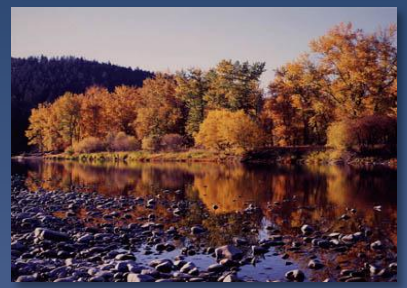
Northwest River Forecast Center



March 2022 Water Supply Briefing

Telephone Conference: (562) 247-8422
Audio Access Code: 146-348-602#

Amy Burke
NWRFC.watersupply@noaa.gov

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

Take Home Messages

February was dry and cold.

Snowpack was mostly preserved by the cold but did not build much and dropped in percent normal, especially in Southern Oregon and Idaho.

Year to date percent normal runoff has decreased since Feb 1.

Water supply forecasts continued to drop.

Water Supply Forecast Briefing

Observed Conditions:

- Temperature
- Precipitation
- Snowpack
- Runoff

Model States

Future Conditions:

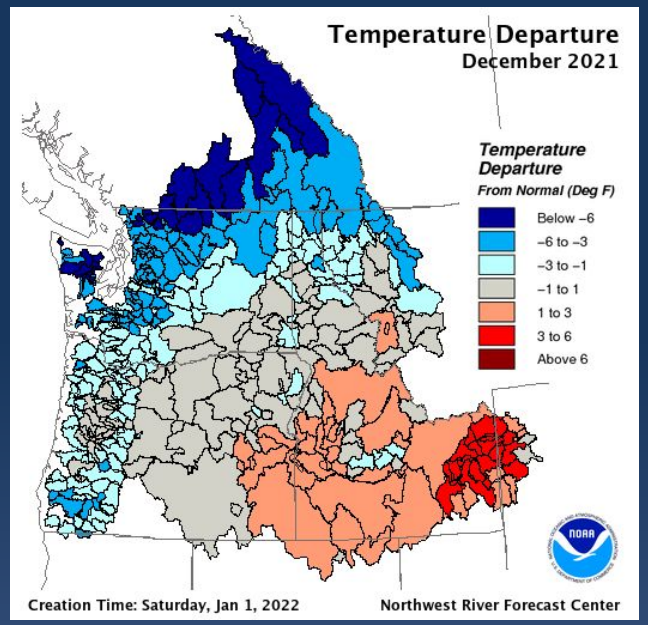
- 10 days of quantitative precipitation forecast (QPF)
- 10 days of quantitative temperature forecast (QTF)
- Historical climate forcings appended thereafter

