

The Official WSF is computed on the 3rd work day of the month, January through July, using the 5-day QPF 50% exceedance value. FRM is computed at standard intervals and posted online at: <http://www.nwd.usace.army.mil/Missions/Water/Columbia/FloodControl>

**The JULY 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, March Final	Sets min. flows at Hungry Horse and Columbia Falls
	May – September Provided by Reclamation	January, February, March Final	Sets VARQ FRM targets
		April Final	Sets VARQ FRM targets and VARQ refill flows
		May, June Final	Sets VARQ refill flows
The Dalles	April – September Provided by NWRFC	March Final	Sets CRWMP adjustments at Grand Coulee
	April – August Provided by NWRFC	April Final	Sets spring flow objective at McNary Dam
		May Final	Sets end of September draft limits at Hungry Horse and Libby
		July Final	Sets end of August draft limit at Grand Coulee
Lower Granite	April – July Provided by NWRFC	April Final	Sets spring flow objective at Lower Granite
		June Final	Sets summer flow objective at Lower Granite
Libby	April – August Provided by Corps Seattle District	December Final	Sets end of December variable draft target
		January, February, March Final	Sets VARQ FRM targets
		April Final	Sets VARQ FRM targets and VARQ refill flows
		May Final	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
		June Final	VARQ refill flows
Dworshak	April – July Provided by Corps Walla Walla District	January to June Final	Manage for reservoir FRM and refill



# Northwest River Forecast Center Water Supply Forecasts

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## SF FLATHEAD - HUNGRY HORSE DAM (HHWM8) Forecasts for Water Year 2018

### Official Forecast

10 days QPF: Ensemble: 2018-07-05 Issued: 2018-07-05

Forecast Period	Forecasts Are in KAF				30 Year Average (1981-2010)
	90 %	50 %	% Average	10 %	
APR-SEP	2911	2929	147	2977	1988
APR-JUL	2804	2808	150	2819	1871
APR-AUG	2867	2877	149	2906	1936
JAN-SEP	3175	3193	144	3241	2215
JAN-JUL	3068	3072	146	3083	2098
OCT-SEP	3427	3445	141	3493	2447

5 days QPF: Ensemble: 2018-07-05 Issued: 2018-07-05

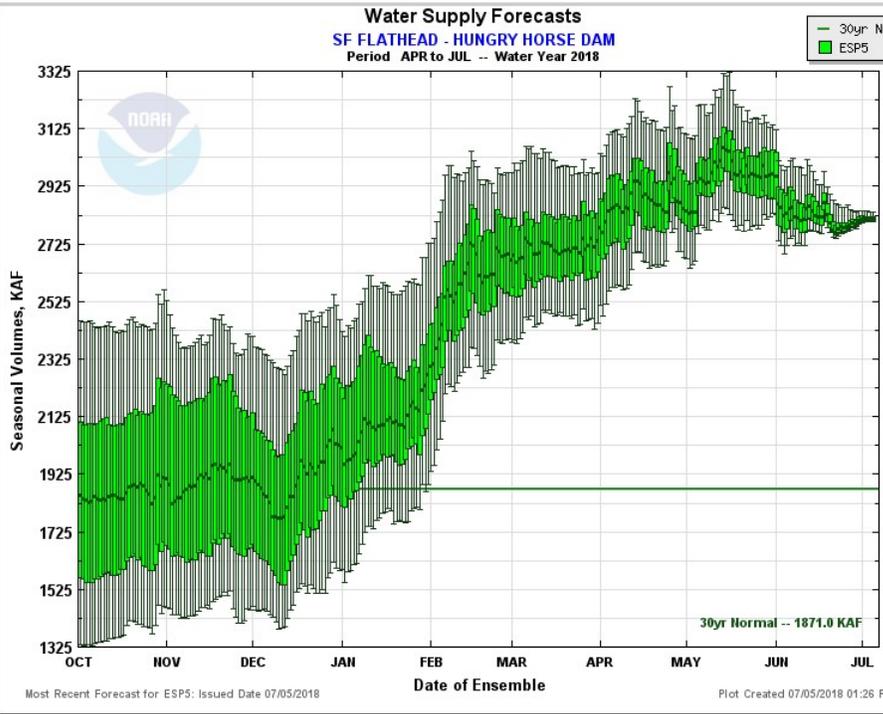
Forecast Period	Forecasts Are in KAF				30 Year Average (1981-2010)
	90 %	50 %	% Average	10 %	
APR-SEP	2913	2934	148	2998	1988
APR-JUL	2803	2812	150	2836	1871
APR-AUG	2869	2884	149	2924	1936
JAN-SEP	3177	3198	144	3262	2215
JAN-JUL	3067	3076	147	3100	2098
OCT-SEP	3430	3450	141	3514	2447

