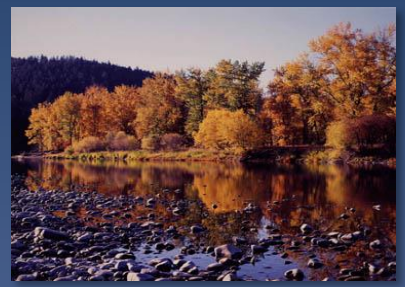
Northwest River Forecast Center



March 2020 Water Supply Briefing

Telephone Conference : (562) 247-8422
Pass Code : 322-526-815#

Ryan Lucas, PhD
NWRFC.watersupply@noaa.gov
(503) 326-7291

*Audio PIN is provided when logging into the webinar and will be required if you wish to ask questions at the end of presentation

Bottom Line

Wet start to February, dry conditions followed.

Northern basin near normal to above normal water supply forecasts.

Southern basin generally below normal water supply forecasts

Water Supply Forecast Briefing Outline

Observed Conditions WY2020:

- Temperature
- Precipitation
- Snowpack
- Runoff

Model States

Future Conditions:

- 10 days of quantitative forecast precipitation (QPF)
- 10 days of quantitative forecast temperature (QTF)
- Historical climate forcings appended thereafter
- Water Supply Forecasts

Model Forcings

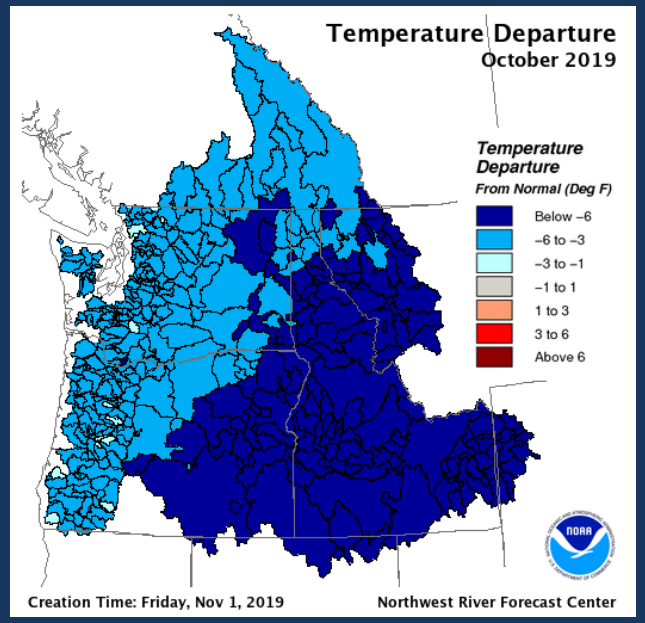
Model Inputs

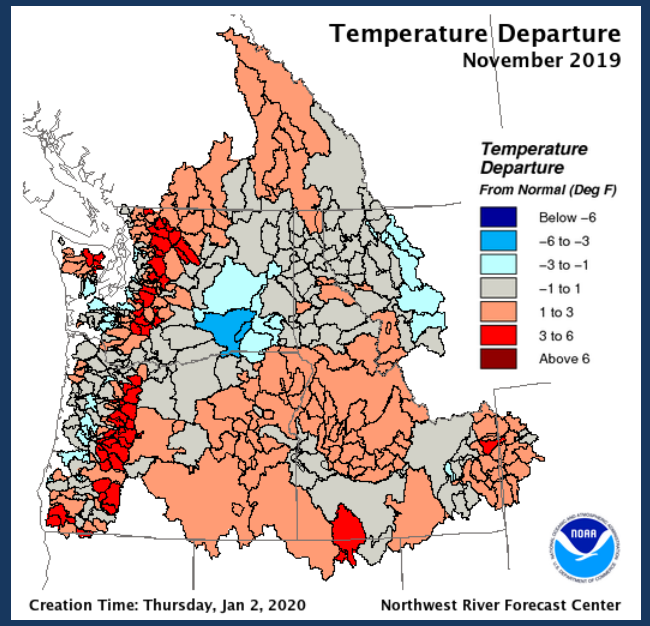
Additional Guidance

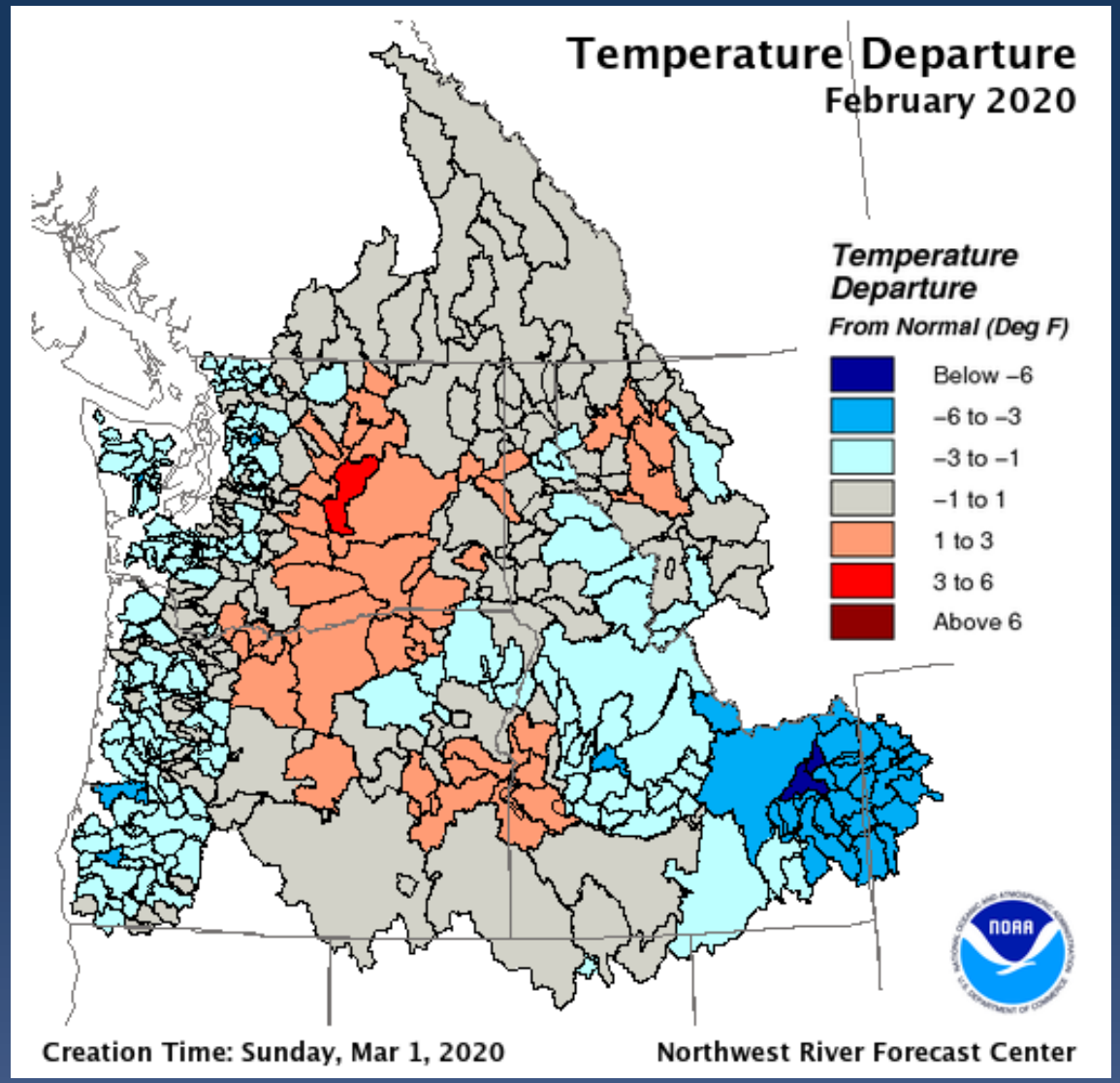