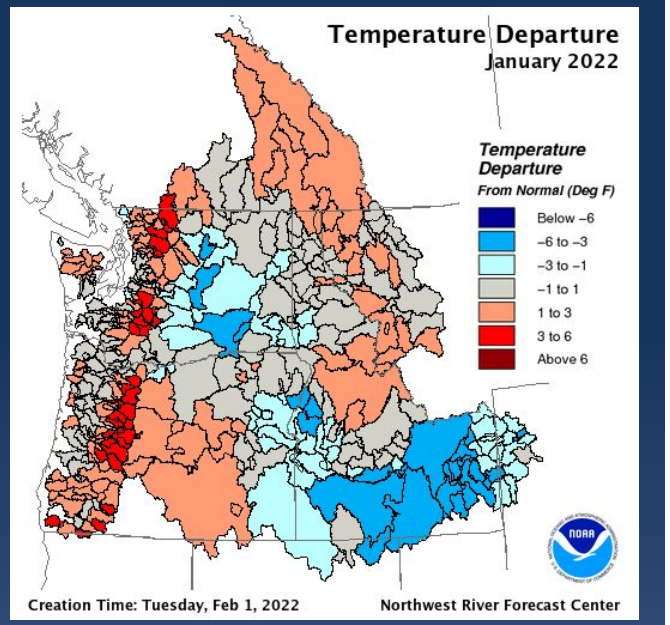
Model Forcings

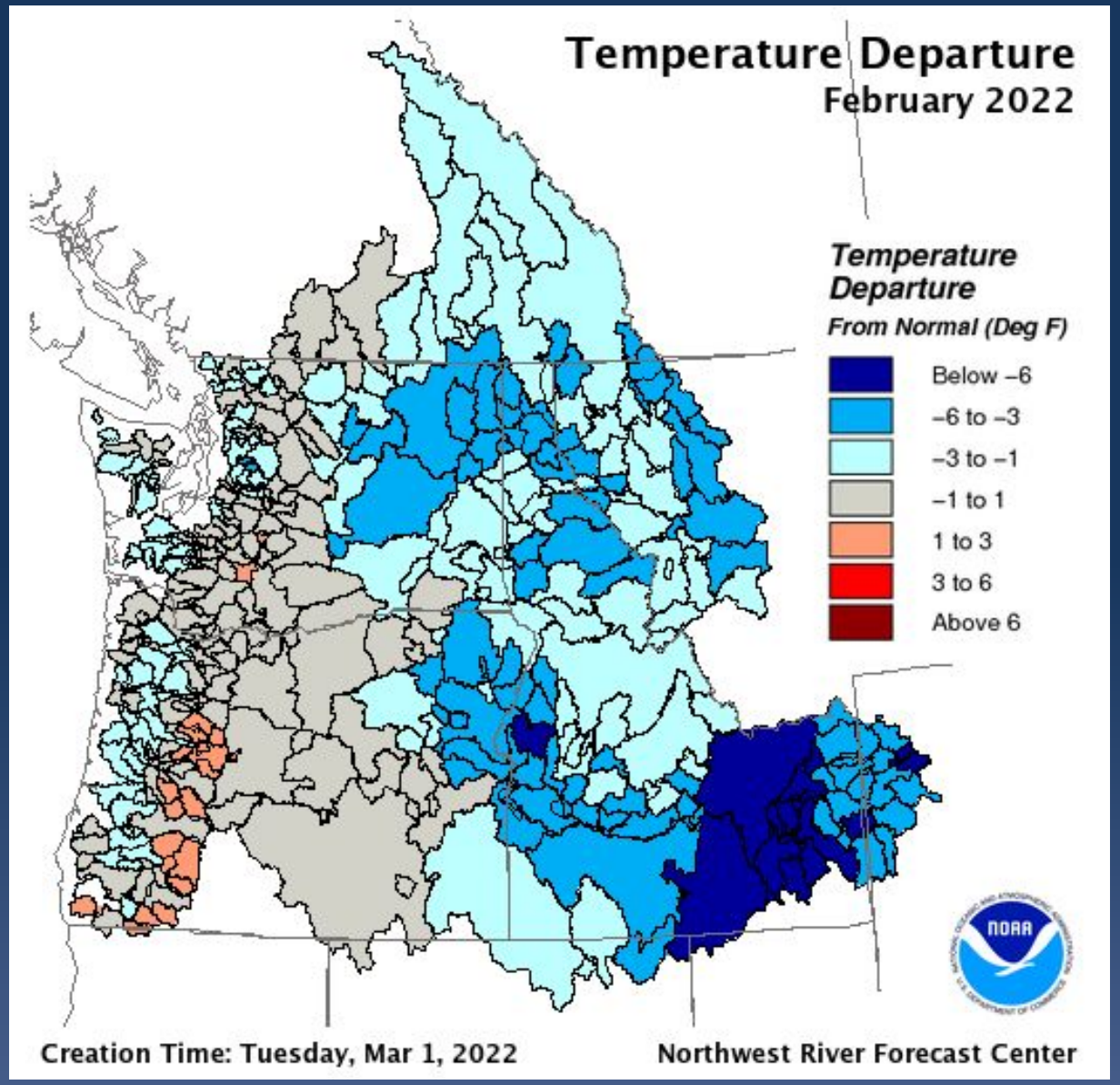
Model Inputs

Water Supply Forecasts

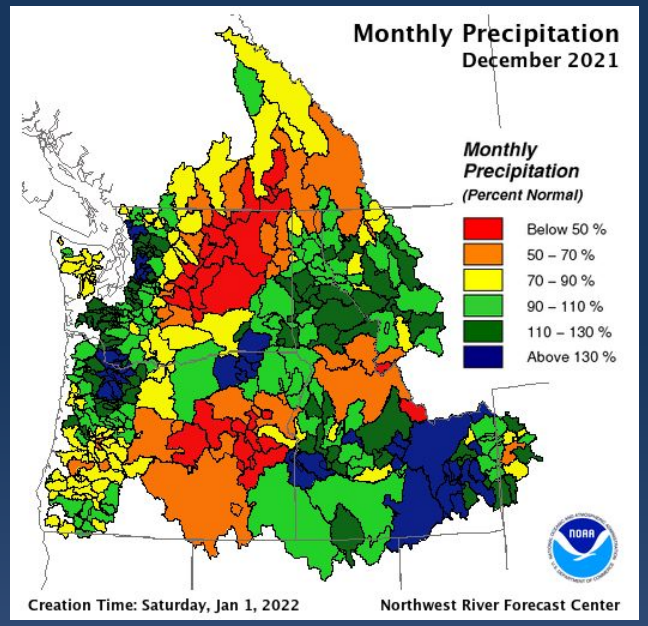
Monthly Temperature Departure

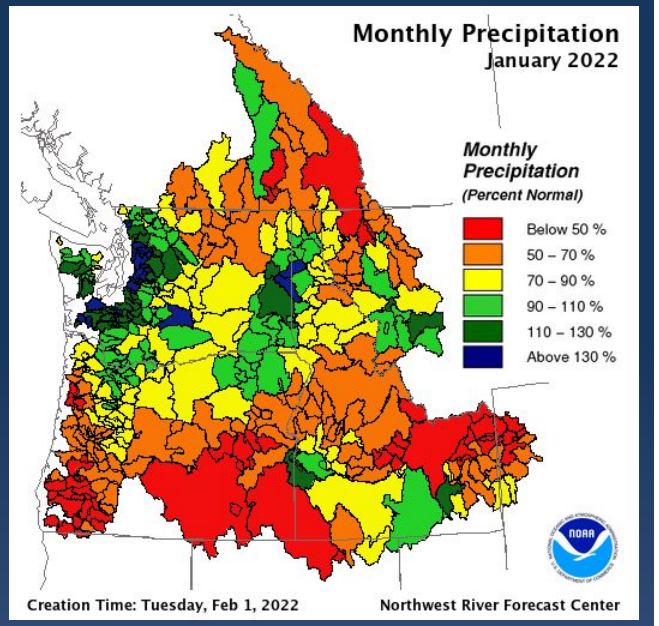


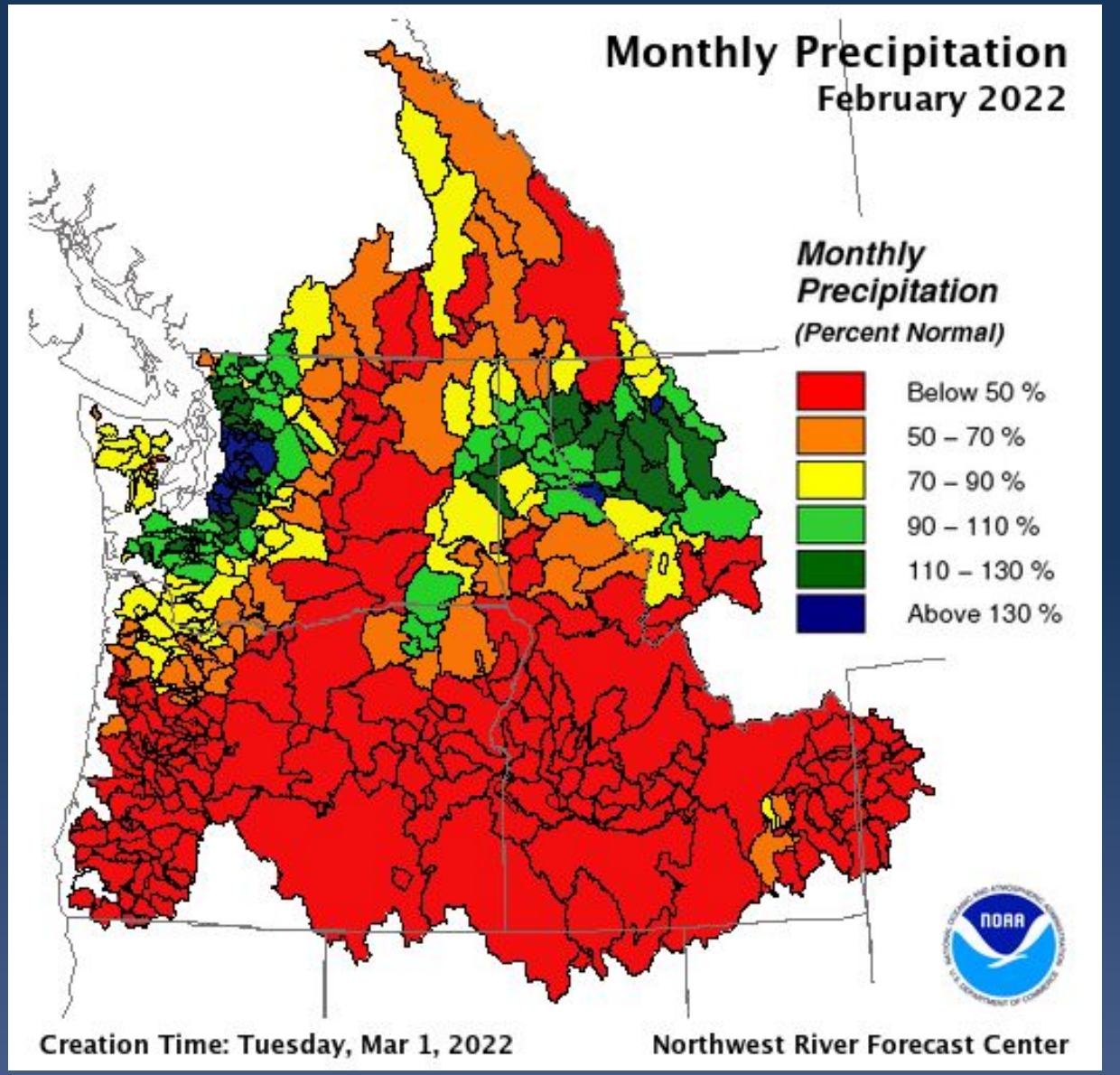




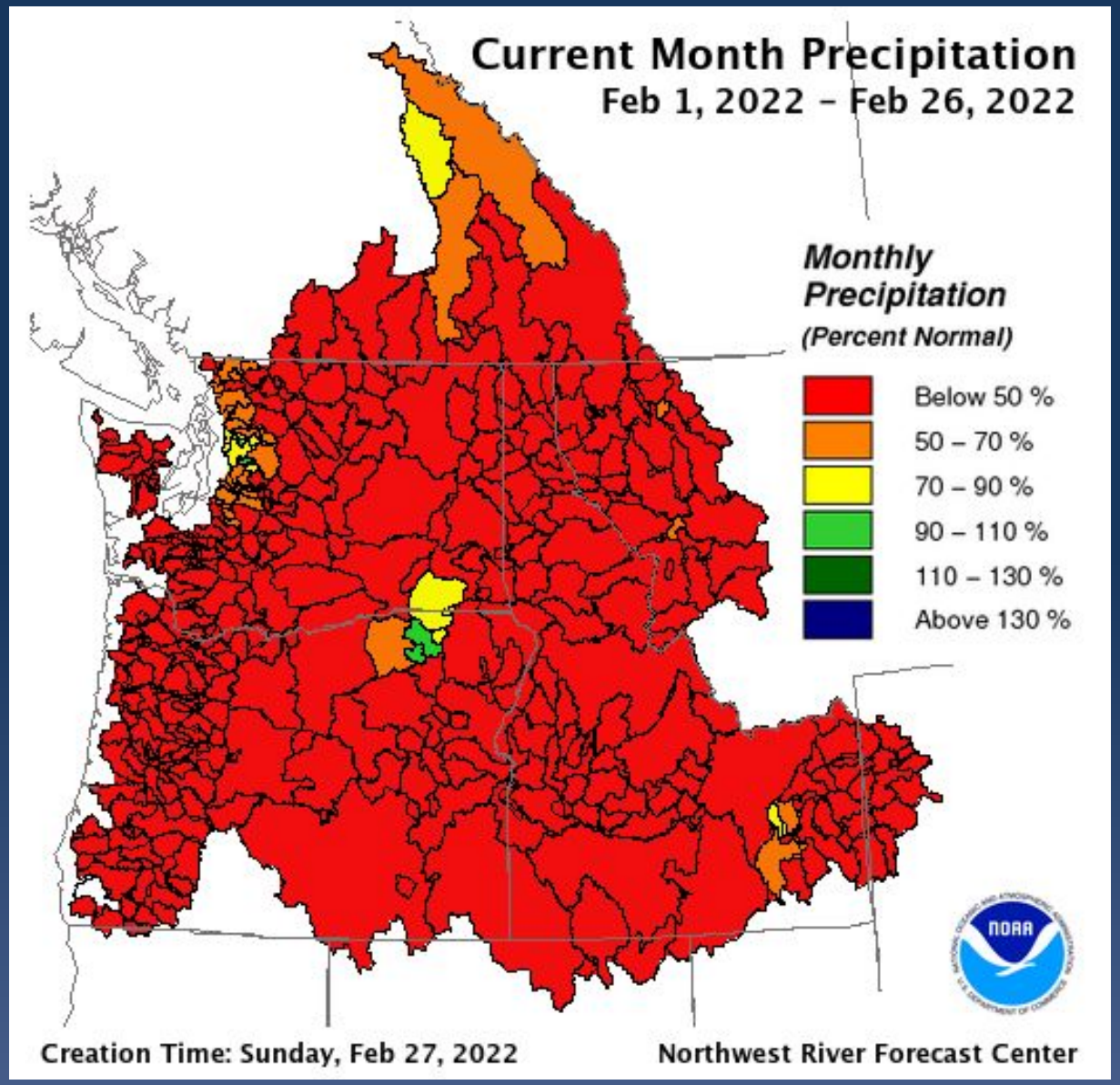
Monthly Precipitation

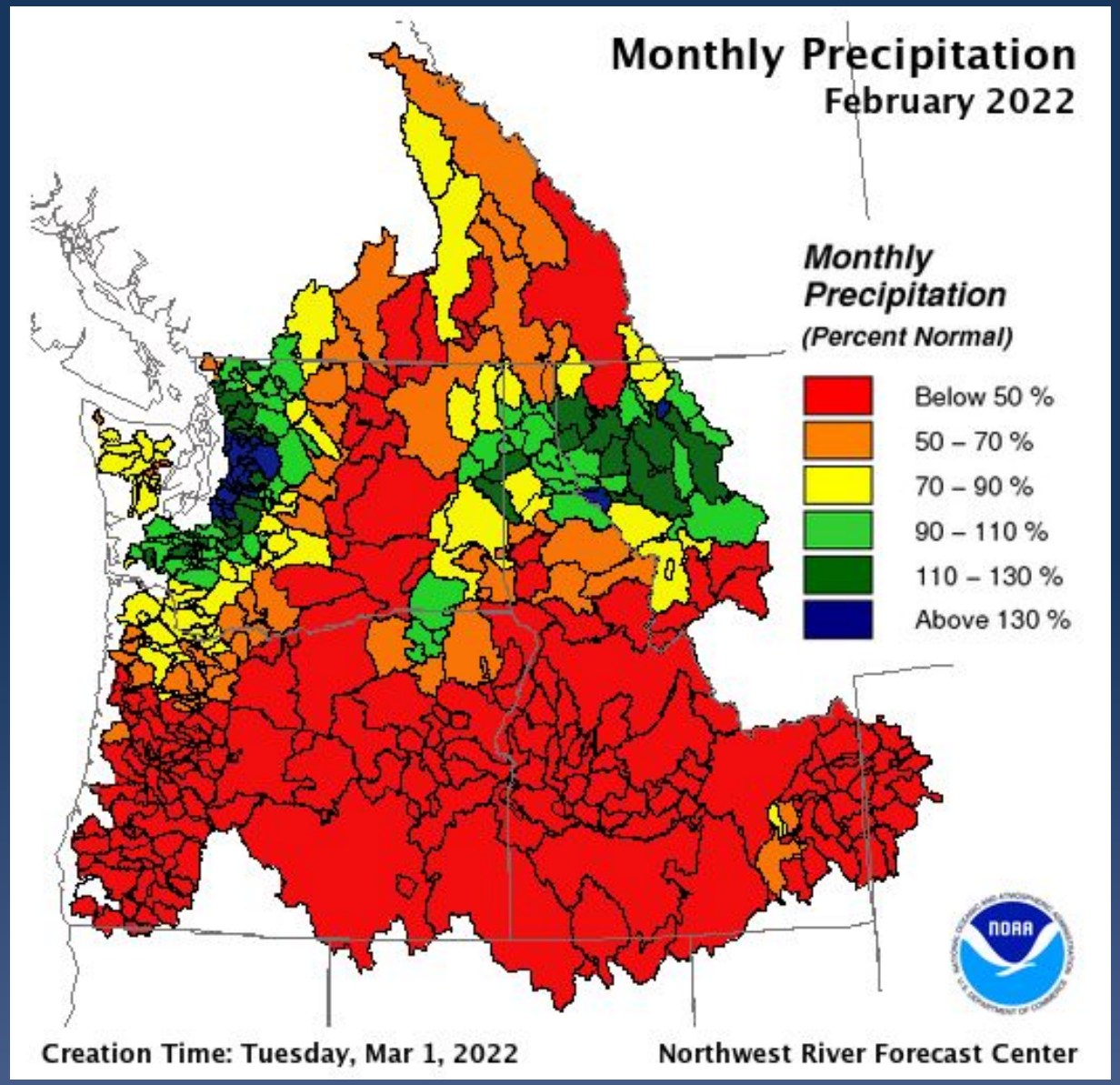




