

The Official Water Supply Forecasts for January through July are computed on the 3rd workday of the month. Flood Risk Management (FRM) requirements are computed at standard intervals and posted at: <https://www.nwd.usace.army.mil/CRWM/Forecasts/>

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	Sets min. flows at Hungry Horse and Columbia Falls
	May – September Provided by Reclamation	January, February, March	Sets VARQ FRM targets
		April	Sets VARQ FRM targets Sets 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	March	Sets CRWMP adjustments at Grand Coulee
	April – August Provided by NWRFC	April	Sets spring flow objective at McNary
		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, March	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 Corps Walla Walla District	January to March	Manage for reservoir FRM and VDL
		April to June	Manage for reservoir FRM and refill

Source: 2021 Water Management Plan, page 15:
<http://pweb.crohms.org/tmt/documents/wmp/2021/>



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Choose Date: 07/06/2021

Archive: Water Year

SF FLATHEAD - HUNGRY HORSE DAM (HHWM8)

Forecasts for Water Year 2021

Official Water Supply

ESP with 10 Days QPF Ensemble: 2021-07-06 Issued: 2021-07-06

Forecast Period	Forecasts Are in KAF				30 Year Average (1981-2010)
	90 %	50 %	% Average	10 %	
APR-SEP	1928	1934	97	1955	1988
APR-JUL	1840	1840	98	1840	1871
APR-AUG	1890	1893	98	1901	1936
JAN-SEP	2178	2183	99	2205	2215
JAN-JUL	2089	2089	100	2089	2098
OCT-SEP	2461	2466	101	2488	2447

Experimental Water Supply

HEFS with 15 days EQPF Ensemble: 2021-07-06 Issued: 2021-07-06

APR-SEP	1929	1934	97	1955	1988
APR-JUL	1840	1840	98	1840	1871
APR-AUG	1890	1893	98	1900	1936
JAN-SEP	2179	2184	99	2205	2215
JAN-JUL	2089	2089	100	2089	2098
OCT-SEP	2461	2467	101	2488	2447

Reference

ESP with 0 Days QPF Ensemble: 2021-07-06 Issued: 2021-07-06

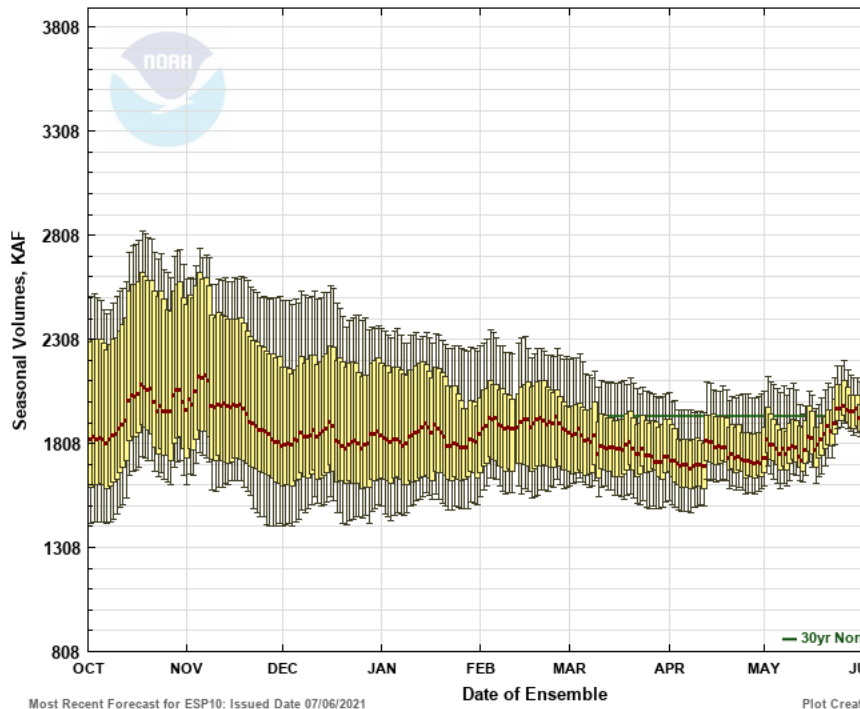
APR-SEP	1930	1937	97	1964	1988
APR-JUL	1840	1840	98	1842	1871
APR-AUG	1891	1895	98	1904	1936
JAN-SEP	2180	2187	99	2214	2215
JAN-JUL	2089	2089	100	2092	2098
OCT-SEP	2463	2470	101	2496	2447