0 days QPF: Ensemble: 2018-07-05 Issued: 2018-07-05

Forecast Period	Forecasts Are in KAF				30 Year Average (1981-2010)
	90 %	50 %	% Average	10 %	
APR-SEP	2914	2941	148	3023	1988
APR-JUL	2800	2814	150	2850	1871
APR-AUG	2868	2887	149	2936	1936
JAN-SEP	3178	3205	145	3287	2215
JAN-JUL	3064	3078	147	3114	2098
OCT-SEP	3430	3458	141	3540	2447

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

## Water Supply Forecasts SF FLATHEAD - HUNGRY HORSE DAM Period APR to JUL -- Water Year 2018



### Overlay

ESP10 **ESP5** ESP0

### Data Files

CSV (ESP5 / APR-AUG)

Forecast Ensemble



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## COLUMBIA - THE DALLES DAM (TDAO3) Forecasts for Water Year 2018

**Official Forecast**  
10 days QPF: Ensemble: 2018-07-05 Issued: 2018-07-05

Forecast Period	Forecasts Are in KAF				30 Year Average (1981-2010)
	90 %	50 %	Average	10 %	
APR-SEP	107334	108411	117	110454	92704
APR-JUL	95620	95982	120	96485	79855
APR-AUG	102433	103218	118	104261	87532
JAN-SEP	130586	131662	115	133706	114216
JAN-JUL	118872	119234	118	119737	101368
OCT-SEP	146802	147878	113	149922	130518

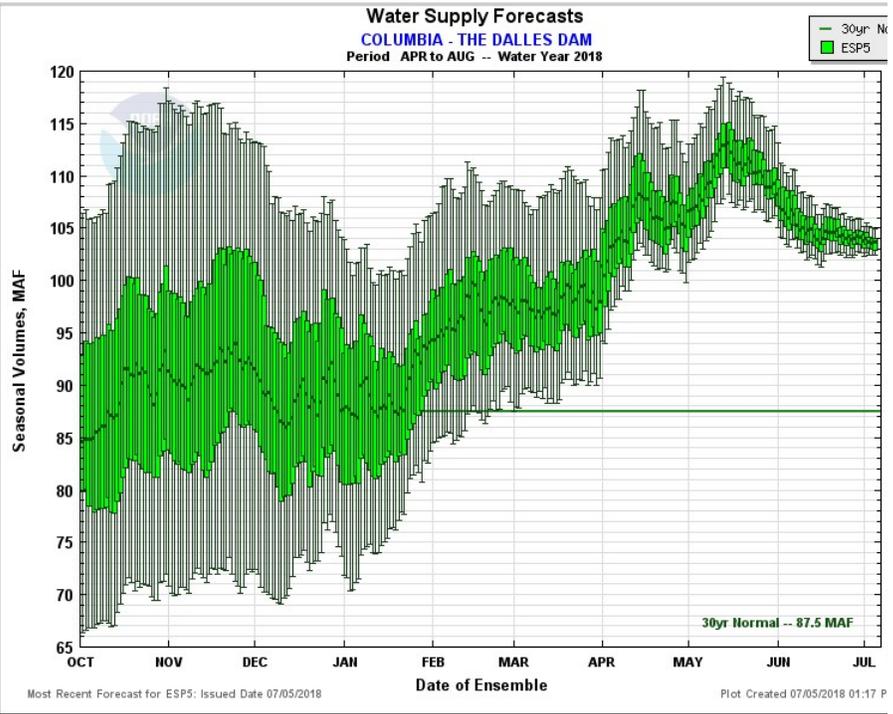
5 days QPF: Ensemble: 2018-07-05 Issued: 2018-07-05