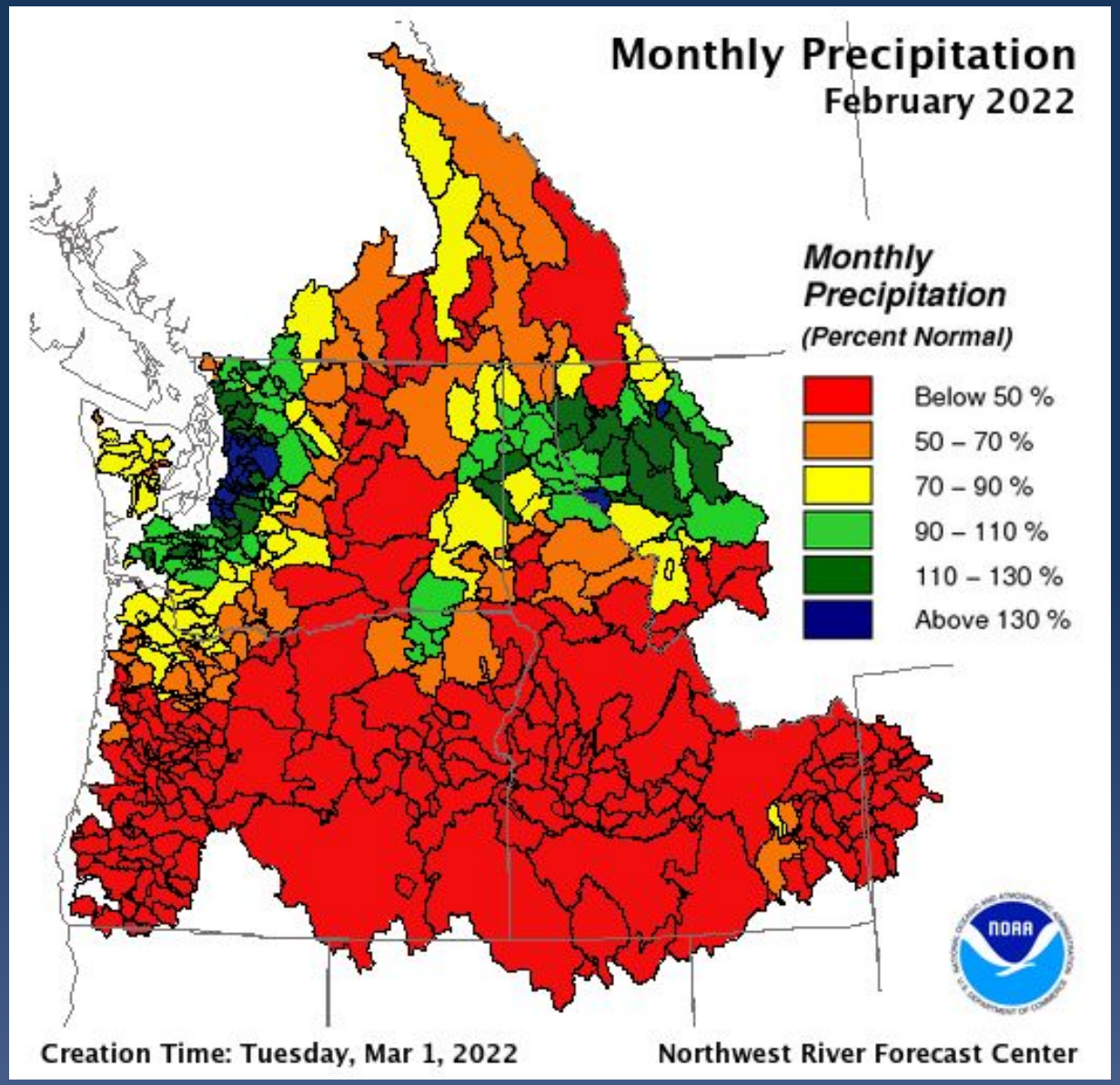


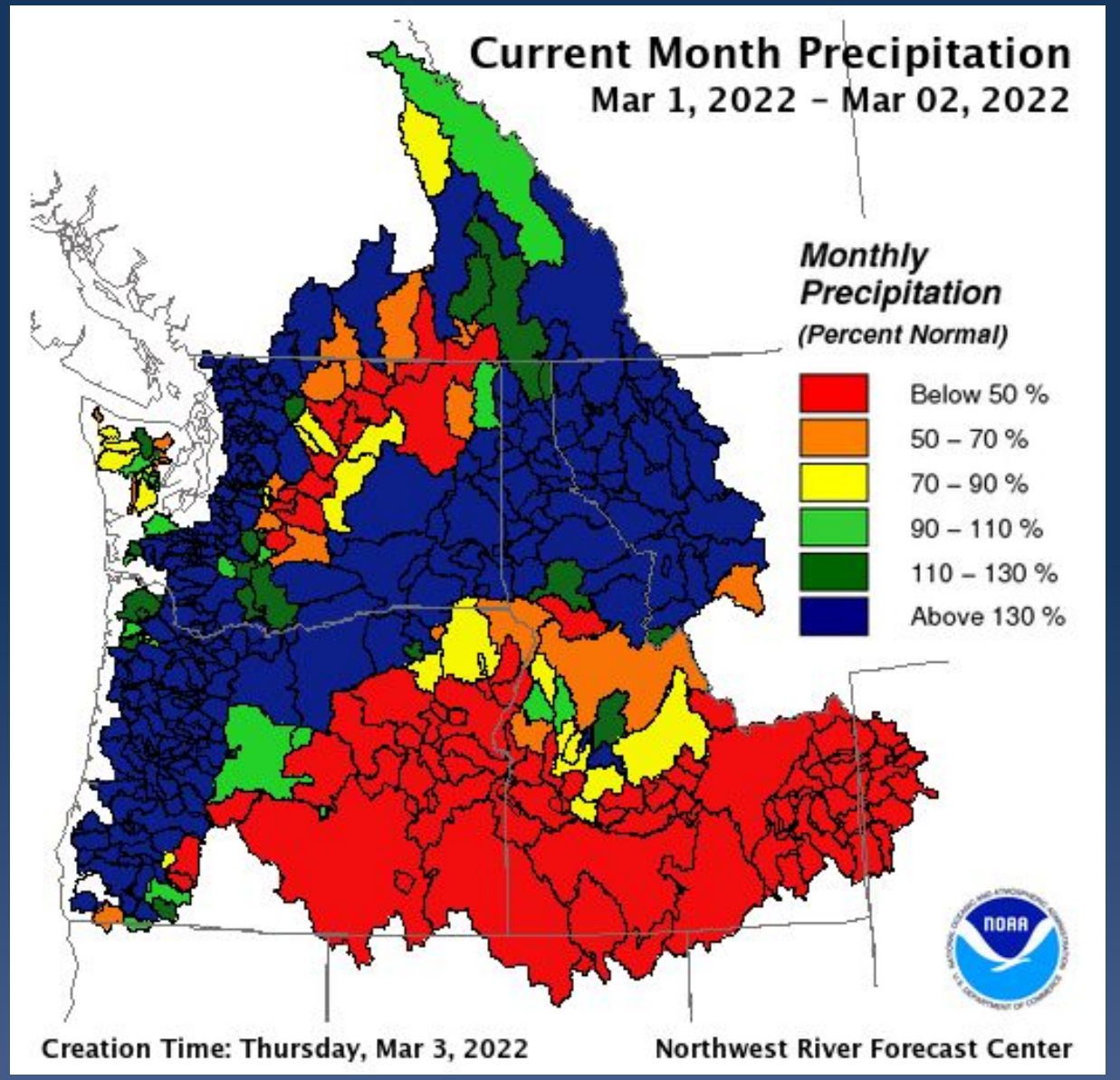
Change in Monthly Precipitation



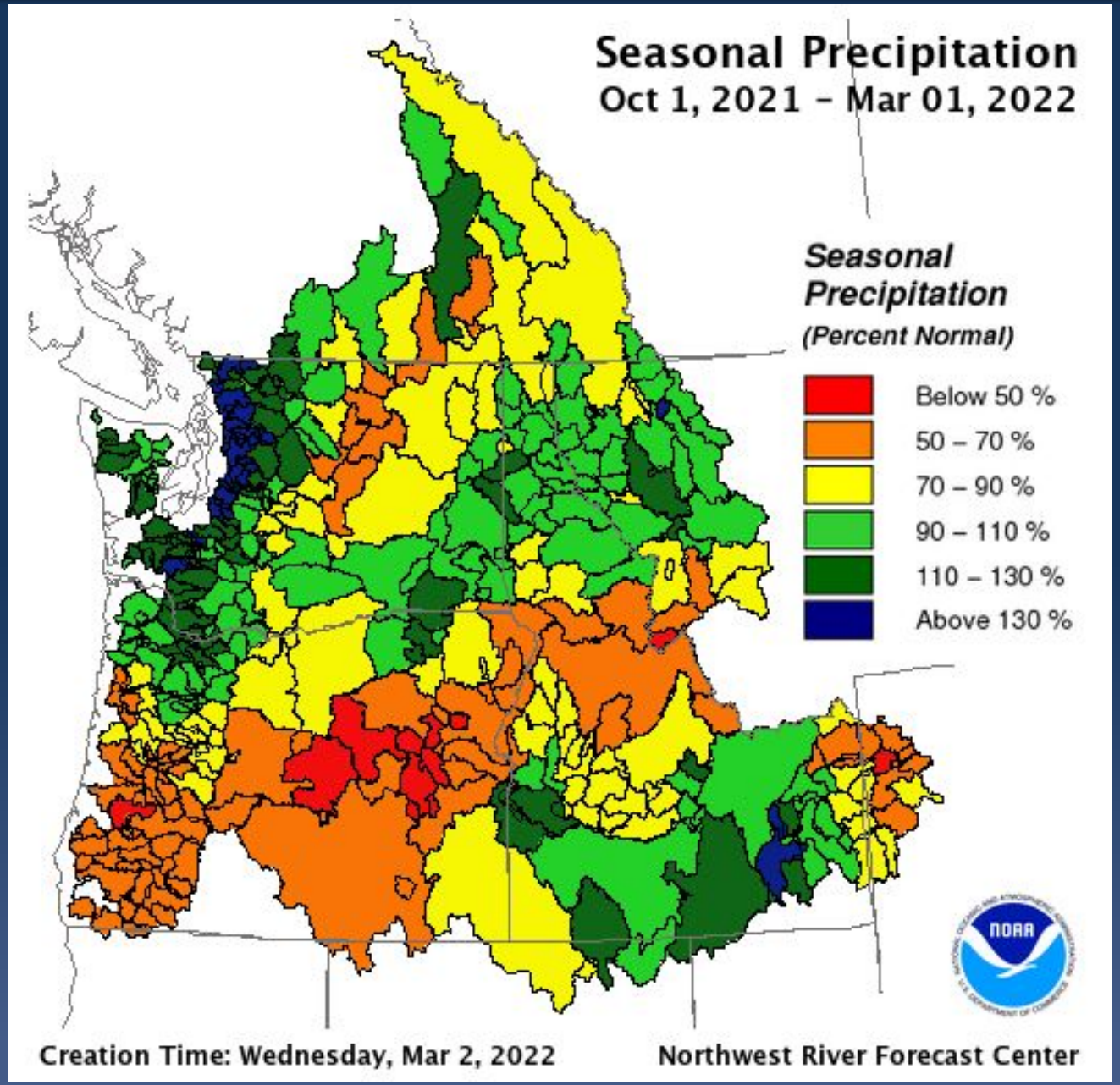


Monthly Precipitation

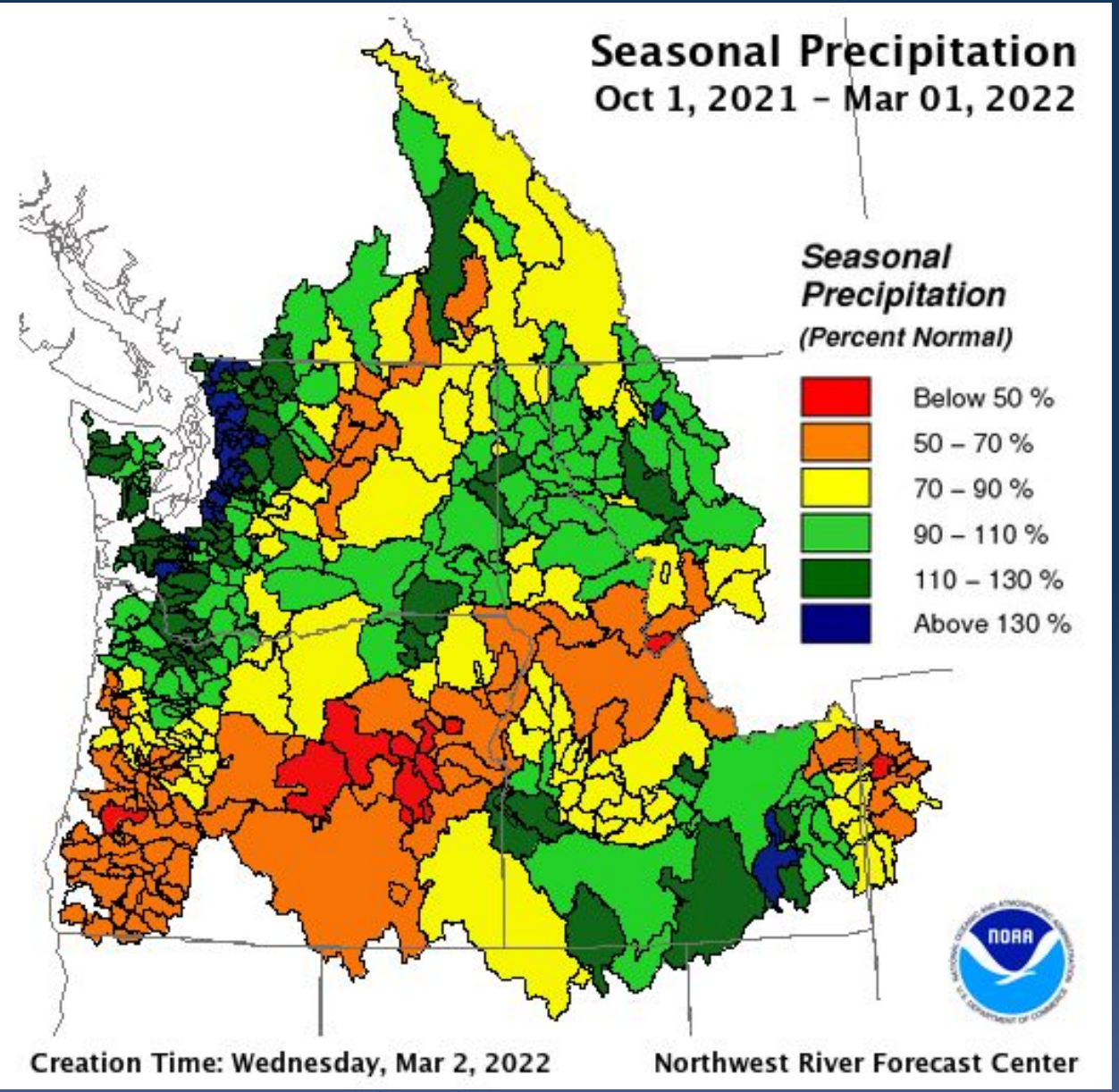


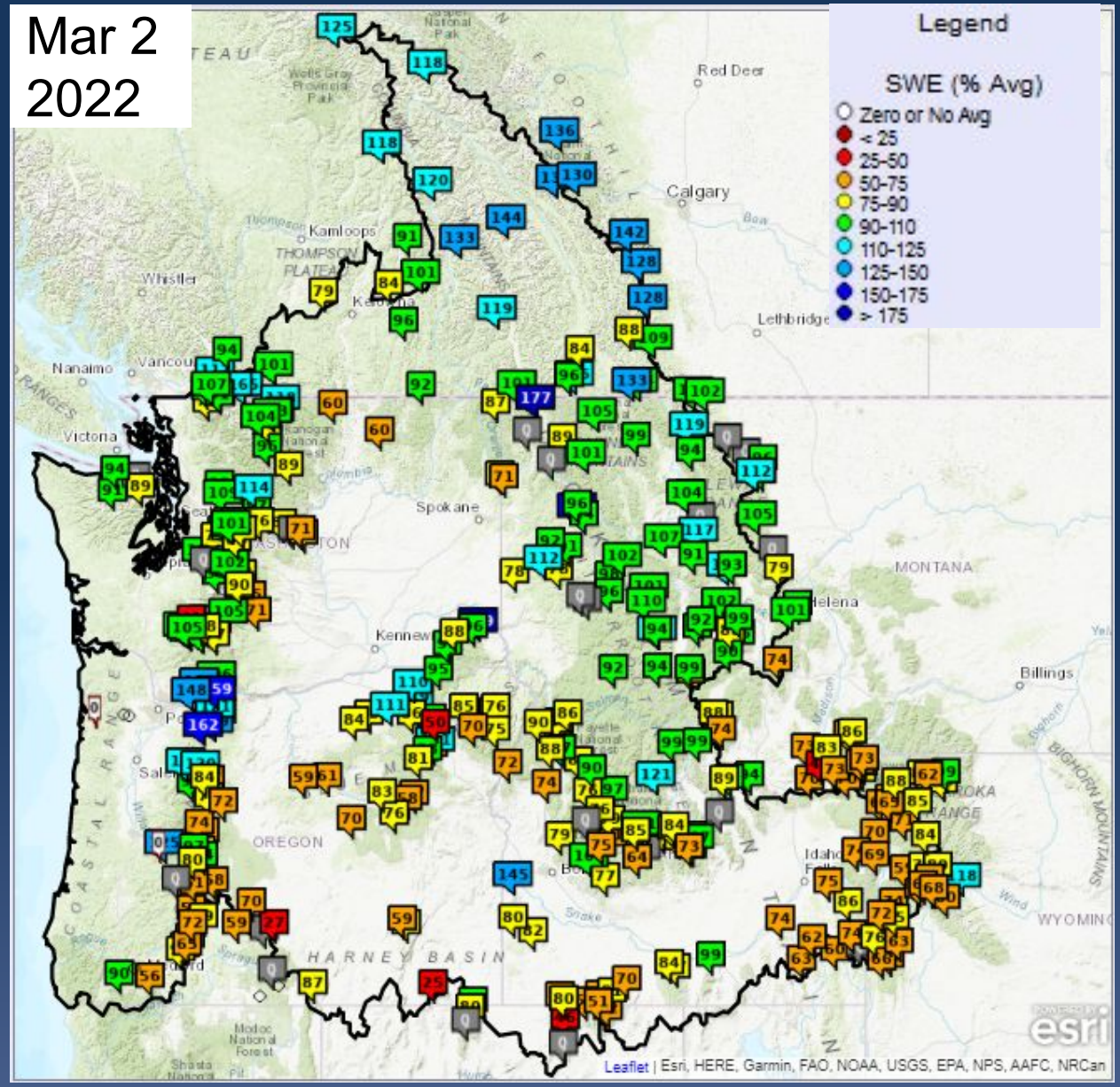


Water Year Total Precipitation

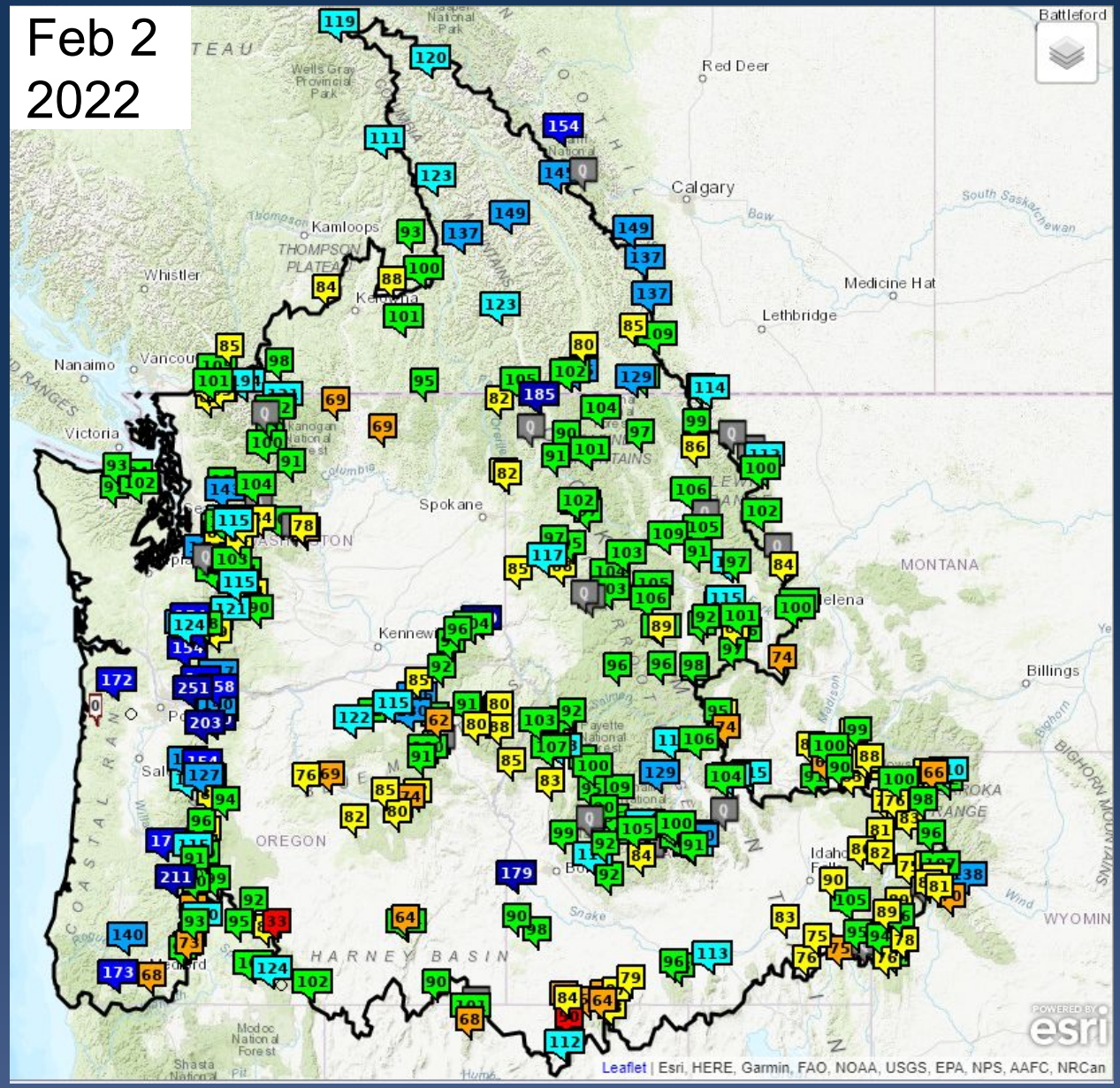


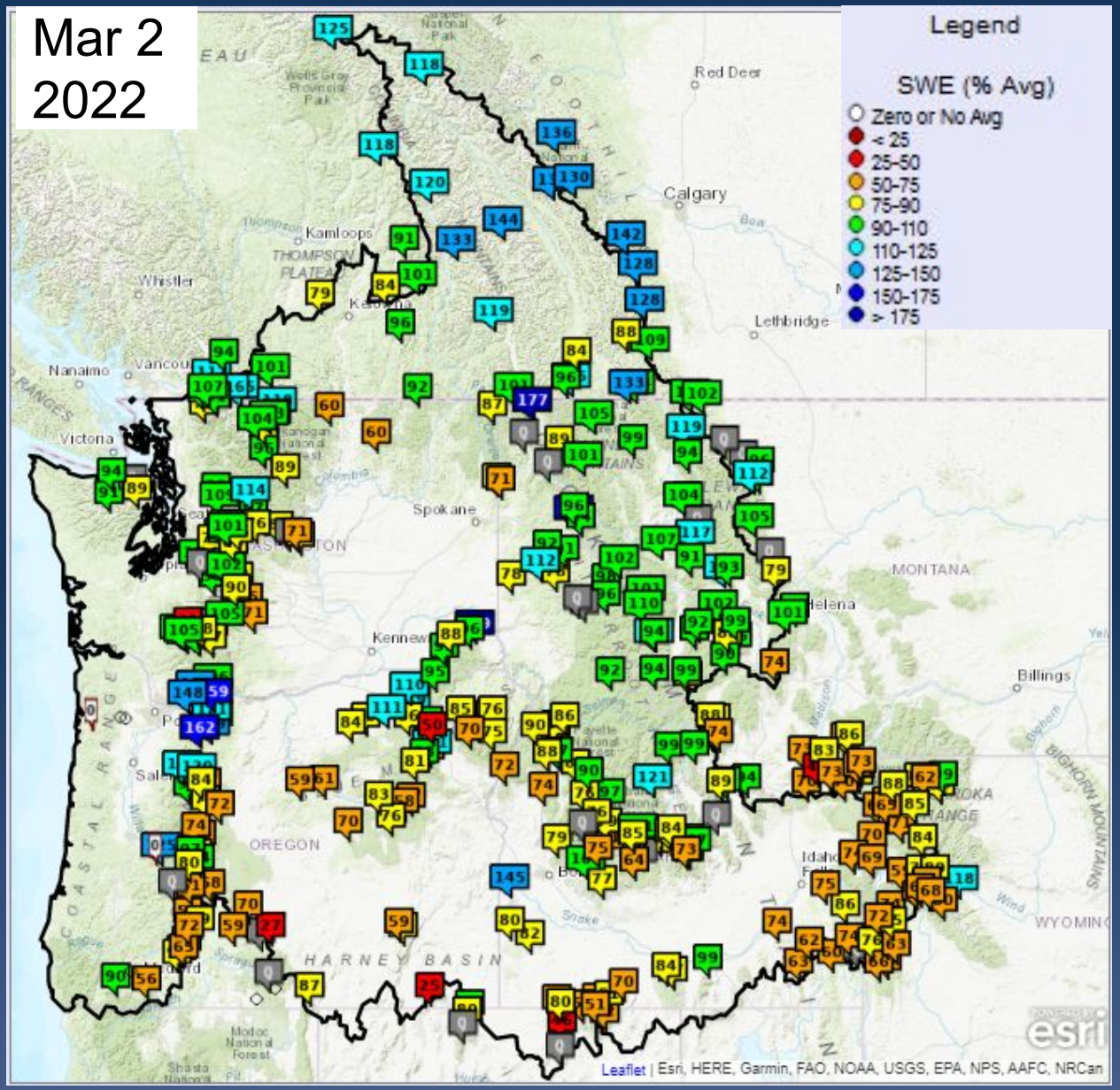