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

Water Supply Forecasts

SF FLATHEAD - HUNGRY HORSE DAM

Period APR to AUG -- Water Year 2021



☐ Max Scale
 ☒ Scale To Data
 ☐ Scale To Last 45 Days
 ☐ Show Min/Max Ensemble Volume
 ☐ Show Tooltips

Overlay

ESP10

HEFS

ESPO

Data Files

CSV (ESP10 / APR-AUG)

Forecast Ensemble

SF FLATHEAD - HUNGRY HORSE DAM (HHWM8)

Forecasts for Water Year 2022

Official Water Supply

ESP with 10 Days QPF Ensemble: 2021-07-06 Issued: 2021-07-06

Forecast Period	Forecasts Are in KAF				30 Year Average (1981-2010)
	90 %	50 %	% Average	10 %	
APR-SEP	1455	1899	96	2616	1988
APR-JUL	1374	1740	93	2471	1871
APR-AUG	1418	1807	93	2569	1936
JAN-SEP	1690	2156	97	2804	2215
JAN-JUL	1612	2002	95	2659	2098
OCT-SEP	1869	2359	96	3167	2447

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COLUMBIA - THE DALLES DAM (TDAO3)

Forecasts for Water Year 2021

Official Water Supply

ESP with 10 Days QPF Ensemble: 2021-07-06 Issued: 2021-07-06

Forecast Period	Forecasts Are in KAF				30 Year Average (1981-2010)
	90 %	50 %	% Average	10 %	
APR-SEP	77037	77798	84	79204	92704
APR-JUL	66884	67143	84	67521	79855
APR-AUG	72768	73301	84	73976	87532
JAN-SEP	93270	94030	82	95437	114216
JAN-JUL	83116	83376	82	83753	101368
OCT-SEP	108440	109200	84	110607	130518

Experimental Water Supply

HEFS with 15 days EQPF Ensemble: 2021-07-06 Issued: 2021-07-06

APR-SEP	77085	77625	84	79436	92704
APR-JUL	66757	67163	84	67646	79855
APR-AUG	72758	73149	84	74107	87532
JAN-SEP	93317	93858	82	95668	114216
JAN-JUL	82990	83396	82	83878	101368
OCT-SEP	108488	109028	84	110838	130518