APR-SEP	107562	108768	117	111417	92704
APR-JUL	95622	96226	121	96833	79855
APR-AUG	102473	103652	118	104937	87532
JAN-SEP	130814	132020	116	134669	114216
JAN-JUL	118873	119478	118	120085	101368
OCT-SEP	147030	148236	114	150885	130518

0 days QPF: Ensemble: 2018-07-05 Issued: 2018-07-05

APR-SEP	107309	109151	118	111782	92704
APR-JUL	95371	96422	121	97112	79855
APR-AUG	102293	103760	119	105465	87532
JAN-SEP	130560	132403	116	135034	114216
JAN-JUL	118623	119674	118	120364	101368
OCT-SEP	146777	148619	114	151250	130518

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



- Max Scale
- Scale To Data
- Scale To Last 45 Days

**Overlay**

ESP10 **ESP5** ESP0

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**Data Files**

CSV (ESP5 / APR-AUG)

Forecast Ensemble



# Northwest River Forecast Center Water Supply Forecasts

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**SNAKE - LOWER GRANITE DAM (LGDW1)**  
Forecasts for Water Year 2018

**Official Forecast**  
10 days QPF: Ensemble: 2018-07-05 Issued: 2018-07-05

Forecast Period	Forecasts Are in KAF				30 Year Average (1981-2010)
	90 %	50 %	% Average	10 %	
APR-SEP	25678	25728	115	25898	22279
APR-JUL	23189	23198	117	23231	19848
APR-AUG	24425	24456	116	24541	21091
JAN-SEP	34292	34342	115	34512	29872
JAN-JUL	31803	31812	116	31846	27440
OCT-SEP	39509	39559	114	39729	34667

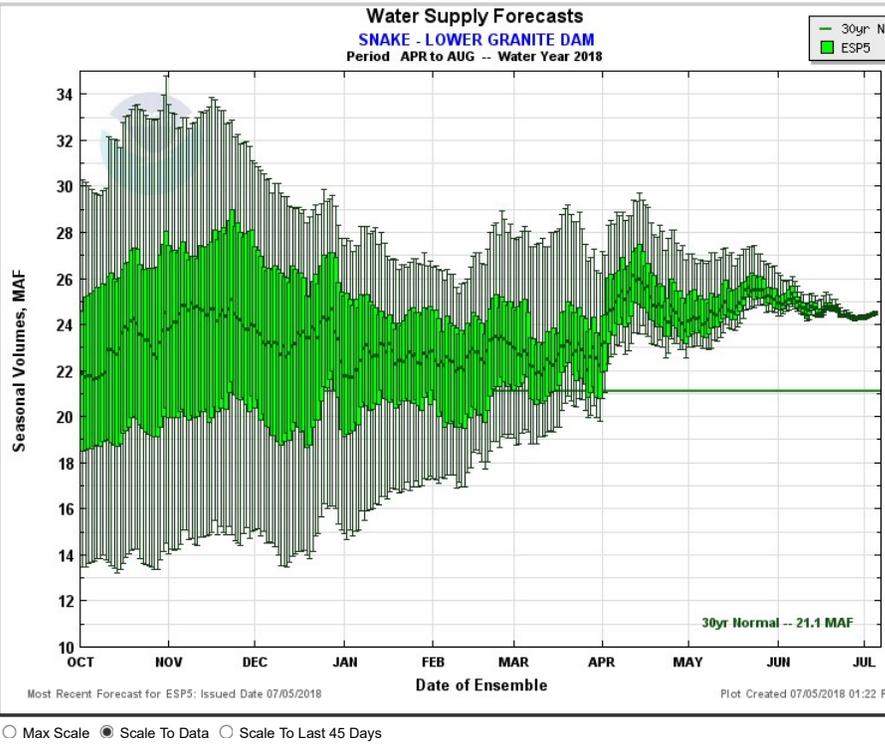
5 days QPF: Ensemble: 2018-07-05 Issued: 2018-07-05