Precipitation and Snowpack





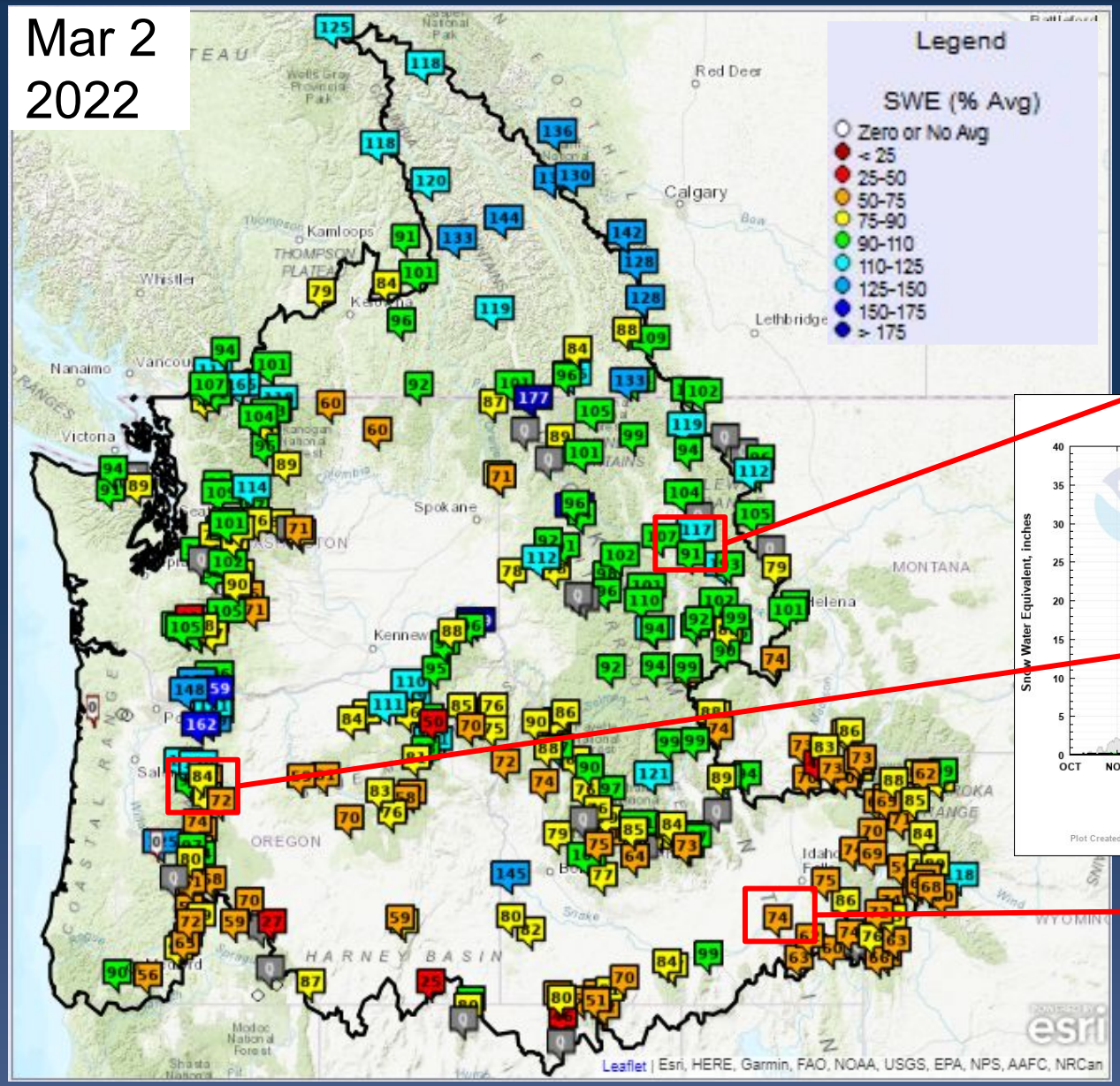
Change in Snowpack

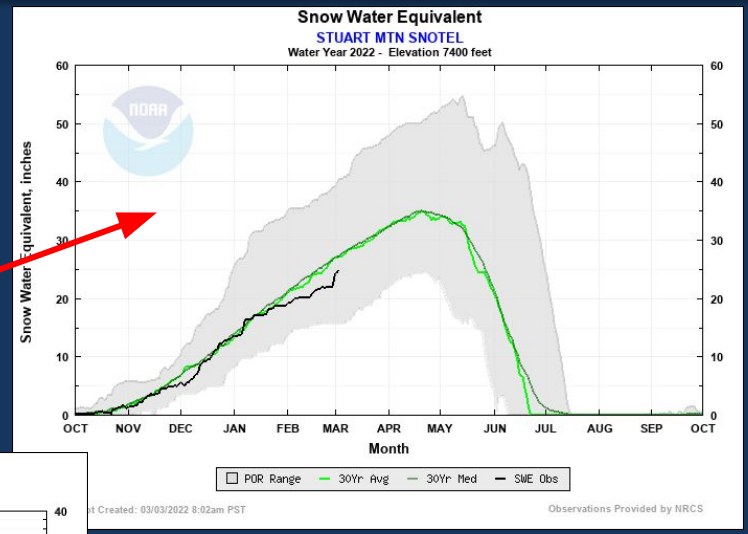


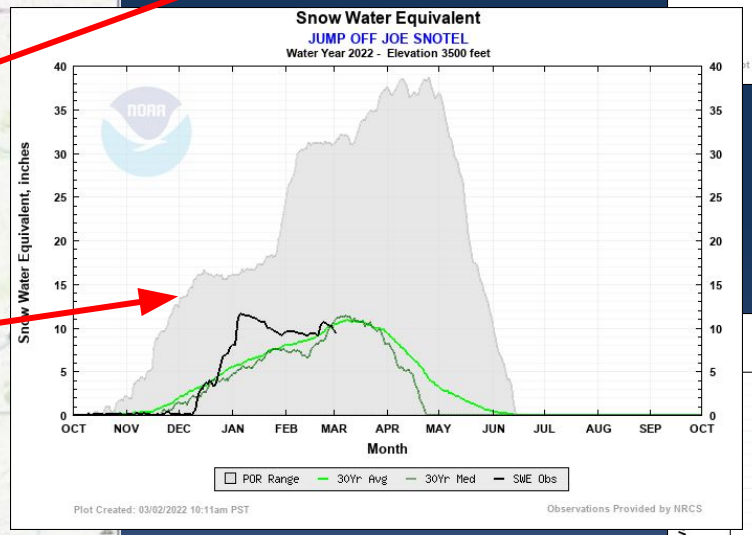


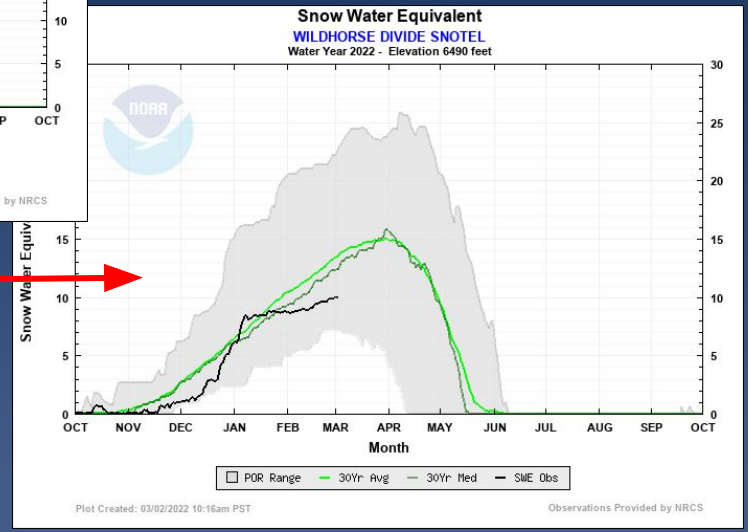
Snowpack

Mar 2
2022



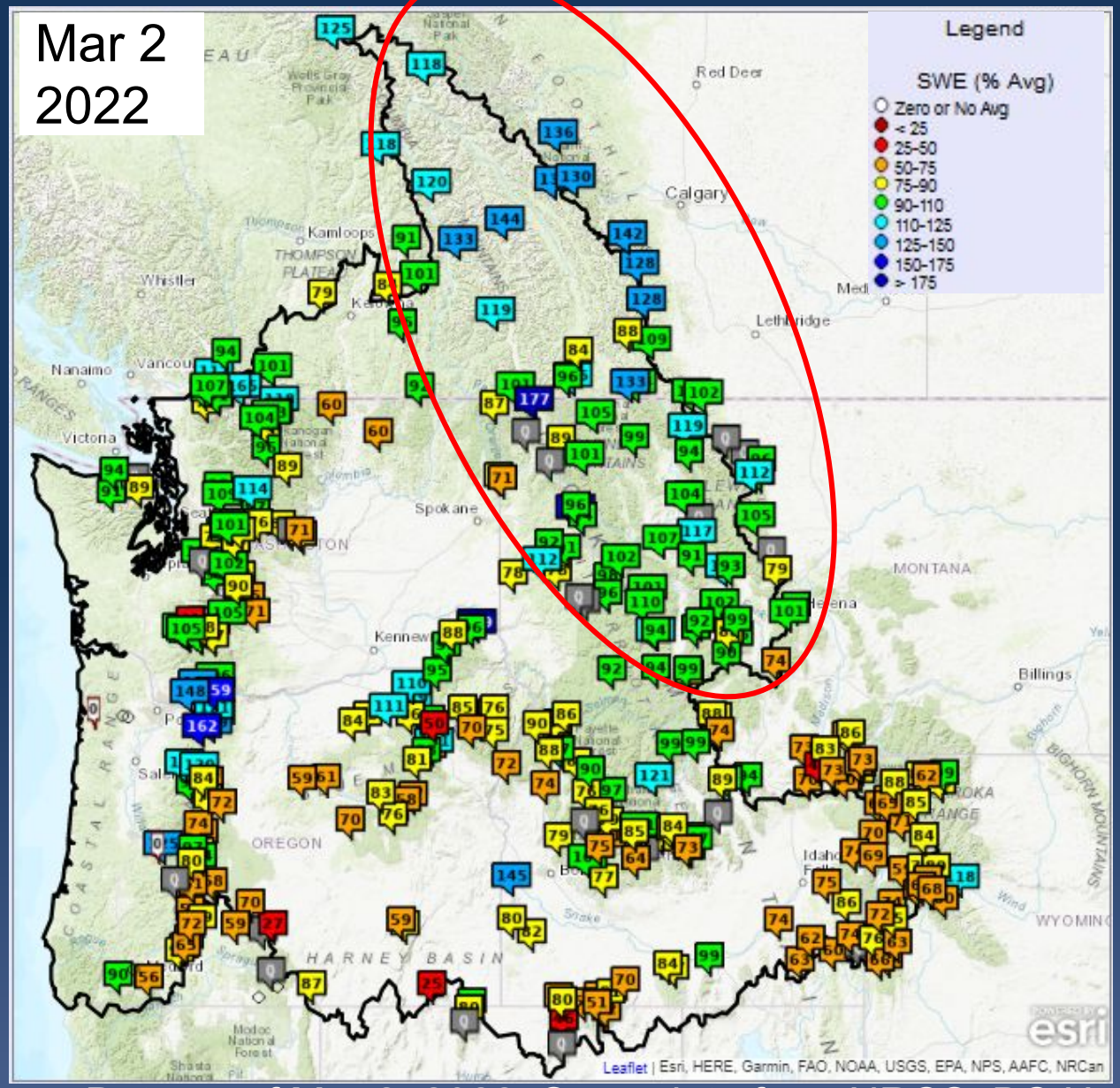


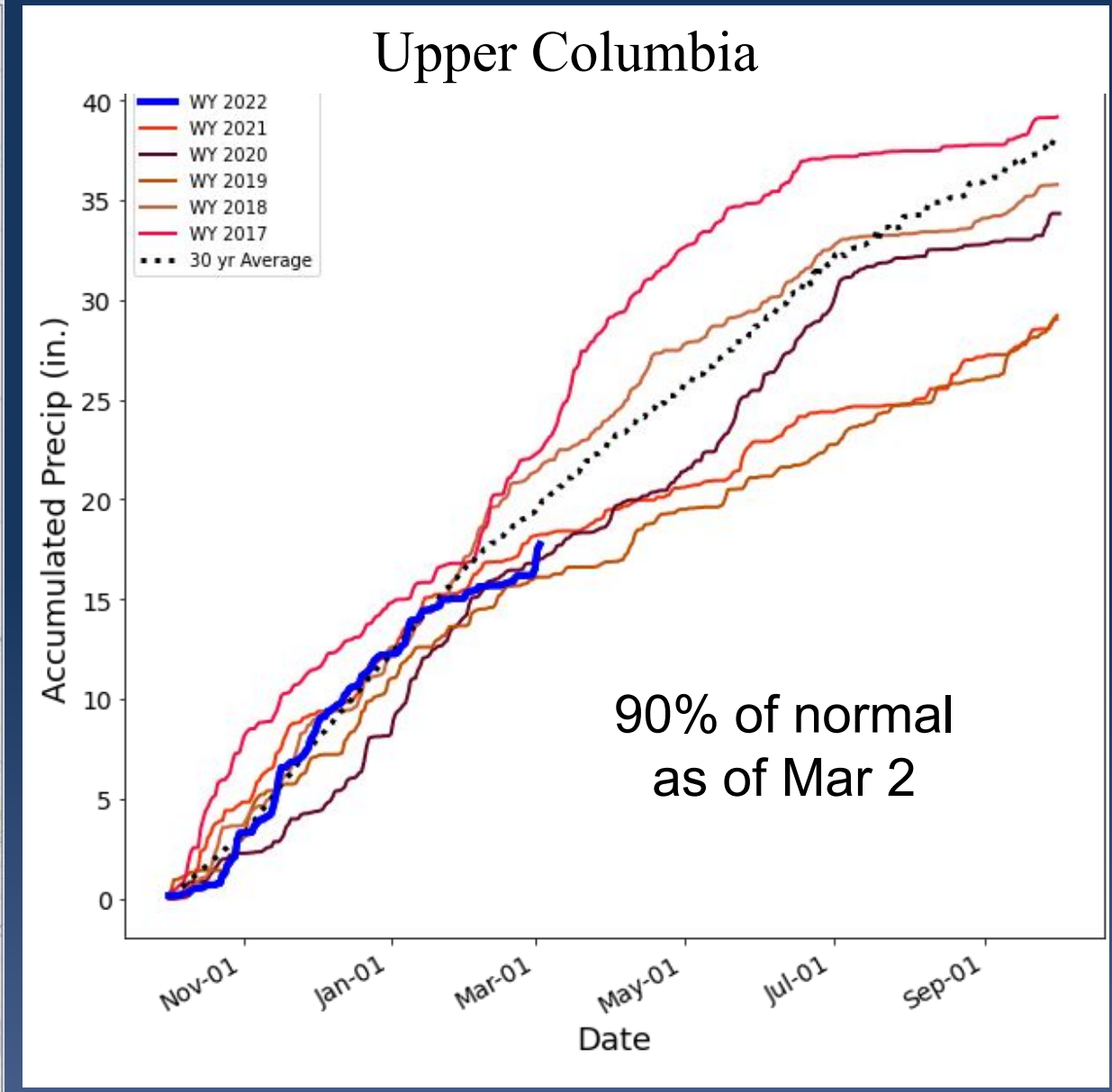




Snow data from NRCS, BC Hydro, and Alberta EP.

