

Water Supply Outlook For - Spring-Summer 2020

WSAC February 28 , 2020
Brent Bower NWS Seattle

Climate Prediction Center

Winter Outlook:

Precipitation: Below normal March;
Equal Chances for Mar to May; below normal
Jun to Aug

Temperatures: Equal chances Mar; above
normal west Mar-May; warmer than normal
Jun-Aug

and,
Warm Northeast Pacific Ocean continues

Water Vapor Transport – Percent of Normal

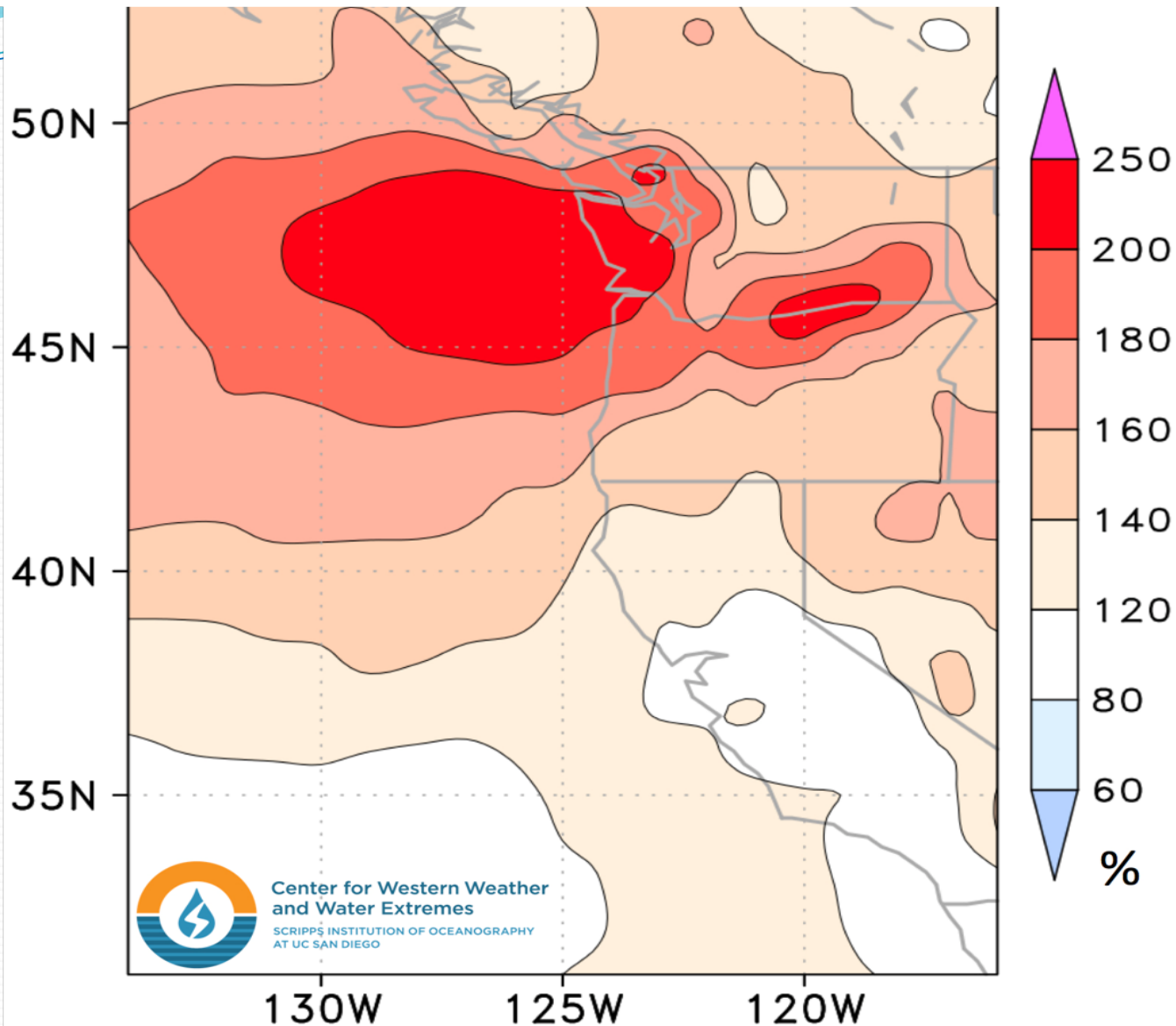
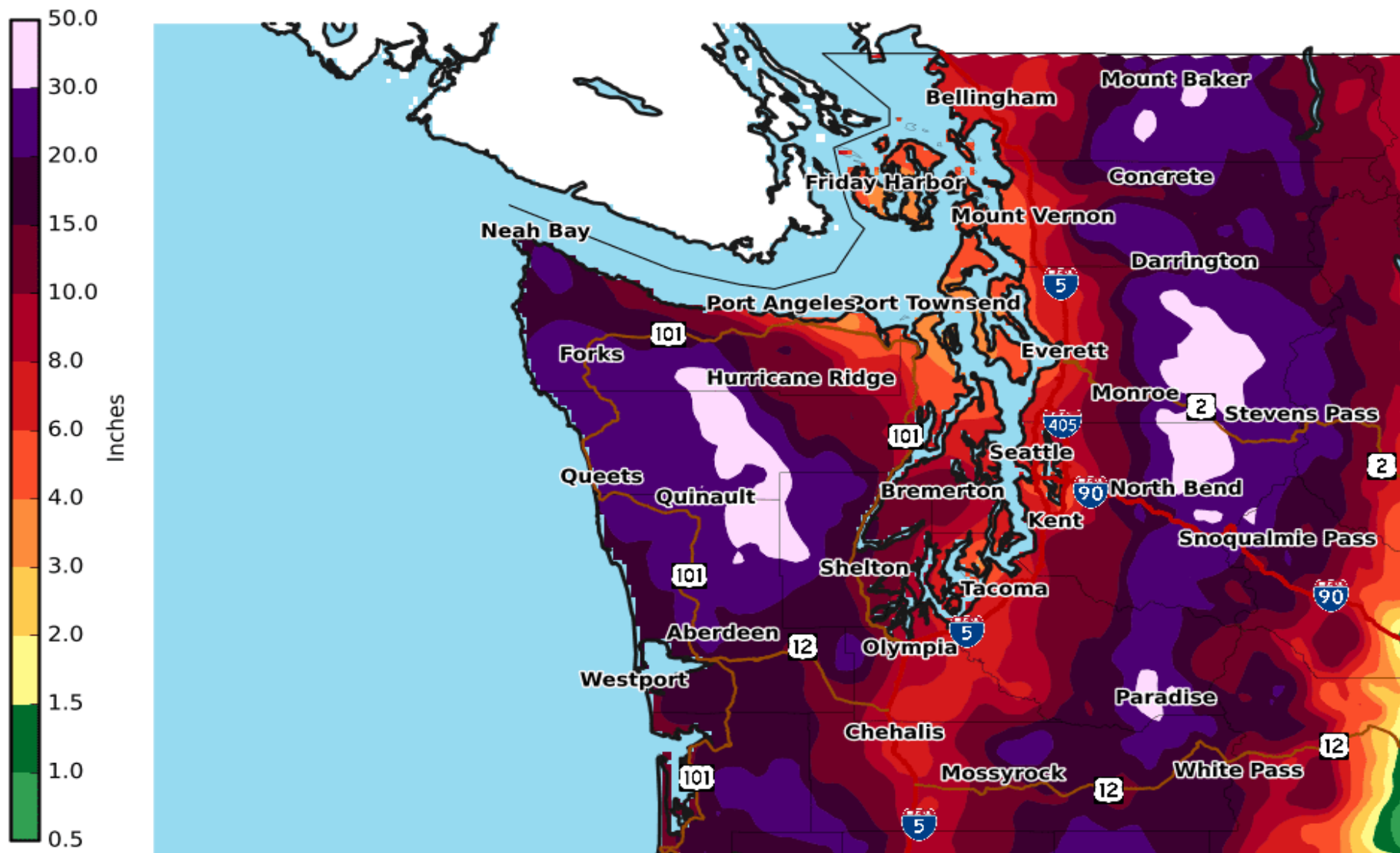


Figure 1: Note the anomalous departure from normal across much of western and southern Washington. Courtesy of the Center for Western Weather and Water Extremes.