- CPC Climate Outlook

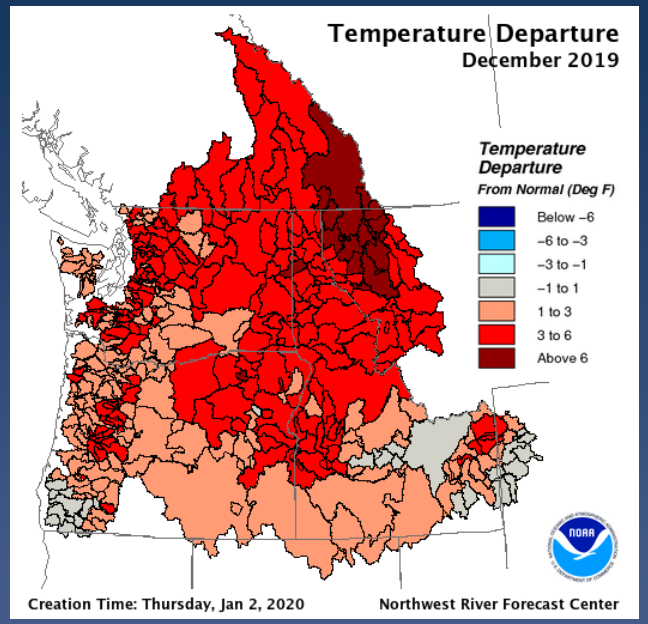
Summary

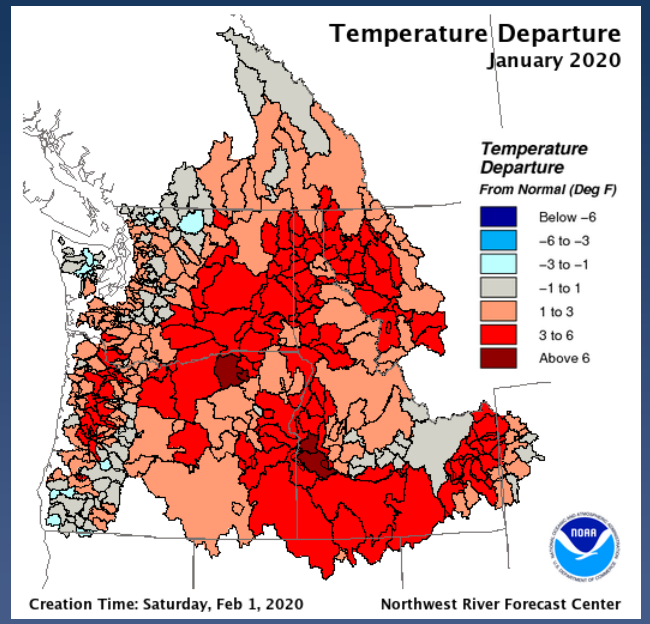
Monthly Temperature Departure



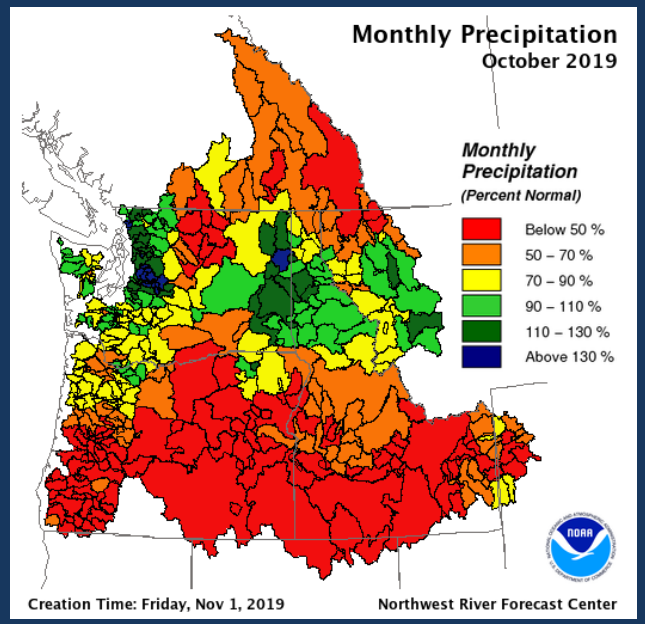


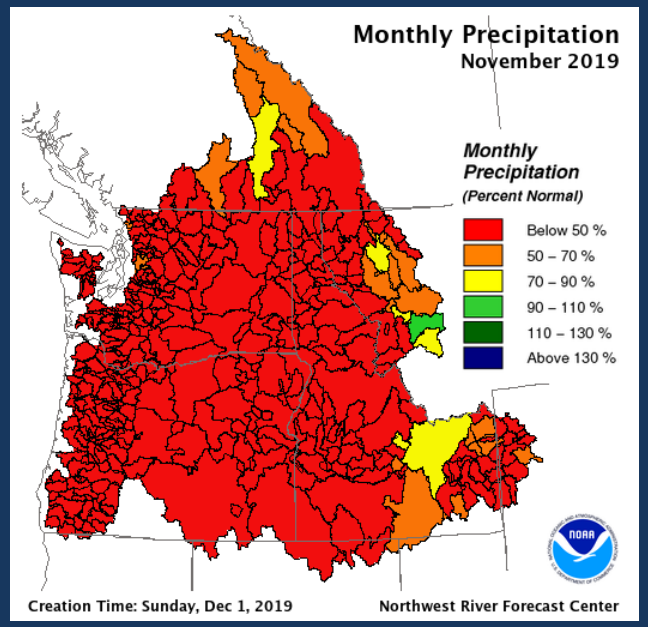


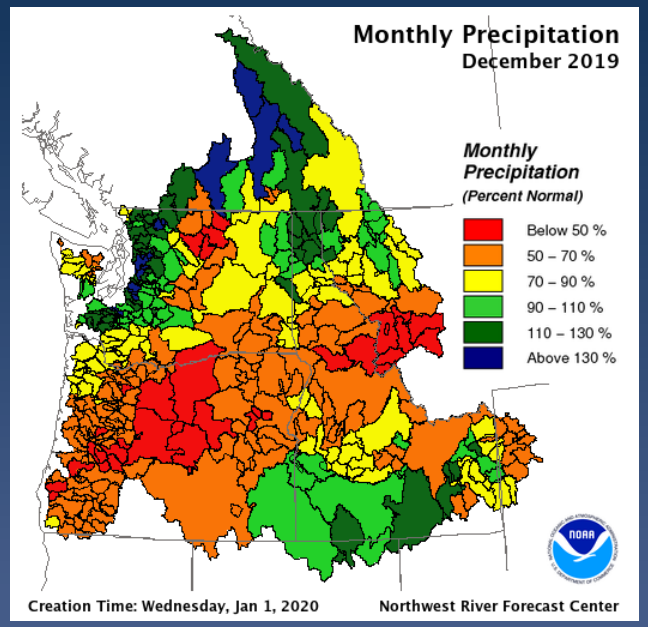


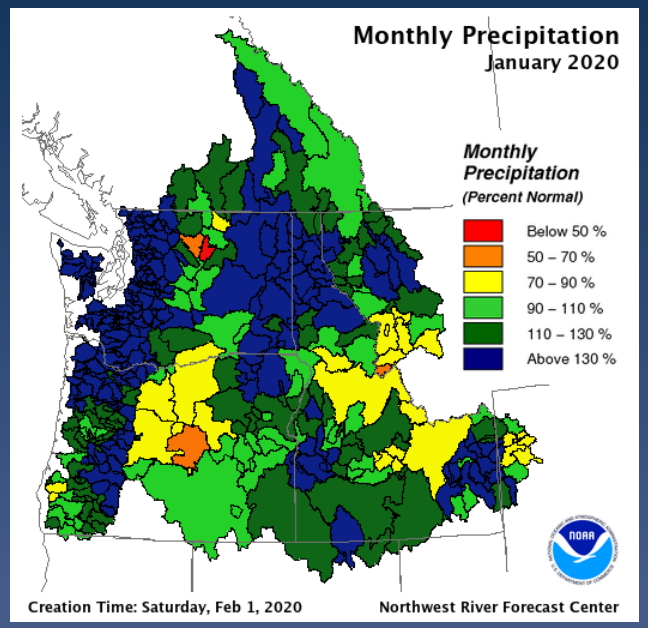


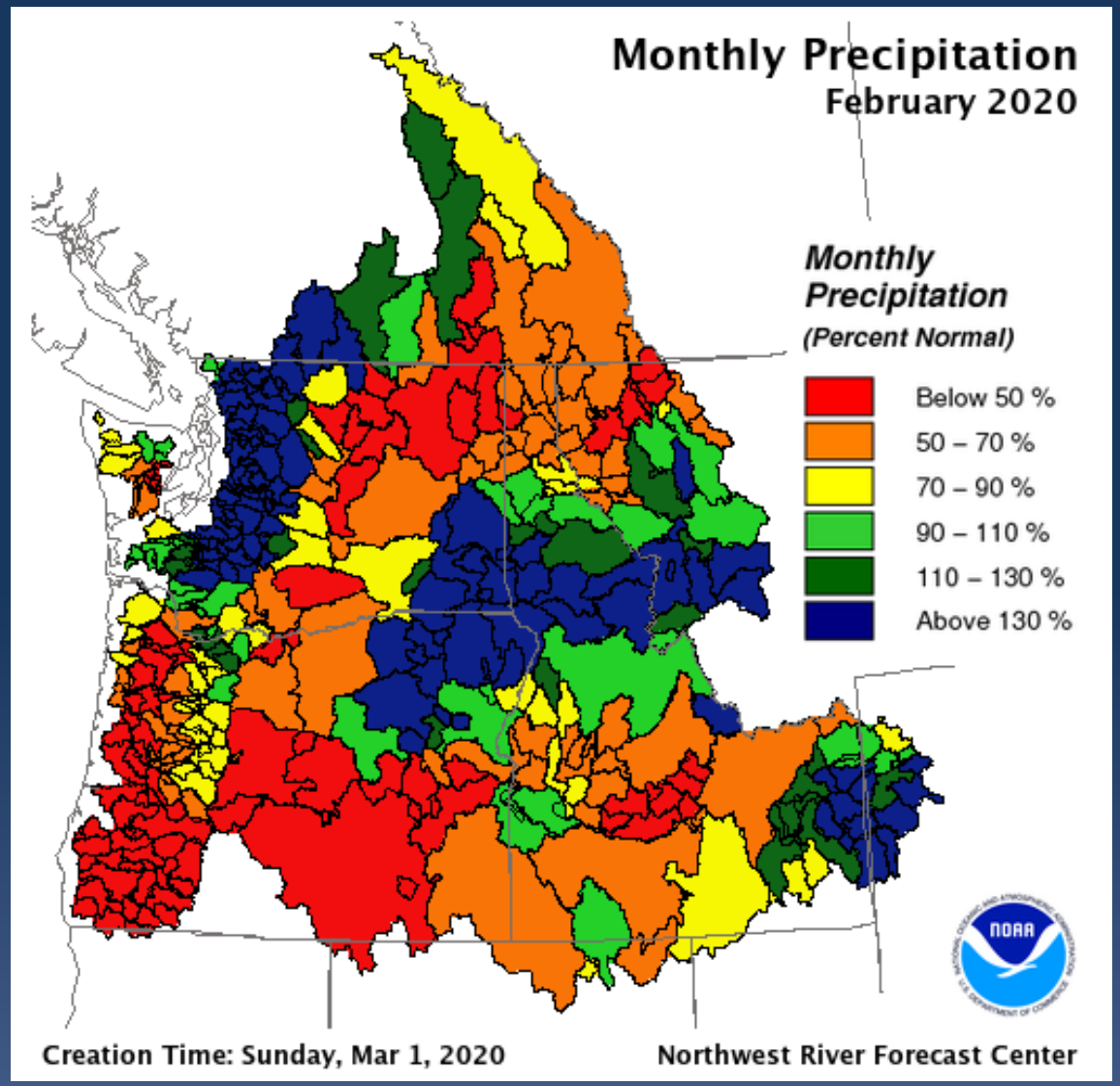
Monthly Precipitation Departure



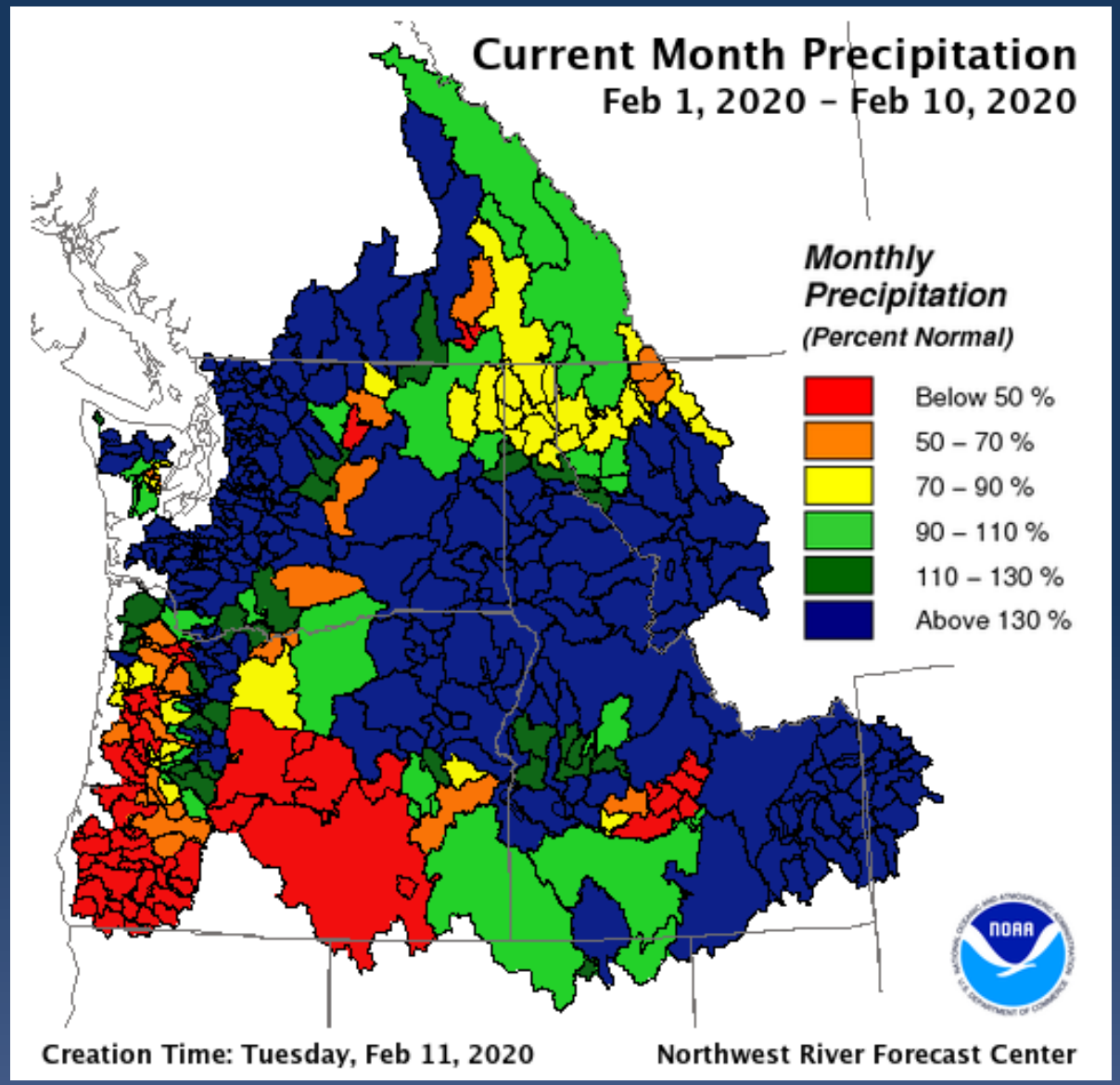


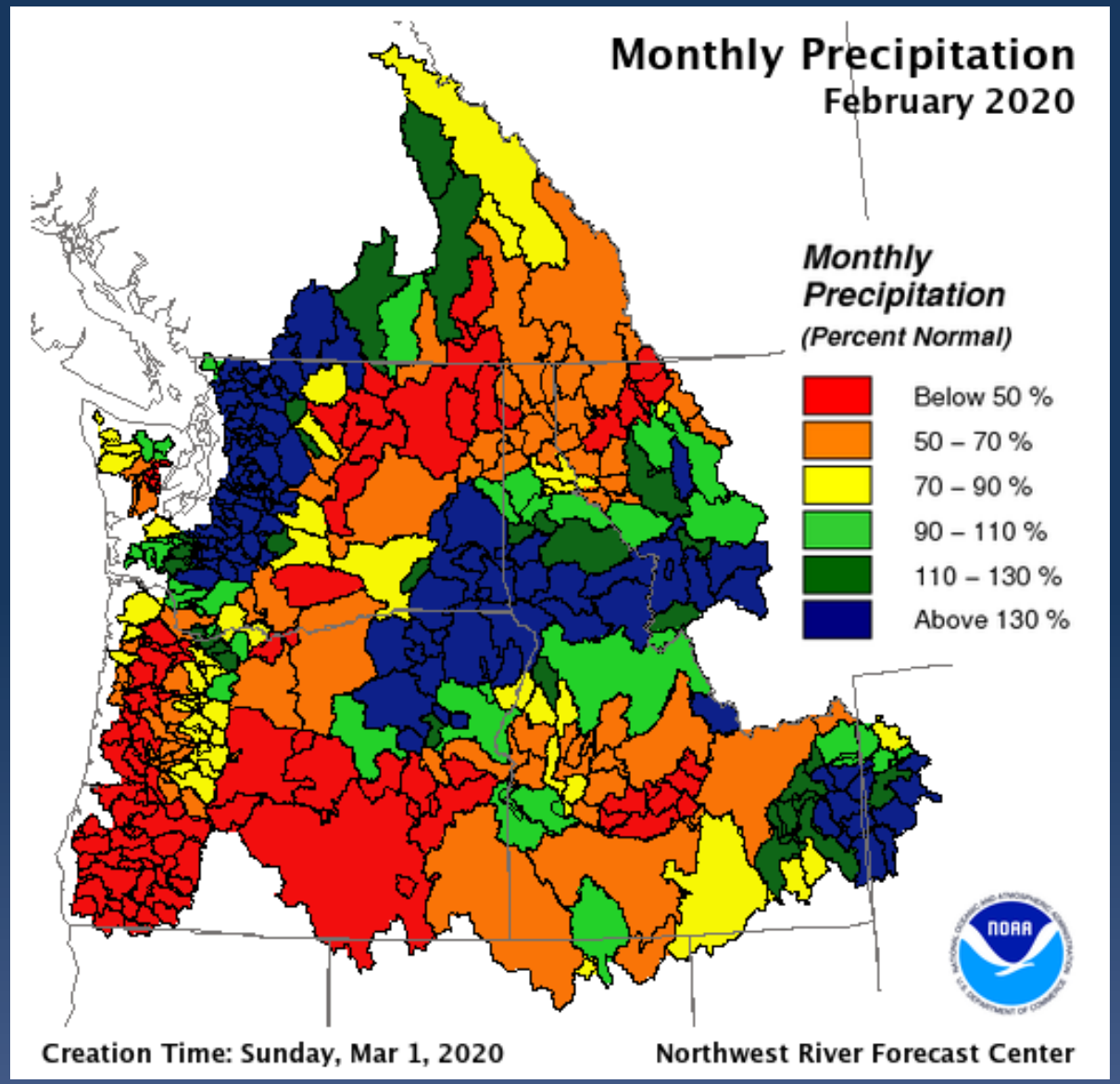




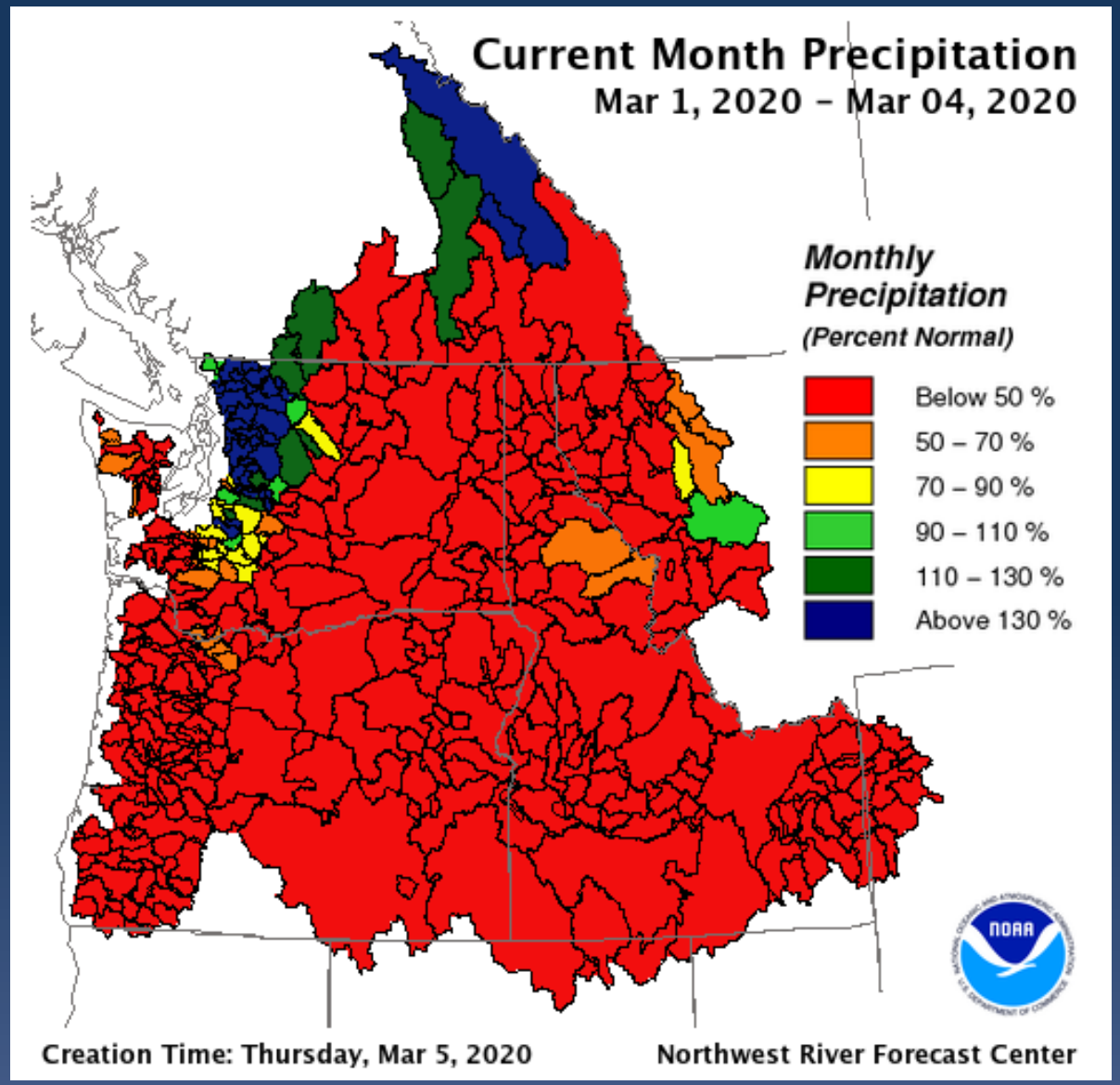


