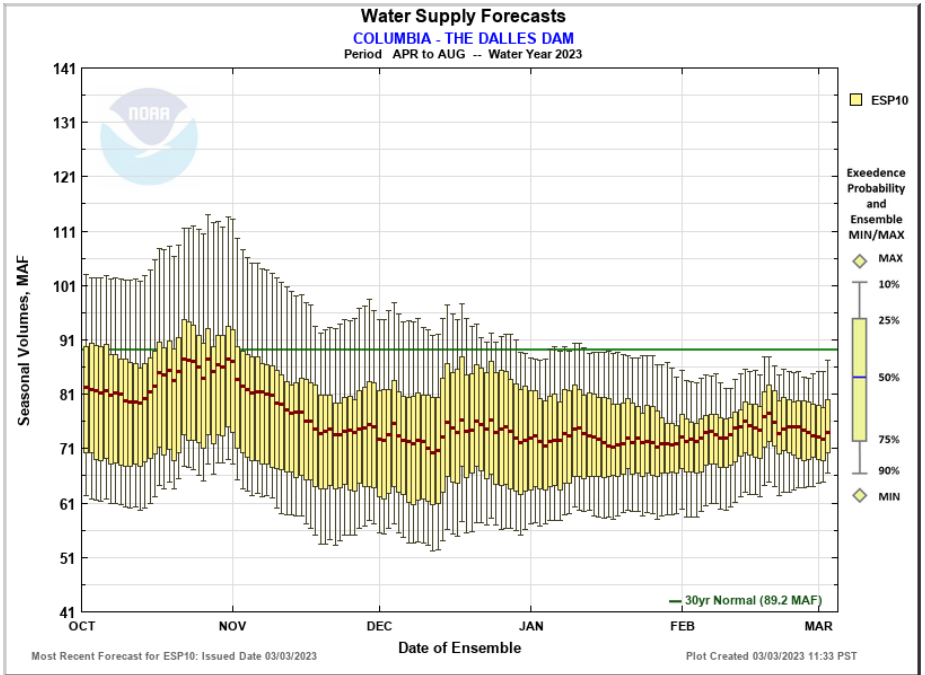
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COLUMBIA - THE DALLES DAM (TDAO3) Forecasts for Water Year 2023					
Official Water Supply					
ESP with 10 Days QPF Ensemble: 2023-03-03 Issued: 2023-03-03					
Forecast Period	Forecasts Are in KAF				30 Year Average (1991-2020)
	90 %	50 %	% Average	10 %	
APR-SEP	70919	78825	84	92601	94166
APR-JUL	61207	67018	82	79453	81933
<b>APR-AUG</b>	<b>66606</b>	<b>74038</b>	<b>83</b>	<b>87402</b>	<b>89196</b>
JAN-SEP	84101	91027	79	105953	115946
JAN-JUL	74276	79768	77	92805	103714
OCT-SEP	94484	101410	77	116336	132314
Experimental Water Supply					
HEFS with 15 days EQPF Ensemble: 2023-03-03 Issued: 2023-03-03					
APR-SEP	70842	81446	86	91626	94166
APR-JUL	59966	69385	85	79015	81933
APR-AUG	65618	76369	86	86562	89196
JAN-SEP	84001	93823	81	106642	115946
JAN-JUL	73298	82490	80	94091	103714
OCT-SEP	94384	104206	79	117026	132314
Reference					
ESP with 0 Days QPF Ensemble: 2023-03-03 Issued: 2023-03-03					
APR-SEP	69895	81102	86	92148	94166
APR-JUL	58652	69239	85	79328	81933
APR-AUG	64573	75858	85	86767	89196
JAN-SEP	83518	94682	82	107144	115946
JAN-JUL	73129	82979	80	93977	103714
OCT-SEP	93901	105066	79	117528	132314

Move the mouse over the desired "Forecast Period" to display a graph.