Total Observed Rainfall - Western Washington

Valid: January 20 - February 8, 2020



National Weather Service
Seattle Washington

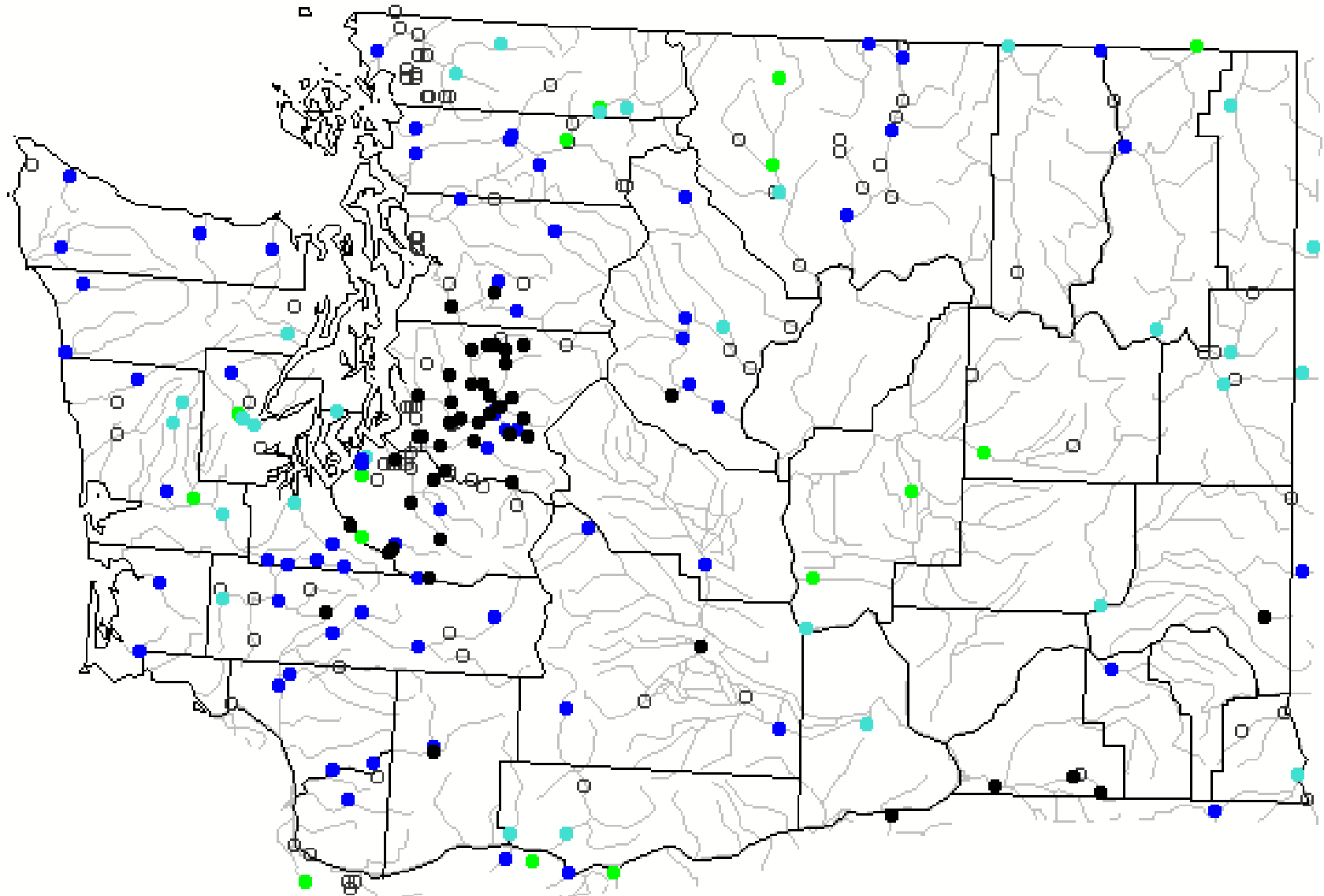
02/27/2020 01:03 PM PST

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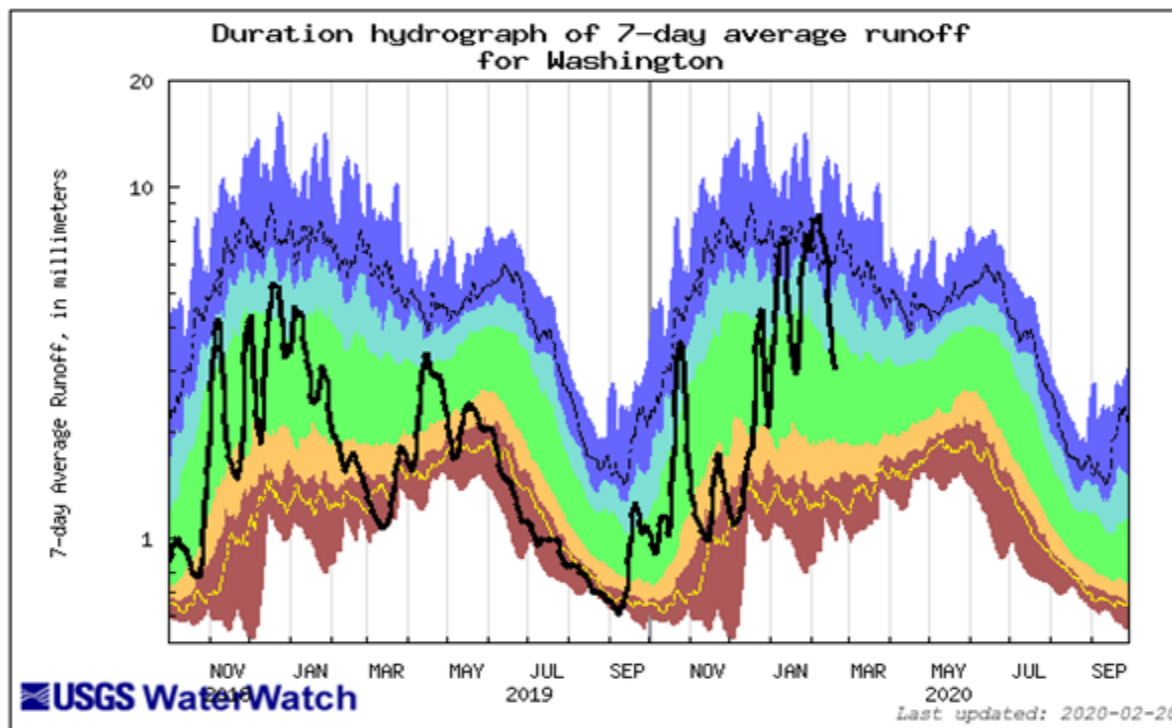
Friday, February 07, 2020



USGS Area-Based Runoff Duration Hydrograph Builder

State Washington	Water Res. Region	Year: 2020	Runoff type: 7-day	No. of years: 2	GO
Draw 5th and 95th percentiles as: Line Year Type: Water Year Output: Hydrograph					