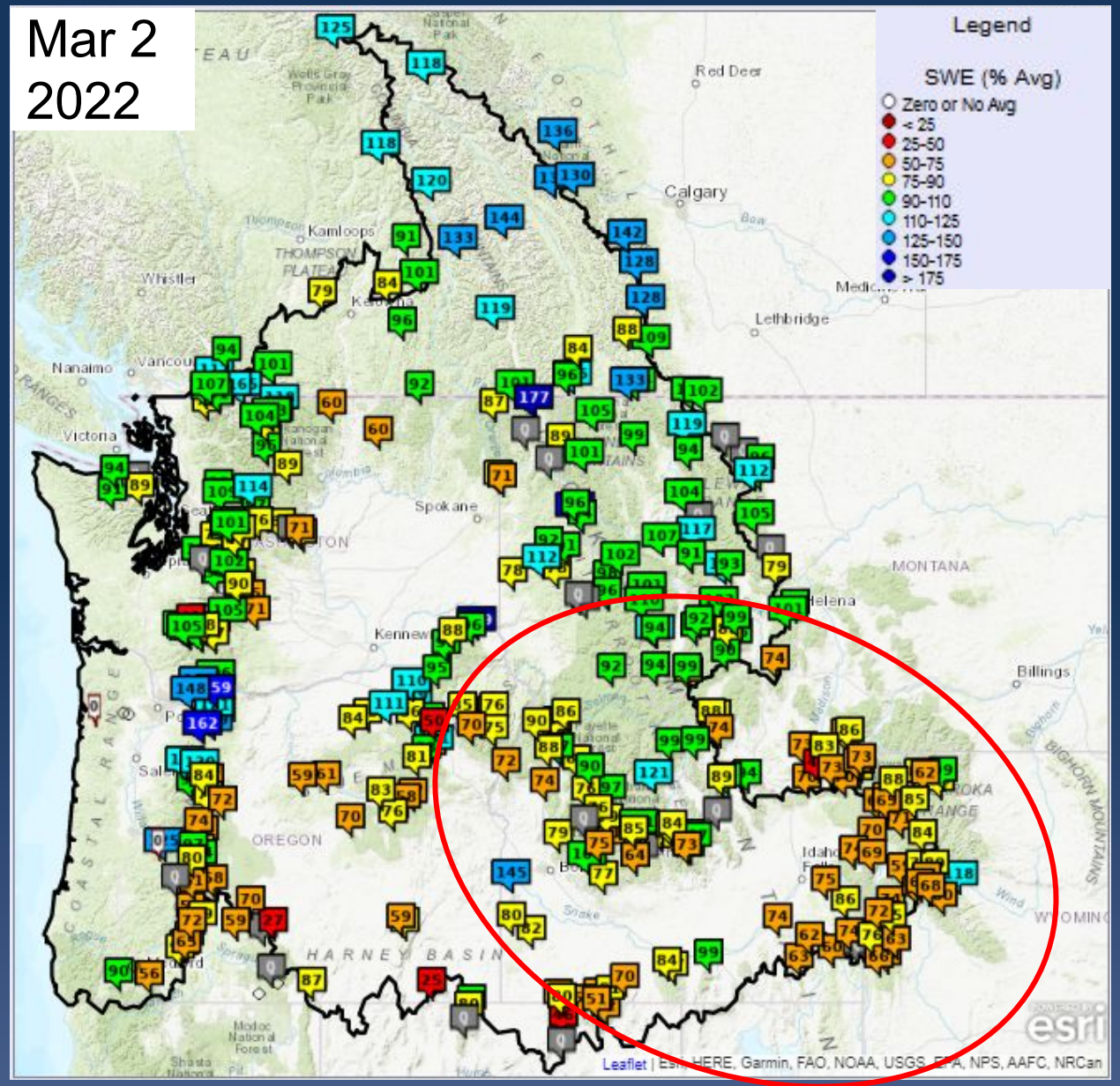
Snowpack and Seasonal Precipitation

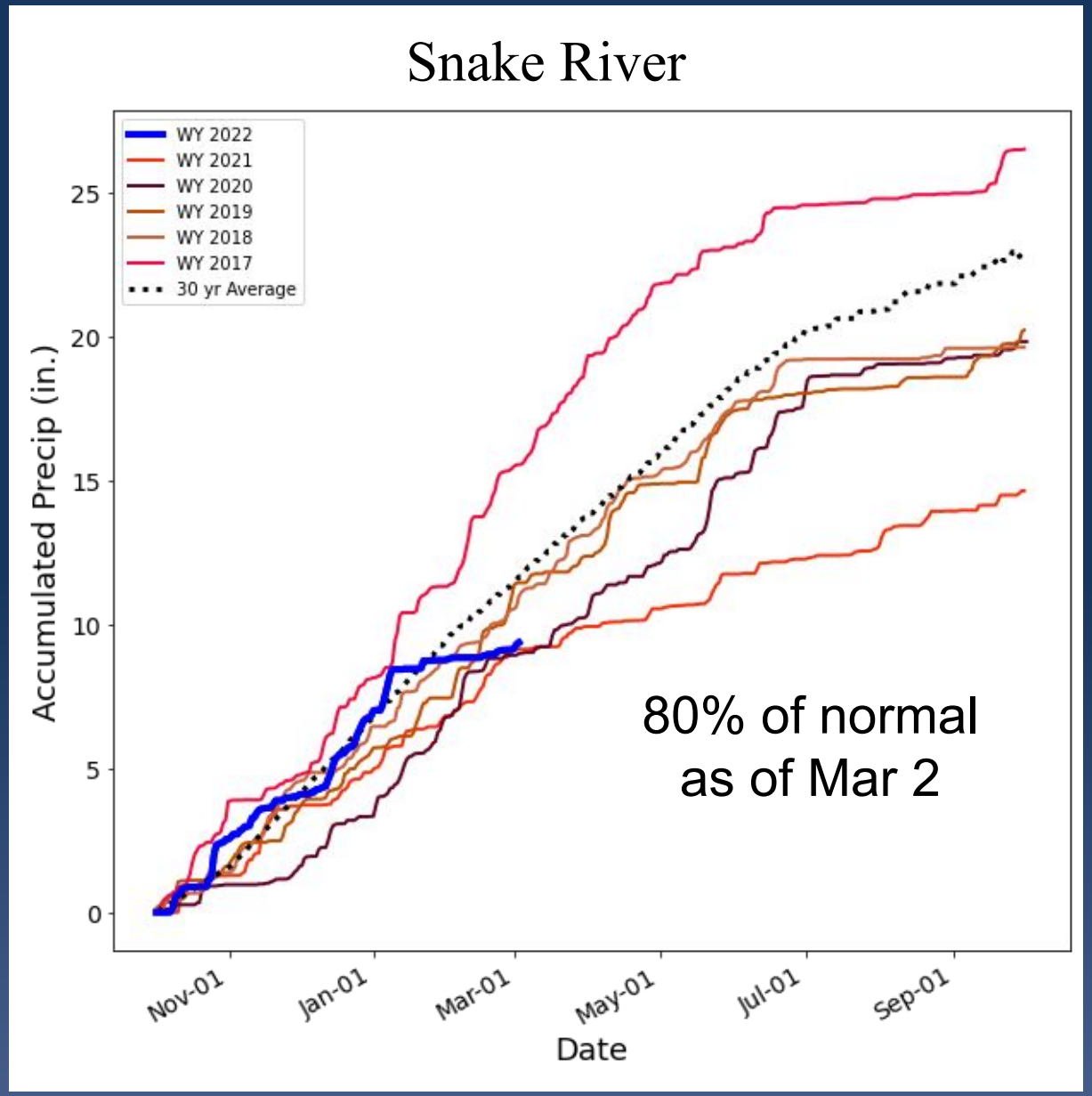




Data as of Mar 2, 2022. Snow data from NRCS, BC Hydro, and Alberta EP.

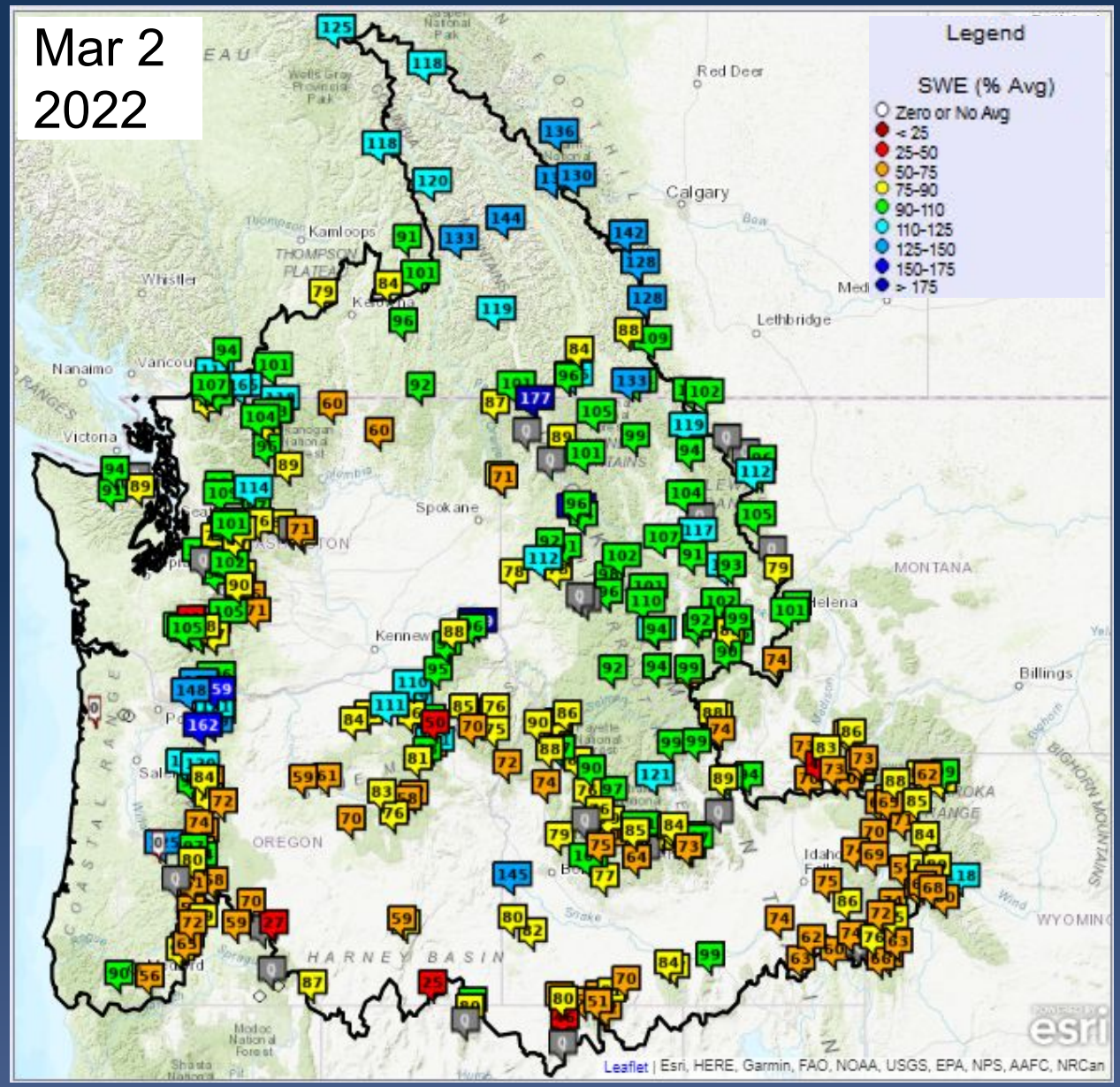
Snowpack and Seasonal Precipitation

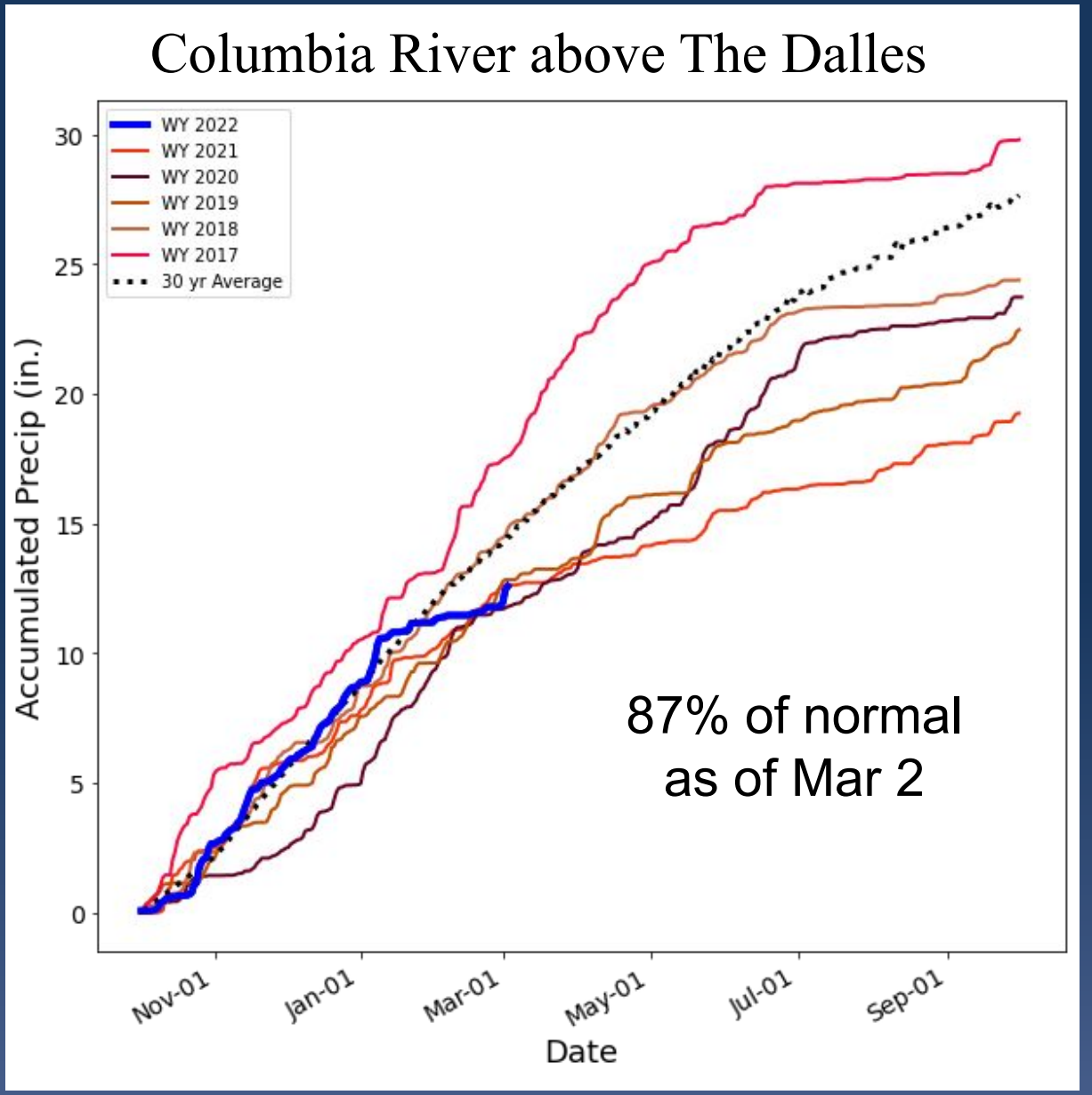




Data as of Mar 2, 2022. Snow data from NRCS, BC Hydro, and Alberta EP.

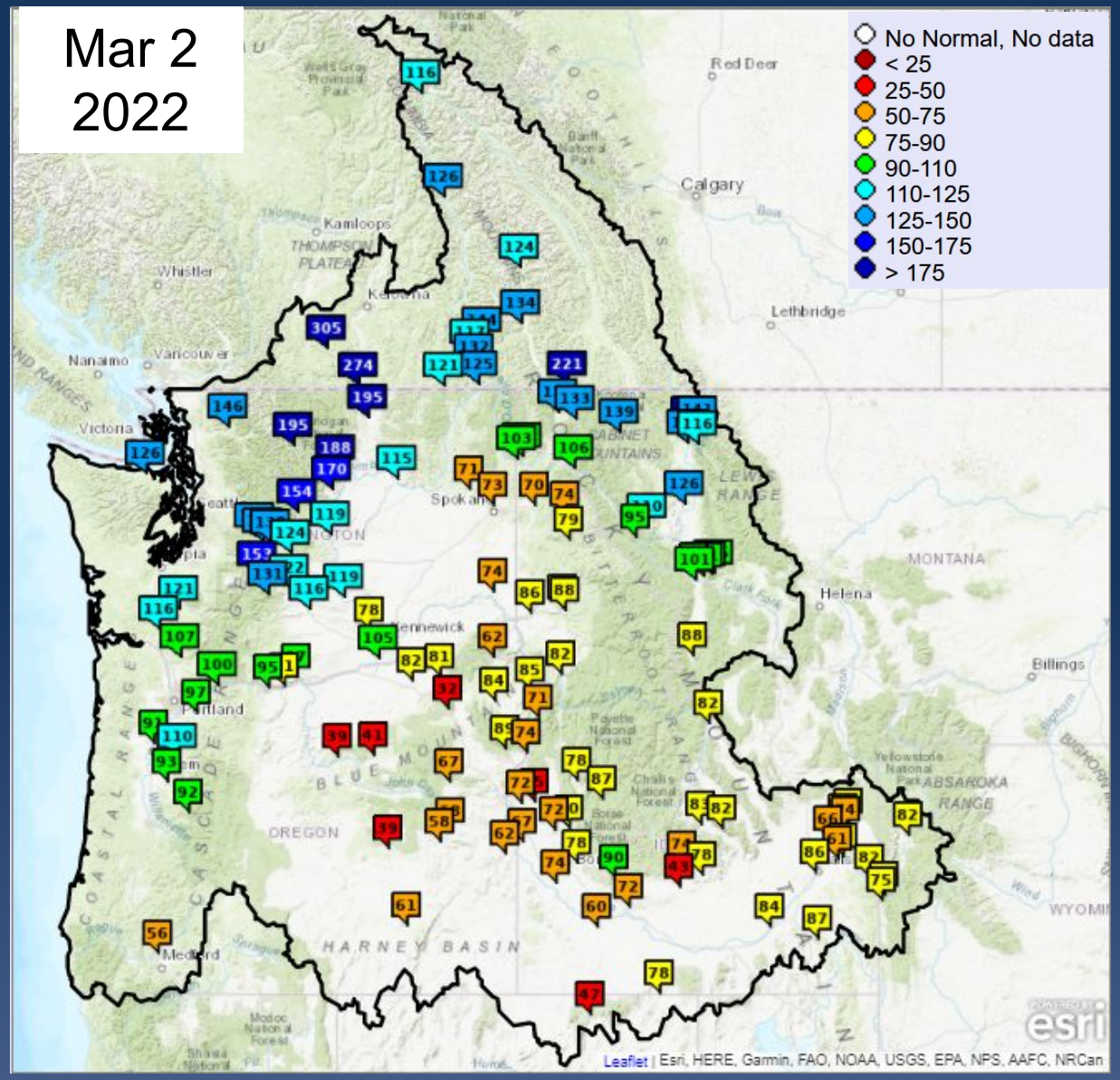
Snowpack and Seasonal Precipitation





Data as of Mar 2, 2022. Snow data from NRCS, BC Hydro, and Alberta EP.