Reference

ESP with 0 Days QPF Ensemble: 2021-07-06 Issued: 2021-07-06

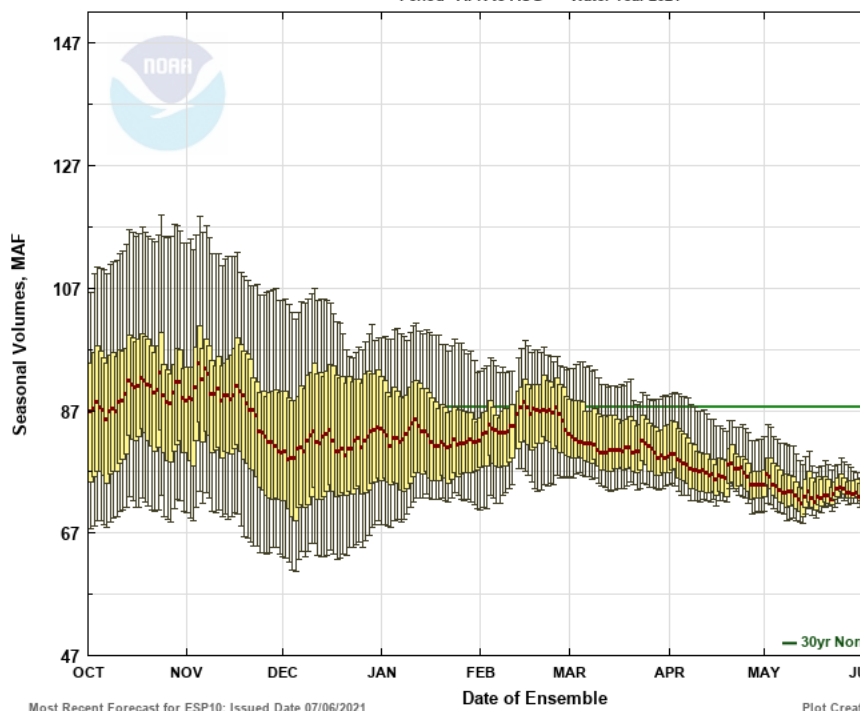
APR-SEP	76951	78047	84	80460	92704
APR-JUL	66600	67250	84	67737	79855
APR-AUG	72655	73445	84	74653	87532
JAN-SEP	93183	94279	83	96693	114216
JAN-JUL	82833	83482	82	83970	101368
OCT-SEP	108354	109450	84	111863	130518

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

Water Supply Forecasts

COLUMBIA - THE DALLES DAM

Period APR to AUG -- Water Year 2021



☐ Max Scale ☒ Scale To Data ☐ Scale To Last 45 Days ☐ Show Min/Max Ensemble Volume ☐ Show Tooltips He

Overlay

ESP10

HEFS

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CSV (ESP10 / APR-AUG)

Forecast Ensemble

COLUMBIA - THE DALLES DAM (TDAO3)

Forecasts for Water Year 2022

Official Water Supply

ESP with 10 Days QPF Ensemble: 2021-07-06 Issued: 2021-07-06

Forecast Period	Forecasts Are in KAF				30 Year Average (1981-2010)
	90 %	50 %	% Average	10 %	
APR-SEP	65970	89336	96	113739	92704
APR-JUL	56529	76425	96	95413	79855
APR-AUG	62276	84297	96	106282	87532
JAN-SEP	81331	107521	94	136681	114216
JAN-JUL	71048	94040	93	118656	101368
OCT-SEP	94921	121836	93	153013	130518

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SNAKE - LOWER GRANITE DAM (LGDW1)

Forecasts for Water Year 2021

Official Water Supply

ESP with 10 Days QPF Ensemble: 2021-07-06 Issued: 2021-07-06

Forecast Period	Forecasts Are in KAF				30 Year Average (1981-2010)
	90 %	50 %	% Average	10 %	
APR-SEP	15298	15379	69	15594	22279
APR-JUL	13247	13256	67	13272	19848
APR-AUG	14264	14309	68	14402	21091
JAN-SEP	20575	20656	69	20871	29872
JAN-JUL	18525	18534	68	18550	27440
OCT-SEP	24673	24753	71	24968	34667

Experimental Water Supply

HEFS with 15 days EQPF Ensemble: 2021-07-06 Issued: 2021-07-06

APR-SEP	15298	15377	69	15596	22279
APR-JUL	13247	13258	67	13273	19848
APR-AUG	14269	14307	68	14404	21091
JAN-SEP	20575	20654	69	20873	29872
JAN-JUL	18524	18535	68	18550	27440
OCT-SEP	24672	24752	71	24970	34667