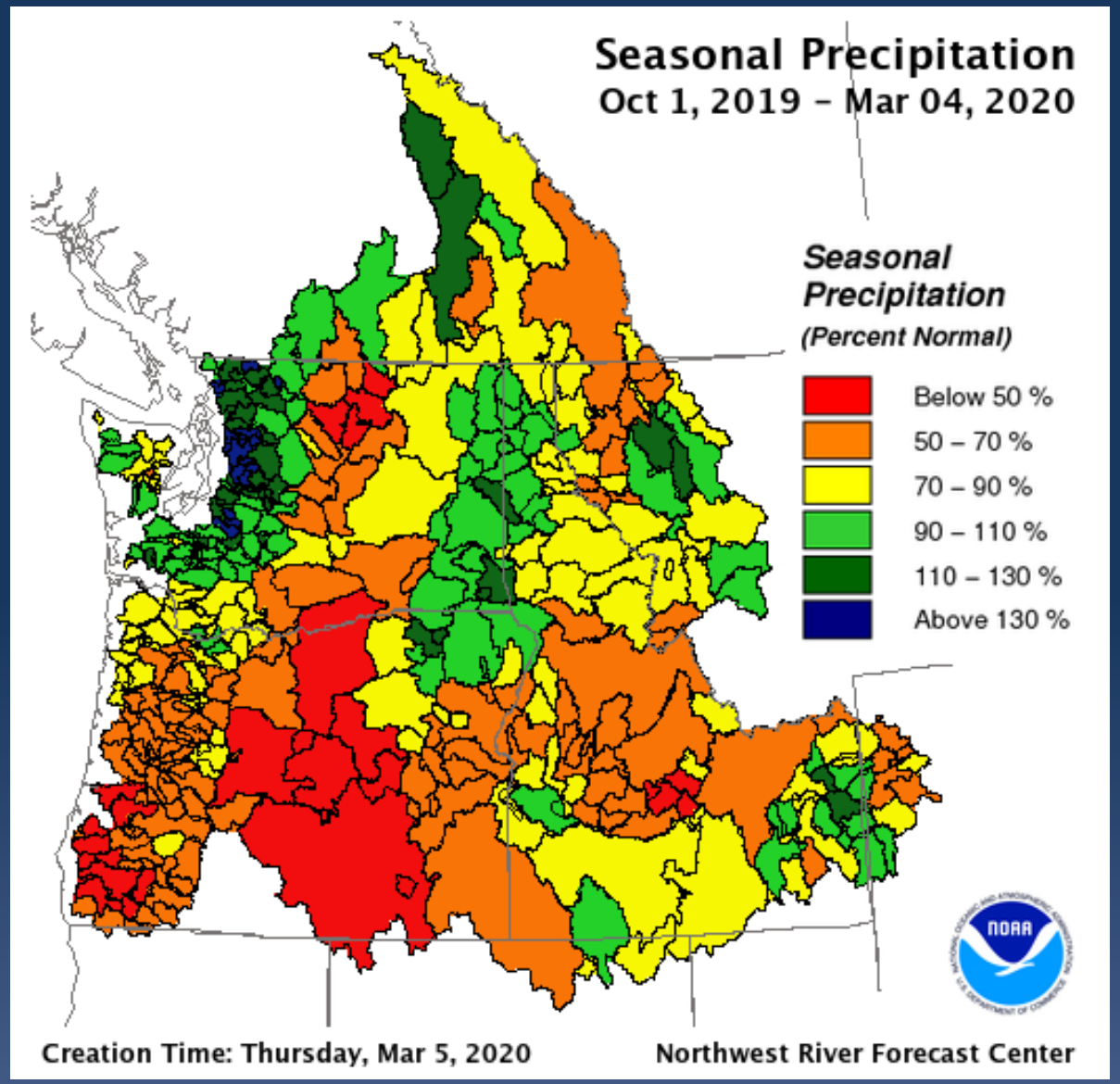
February Precipitation Evolution



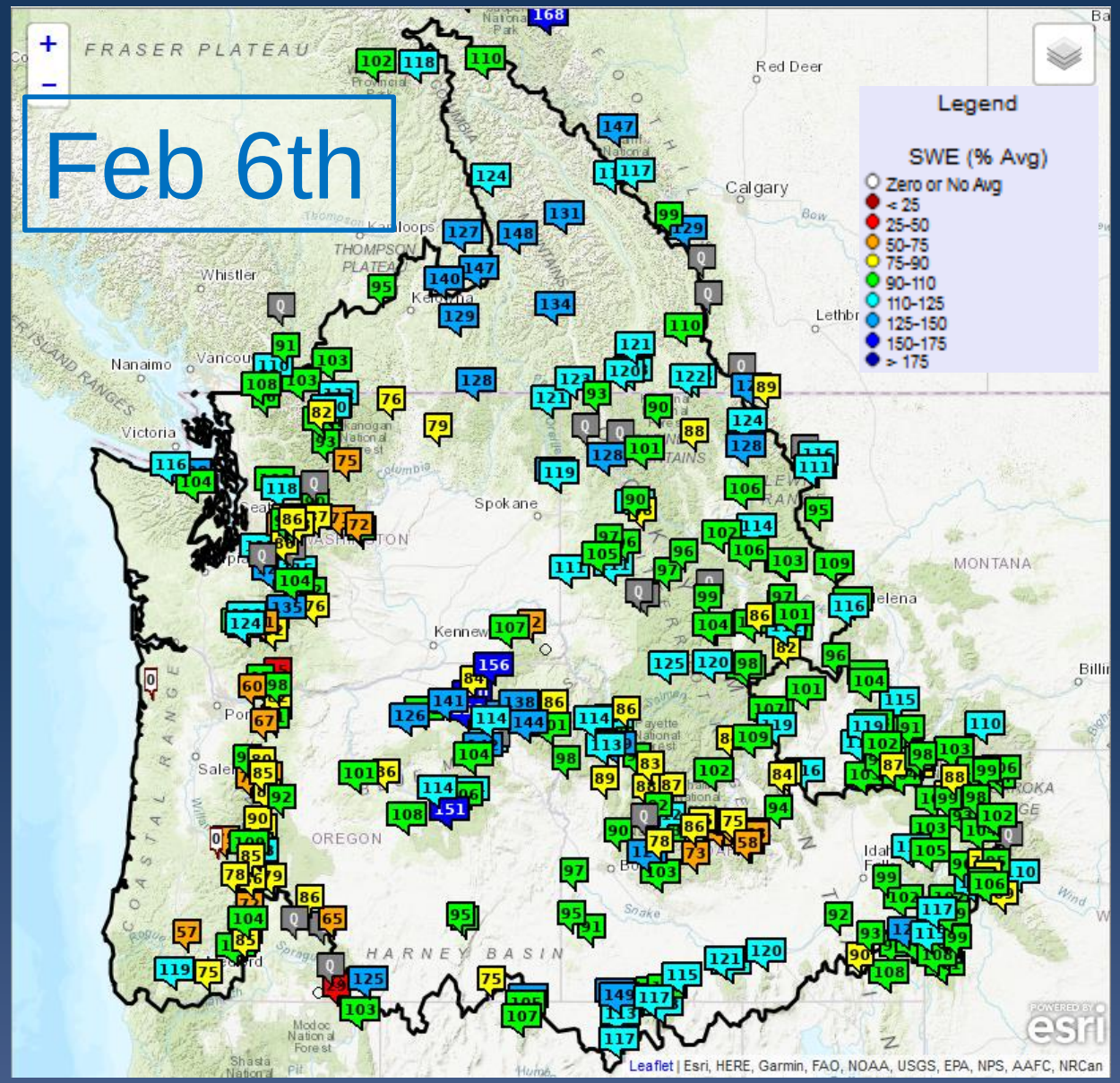


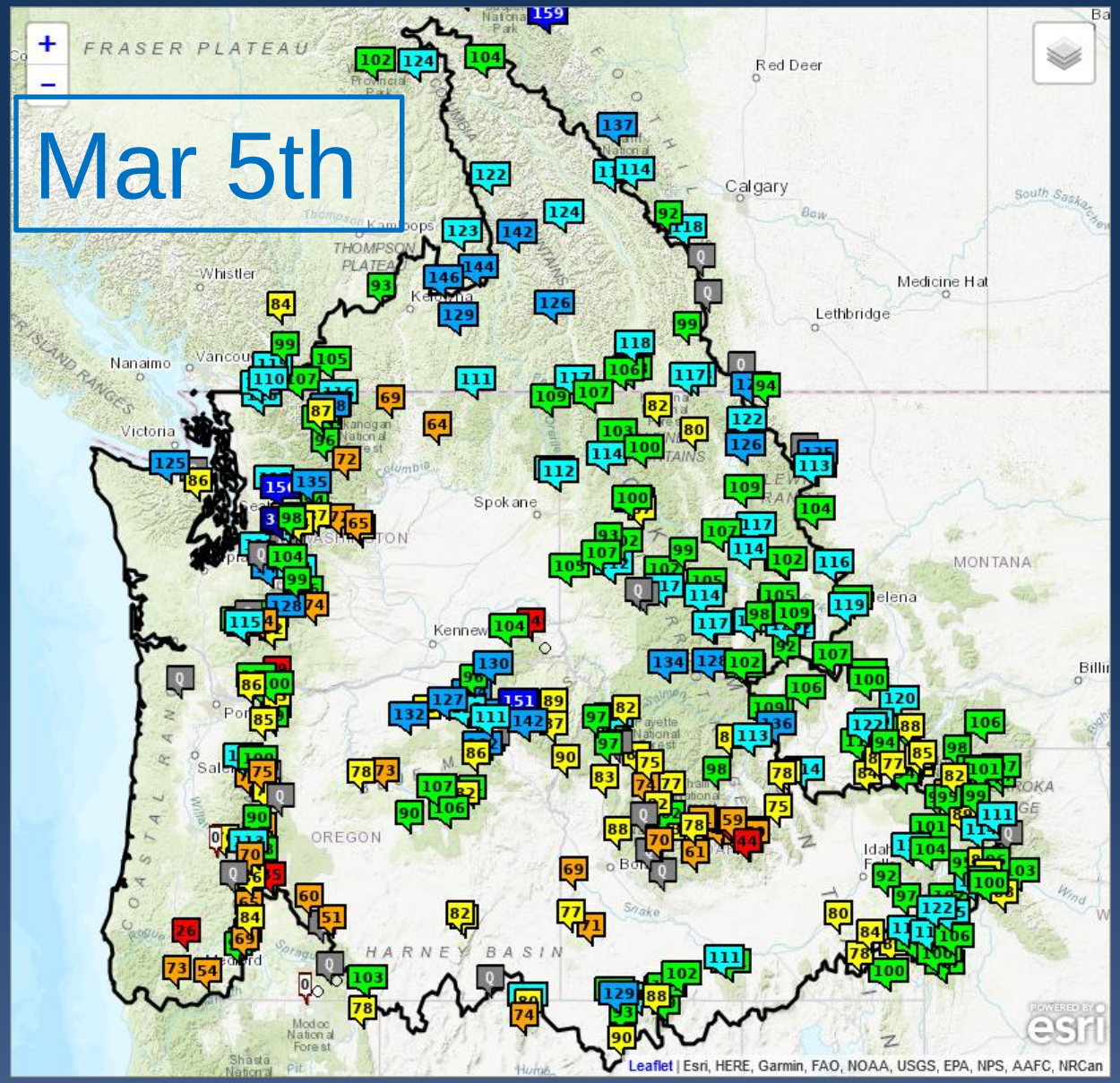
Seasonal Precipitation





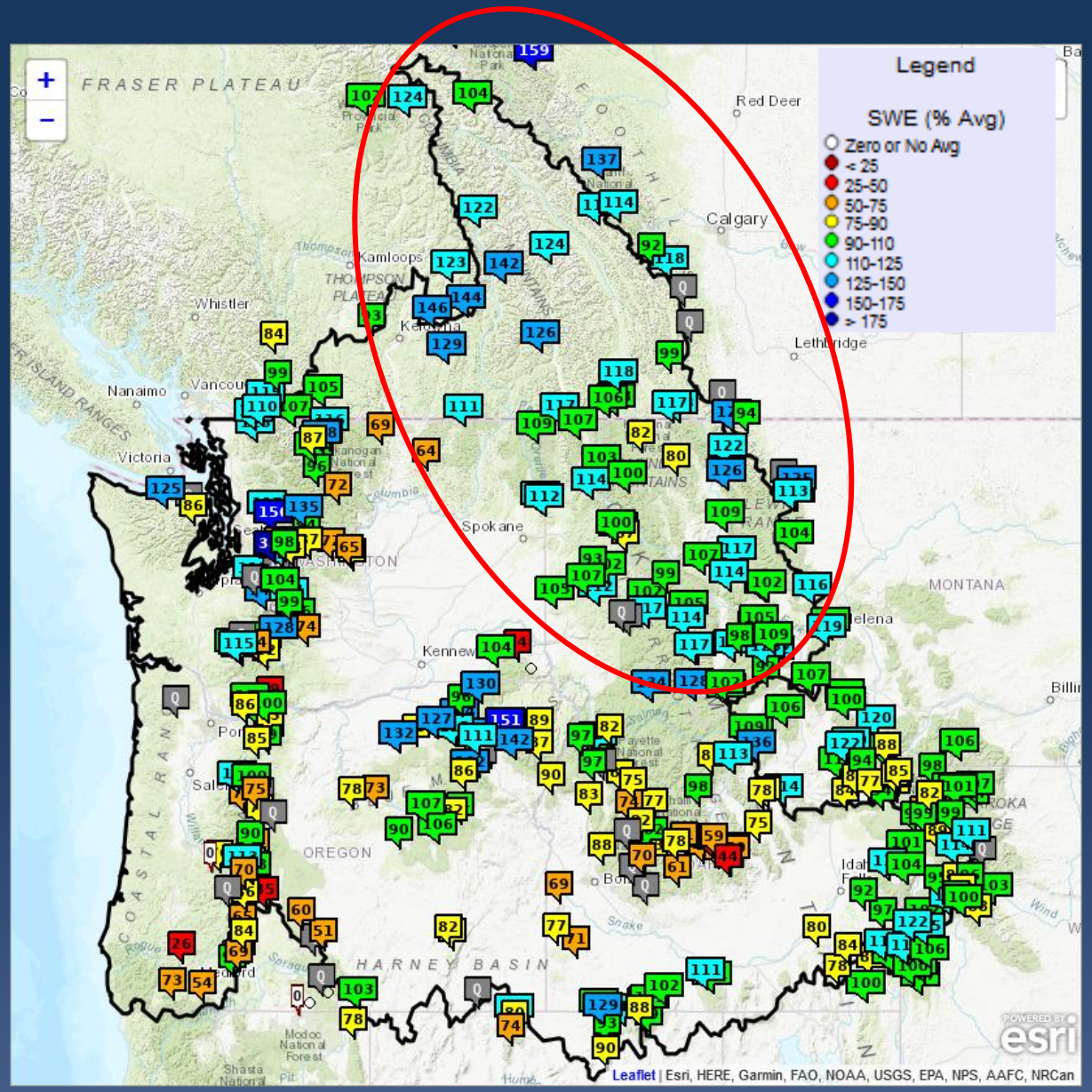
Snowpack

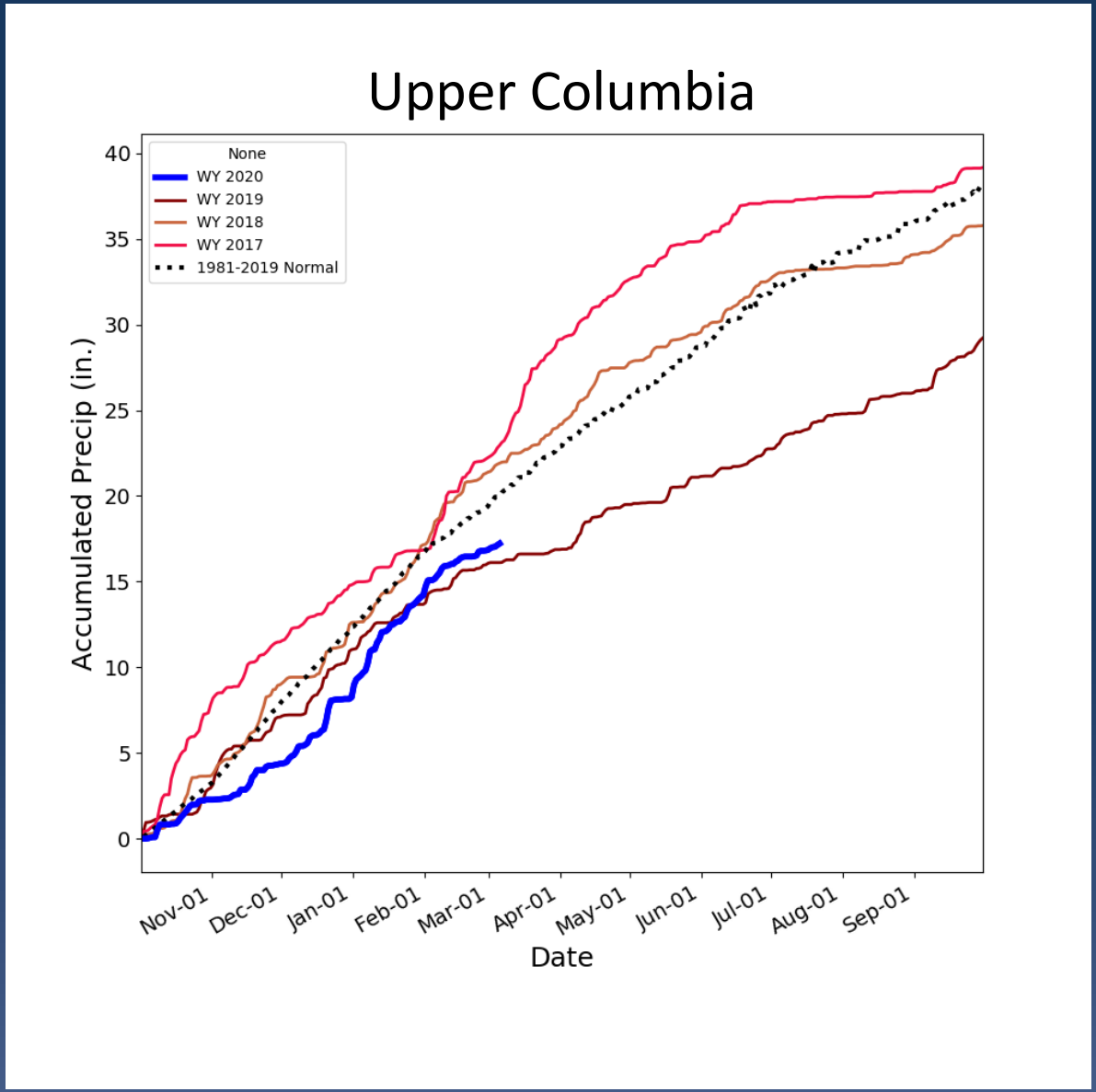




Snow data from NRCS, BC Hydro, and Alberta EP.

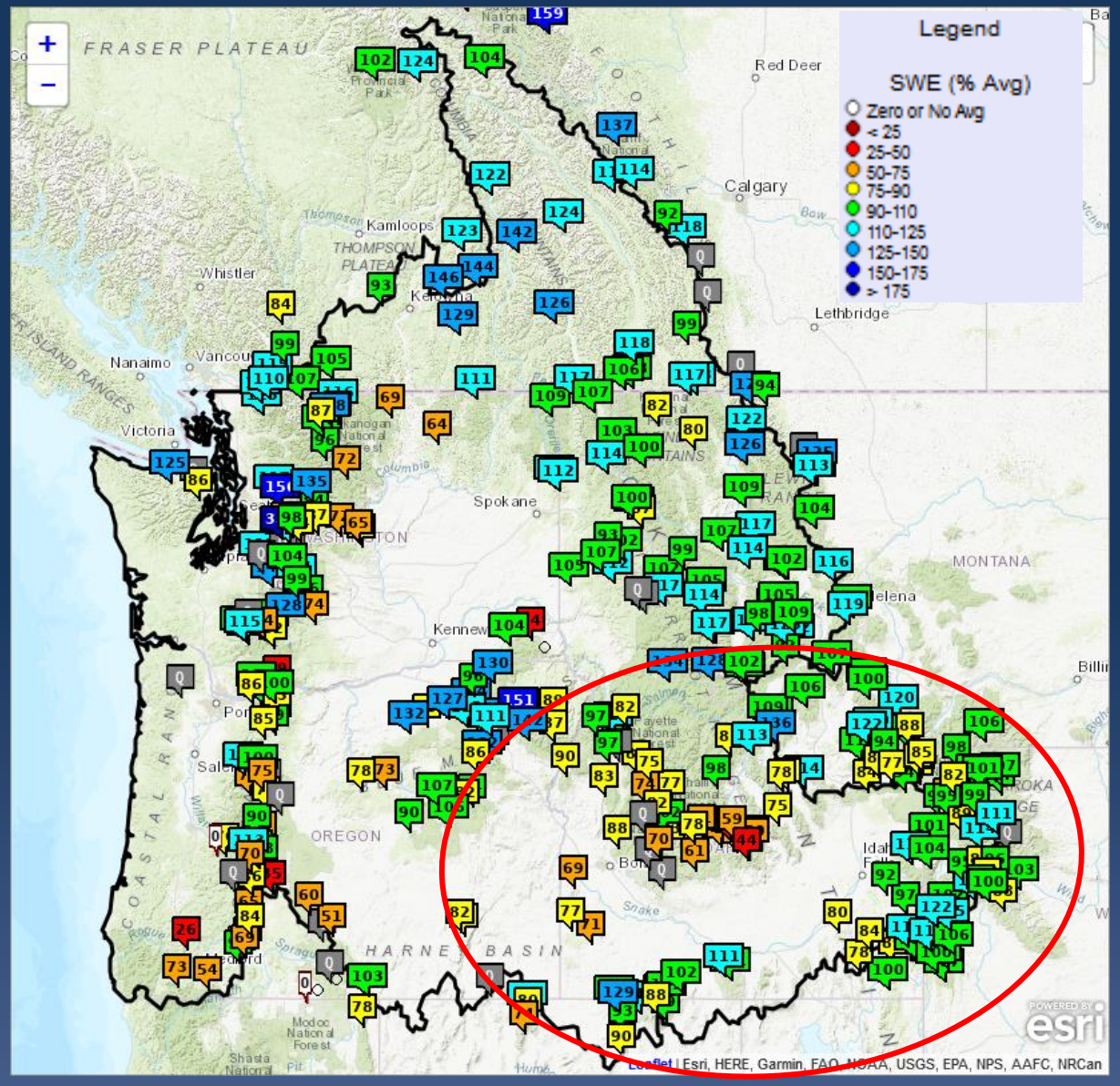
Snowpack and Seasonal Precipitation

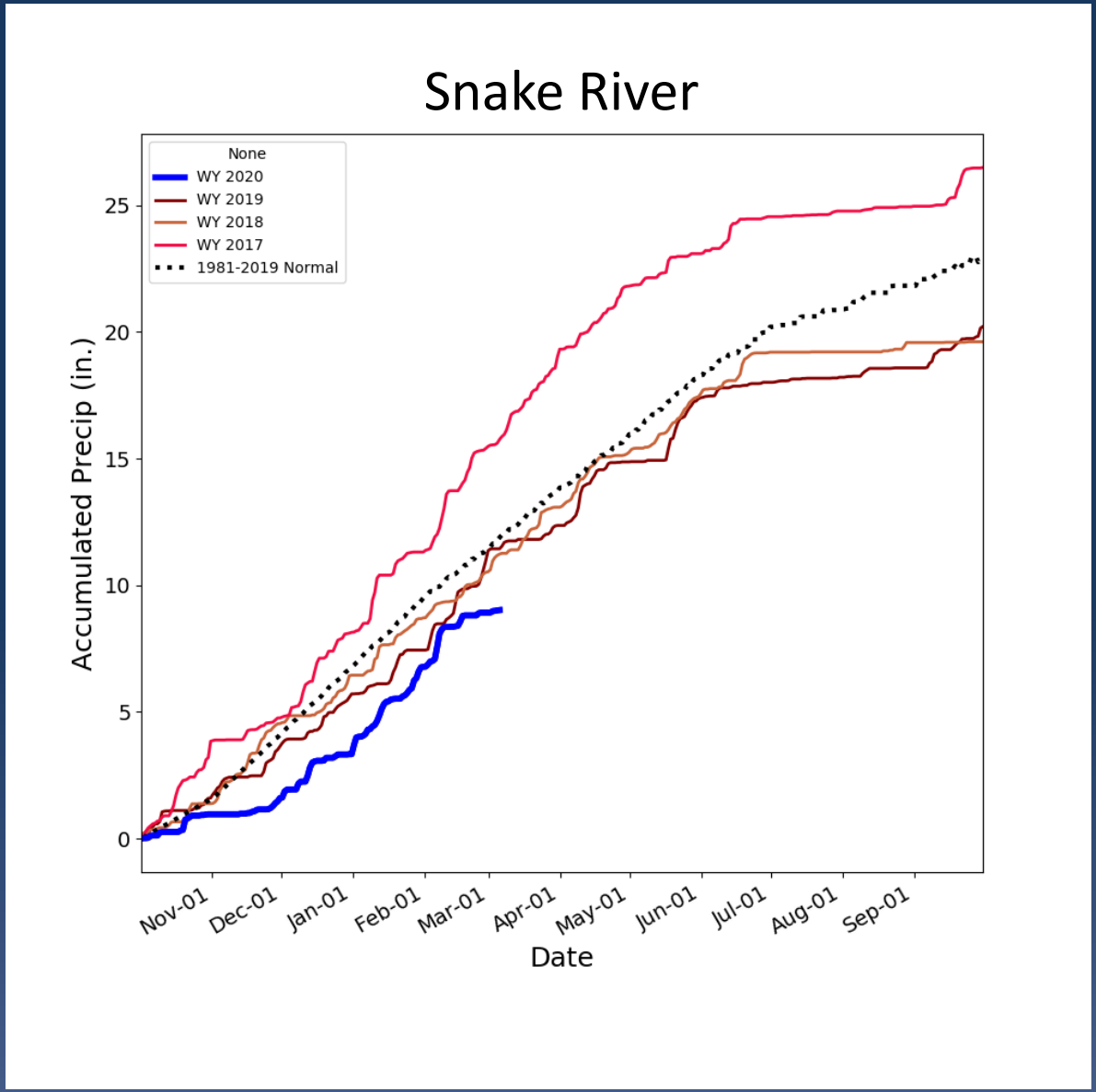




Data as of March 5, 2020. Snow data from NRCS, BC Hydro, and Alberta EP.