APR-SEP	25692	25739	116	25957	22279
APR-JUL	23191	23208	117	23264	19848
APR-AUG	24429	24466	116	24573	21091
JAN-SEP	34306	34354	115	34572	29872
JAN-JUL	31805	31822	116	31878	27440
OCT-SEP	39523	39570	114	39789	34667

0 days QPF: Ensemble: 2018-07-05 Issued: 2018-07-05

APR-SEP	25692	25762	116	25980	22279
APR-JUL	23189	23224	117	23324	19848
APR-AUG	24427	24482	116	24642	21091
JAN-SEP	34306	34376	115	34594	29872
JAN-JUL	31803	31838	116	31938	27440
OCT-SEP	39523	39593	114	39811	34667

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



**Overlay**

ESP10 **ESP5** ESP0

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**Data Files**

CSV (ESP5 / APR-JUL)

Forecast Ensemble



# Northwest River Forecast Center Water Supply Forecasts

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**KOOTENAI - LIBBY DAM (LYDM8)**  
Forecasts for Water Year 2018

**Official Forecast**

10 days QPF: Ensemble: 2018-07-05 Issued: 2018-07-05

Forecast Period	Forecasts Are in KAF				30 Year Average (1981-2010)
	90 %	50 %	% Average	10 %	
APR-SEP	6636	6715	107	6989	6254
APR-JUL	5864	5881	110	5941	5342
APR-AUG	6335	6372	108	6556	5885
JAN-SEP	7223	7302	106	7575	6914
JAN-JUL	6451	6468	108	6528	6002
OCT-SEP	7950	8030	103	8303	7806

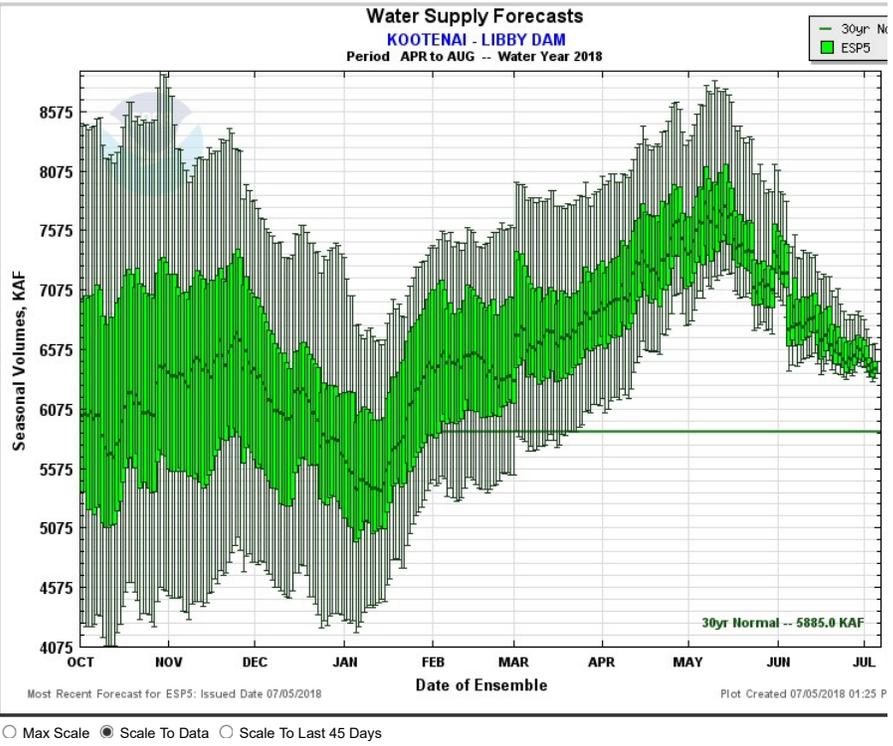
5 days QPF: Ensemble: 2018-07-05 Issued: 2018-07-05