Reference

ESP with 0 Days QPF Ensemble: 2021-07-06 Issued: 2021-07-06

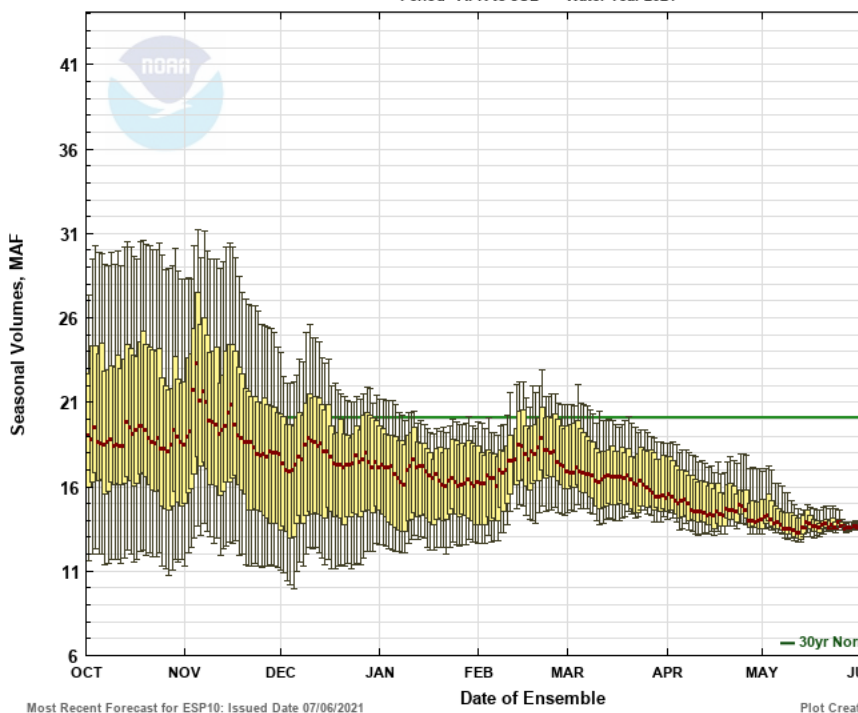
APR-SEP	15327	15398	69	15612	22279
APR-JUL	13255	13269	67	13308	19848
APR-AUG	14282	14324	68	14427	21091
JAN-SEP	20604	20676	69	20889	29872
JAN-JUL	18532	18546	68	18585	27440
OCT-SEP	24702	24773	71	24986	34667

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

Water Supply Forecasts

SNAKE - LOWER GRANITE DAM

Period APR to JUL -- Water Year 2021



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Overlay

ESP10

HEFS

ESPO

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CSV (ESP10 / APR-JUL)

Forecast Ensemble

SNAKE - LOWER GRANITE DAM (LGDW1)

Forecasts for Water Year 2022

Official Water Supply

ESP with 10 Days QPF Ensemble: 2021-07-06 Issued: 2021-07-06

Forecast Period	Forecasts Are in KAF				30 Year Average (1981-2010)
	90 %	50 %	% Average	10 %	
APR-SEP	12568	19925	89	29868	22279
APR-JUL	10862	17535	88	26848	19848
APR-AUG	11703	18791	89	28497	21091
JAN-SEP	17778	26395	88	38274	29872
JAN-JUL	15974	24010	88	34887	27440
OCT-SEP	22261	30469	88	42566	34667

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



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Choose Date: 07/06/2021

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KOOTENAI - LIBBY DAM (LYDM8)

Forecasts for Water Year 2021

Official Water Supply

ESP with 10 Days QPF Ensemble: 2021-07-06 Issued: 2021-07-06

Forecast Period	Forecasts Are in KAF				30 Year Average (1981-2010)
	90 %	50 %	% Average	10 %	
APR-SEP	5151	5249	84	5374	6254
APR-JUL	4562	4564	85	4582	5342
APR-AUG	4929	4959	84	5008	5885
JAN-SEP	5631	5730	83	5855	6914
JAN-JUL	5043	5044	84	5062	6002
OCT-SEP	6403	6502	83	6627	7806

Experimental Water Supply

HEFS with 15 days EQPF Ensemble: 2021-07-06 Issued: 2021-07-06

APR-SEP	5141	5256	84	5367	6254
APR-JUL	4556	4566	85	4593	5342
APR-AUG	4919	4958	84	5015	5885
JAN-SEP	5621	5737	83	5847	6914
JAN-JUL	5036	5047	84	5074	6002
OCT-SEP	6393	6509	83	6619	7806