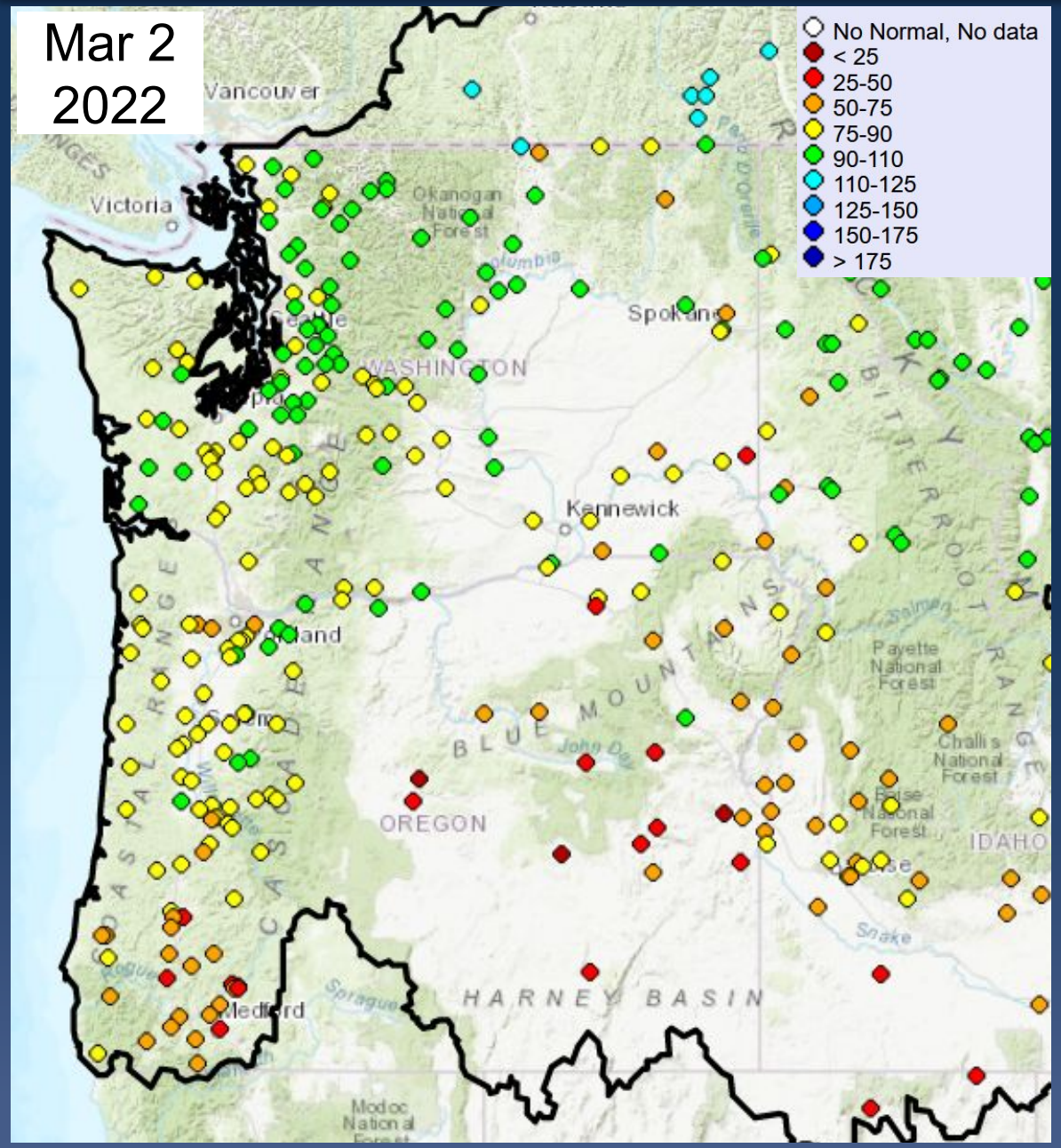
YTD Adjusted Runoff - East



% Normal Runoff Oct 1- Mar 2

		Δ since Feb 2
Upper Columbia Basin		
Mica	116	2
Duncan	124	-3
Queens Bay	134	-11
Libby	139	-5
Hungry Horse	116	-7
Grand Coulee	115	-9
Snake River Basin		
American Falls	84	-2
Lucky Peak	78	-5
Dworshak	77	-13
Lower Granite	74	-7
Lower Columbia Basin		
The Dalles	95	-5

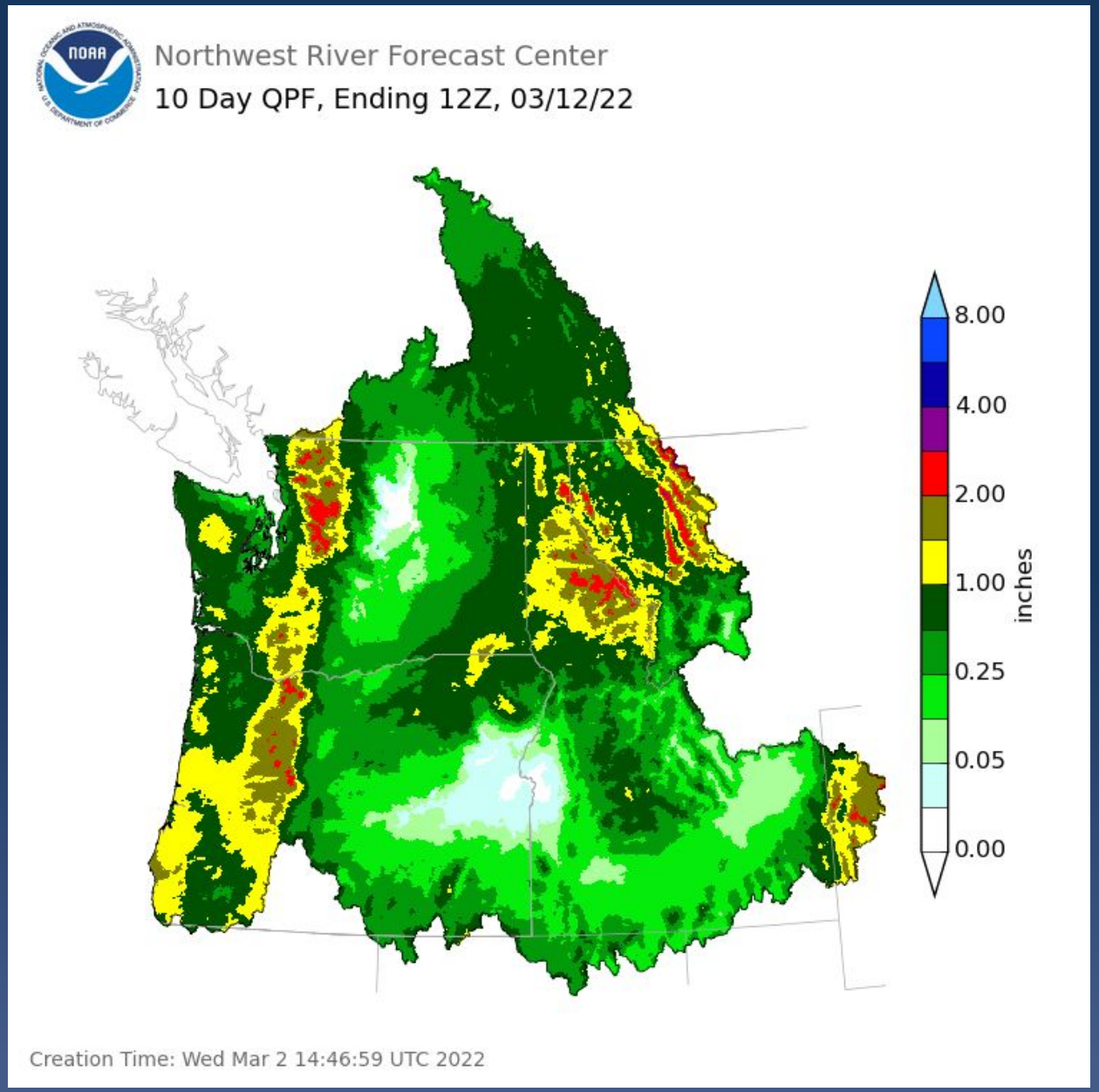
YTD Adjusted Natural Runoff - OR, WA

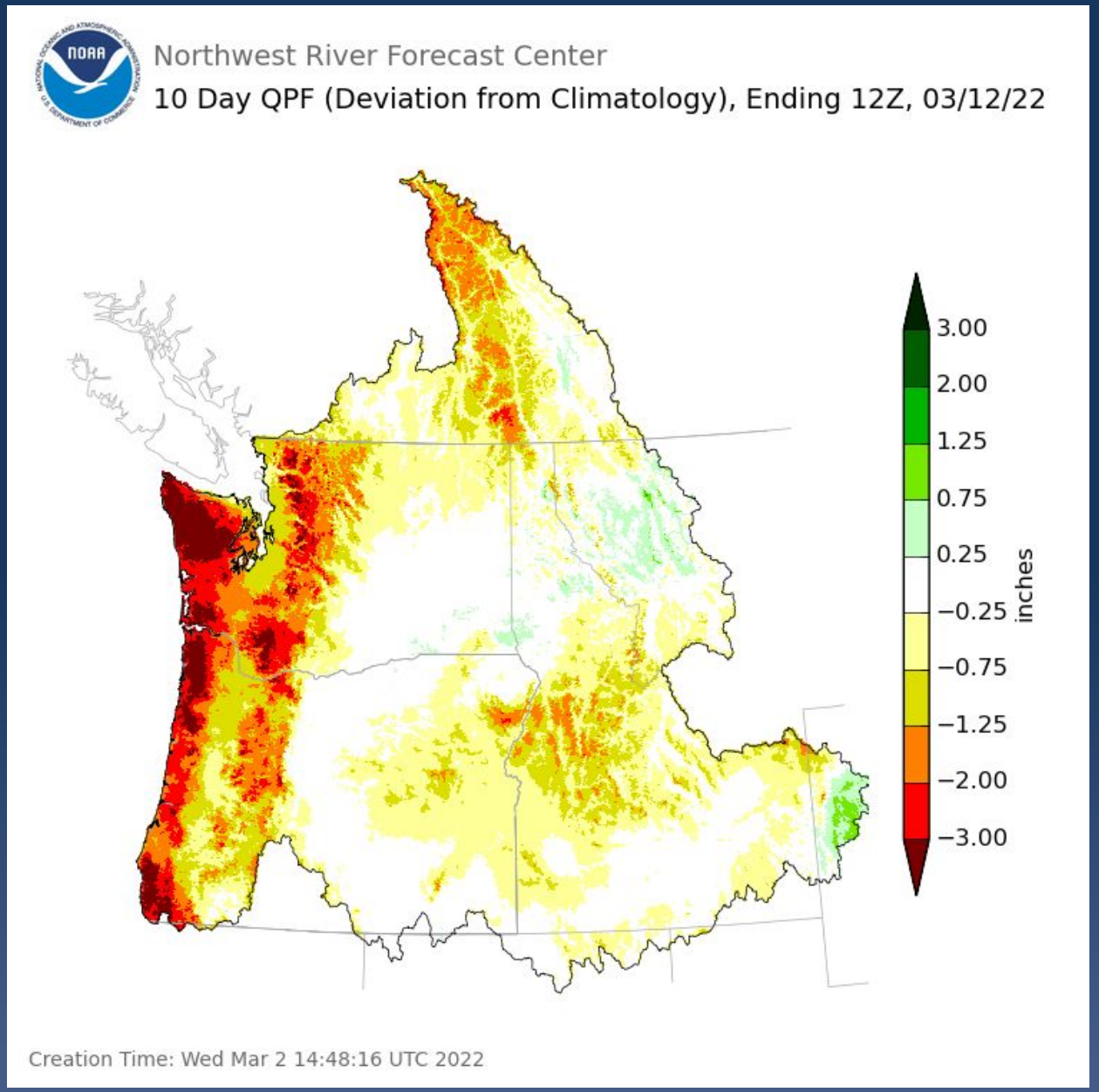


% Normal Runoff Oct 1- Mar 2

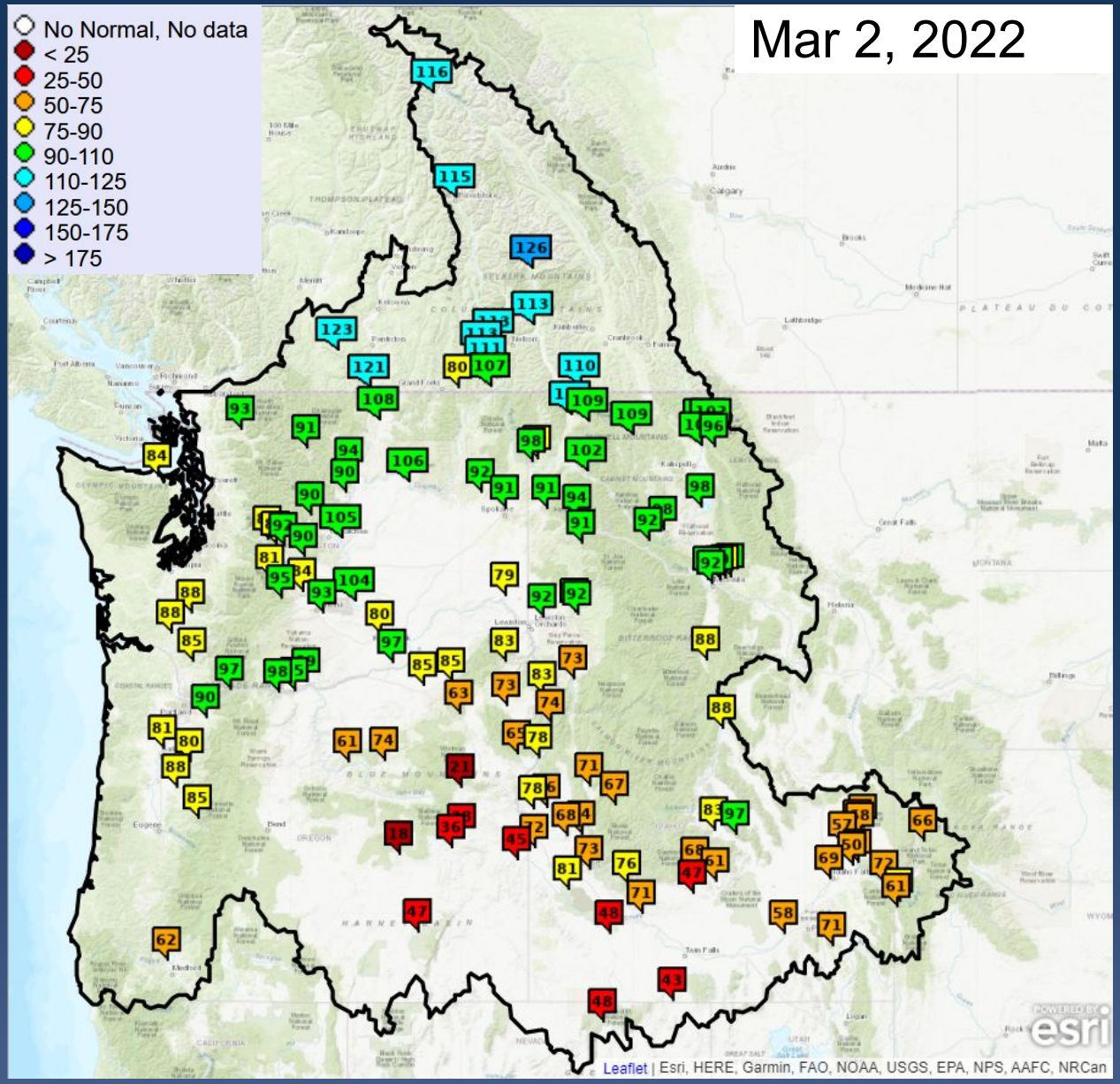
Washington		**Δ since Feb 2**
Skagit nr Mt Vernon	144	-12
Dungeness nr Sequim	125	-9
Chehalis at Porter	121	-20
Okanogan at Malott	197	-19
Methow nr Pateros	186	-9
Yakima at Parker	109	-9
Walla Walla nr Touchet	64	-4
Oregon		
Willamette at Salem	81	-12
Rogue at Raygold	55	-5
Umatilla at Pendleton	81	-13
Grande Ronde at Troy	61	-9
Owyhee Dam	61	-13