APR-SEP	6650	6777	108	7041	6254
APR-JUL	5869	5903	111	6041	5342
APR-AUG	6337	6414	109	6626	5885
JAN-SEP	7237	7364	107	7627	6914
JAN-JUL	6456	6490	108	6628	6002
OCT-SEP	7964	8091	104	8355	7806

0 days QPF: Ensemble: 2018-07-05 Issued: 2018-07-05

APR-SEP	6659	6846	109	7159	6254
APR-JUL	5873	5966	112	6137	5342
APR-AUG	6343	6483	110	6763	5885
JAN-SEP	7246	7433	108	7746	6914
JAN-JUL	6460	6553	109	6724	6002
OCT-SEP	7973	8160	105	8473	7806

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



**Overlay**

ESP10 **ESP5** ESP0

**Data Files**

CSV (ESP5 / APR-AUG)

Forecast Ensemble



# Northwest River Forecast Center Water Supply Forecasts

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## NF CLEARWATER - DWORSHAK DAM (DWRI1) Forecasts for Water Year 2018

**Official Forecast**  
10 days QPF: Ensemble: 2018-07-05 Issued: 2018-07-05

Forecast Period	Forecasts Are in KAF				30 Year Average (1981-2010)
	90 %	50 %	% Average	10 %	
APR-SEP	3150	3156	123	3202	2575
APR-JUL	3019	3020	125	3027	2419
JAN-SEP	4351	4357	126	4403	3445
JAN-JUL	4220	4220	128	4228	3289
OCT-SEP	4859	4865	125	4911	3891

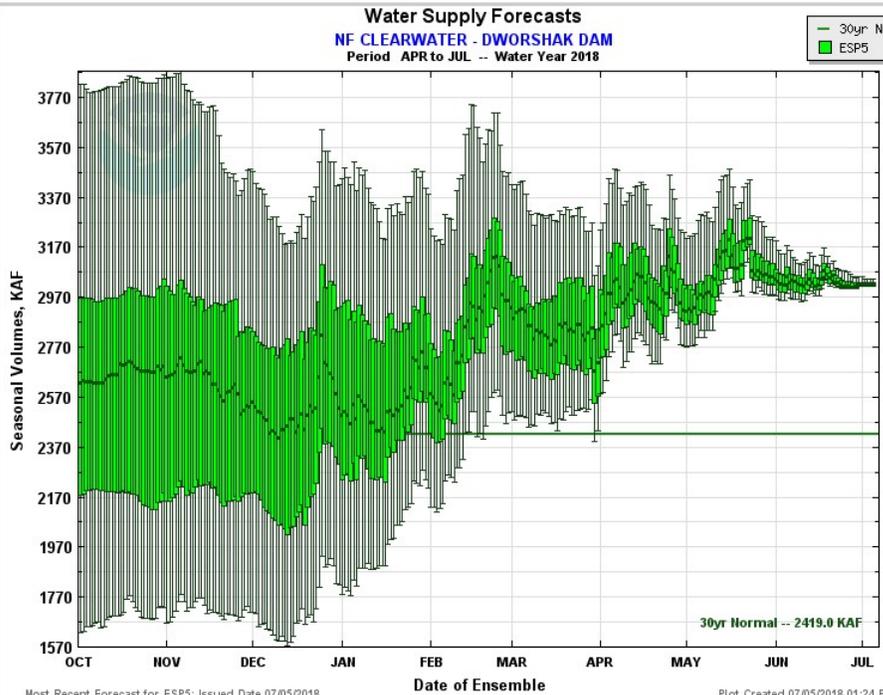
5 days QPF: Ensemble: 2018-07-05 Issued: 2018-07-05