Most Recent Forecast for ESP10: Issued Date 03/03/2023  
 Max Scale  Scale To Data  Scale To Last 45 Days  Show Min/Max Ensemble Volume  Show Tooltips Help

**Overlay**

ESP10  HEFS  ESPO

**Data Files**

CSV (ESP10 / APR-AUG)

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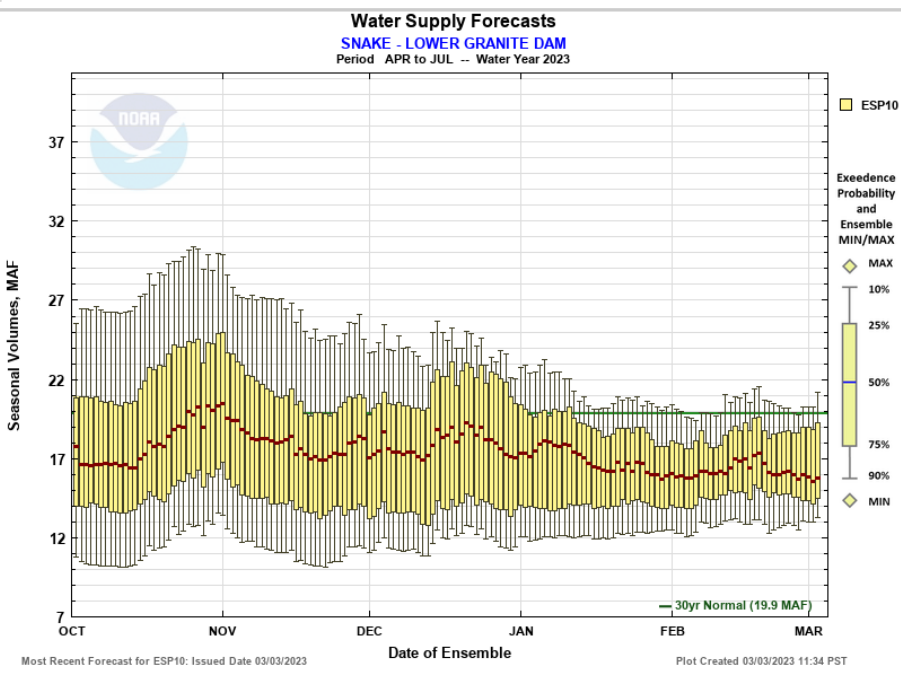
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SNAKE - LOWER GRANITE DAM (LGDW1) Forecasts for Water Year 2023					
Official Water Supply					
ESP with 10 Days QPF Ensemble: 2023-03-03 Issued: 2023-03-03					
Forecast Period	Forecasts Are in KAF				30 Year Average (1991-2020)
	90 %	50 %	% Average	10 %	
APR-SEP	15542	18265	82	23815	22232
<b>APR-JUL</b>	<b>13424</b>	<b>15923</b>	<b>80</b>	<b>21311</b>	<b>19946</b>
APR-AUG	14492	17126	81	22603	21121
JAN-SEP	20252	22801	77	28596	29736
JAN-JUL	18192	20494	75	26064	27450
OCT-SEP	23721	26270	77	32065	34287
Experimental Water Supply					
HEFS with 15 days EQPF Ensemble: 2023-03-03 Issued: 2023-03-03					
APR-SEP	15478	19339	87	24332	22232
APR-JUL	13410	17038	85	21493	19946
APR-AUG	14428	18232	86	23009	21121
JAN-SEP	19978	24179	81	29365	29736
JAN-JUL	17956	21728	79	26526	27450
OCT-SEP	23448	27649	81	32834	34287
Reference					
ESP with 0 Days QPF Ensemble: 2023-03-03 Issued: 2023-03-03					
APR-SEP	15080	18557	83	23879	22232
APR-JUL	13048	16197	81	21065	19946
APR-AUG	14051	17429	83	22567	21121
JAN-SEP	19761	23899	80	28854	29736
JAN-JUL	17743	21430	78	26237	27450
OCT-SEP	23231	27368	80	32323	34287

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Most Recent Forecast for ESP10: Issued Date 03/03/2023  
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Libby : March Runoff Forecast & Flood Risk Management Calculation

WY 2023

Runoff Forecast	March	1991-2020 Average	1991 - 2020 Percent of Average	1929-2020 Average	1929 - 2020 Percent of Average
Most Probable Runoff Volume: Apr-Aug (kaf)	5298	6080	87%	6259	85%
Most Probable Runoff Volume: Apr-Jul (kaf)	4854	5570	87%	5708	85%
Most Probable Runoff Volume: May-Jul (kaf)	4369	5014	87%	5183	84%

Flood Risk Management	March
31-March Flood Risk Management Space (kaf)	1821
31-March Flood Risk Management Elevation (ft)	2415.9