Precipitation Forecast (Mar 3 -12)





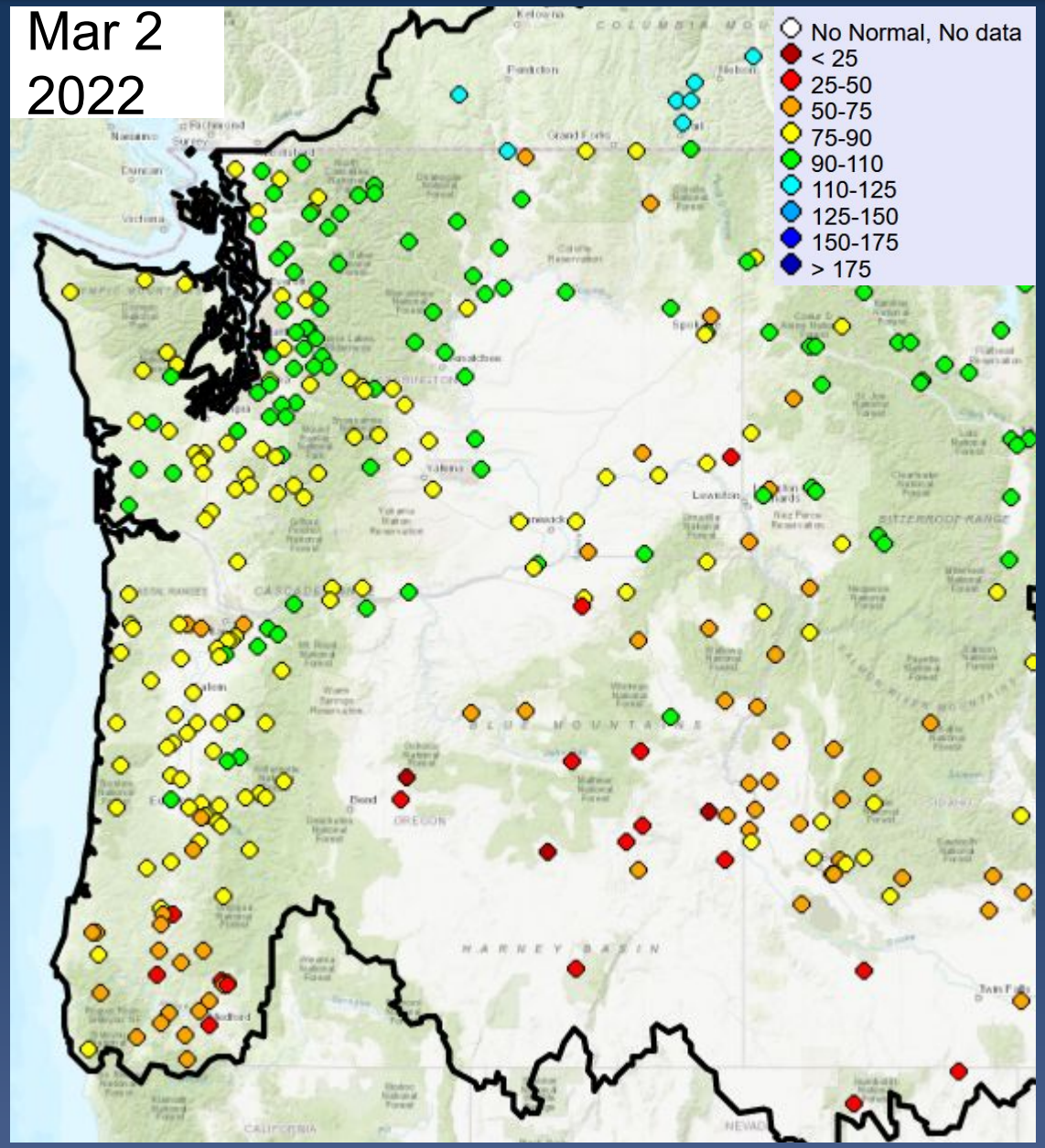
ESP10 Water Supply Forecasts - East



% Normal Apr-Sep Volume

Upper Columbia Basin		**Δ since Feb 2**
Mica	116	-5
Duncan	126	6
Queens Bay	113	1
Libby	109	0
Hungry Horse	96	5
Grand Coulee	106	0
Snake River Basin		
American Falls	58	-14
Lucky Peak	73	-20
Dworshak	90	-6
Lower Granite	79	-10
Lower Columbia Basin		
The Dalles	98	-2

ESP10 Natural Forecasts - OR, WA



% Normal Apr -Sep Volume

Washington		**Δ since Feb 2**
Skagit nr Mt Vernon	95	0
Dungeness nr Sequim	84	-6
Chehalis at Porter	87	-1
Okanogan at Malott	105	-4
Methow nr Pateros	94	-4
Yakima at Parker	85	-3
Walla Walla nr Touchet	74	-3
Oregon		
Willamette at Salem	77	-6
Rogue at Raygold	64	-7
Umatilla at Pendleton	86	-7
Grande Ronde R at Troy	83	-6
Owyhee Dam	44	-12

ESP10 Apr-Sep Water Supply Forecasts

COLUMBIA - GRAND COULEE DAM (GCDW1)
Forecasts for Water Year 2022

Official Water Supply
ESP with 10 Days QPF ***Ensemble: 2022-03-02*** ***Issued:*** 2022-03-02

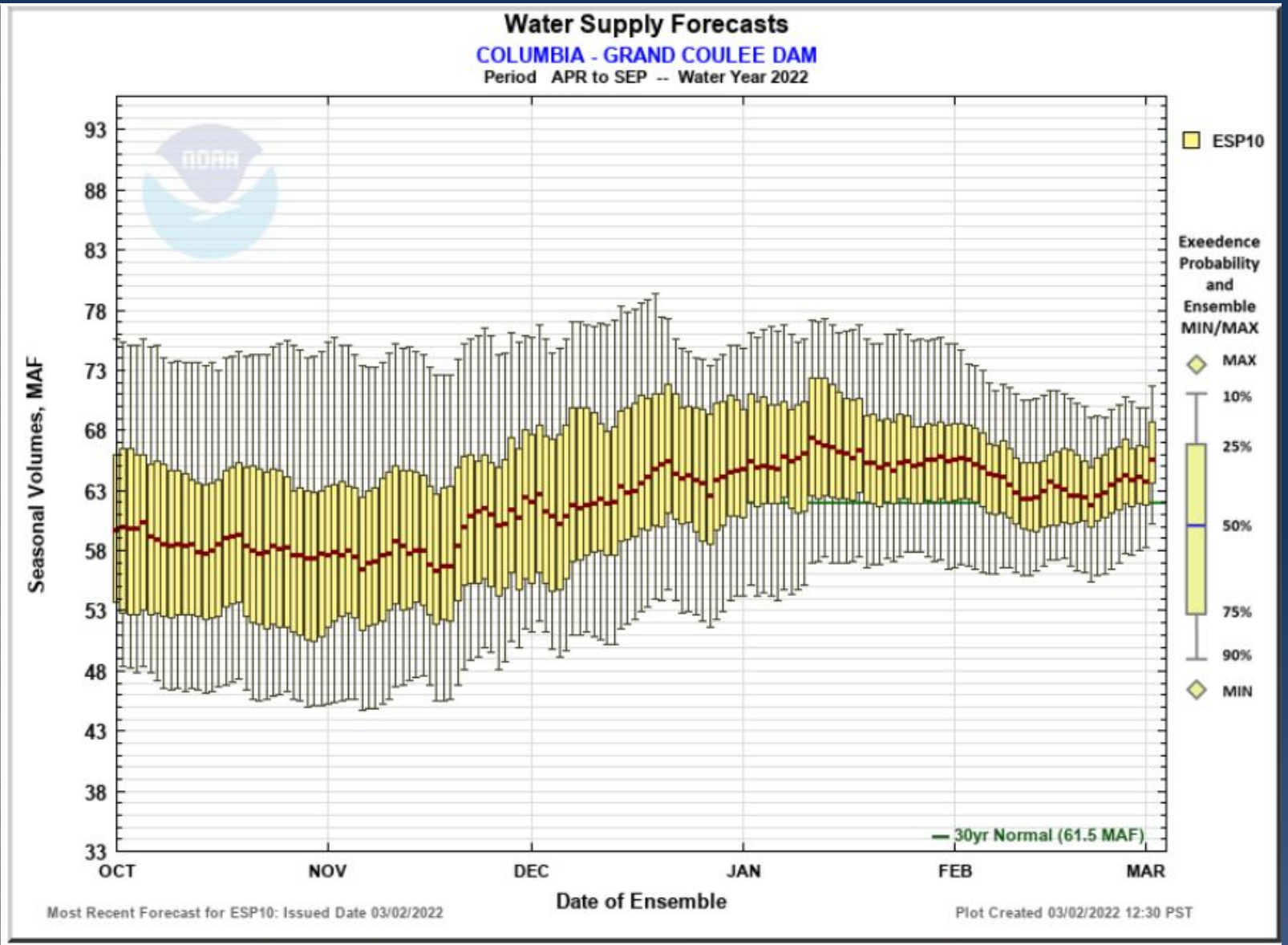
Forecast Period	Forecasts Are in KAF				30 Year Average (1991-2020)
	90 %	50 %	% Average	10 %	
APR-SEP	59771	65160	106	71249	61483
APR-JUL	50827	55936	106	61186	52774
APR-AUG	56379	61813	106	66766	58186
JAN-SEP	70401	75743	108	82125	70457
JAN-JUL	60784	66374	107	72420	61749
OCT-SEP	81245	86587	110	92968	78842

Experimental Water Supply
HEFS with 15 days EQPF ***Ensemble: 2022-03-02*** ***Issued:*** 2022-03-02

APR-SEP	61582	68322	111	75285	61483
APR-JUL	51864	58173	110	63366	52774
APR-AUG	57536	64141	110	70415	58186
JAN-SEP	71173	77343	110	84429	70457
JAN-JUL	61540	67339	109	72624	61749
OCT-SEP	82017	88186	112	95273	78842

Reference
ESP with 0 Days QPF ***Ensemble: 2022-03-02*** ***Issued:*** 2022-03-02

APR-SEP	60624	67479	110	74719	61483
APR-JUL	50529	57222	108	62844	52774
APR-AUG	56521	63436	109	70086	58186
JAN-SEP	70182	76816	109	84923	70457
JAN-JUL	60652	67343	109	72439	61749
OCT-SEP	81025	87660	111	95766	78842



https://www.nwrfc.noaa.gov/water_supply/ws_forecasts.php?id=GCDW1

ESP10 Apr-Sep Water Supply Forecasts

SNAKE - LOWER GRANITE DAM (LGDW1)
Forecasts for Water Year 2022

Official Water Supply

ESP with 10 Days QPF ***Ensemble:*** 2022-03-02 ***Issued:*** 2022-03-02

Forecast Period	Forecasts Are in KAF				30 Year Average (1991-2020)
	90 %	50 %	% Average	10 %	
APR-SEP	14450	17666	79	22251	22232
APR-JUL	12480	15433	77	19498	19946
APR-AUG	13438	16574	78	20938	21121
JAN-SEP	20776	23252	78	28415	29736
JAN-JUL	18751	20993	76	25672	27450
OCT-SEP	24681	27157	79	32320	34287

Experimental Water Supply

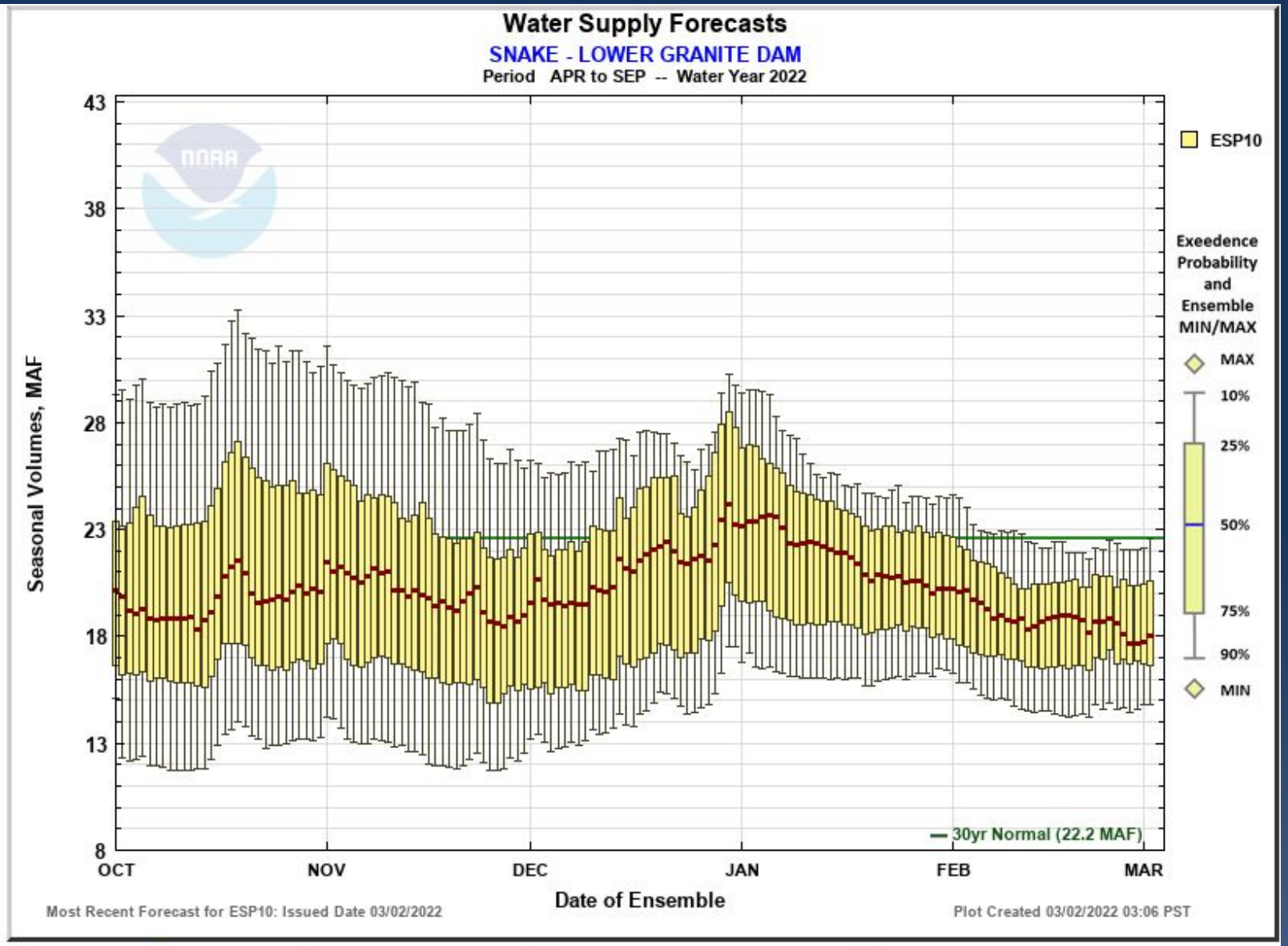
HEFS with 15 days EQPF ***Ensemble:*** 2022-03-02 ***Issued:*** 2022-03-02

APR-SEP	14957	19274	87	22874	22232
APR-JUL	12842	16916	85	20285	19946
APR-AUG	13887	18154	86	21599	21121
JAN-SEP	20872	24637	83	28764	29736
JAN-JUL	18921	22279	81	26177	27450
OCT-SEP	24777	28542	83	32669	34287