Snowpack and Seasonal Precipitation





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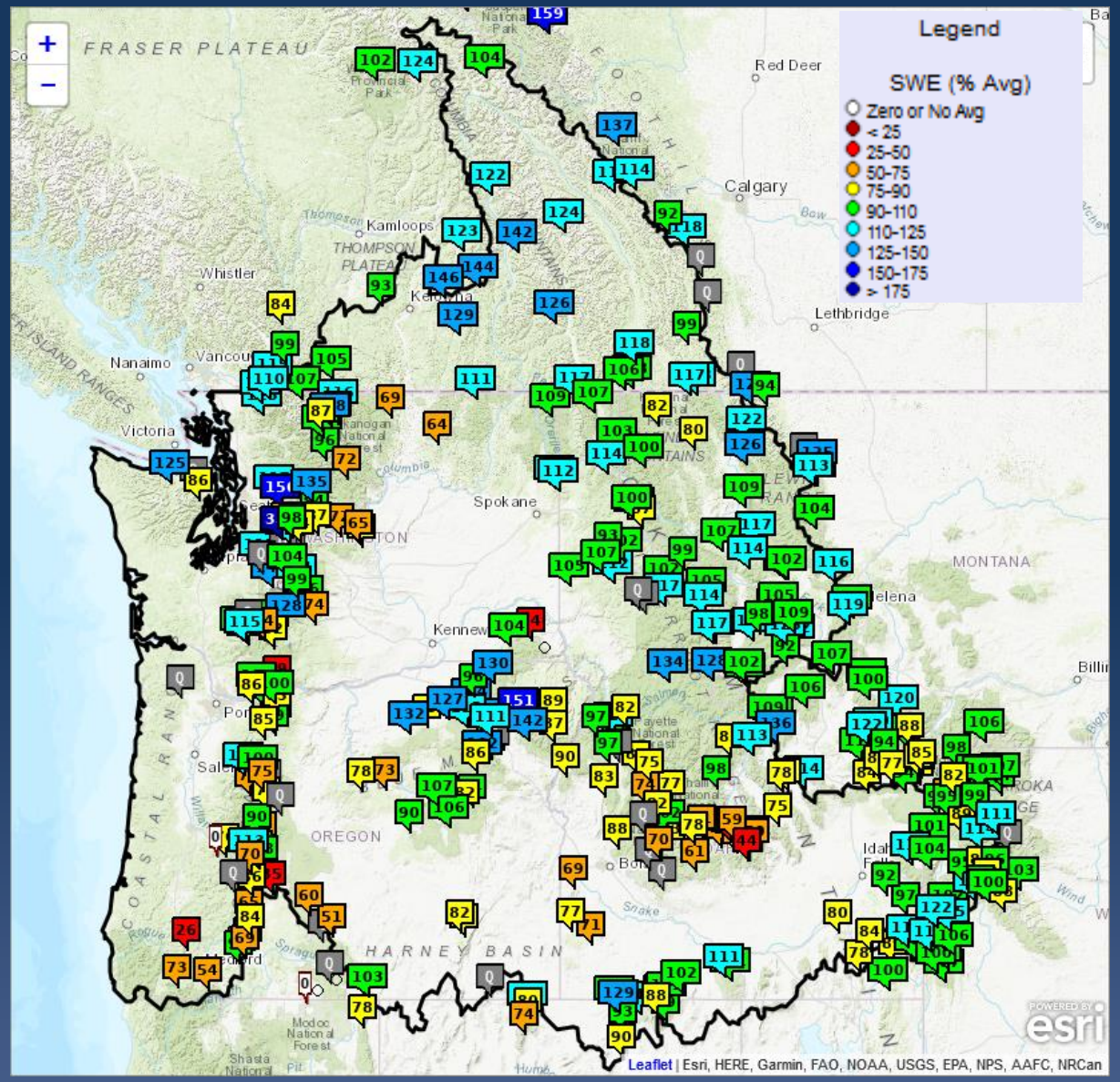
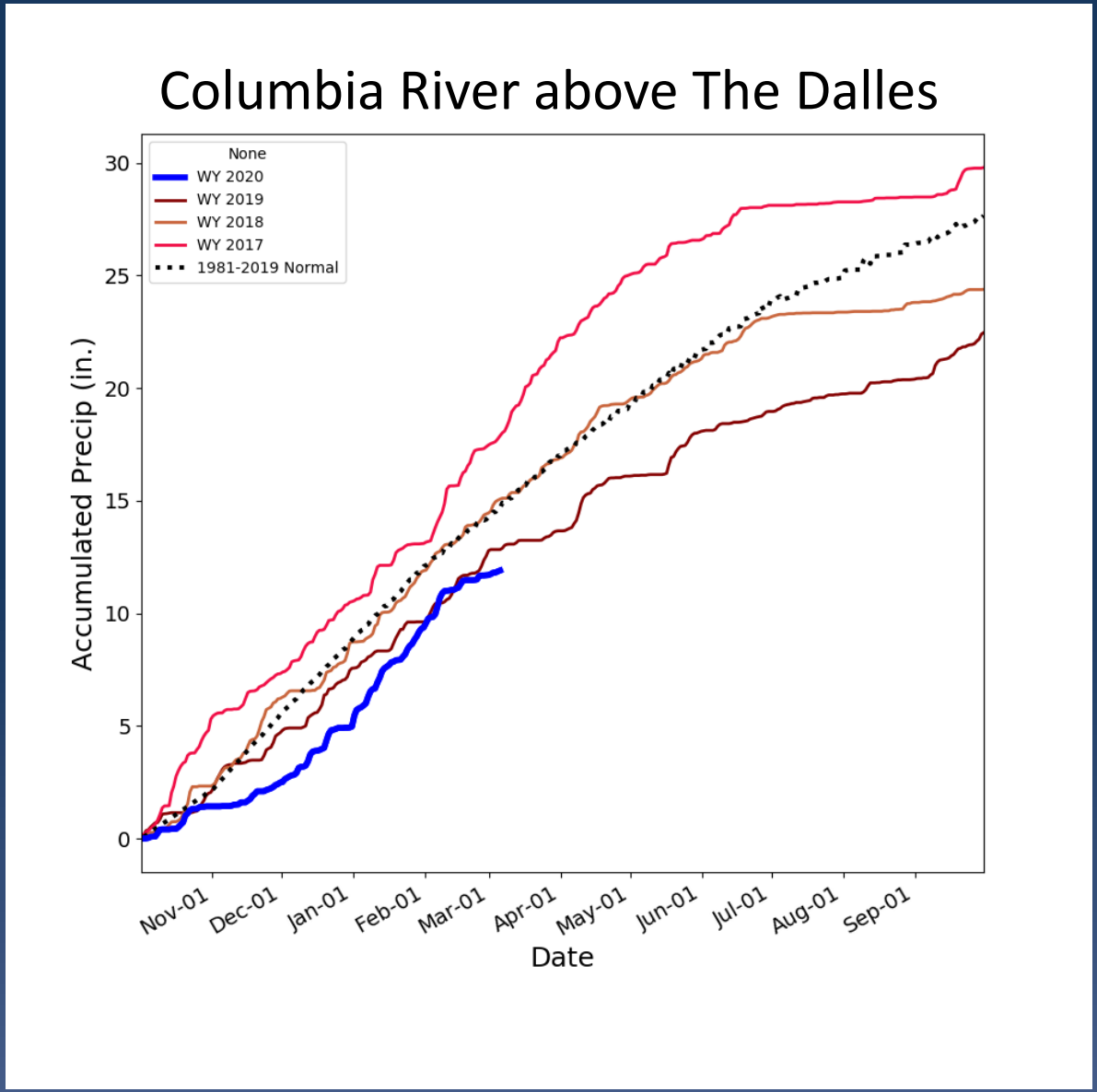
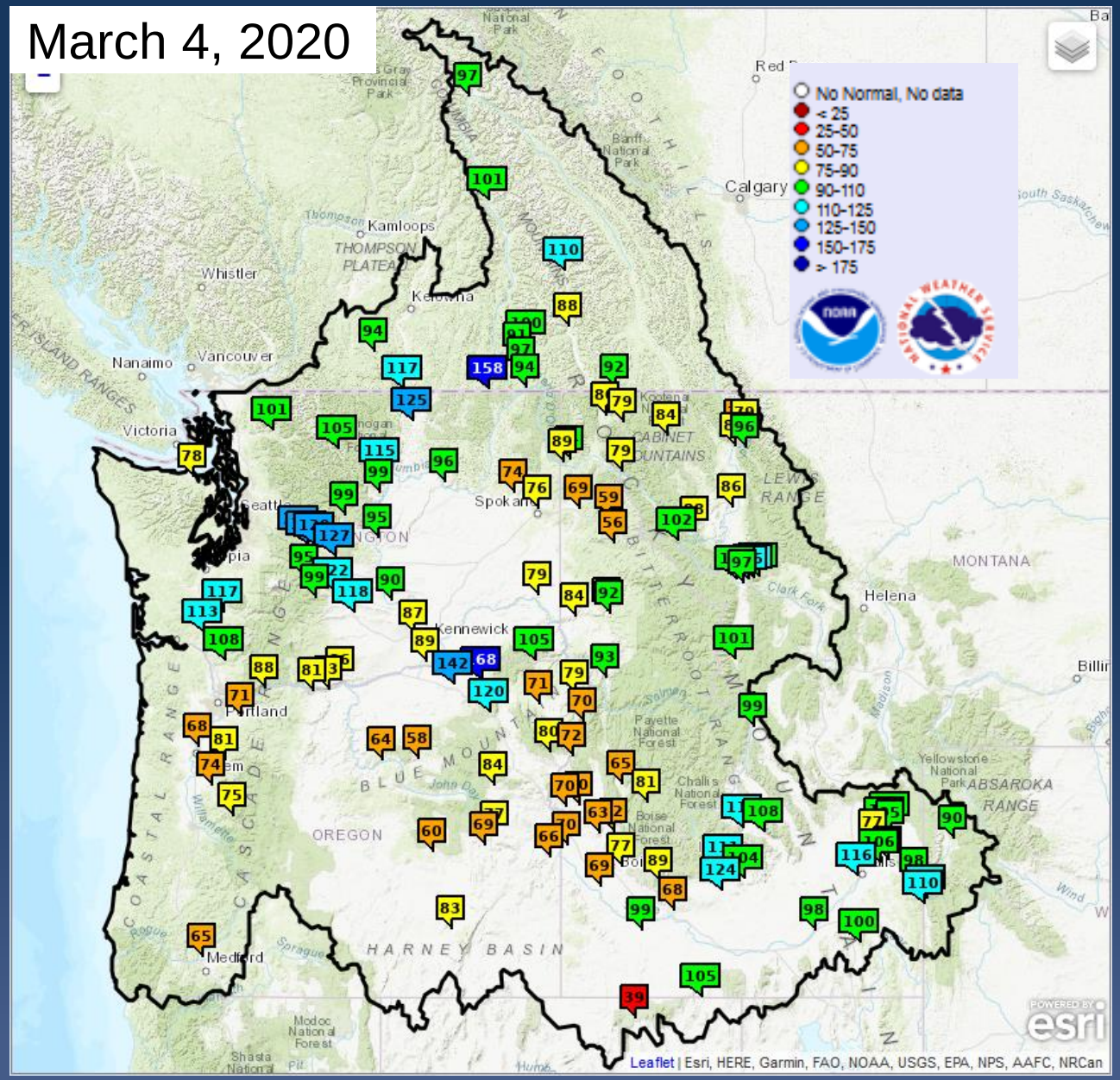
Snowpack and Seasonal Precipitation





Data as of March 5, 2020. Snow data from NRCS, BC Hydro, and Alberta EP.