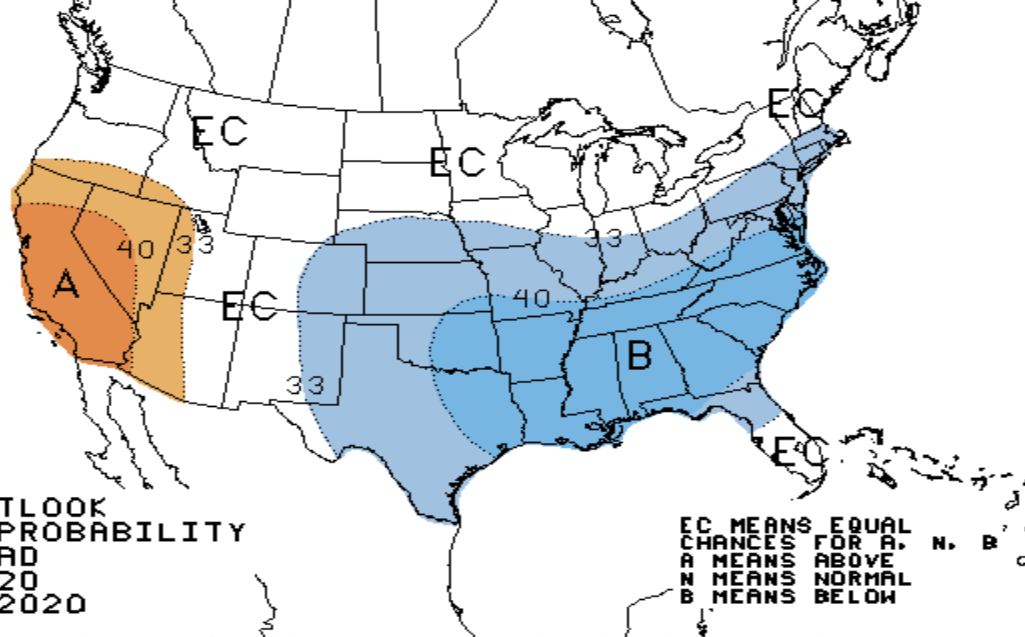
For some streams, flow statistics may have been computed from mixed regulated and unregulated flows; this can affect depictions of flow conditions.



Explanation - Percentile classes						Runoff
lowest-10th percentile	5	10-24	25-75	76-90	95	
Much below Normal	Below normal	Normal	Above normal	Much above normal		



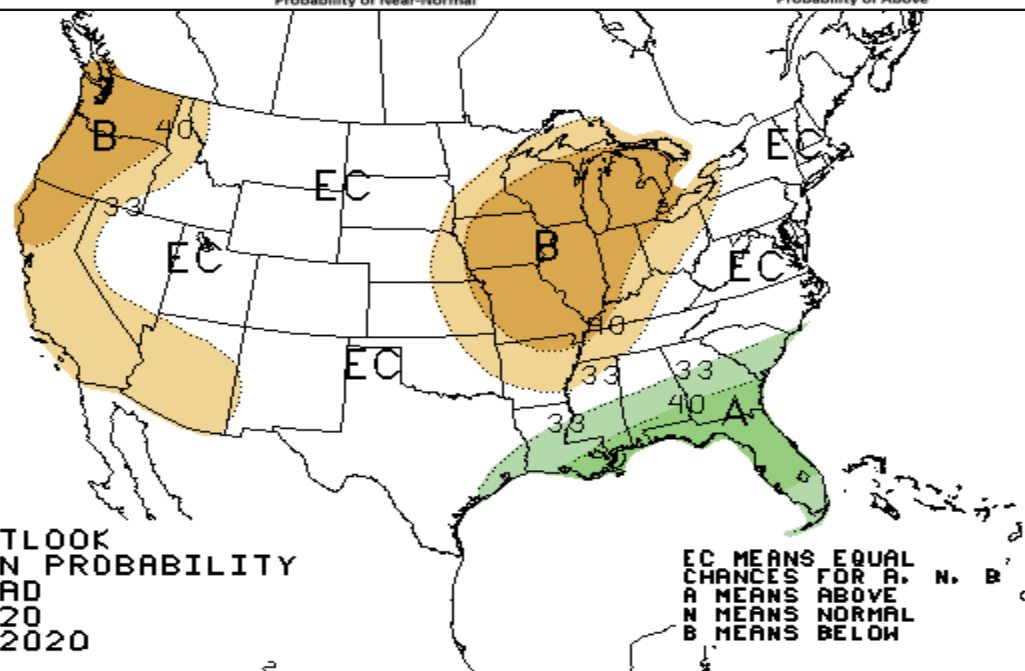
ONE-MONTH OUTLOOK
TEMPERATURE PROBABILITY
0.5 MONTH LEAD
VALID MAR 2020
MADE 20 FEB 2020



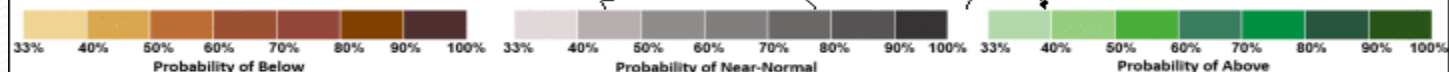
EC MEANS EQUAL
CHANCES FOR A, N, B
A MEANS ABOVE
N MEANS NORMAL
B MEANS BELOW



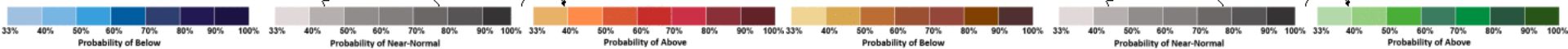
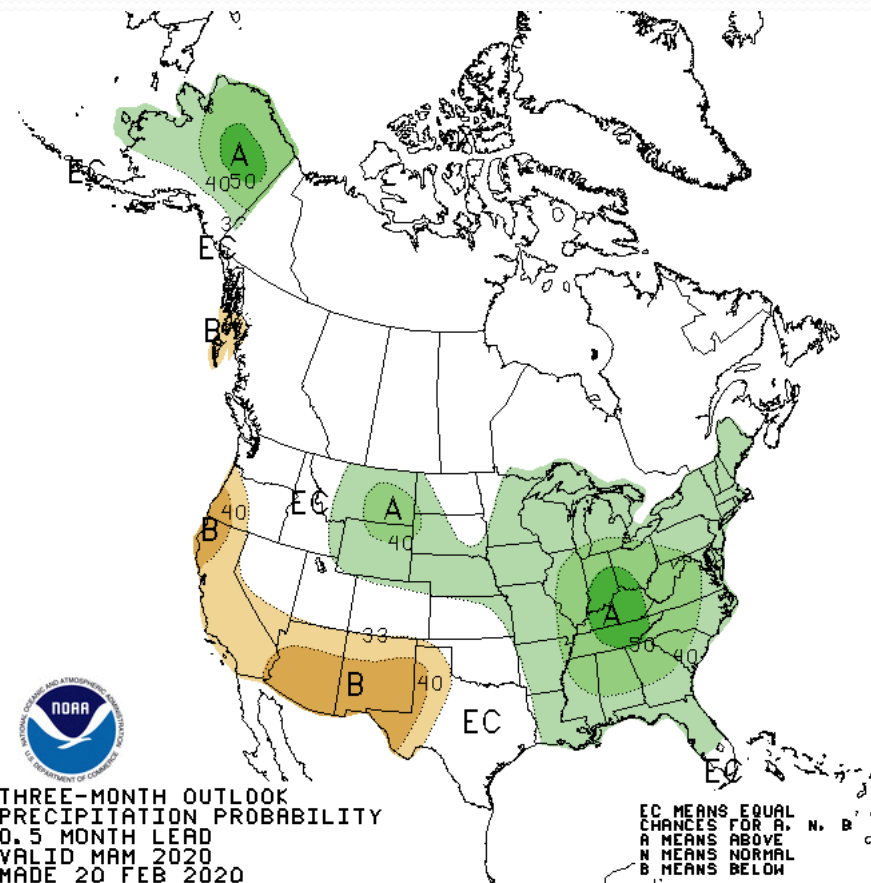
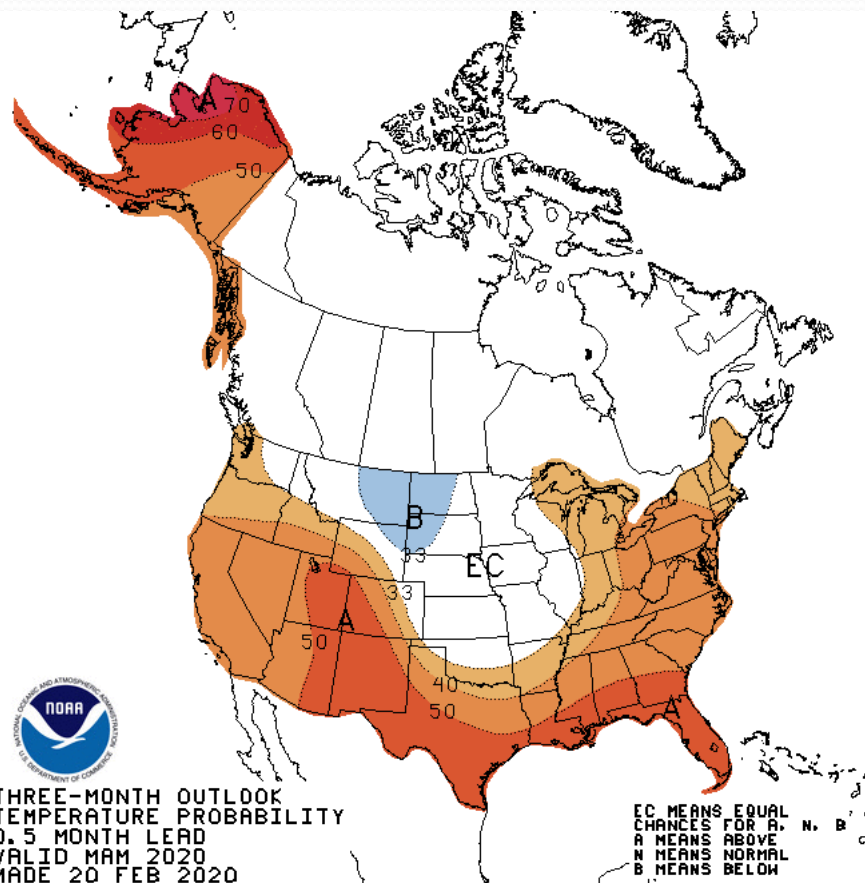
ONE-MONTH OUTLOOK
PRECIPITATION PROBABILITY
0.5 MONTH LEAD
VALID MAR 2020
MADE 20 FEB 2020