Forecast Period	Forecasts Are in KAF				30 Year Average (1981-2010)
	90 %	50 %	% Average	10 %	
APR-SEP	3151	3158	123	3216	2575
APR-JUL	3019	3020	125	3041	2419
JAN-SEP	4352	4359	127	4416	3445
JAN-JUL	4220	4221	128	4242	3289
OCT-SEP	4860	4867	125	4924	3891

0 days QPF: Ensemble: 2018-07-05 Issued: 2018-07-05

Forecast Period	Forecasts Are in KAF				30 Year Average (1981-2010)
	90 %	50 %	% Average	10 %	
APR-SEP	3151	3162	123	3225	2575
APR-JUL	3019	3024	125	3057	2419
JAN-SEP	4352	4363	127	4426	3445
JAN-JUL	4220	4224	128	4257	3289
OCT-SEP	4860	4871	125	4934	3891

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



Max Scale Scale To Data Scale To Last 45 Days

**Overlay**

ESP10 **ESP5** ESP0

**Data Files**

CSV (ESP5 / APR-JUL)

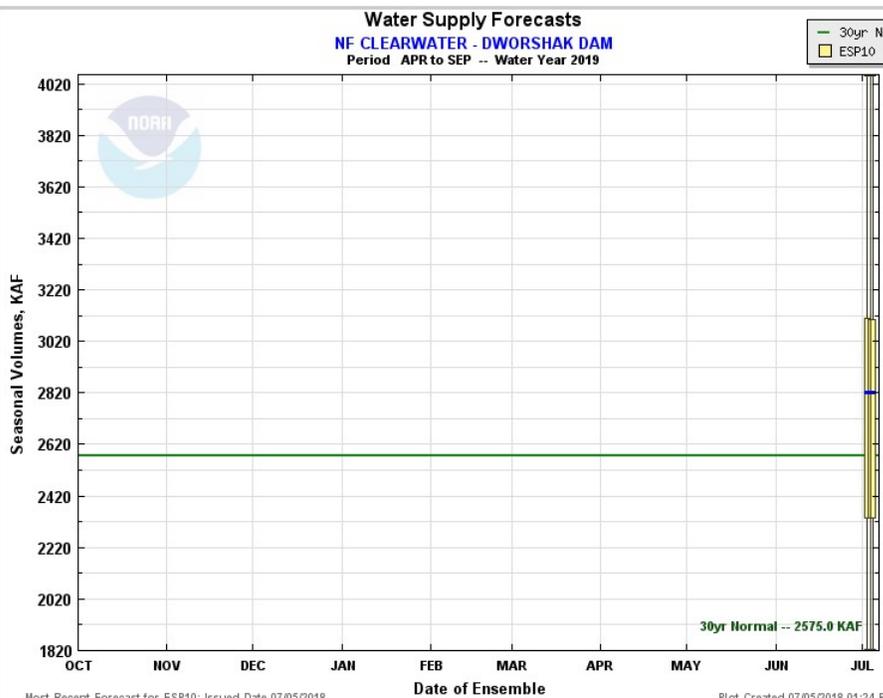
Forecast Ensemble

## NF CLEARWATER - DWORSHAK DAM (DWRI1) Forecasts for Water Year 2019

**Official Forecast**  
10 days QPF: Ensemble: 2018-07-05 Issued: 2018-07-05

Forecast Period	Forecasts Are in KAF				30 Year Average (1981-2010)
	90 %	50 %	% Average	10 %	
APR-SEP	1825	2822	110	4051	2575
APR-JUL	1696	2677	111	3843	2419
JAN-JUL	2383	3490	106	4785	3289
OCT-SEP	2761	4045	104	5677	3891