Reference

ESP with 0 Days QPF Ensemble: 2021-07-06 Issued: 2021-07-06

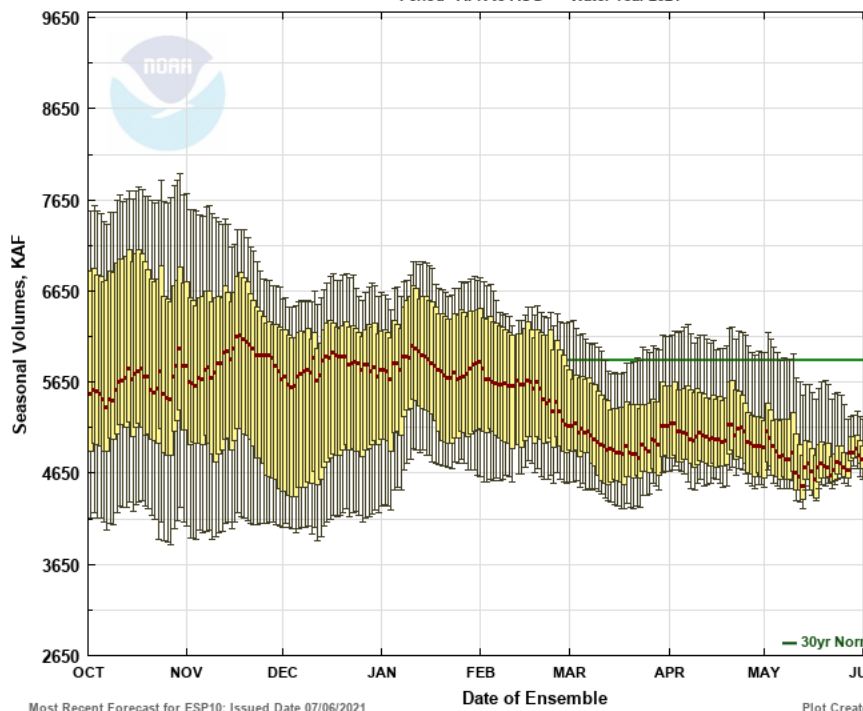
APR-SEP	5143	5261	84	5425	6254
APR-JUL	4557	4570	86	4638	5342
APR-AUG	4922	4968	84	5094	5885
JAN-SEP	5623	5741	83	5905	6914
JAN-JUL	5038	5050	84	5118	6002
OCT-SEP	6396	6513	83	6677	7806

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

Water Supply Forecasts

KOOTENAI - LIBBY DAM

Period APR to AUG -- Water Year 2021



☐ Max Scale
 ☒ Scale To Data
 ☐ Scale To Last 45 Days
 ☐ Show Min/Max Ensemble Volume
 ☐ Show Tooltips

Overlay

ESP10

HEFS

ESPO

Data Files

CSV (ESP10 / APR-AUG)

Forecast Ensemble

KOOTENAI - LIBBY DAM (LYDM8)

Forecasts for Water Year 2022

Official Water Supply

ESP with 10 Days QPF Ensemble: 2021-07-06 Issued: 2021-07-06

Forecast Period	Forecasts Are in KAF				30 Year Average (1981-2010)
	90 %	50 %	% Average	10 %	
APR-SEP	4396	5960	95	7942	6254
APR-JUL	3642	5062	95	6838	5342
APR-AUG	4082	5672	96	7453	5885
JAN-SEP	4923	6545	95	8514	6914
JAN-JUL	4206	5709	95	7430	6002
OCT-SEP	5667	7452	95	9663	7806

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



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NF CLEARWATER - DWORSHAK DAM (DWR11)
Forecasts for Water Year 2021
Official Water Supply

ESP with 10 Days QPF Ensemble: 2021-07-06 Issued: 2021-07-06

Forecast Period	Forecasts Are in KAF				30 Year Average (1981-2010)
	90 %	50 %	% Average	10 %	
APR-SEP	2077	2082	81	2098	2575
APR-JUL	1966	1966	81	1970	2419
JAN-SEP	2761	2765	80	2781	3445
JAN-JUL	2649	2649	81	2654	3289
OCT-SEP	3191	3195	82	3211	3891