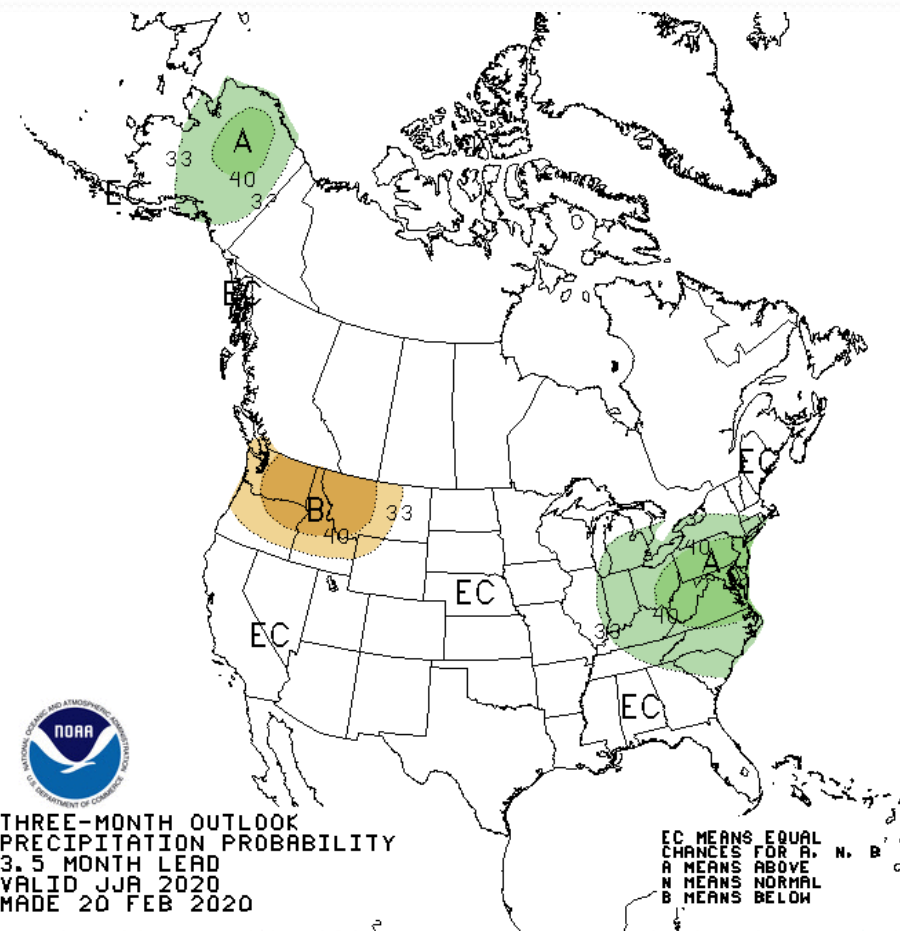
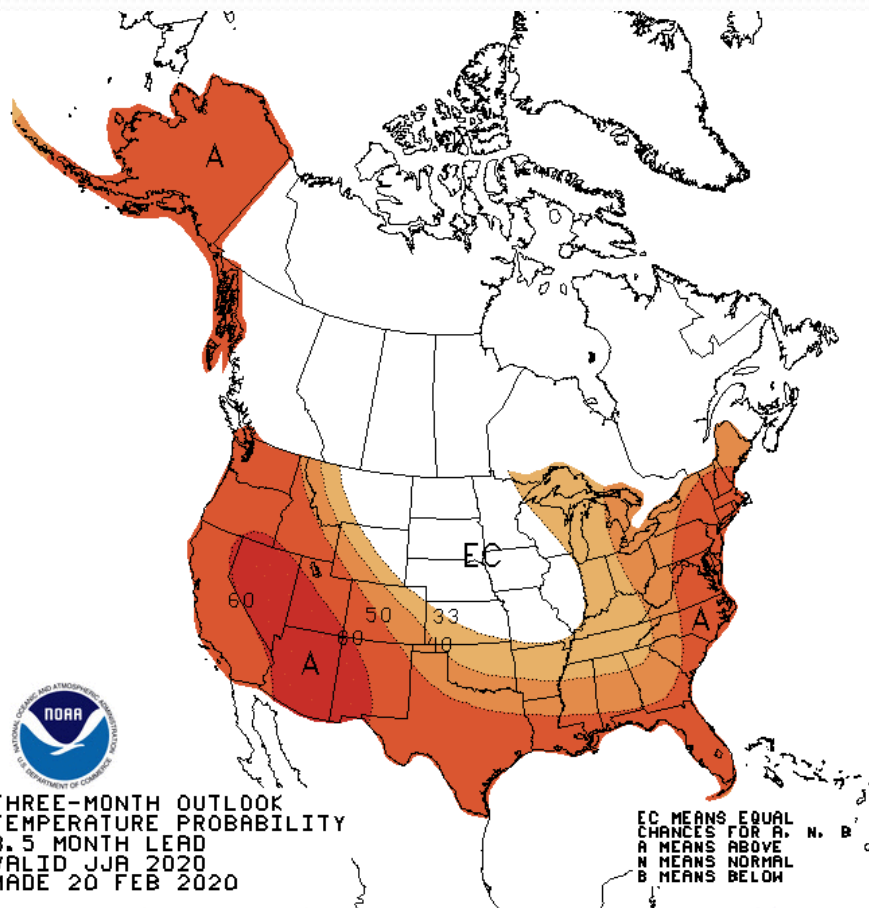
EC MEANS EQUAL
CHANCES FOR A, N, B
A MEANS ABOVE
N MEANS NORMAL
B MEANS BELOW