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



Max Scale Scale To Data Scale To Last 45 Days



# Northwest River Forecast Center Water Supply Forecasts

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**COLUMBIA - GRAND COULEE DAM (GCDW1)**  
Forecasts for Water Year 2018

**Official Forecast**  
10 days QPF: Ensemble: 2018-07-05 Issued: 2018-07-05

Forecast Period	Forecasts Are in KAF				30 Year Average (1981-2010)
	90 %	50 %	% Average	10 %	
APR-SEP	69771	70781	118	72662	60110
APR-JUL	61654	61995	122	62522	51015
APR-AUG	66631	67425	119	68405	56763
JAN-SEP	78944	79953	116	81835	68694
JAN-JUL	70827	71168	119	71695	59599
OCT-SEP	86362	87372	114	89253	76824

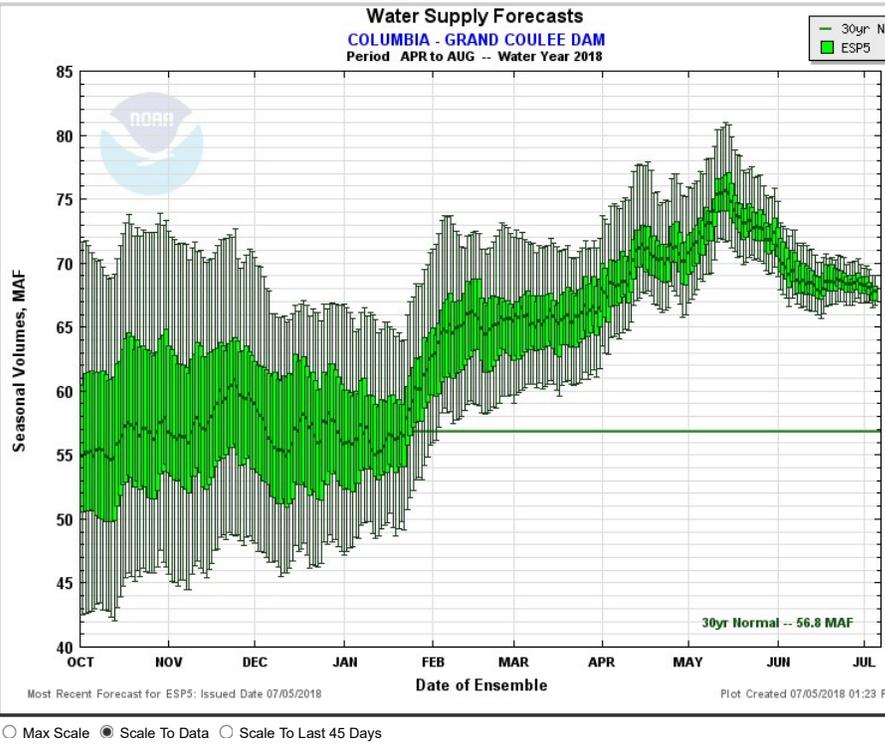
5 days QPF: Ensemble: 2018-07-05 Issued: 2018-07-05

APR-SEP	69951	71074	118	73473	60110
APR-JUL	61659	62185	122	62817	51015
APR-AUG	66717	67778	119	69049	56763
JAN-SEP	79124	80247	117	82646	68694
JAN-JUL	70832	71357	120	71990	59599
OCT-SEP	86542	87665	114	90065	76824

0 days QPF: Ensemble: 2018-07-05 Issued: 2018-07-05

APR-SEP	69773	71522	119	73894	60110
APR-JUL	61440	62416	122	63149	51015
APR-AUG	66522	67930	120	69407	56763
JAN-SEP	78946	80695	117	83066	68694
JAN-JUL	70613	71589	120	72321	59599
OCT-SEP	86364	88114	115	90485	76824

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



**Overlay**

ESP10 **ESP5** ESPO

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**Data Files**

CSV (ESP5 / APR-AUG)