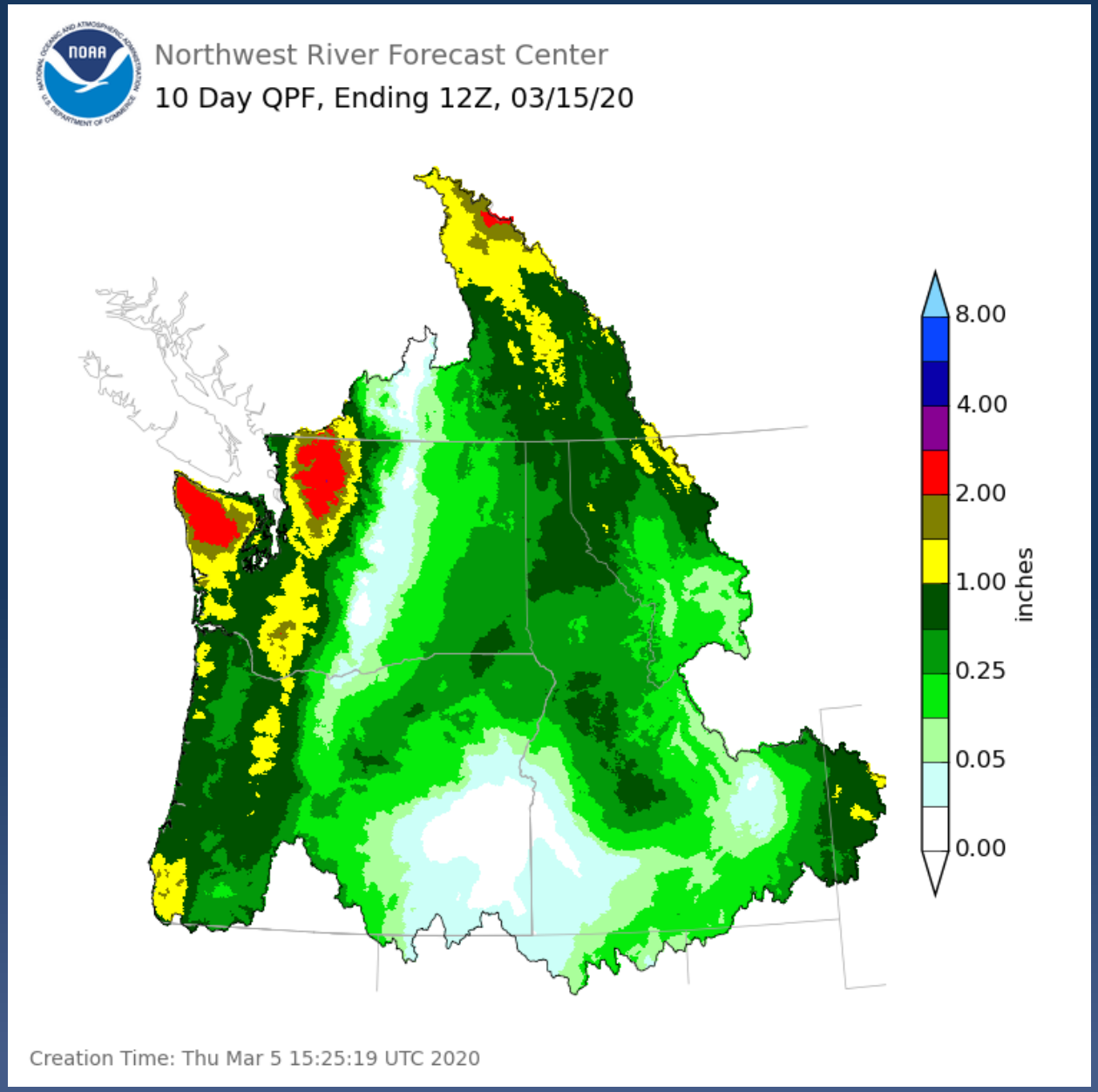
Current Adjusted Runoff Conditions

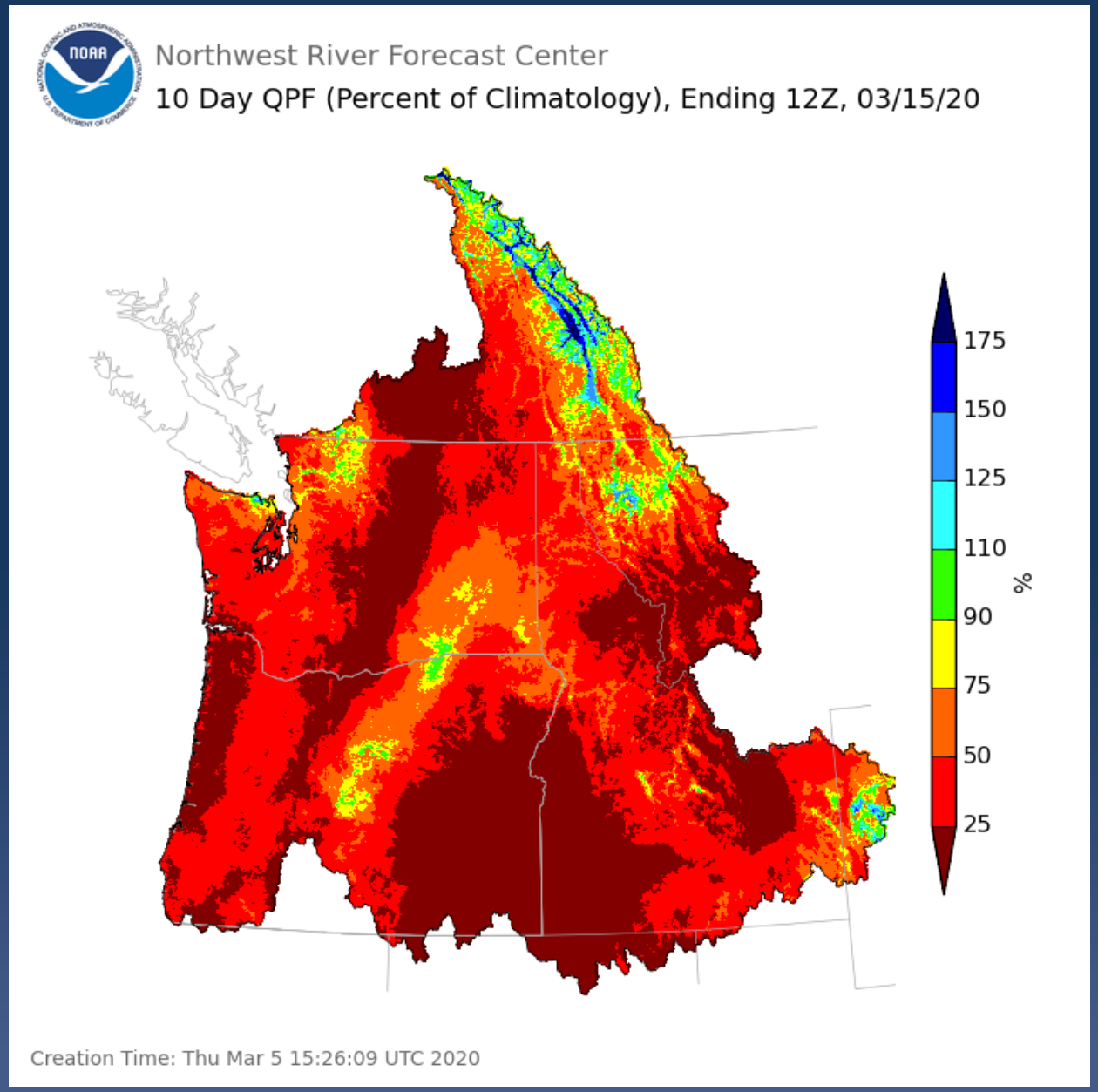


% of Normal Oct 1– March 4

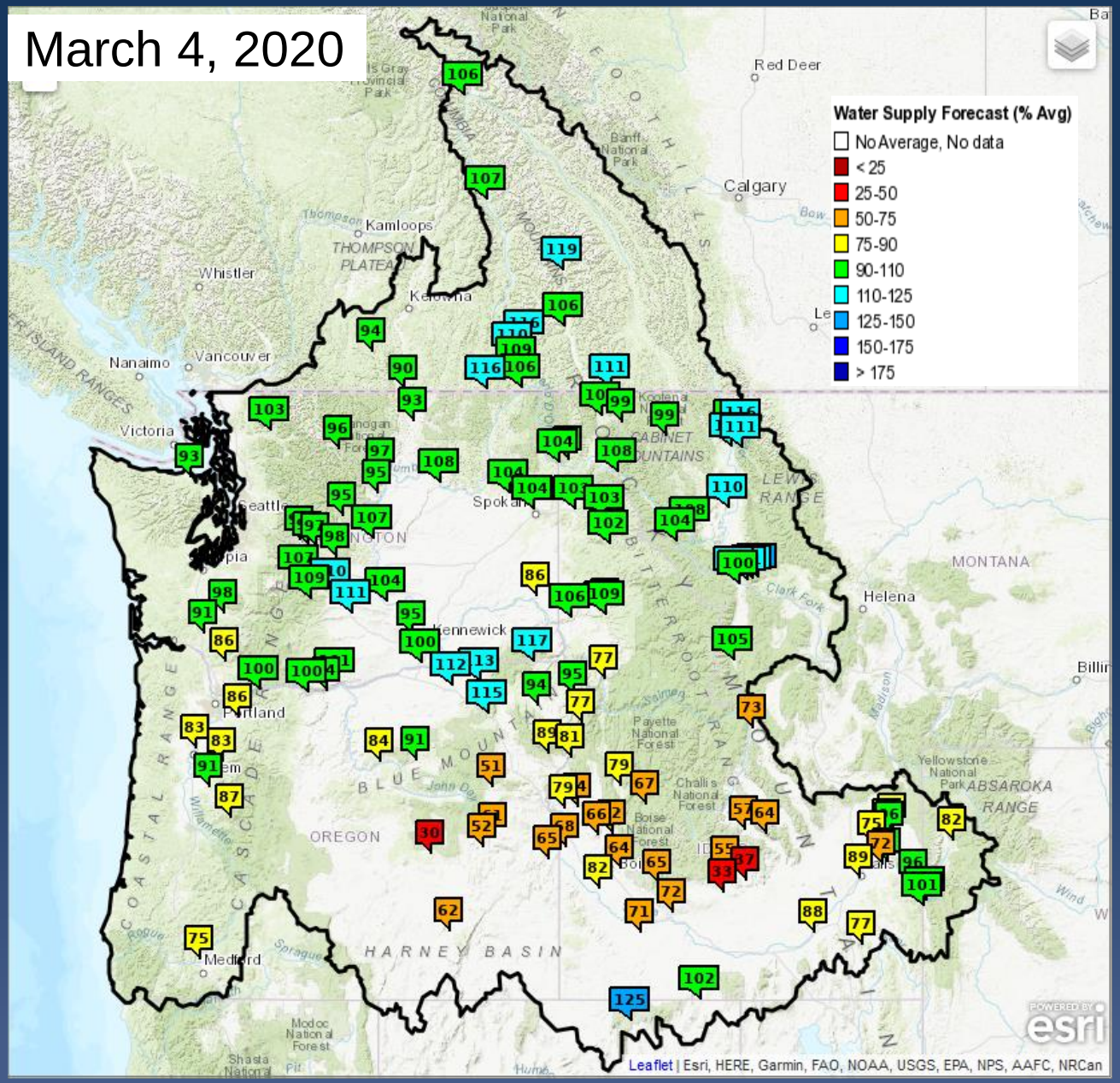
UPPER COLUMBIA BASIN		Δ (since Feb 5)
MICA	97	+ 3
DUNCAN	110	+ 1
QUEENS BAY	88	--
LIBBY	84	+ 2
HUNGRY HORSE	96	+ 1
GRAND COULEE	96	--
SNAKE RIVER BASIN		
AMERICAN FALLS	98	- 1
LUCKY PEAK	77	- 2
DWORSHAK	61	- 3
LOWER GRANITE	79	+ 1
LOWER COLUMBIA BASIN		
THE DALLES	81	+ 2

10 Day Precipitation Forecast (March 5-15)





ESP10 Apr-Sep Water Supply Forecasts



% of Normal Oct 1– March 4

UPPER COLUMBIA BASIN		Δ (since Feb 5)
MICA	106	--
DUNCAN	119	- 3
QUEENS BAY	106	- 6
LIBBY	99	- 7
HUNGRY HORSE	111	--
GRAND COULEE	108	- 3

SNAKE RIVER BASIN		
AMERICAN FALLS	88	- 24
LUCKY PEAK	64	- 18
DWORSHAK	97	- 4
LOWER GRANITE	86	- 11

LOWER COLUMBIA BASIN		
THE DALLES	100	- 6

ESP10 Apr-Sep Water Supply Forecasts

SNAKE - LOWER GRANITE DAM (LGDW1)
Forecasts for Water Year 2020

Official Water Supply

ESP with 10 Days QPF **Ensemble:** 2020-03-04 **Issued:** 2020-03-04

Forecast Period	Forecasts Are in KAF				30 Year Average (1981-2010)
	90 %	50 %	% Average	10 %	
APR-SEP	16659	19176	86	24171	22279
APR-JUL	14567	16773	85	21280	19848
APR-AUG	15598	17863	85	22786	21091
JAN-SEP	22582	24995	84	30547	29872
JAN-JUL	20499	22635	82	27570	27440
OCT-SEP	26497	28910	83	34461	34667

Experimental Water Supply

HEFS with 15 days EQPF **Ensemble:** 2020-03-04 **Issued:** 2020-03-04

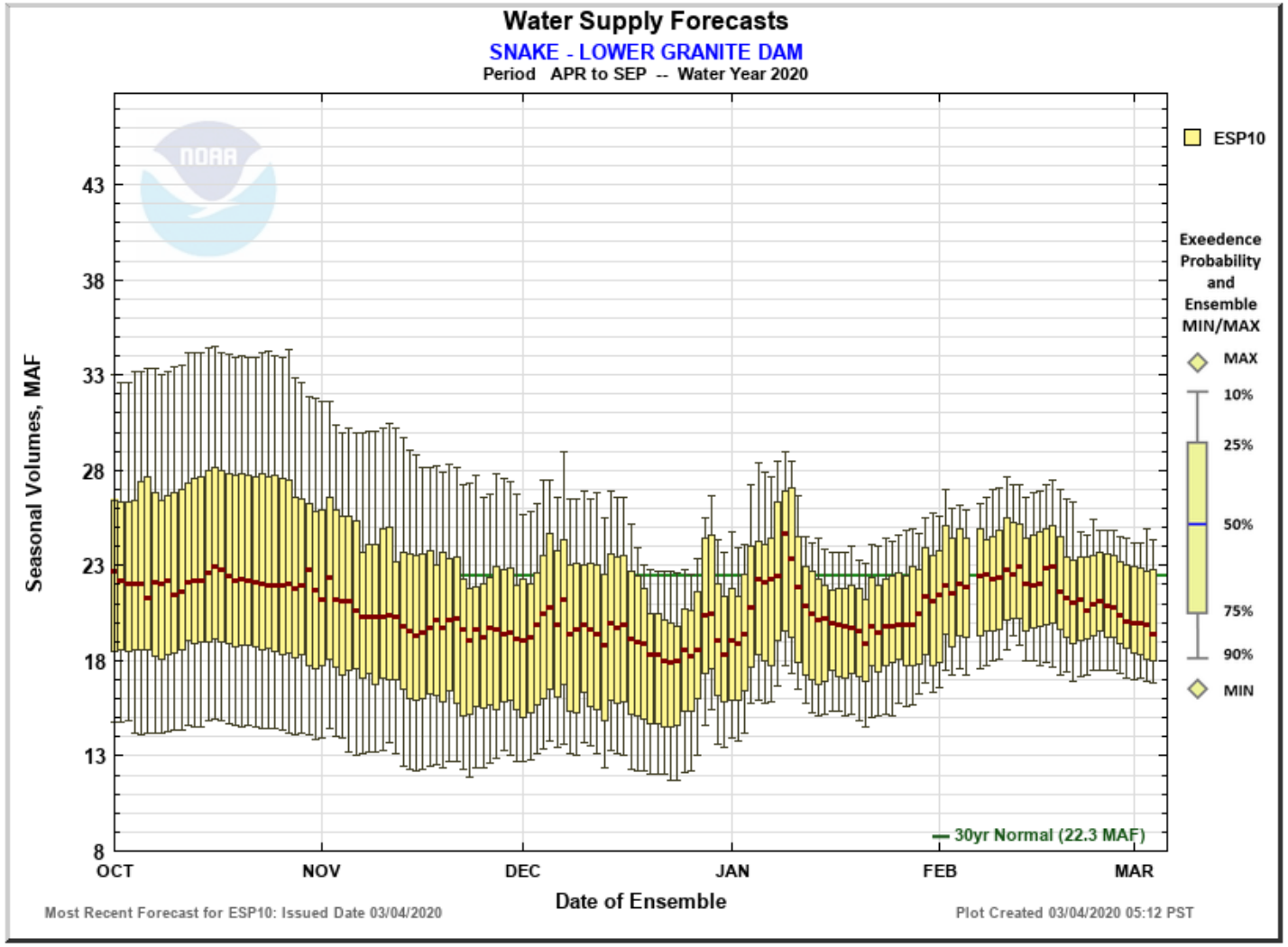
APR-SEP	17178	20503	92	24985	22279
APR-JUL	14931	17942	90	22343	19848
APR-AUG	16071	19412	92	23748	21091
JAN-SEP	23049	26157	88	30828	29872
JAN-JUL	20883	23787	87	28186	27440
OCT-SEP	26964	30072	87	34743	34667