MAR – MAY 2020 Outlook



JUN – AUG 2020 Outlook





Northwest River Forecast Center

Current Station Snow Conditions



River and Hydrology	Water Supply	Observations	Weather Forecasts	Climate	NWRFC
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Last Refresh: 2020-02-28 09:01:48 PST

Elevation
Filter: ☐[Permalink](#)

Search by NWS ID:

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Map Overlays

- ☒ NWRFC Boundary
- ☐ NWRFC Basins
- ☐ NWS HSAs
- ☐ Counties

Map Type

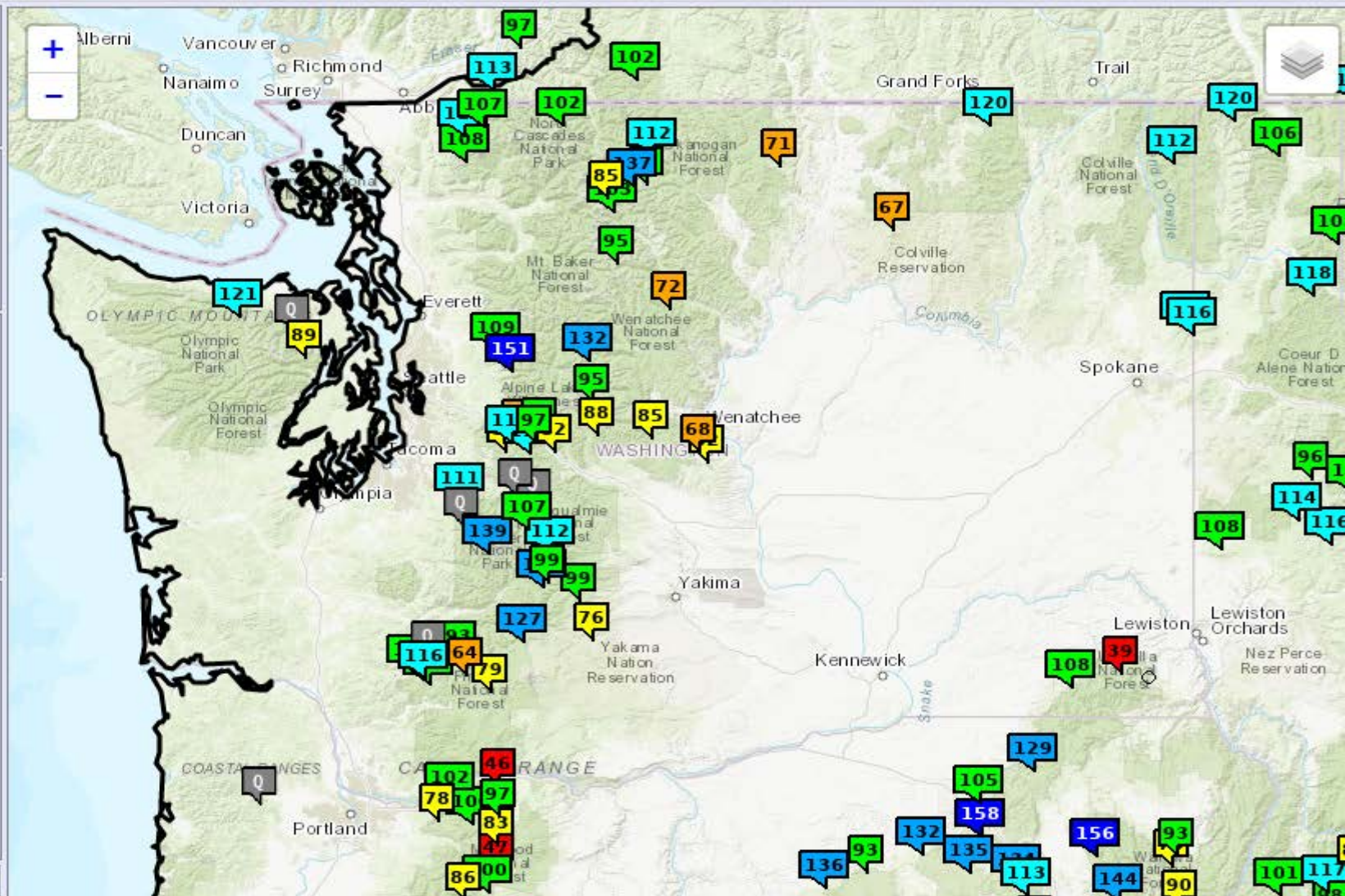
- ☐ SWE
- ☐ Snow Status
- ☐ Snow % of Avg
- ☐ Seasonal Peak Status
- ☐ Snow Density
- ☐ Basin Obs Status
- ☐ Basin Sim Status
- ☐ Diff

Legend

SWE (% Avg)

- Questionable
- Not Available
- Zero
- < 25
- 25-50
- 50-75
- 75-90
- 90-110
- 110-125
- 125-150
- 150-175
- > 175

Stations Displayed: 130





Northwest River Forecast Center

Water Supply Forecasts



River and Hydrology

Water Supply

Observations

Weather Forecasts

Climate

NWRFC

Home

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--- Quick Zooms ---

ESP Issued: 2020-02-27

Ensemble Date: 2020-02-27

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Map Overlays

- ☒ NWRFC Boundary
- ☐ NWRFC Basins
- ☐ NWS HSAs
- ☐ Counties

ESP WS Volumes

- ☐ WS Status
- ☐ WS % of Normal
- ☐ Rank (ASC)
- ☐ Rank (DESC)
- ☐ Exceedance (%)
- ☐ Percentile (%)