Forecast/Reservoir Data	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Apr-Aug Runoff Forecast (kaf)		5692	6061	5071	5298			
First-of-Month Elev (ft)	2448.0	2435.9	2419.3	2409.0	2405.7			

Seasonal FRM Requirements	30-Nov	31-Dec	31-Jan	28-Feb	31-Mar	30-Apr		
Flood Risk Management Space (kaf)	500	1689	2054	1678	1821			
Flood Risk Management Elevation (ft)	2448.0	2419.3	2409.5	2419.6	2415.9			

THIS IS A PRELIMINARY POSTING WHILE WAITING FOR FINAL DOCUMENTATION, VALUES ARE CORRECT.



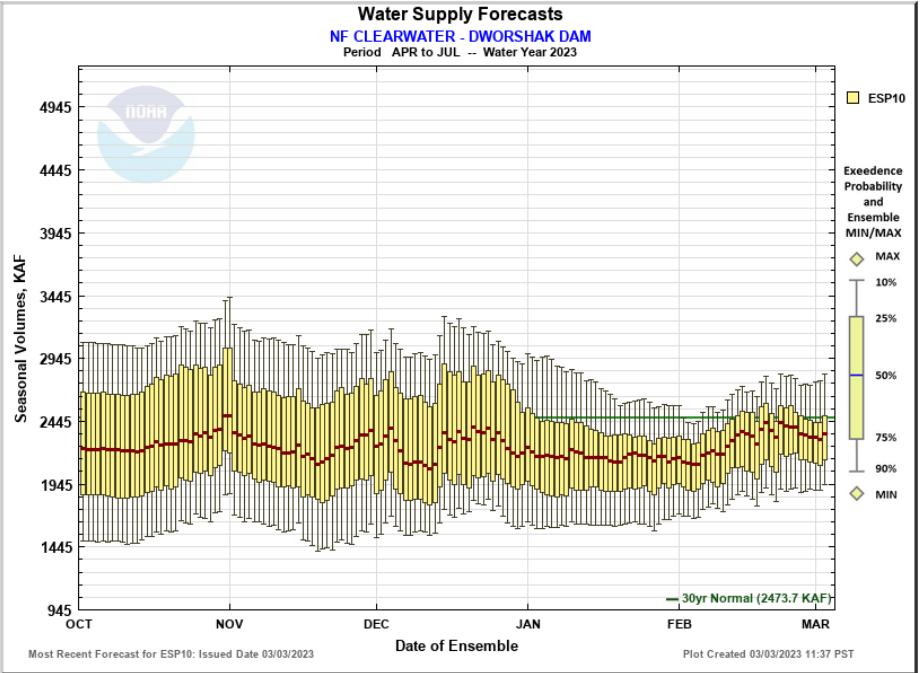
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NF CLEARWATER - DWORSHAK DAM (DWR11) Forecasts for Water Year 2023					
Official Water Supply					
ESP with 10 Days QPF Ensemble: 2023-03-03 Issued: 2023-03-03					
Forecast Period	Forecasts Are in KAF				30 Year Average (1991-2020)
	90 %	50 %	% Average	10 %	
APR-SEP	2056	2478	95	2961	2620
<b>APR-JUL</b>	<b>1944</b>	<b>2344</b>	<b>95</b>	<b>2826</b>	<b>2474</b>
JAN-SEP	2659	2988	84	3554	3543
JAN-JUL	2545	2864	84	3414	3397
OCT-SEP	2952	3280	82	3846	3998
Experimental Water Supply					
HEFS with 15 days EQPF Ensemble: 2023-03-03 Issued: 2023-03-03					
APR-SEP	2062	2580	98	2989	2620
APR-JUL	1934	2436	98	2839	2474
JAN-SEP	2662	3078	87	3586	3543
JAN-JUL	2551	2933	86	3431	3397
OCT-SEP	2955	3370	84	3878	3998
Reference					
ESP with 0 Days QPF Ensemble: 2023-03-03 Issued: 2023-03-03					
APR-SEP	2001	2529	97	2901	2620
APR-JUL	1871	2372	96	2755	2474
JAN-SEP	2632	3122	88	3628	3543
JAN-JUL	2523	2997	88	3462	3397
OCT-SEP	2924	3414	85	3920	3998

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