Reference

ESP with 0 Days QPF **Ensemble:** 2020-03-04 **Issued:** 2020-03-04

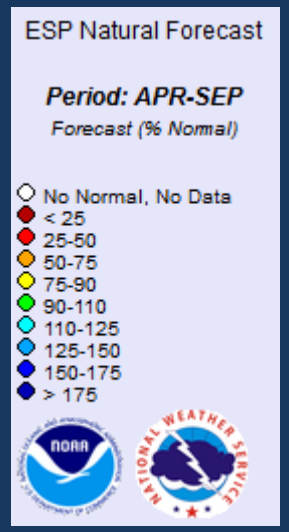
APR-SEP	17065	20976	94	24359	22279
APR-JUL	14938	18239	92	21541	19848
APR-AUG	16005	19680	93	22983	21091
JAN-SEP	23192	26924	90	32193	29872
JAN-JUL	20950	24521	89	29532	27440
OCT-SEP	27107	30838	89	36108	34667

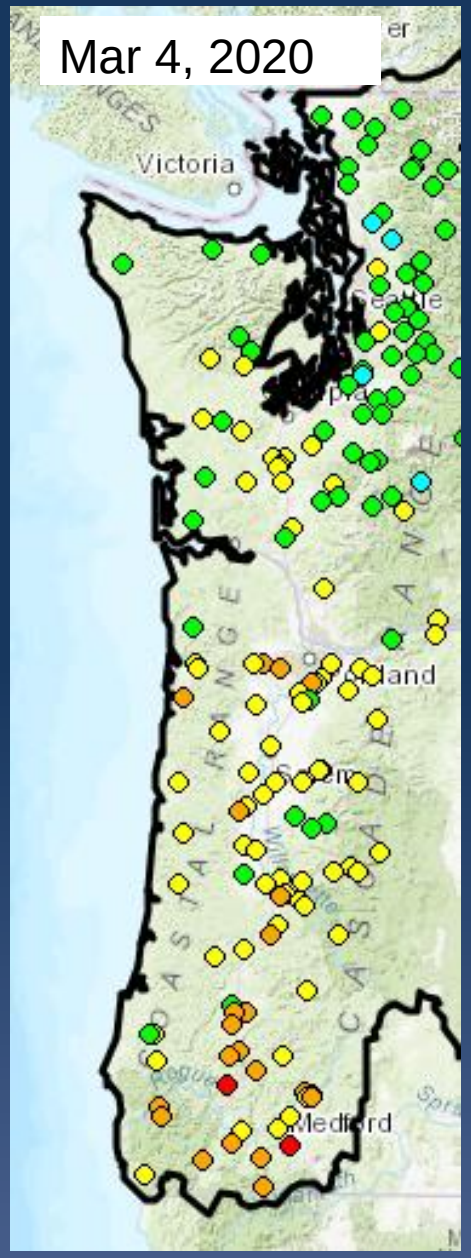
Move the mouse over the desired "Forecast Period" to display a graph.



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

ESP10 Natural Apr-Sep Forecasts





Western Oregon and Washington

Basin	% 30 yr Normal	Δ since Feb 5
Washington		
Skagit River near Concrete	104%	--
Green River Howard Hanson Res	92%	+ 2
Cowlitz River Mossyrock Reservoir	97%	+ 2
Cowlitz River Mayfield Reservoir	97%	+ 2
Oregon		
North Santiam At Mehama	86%	- 8
Willamette River At Salem	79%	- 7
Rogue River Applegate Reservoir	59%	- 30

(change in % since Jan 9, 2020 in parenthesis)

ESP10 Natural Apr-Sep Forecasts

APPLEGATE - APPLEGATE RESERVOIR (APLO3)
Forecasts for Water Year 2020

Official Water Supply
ESP with 10 Days QPF **Ensemble:** 2020-03-04 **Issued:** 2020-03-04

Forecast Period	Forecasts Are in KAF				30 Year Average (1981-2010)
	90 %	50 %	% Average	10 %	
APR-SEP	48	69	59	130	116
APR-JUL	46	66	61	122	109
JAN-SEP	100	122	50	192	246
JAN-JUL	96	120	50	185	239
OCT-SEP	118	140	46	210	302

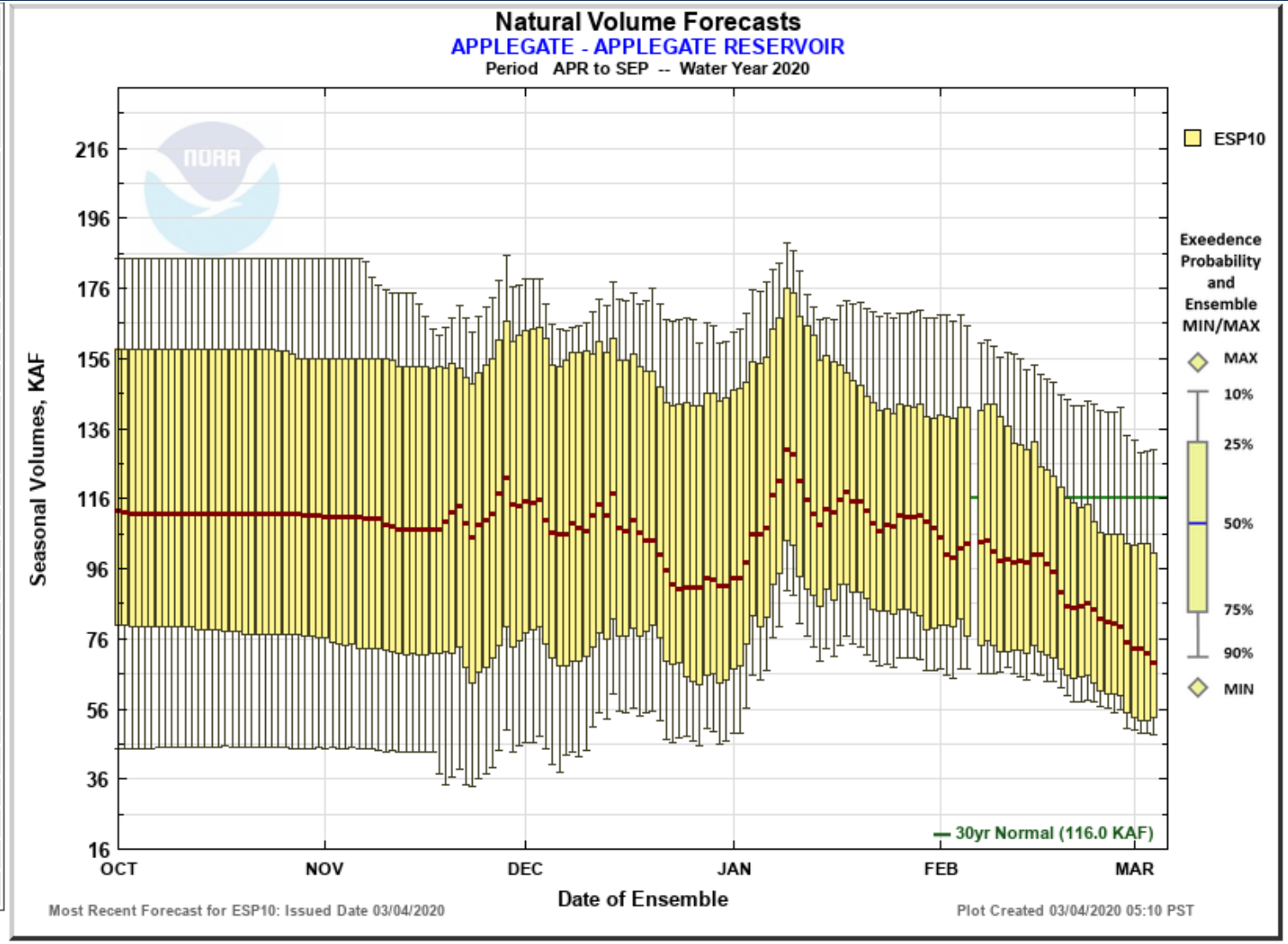
Experimental Water Supply
HEFS with 15 days EQPF **Ensemble:** 2020-03-04 **Issued:** 2020-03-04

APR-SEP	50	76	65	135	116
APR-JUL	48	73	67	127	109
JAN-SEP	103	130	53	196	246
JAN-JUL	101	128	53	191	239
OCT-SEP	121	148	49	214	302

Reference
ESP with 0 Days QPF **Ensemble:** 2020-03-04 **Issued:** 2020-03-04

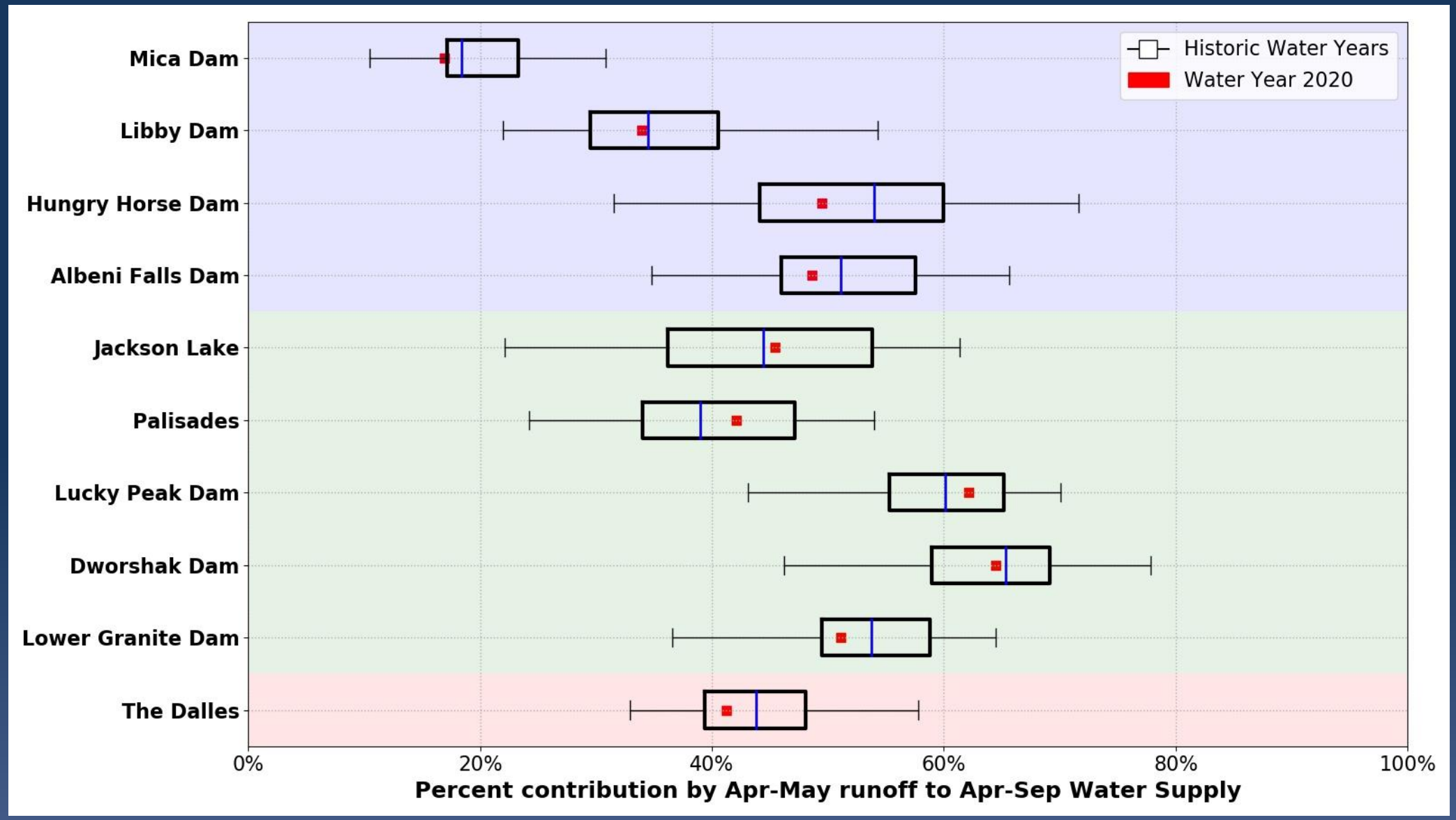
APR-SEP	52	78	67	136	116
APR-JUL	49	73	67	128	109
JAN-SEP	102	140	57	206	246
JAN-JUL	100	133	56	197	239
OCT-SEP	120	158	52	224	302