Runoff Volumes

- ☐ Runoff Status
- ☐ Runoff % of Normal

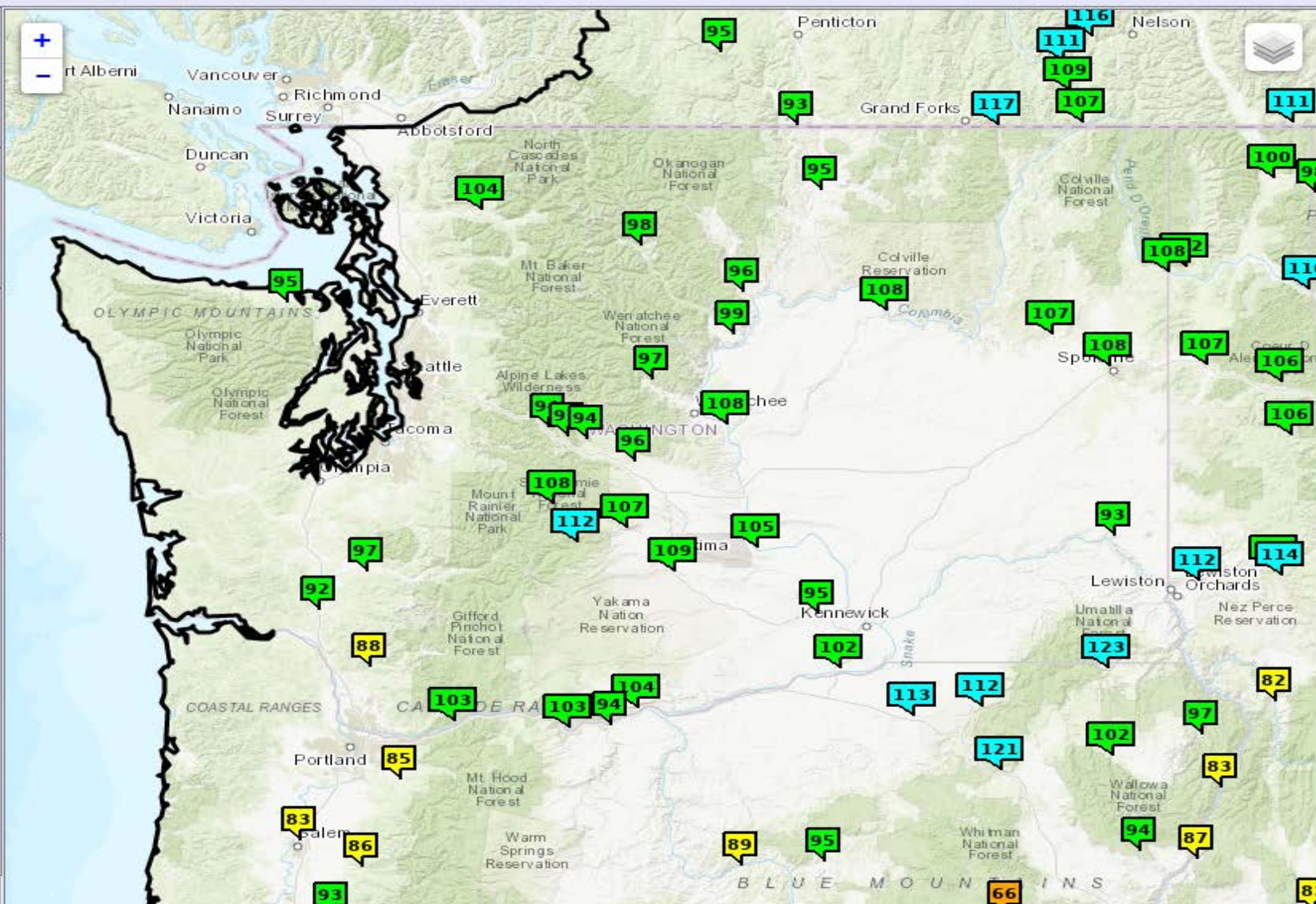
Water Supply Forecast

Period: APR-SEP
(% Normal)

- ☐ No Normal, No data
- ☐ < 25
- ☐ 25-50
- ☐ 50-75
- ☐ 75-90
- ☐ 90-110
- ☐ 110-125
- ☐ 125-150
- ☐ 150-175
- ☐ > 175



Stations Displayed: 77





Northwest River Forecast Center

ESP Natural Forecast

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ESP Issued: 2020-02-27

Ensemble Date: 2020-02-27

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Enter NWS ID:

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Map Overlays

- ☒ NWRFC Boundary
- ☐ NWRFC Basins
- ☐ NWS HSAs
- ☐ Counties

ESP Natural Forecast

- ☐ Natural Status
- ☒ Natural % of Normal
- ☐ Rank (ASC)
- ☐ Rank (DESC)
- ☐ Exceedance (%)
- ☐ Percentile (%)

Natural Runoff

- ☐ Runoff Status
- ☐ Runoff % of Normal

ESP Natural Forecast

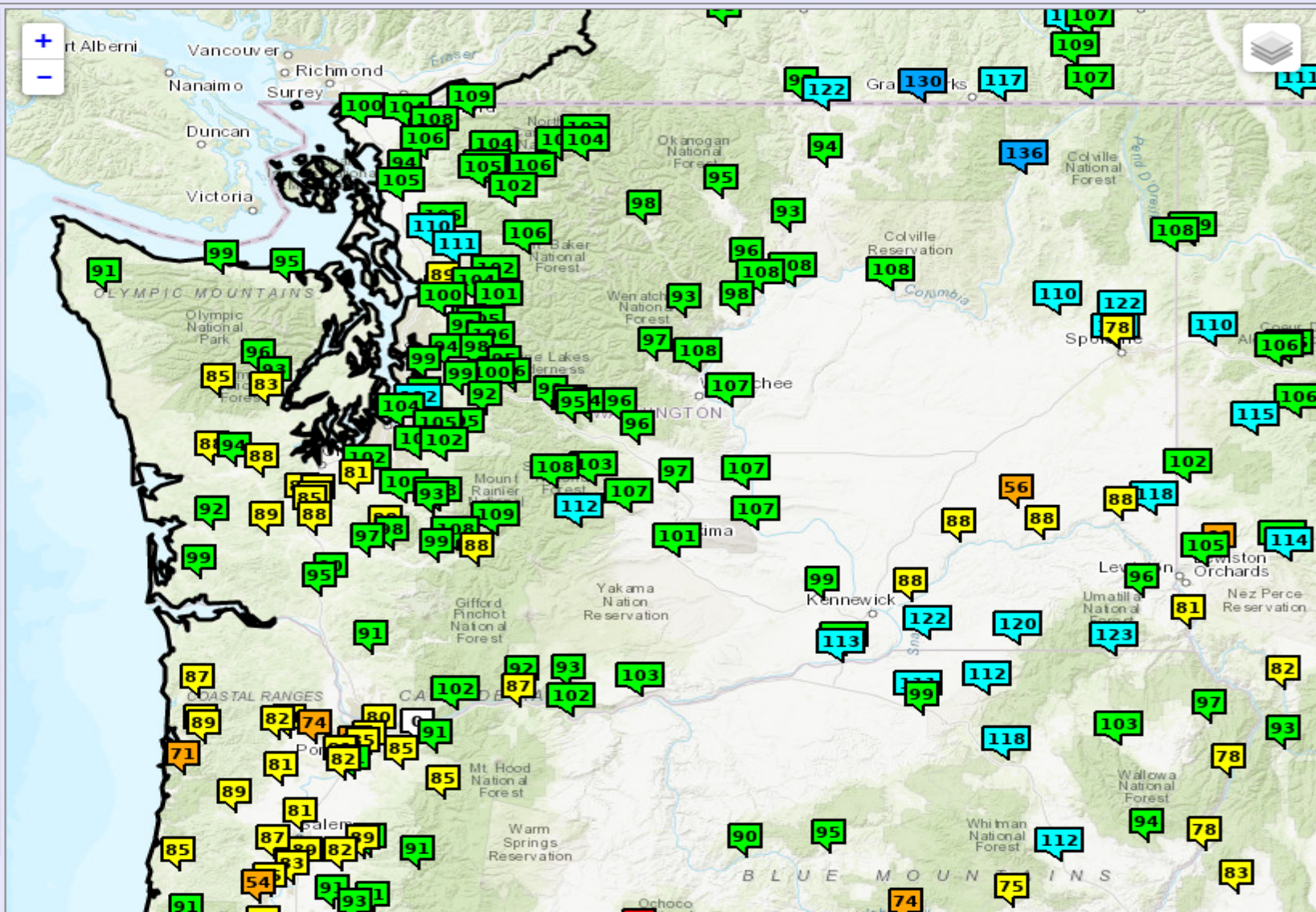
Period: APR-SEP
Forecast (% Normal)

- No Normal, No Data
- < 25
- 25-50
- 50-75
- 75-90
- 90-110
- 110-125
- 125-150
- 150-175
- > 175



Stations Displayed:

241





Northwest River Forecast Center

Water Supply Forecasts

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COLUMBIA - THE DALLES DAM (TDAO3) Forecasts for Water Year 2020

Official Water Supply

ESP with 10 Days QPF Ensemble: 2020-02-27 Issued: 2020-02-27

Forecast Period	Forecasts Are in KAF				30 Year Average (1981-2010)
	90 %	50 %	% Average	10 %	
APR-SEP	85815	95092	103	105056	92704
APR-JUL	73578	81684	102	90544	79855
APR-AUG	79788	89881	103	99210	87532
JAN-SEP	105444	113523	99	126041	114216
JAN-JUL	93865	100793	99	113924	101368
OCT-SEP	117769	125847	96	138365	130518