Experimental Water Supply

HEFS with 15 days EQPF Ensemble: 2021-07-06 Issued: 2021-07-06

APR-SEP	2077	2082	81	2096	2575
APR-JUL	1966	1966	81	1968	2419
JAN-SEP	2761	2765	80	2780	3445
JAN-JUL	2649	2649	81	2652	3289
OCT-SEP	3191	3195	82	3210	3891

Reference

ESP with 0 Days QPF Ensemble: 2021-07-06 Issued: 2021-07-06

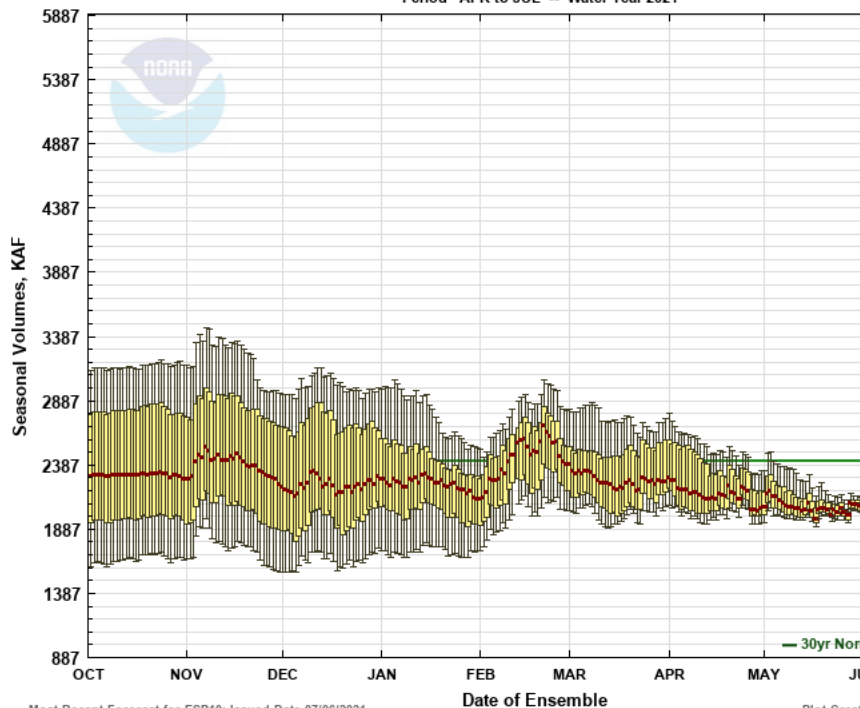
APR-SEP	2078	2083	81	2099	2575
APR-JUL	1966	1967	81	1973	2419
JAN-SEP	2762	2767	80	2783	3445
JAN-JUL	2649	2650	81	2656	3289
OCT-SEP	3192	3197	82	3213	3891

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

Water Supply Forecasts

NF CLEARWATER - DWORSHAK DAM

Period APR to JUL -- Water Year 2021



Most Recent Forecast for ESP10: Issued Date 07/06/2021

Plot Crea

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Overlay

ESP10

HEFS

ESP0

Data Files

CSV (ESP10 / APR-JUL)

Forecast Ensemble

NF CLEARWATER - DWORSHAK DAM (DWR11)
Forecasts for Water Year 2022
Official Water Supply

ESP with 10 Days QPF Ensemble: 2021-07-06 Issued: 2021-07-06

Forecast Period	Forecasts Are in KAF				30 Year Average (1981-2010)
	90 %	50 %	% Average	10 %	
APR-SEP	1616	2426	94	3269	2575
APR-JUL	1513	2294	95	3113	2419
JAN-SEP	2313	3429	100	4291	3445
JAN-JUL	2211	3301	100	4163	3289
OCT-SEP	2565	3710	95	4784	3891

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