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



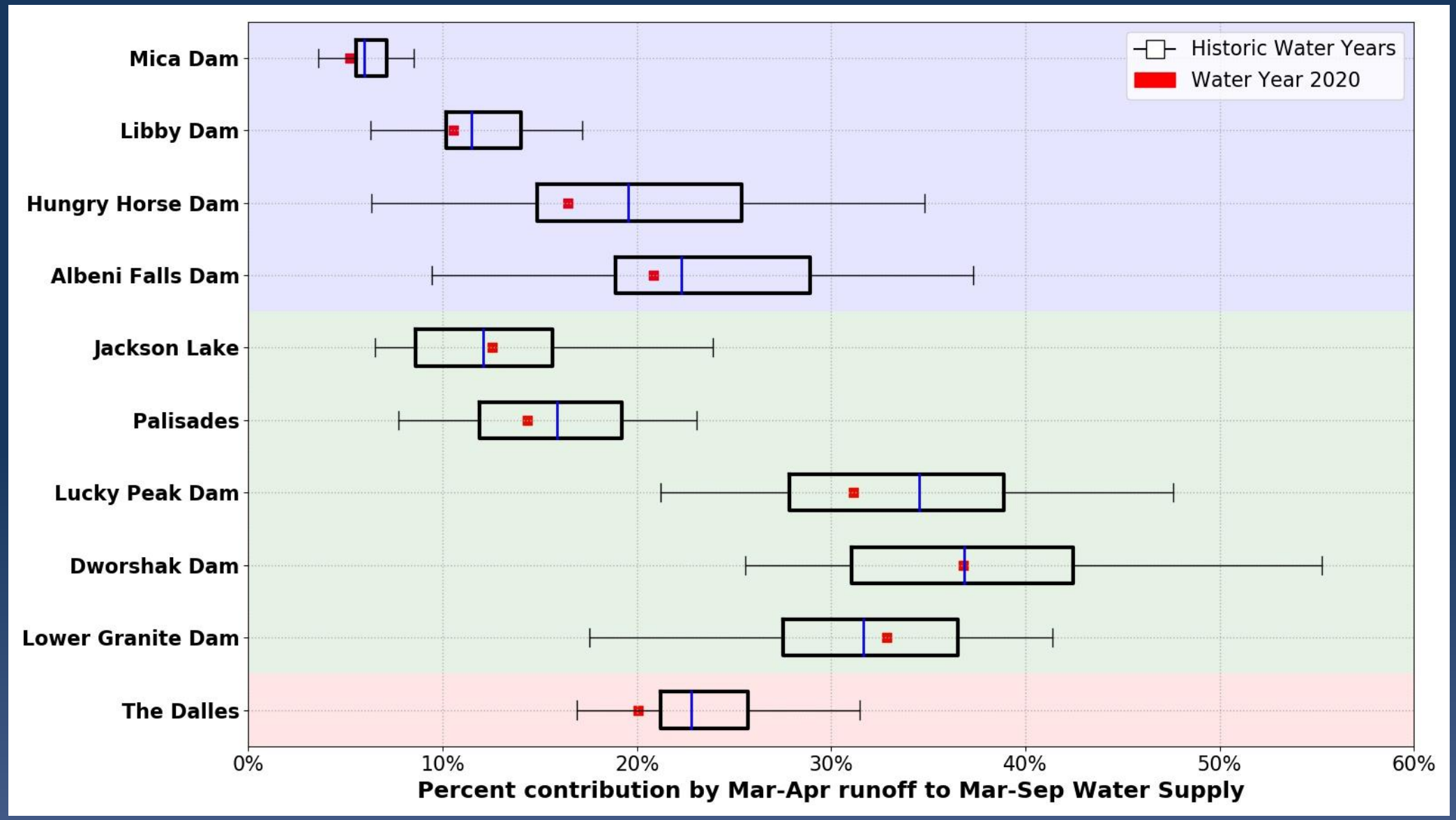
○ Max Scale ◉ Scale To Data ○ Scale To Last 45 Days ☐ Show Min/Max Ensemble Volume ☐ Show Tooltips Help

April-May Runoff Forecasts



Data as of March 4. 2020

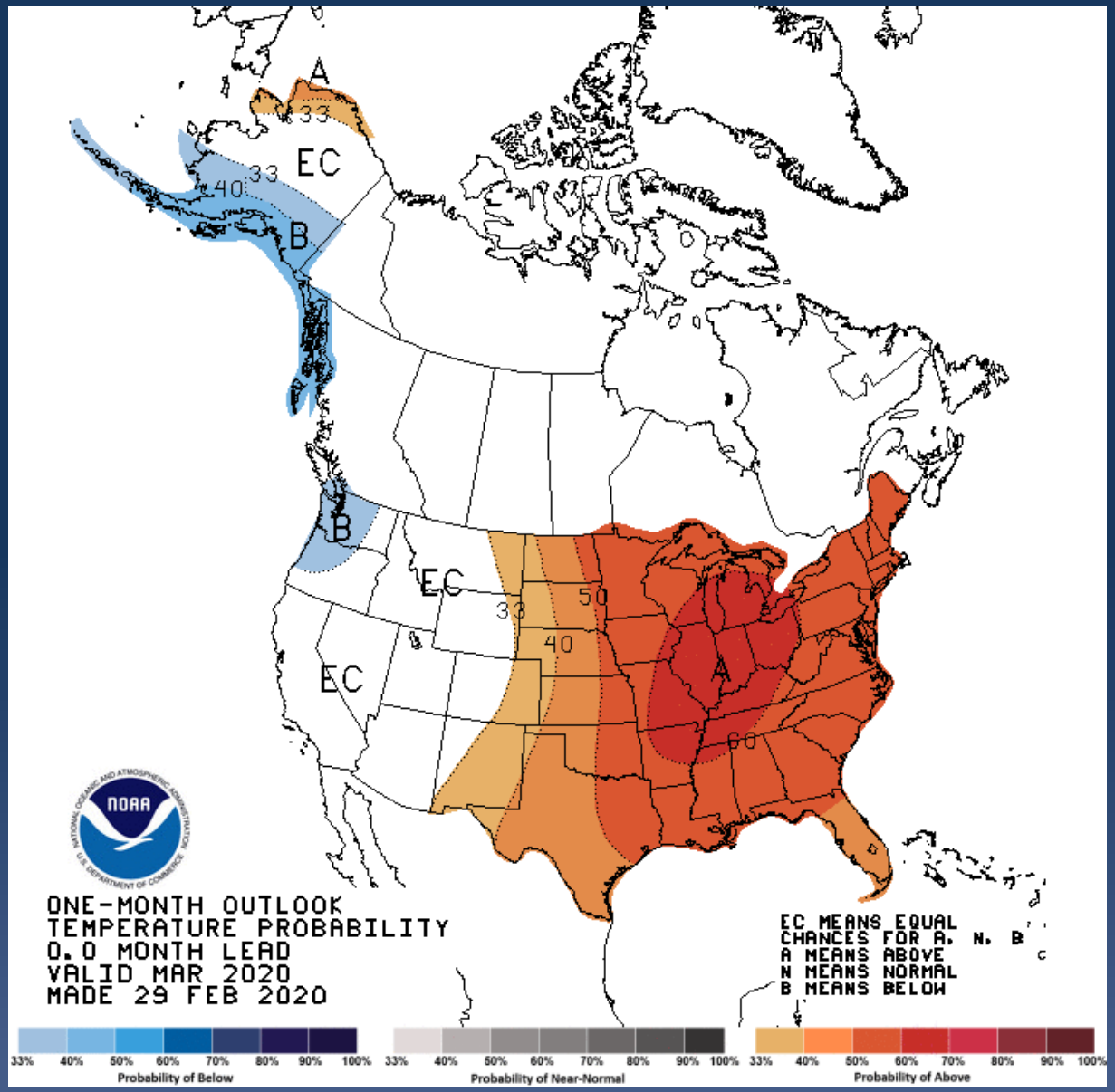
March-April Runoff Forecasts

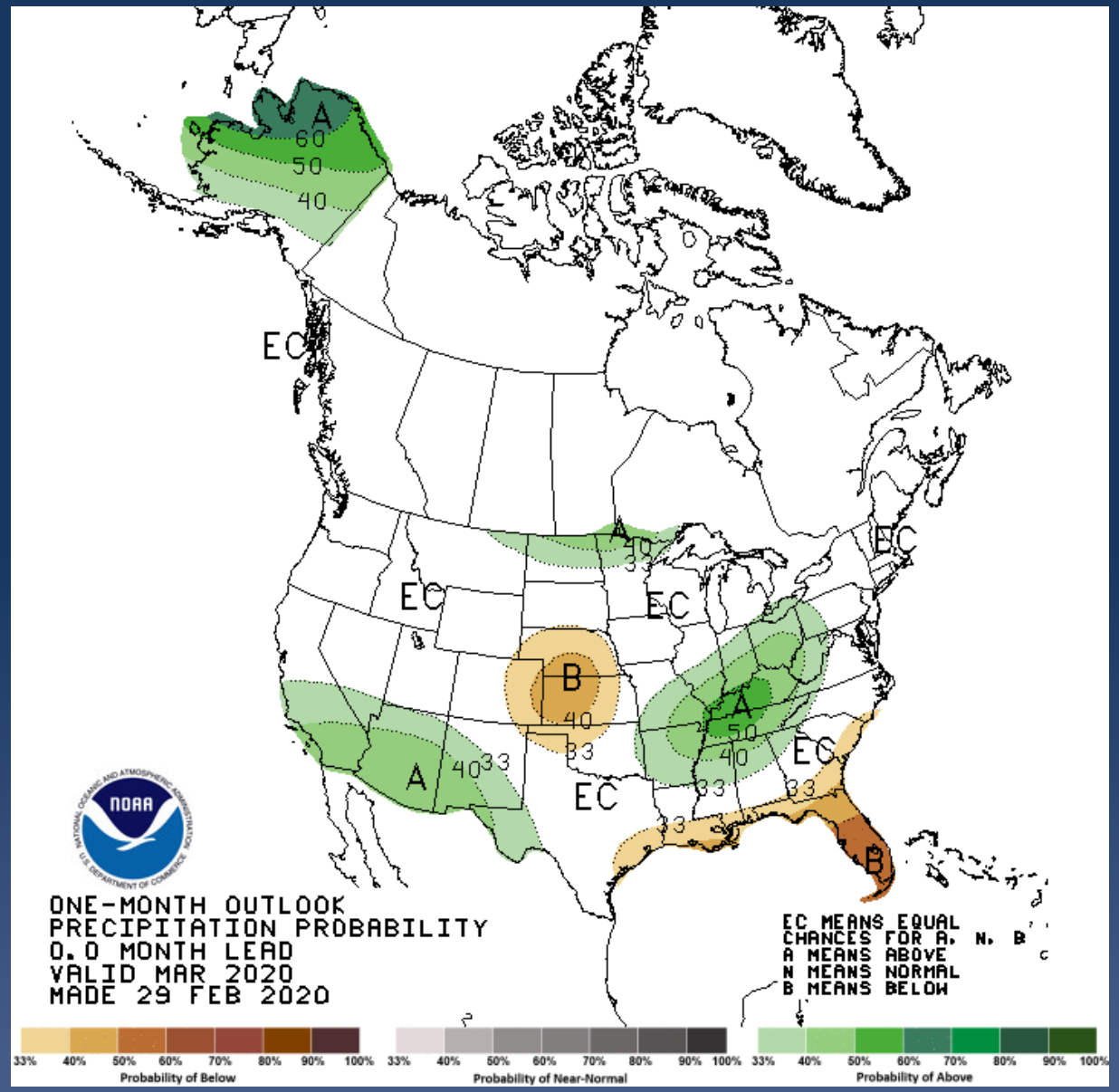


Data as of March 4. 2020

One Month CPC Outlook

http://www.cpc.ncep.noaa.gov/





Water Year 2020 Summary

Columbia River Forecasts near to above normal.

- Higher volume forecasts to the north and east.

Snake River Forecasts generally below normal.

- Especially dry in Middle Snake from American Falls to the confluence with the Salmon River.
- Forecasts in the Upper Snake above American Falls are near normal.
- Clearwater River has near normal water supply forecast.

West of the Cascades is a tale of two states.

- Washington near normal.
- Oregon below normal, lower to the south.

2019 Schedule for Live Water Supply Briefings	
April	May
2	7
All presentations held at 10:00 am PST/PDT unless noted otherwise	

Telephone Conference Call Number
(same for each month's brief):
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322-562-815#

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River and Hydrology | Water Supply | Observations | Weather Forecasts | Climate | NWRFC

Questions?

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You will be muted until the presenter unmutes you. If you have a question, use the 'Raise Hand' function to let us know to unmute your phone.

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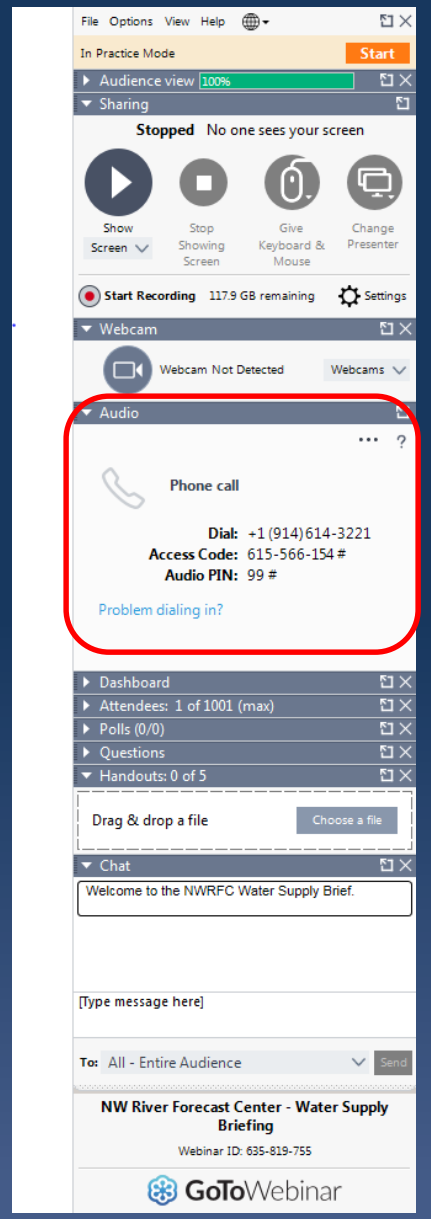

Bottom Line

Wet start to February, dry conditions followed.

Northern basin near normal to above normal water supply forecasts.

Southern basin generally below normal water supply forecasts.