Experimental Water Supply

HEFS with 15 days EQPF Ensemble: 2020-02-27 Issued: 2020-02-27

APR-SEP	86914	99146	107	110600	92704
APR-JUL	72763	84863	106	95803	79855
APR-AUG	81138	93848	107	104053	87532
JAN-SEP	106825	117651	103	131490	114216
JAN-JUL	93254	103873	102	116747	101368
OCT-SEP	119149	129975	100	143814	130518

Reference

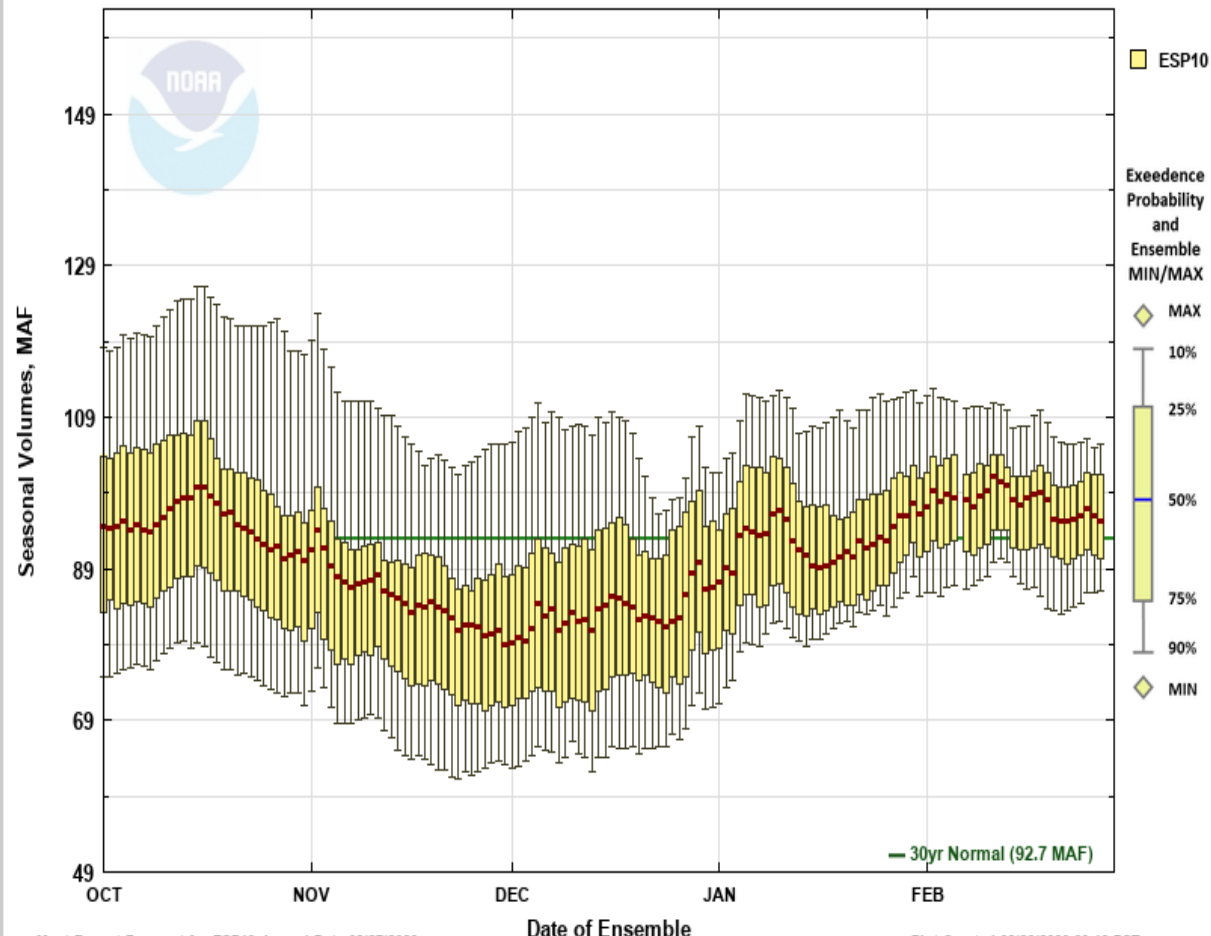
ESP with 0 Days QPF Ensemble: 2020-02-27 Issued: 2020-02-27

APR-SEP	87168	97921	106	108616	92704
APR-JUL	72470	84083	105	95202	79855
APR-AUG	81863	92564	106	103522	87532
JAN-SEP	106800	117587	103	130677	114216
JAN-JUL	92563	104009	103	115121	101368
OCT-SEP	119124	129911	100	143001	130518

Water Supply Forecasts

COLUMBIA - THE DALLES DAM

Period APR to SEP -- Water Year 2020



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



Northwest River Forecast Center

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YAKIMA - AT KIONA (KIOW1) Forecasts for Water Year 2020

Official Water Supply

ESP with 10 Days QPF Ensemble: 2020-02-27 Issued: 2020-02-27

Forecast Period	Forecasts Are in KAF				30 Year Average (1981-2010)
	90 %	50 %	% Average	10 %	
APR-SEP	862	999	95	1295	1050
APR-JUL	677	799	94	1101	852
JAN-SEP	1753	1902	102	2287	1858
JAN-JUL	1561	1709	103	2079	1660
OCT-SEP	2053	2203	93	2587	2364

Experimental Water Supply

HEFS with 15 days EQPF Ensemble: 2020-02-27 Issued: 2020-02-27

APR-SEP	860	1085	103	1350	1050
APR-JUL	673	856	101	1144	852
JAN-SEP	1736	1943	105	2255	1858
JAN-JUL	1567	1754	106	2049	1660
OCT-SEP	2037	2244	95	2556	2364