Forecast Ensemble



# Northwest River Forecast Center Water Supply Forecasts

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## PEND OREILLE - ALBENI FALLS DAM (ALFW1) Forecasts for Water Year 2018

**Official Forecast**  
10 days QPF: Ensemble: 2018-07-05 Issued: 2018-07-05

Forecast Period	Forecasts Are in KAF				30 Year Average (1981-2010)
	90 %	50 %	% Average	10 %	
APR-SEP	18362	18438	144	18674	12815
APR-JUL	17147	17160	146	17208	11777
APR-AUG	17819	17861	145	17981	12354
JAN-SEP	21109	21185	139	21421	15226
JAN-JUL	19893	19906	140	19954	14189
OCT-SEP	23292	23368	136	23604	17218

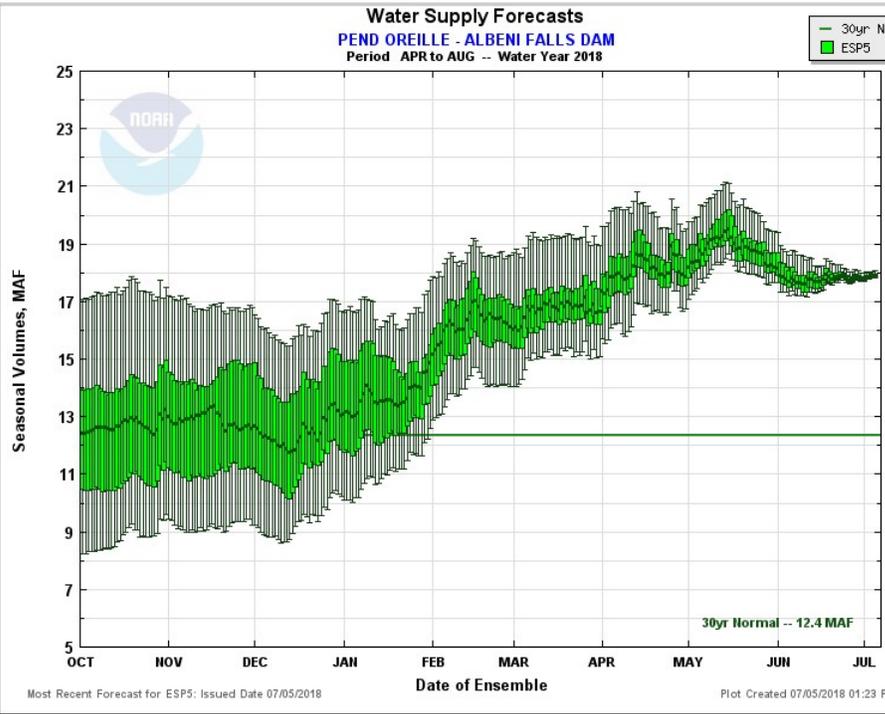
5 days QPF: Ensemble: 2018-07-05 Issued: 2018-07-05

APR-SEP	18373	18477	144	18764	12815
APR-JUL	17149	17181	146	17261	11777
APR-AUG	17826	17889	145	18051	12354
JAN-SEP	21120	21224	139	21511	15226
JAN-JUL	19896	19928	140	20008	14189
OCT-SEP	23303	23407	136	23694	17218

0 days QPF: Ensemble: 2018-07-05 Issued: 2018-07-05

APR-SEP	18391	18537	145	18891	12815
APR-JUL	17144	17208	146	17304	11777
APR-AUG	17839	17937	145	18114	12354
JAN-SEP	21138	21284	140	21638	15226
JAN-JUL	19891	19955	141	20051	14189
OCT-SEP	23321	23467	136	23821	17218

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



Max Scale  Scale To Data  Scale To Last 45 Days

**Overlay**

ESP10 **ESP5** ESP0

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**Data Files**

CSV (ESP5 / APR-AUG)

Forecast Ensemble