Reference

ESP with 0 Days QPF Ensemble: 2020-02-27 Issued: 2020-02-27

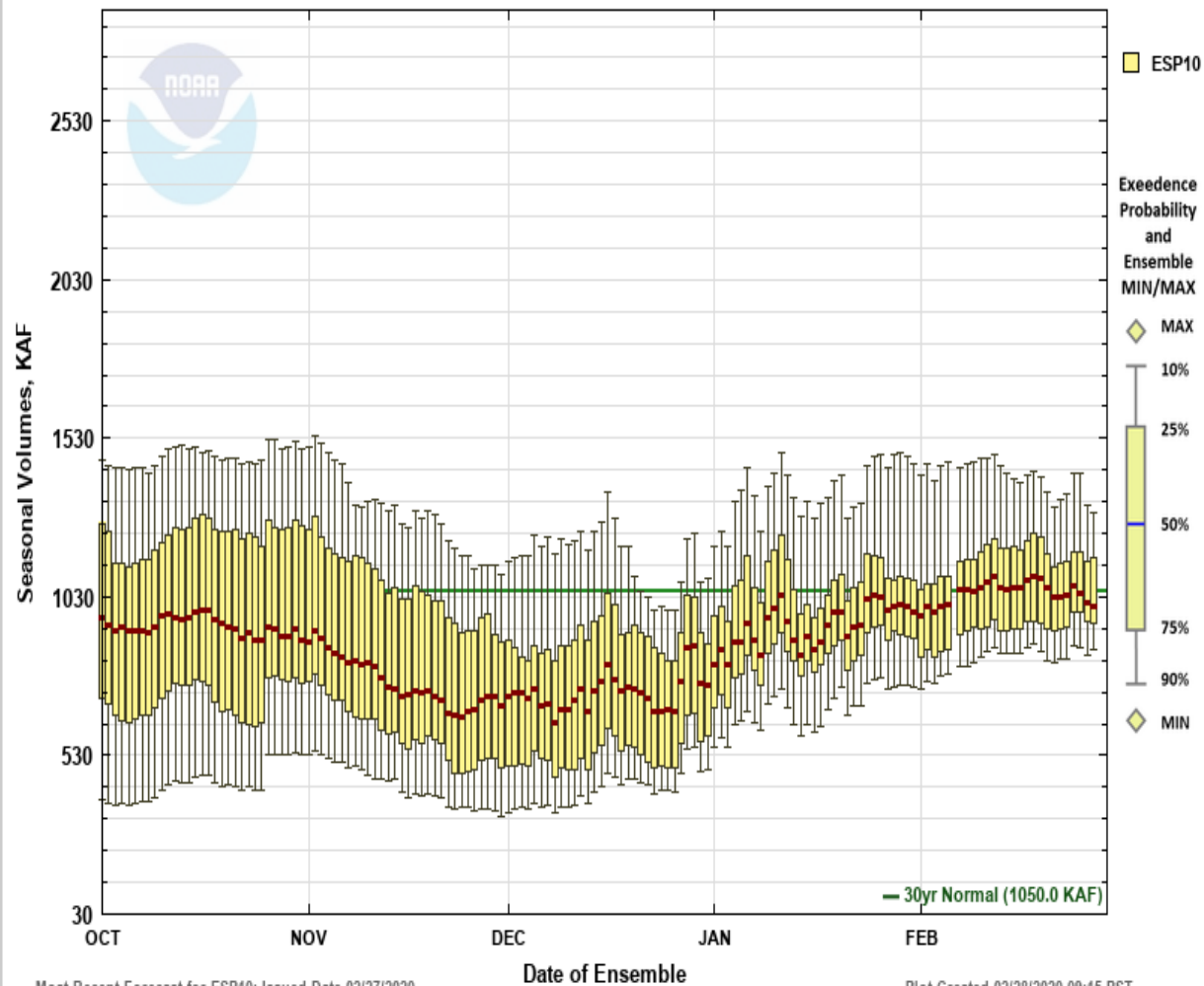
APR-SEP	882	1085	103	1423	1050
APR-JUL	678	853	100	1219	852
JAN-SEP	1769	1989	107	2306	1858
JAN-JUL	1582	1777	107	2097	1660
OCT-SEP	2069	2290	97	2606	2364

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

Water Supply Forecasts

YAKIMA - AT KIONA

Period APR to SEP -- Water Year 2020





Northwest River Forecast Center

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[Home](#)
[Data/Normals](#)
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KETTLE - AT LAURIER (LAUW1) Forecasts for Water Year 2020

Official Water Supply

ESP with 10 Days QPF Ensemble: 2020-02-27 Issued: 2020-02-27

Forecast Period	Forecasts Are in KAF				30 Year Average (1981-2010)
	90 %	50 %	% Average	10 %	
APR-SEP	1677	2203	117	2818	1875
APR-JUL	1621	2103	117	2683	1795
JAN-SEP	1886	2420	119	3002	2034
JAN-JUL	1829	2318	119	2839	1954
OCT-SEP	2092	2626	122	3208	2152

Experimental Water Supply

HEFS with 15 days EQPF Ensemble: 2020-02-27 Issued: 2020-02-27

APR-SEP	1795	2311	123	2928	1875
APR-JUL	1735	2263	126	2729	1795
JAN-SEP	1978	2599	128	3087	2034
JAN-JUL	1922	2426	124	2935	1954
OCT-SEP	2184	2805	130	3293	2152

Reference

ESP with 0 Days QPF Ensemble: 2020-02-27 Issued: 2020-02-27

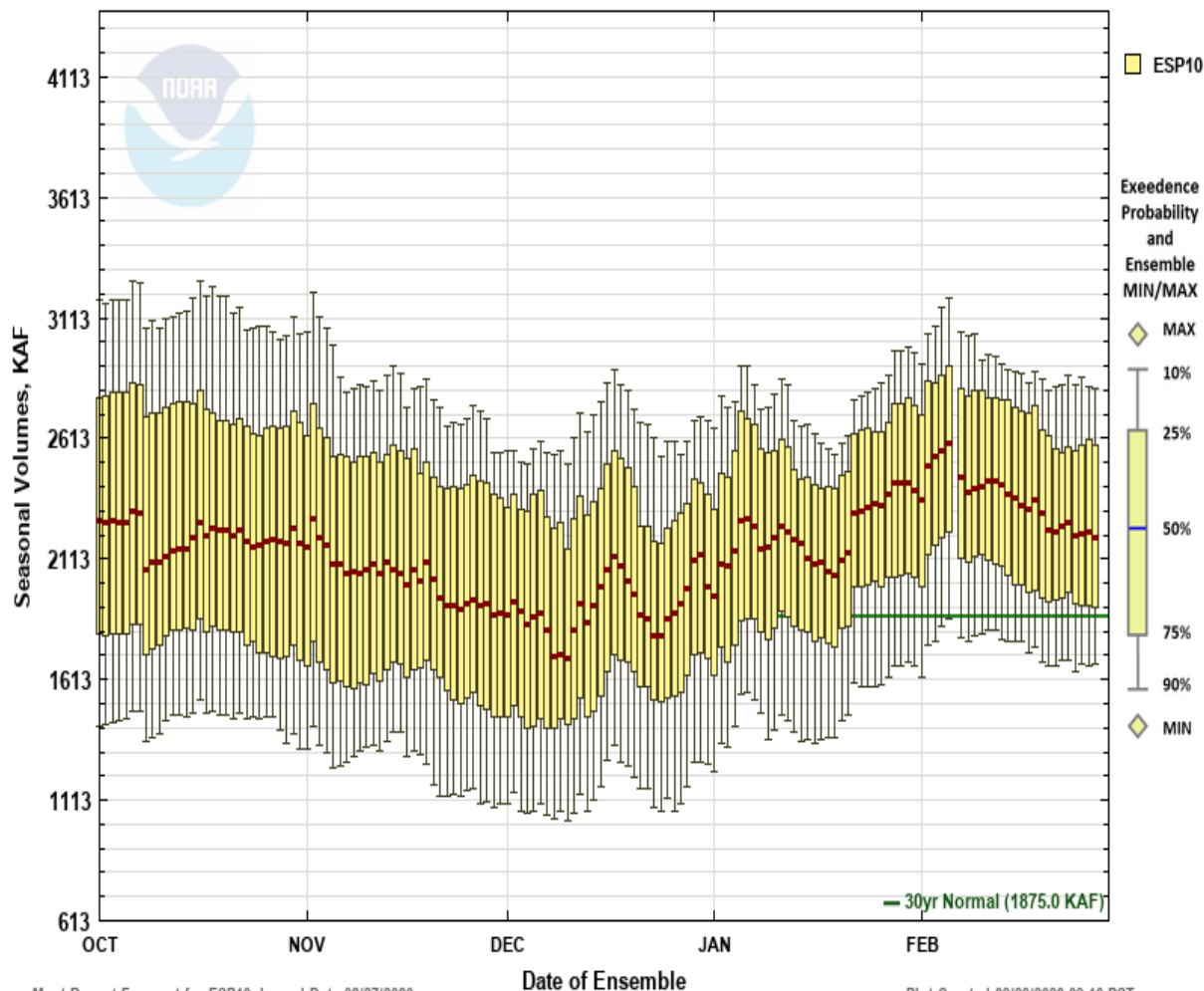
APR-SEP	1764	2362	126	2887	1875
APR-JUL	1705	2297	128	2804	1795
JAN-SEP	1970	2614	129	3084	2034
JAN-JUL	1915	2468	126	2980	1954
OCT-SEP	2176	2820	131	3290	2152

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

Water Supply Forecasts

KETTLE - AT LAURIER

Period APR to SEP -- Water Year 2020





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

NWS Water Supply Forecasts

- Mostly near normal water volumes
 - Snow pack is mostly OK except for center (donut)
- Improvement from last month
- No big signal for degradation of water supply