Reference

ESP with 0 Days QPF ***Ensemble:*** 2022-03-02 ***Issued:*** 2022-03-02

APR-SEP	14698	19091	86	22571	22232
APR-JUL	12702	16587	83	19811	19946
APR-AUG	13665	17910	85	21262	21121
JAN-SEP	20256	24441	82	28393	29736
JAN-JUL	18347	22162	81	25965	27450
OCT-SEP	24161	28346	83	32298	34287



https://www.nwrfc.noaa.gov/water_supply/ws_forecasts.php?id=LGDW1

ESP10 Apr-Sep Water Supply Forecasts

COLUMBIA - THE DALLES DAM (TDAO3)
Forecasts for Water Year 2022

Official Water Supply

ESP with 10 Days QPF ***Ensemble:*** 2022-03-02 ***Issued:*** 2022-03-02

Forecast Period	Forecasts Are in KAF				30 Year Average (1991-2020)
	90 %	50 %	% Average	10 %	
APR-SEP	83251	91821	98	103550	94166
APR-JUL	72360	78837	96	89337	81933
APR-AUG	78613	86732	97	97686	89196
JAN-SEP	104080	111622	96	123753	115946
JAN-JUL	92988	98695	95	109819	103714
OCT-SEP	122145	129687	98	141819	132314

Experimental Water Supply

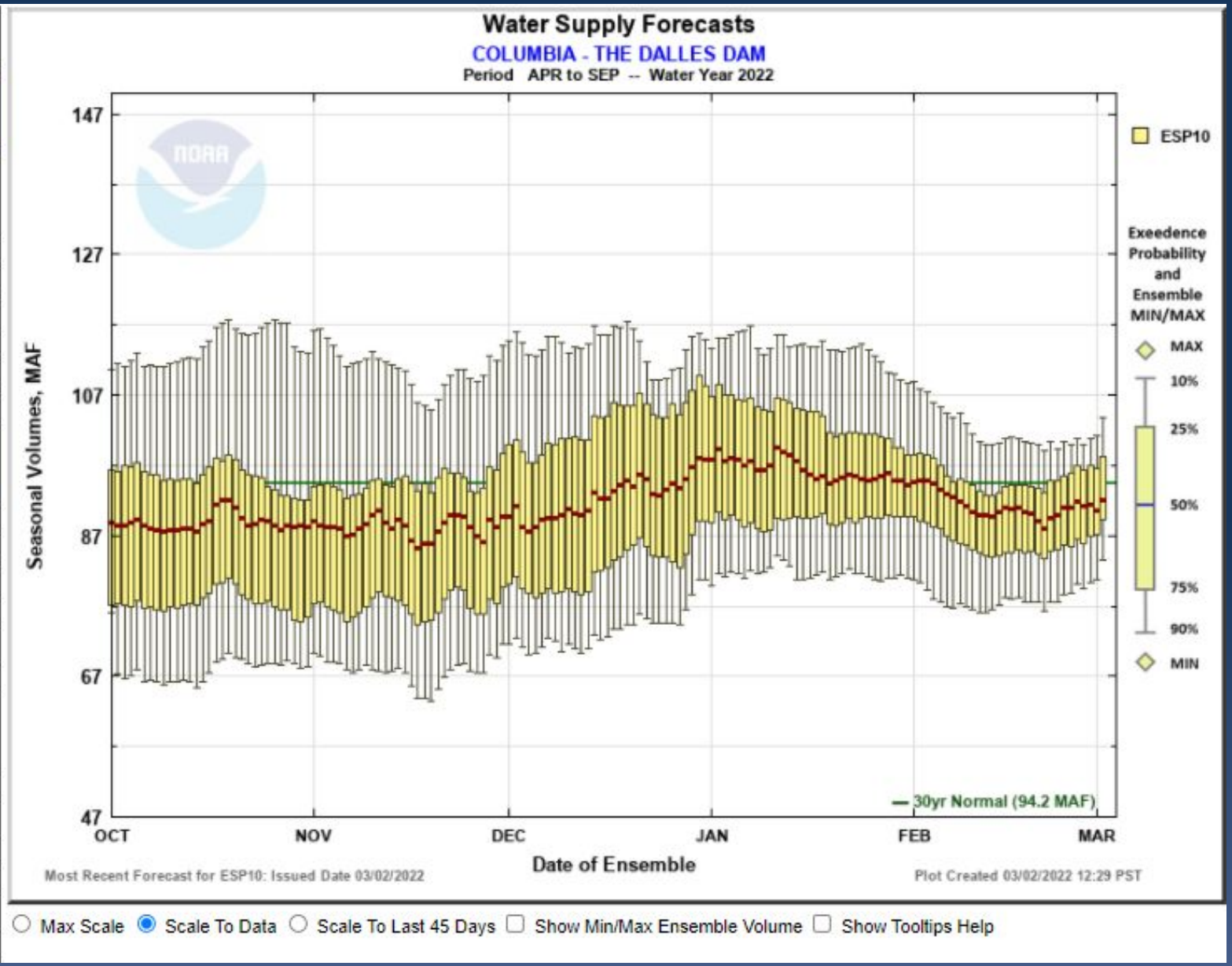
HEFS with 15 days EQPF ***Ensemble:*** 2022-03-02 ***Issued:*** 2022-03-02

APR-SEP	84959	96427	102	107412	94166
APR-JUL	72583	83281	102	93382	81933
APR-AUG	79124	90875	102	101375	89196
JAN-SEP	103573	114807	99	126748	115946
JAN-JUL	91816	101465	98	112281	103714
OCT-SEP	121638	132872	100	144813	132314

Reference

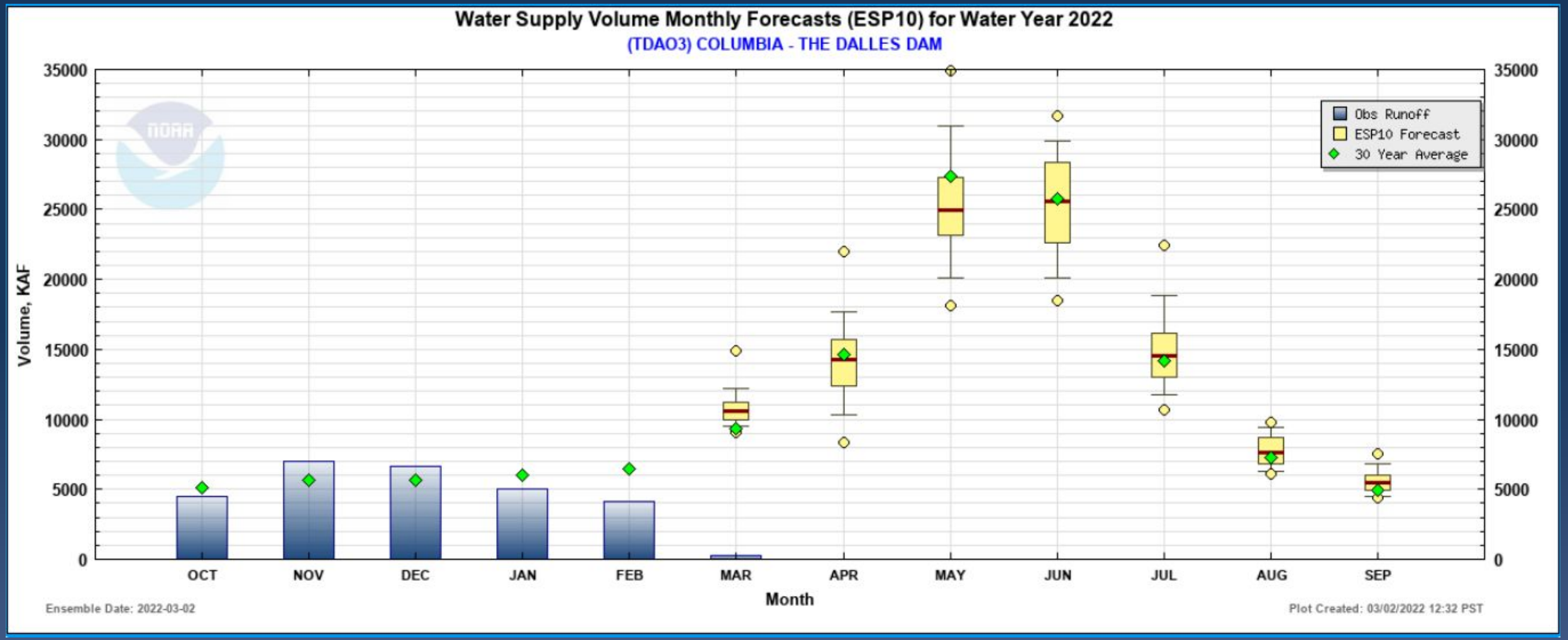
ESP with 0 Days QPF ***Ensemble:*** 2022-03-02 ***Issued:*** 2022-03-02

APR-SEP	83564	95937	102	106626	94166
APR-JUL	70270	82204	100	92784	81933
APR-AUG	77770	90932	102	100906	89196
JAN-SEP	102169	114130	98	126747	115946
JAN-JUL	90450	101513	98	112198	103714
OCT-SEP	120234	132195	100	144812	132314



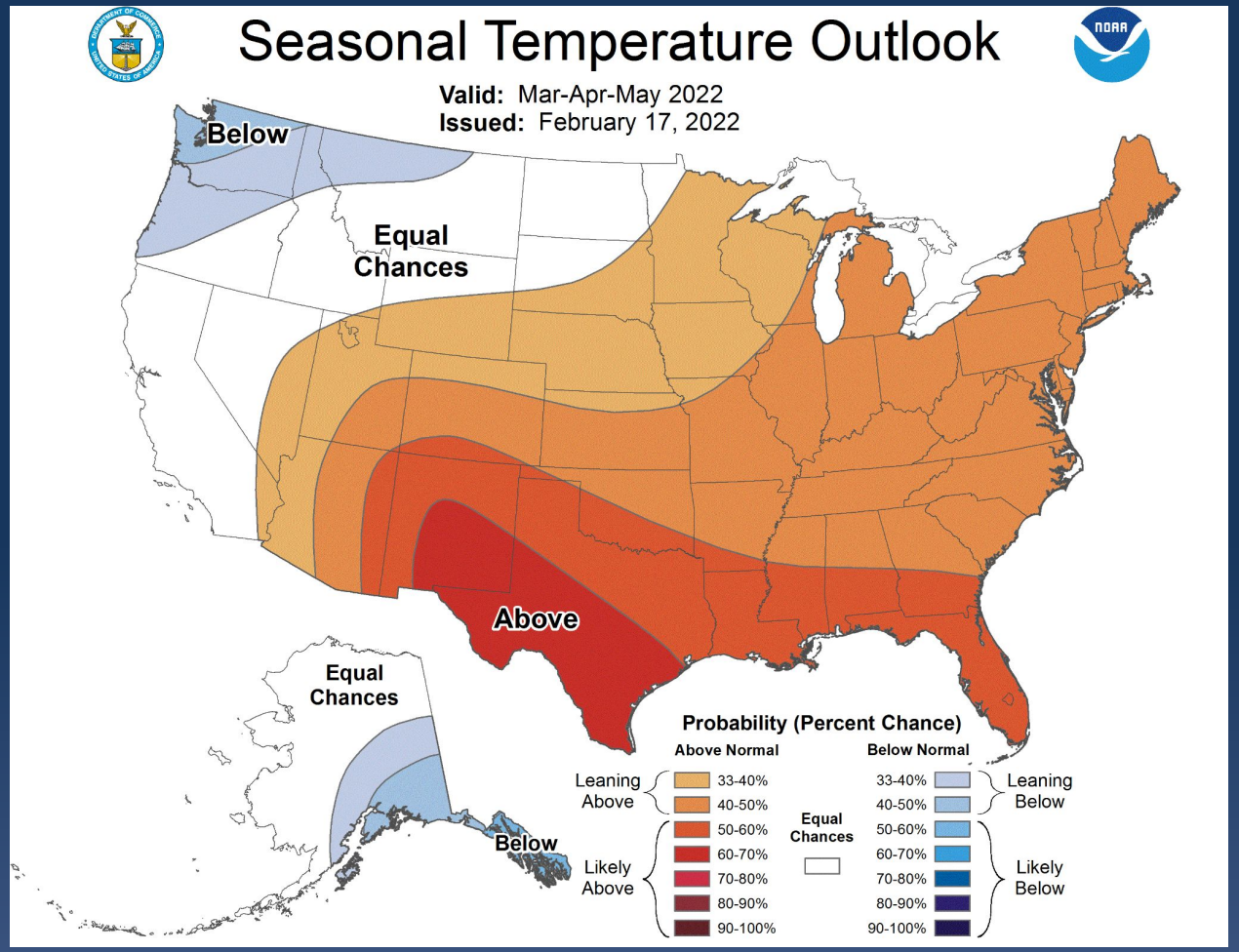
https://www.nwrfc.noaa.gov/water_supply/ws_forecasts.php?id=TDAO3

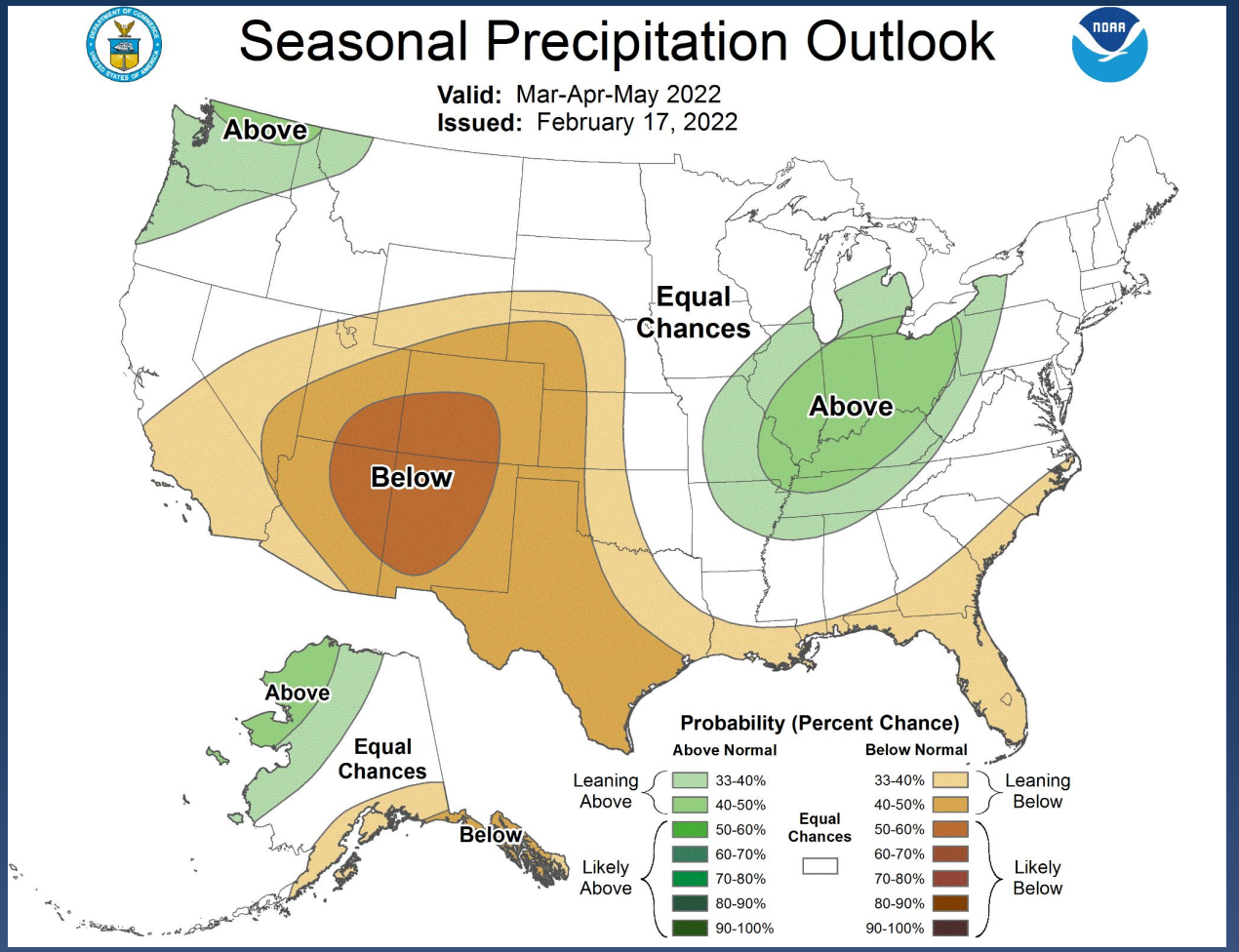
ESP10 Water Supply Volume Monthly Forecasts



https://www.nwrfc.noaa.gov/water_supply/monthly/monthly_forecasts.php?id=TDAO3

CPC Three-Month Outlook





CPC Model Predictions

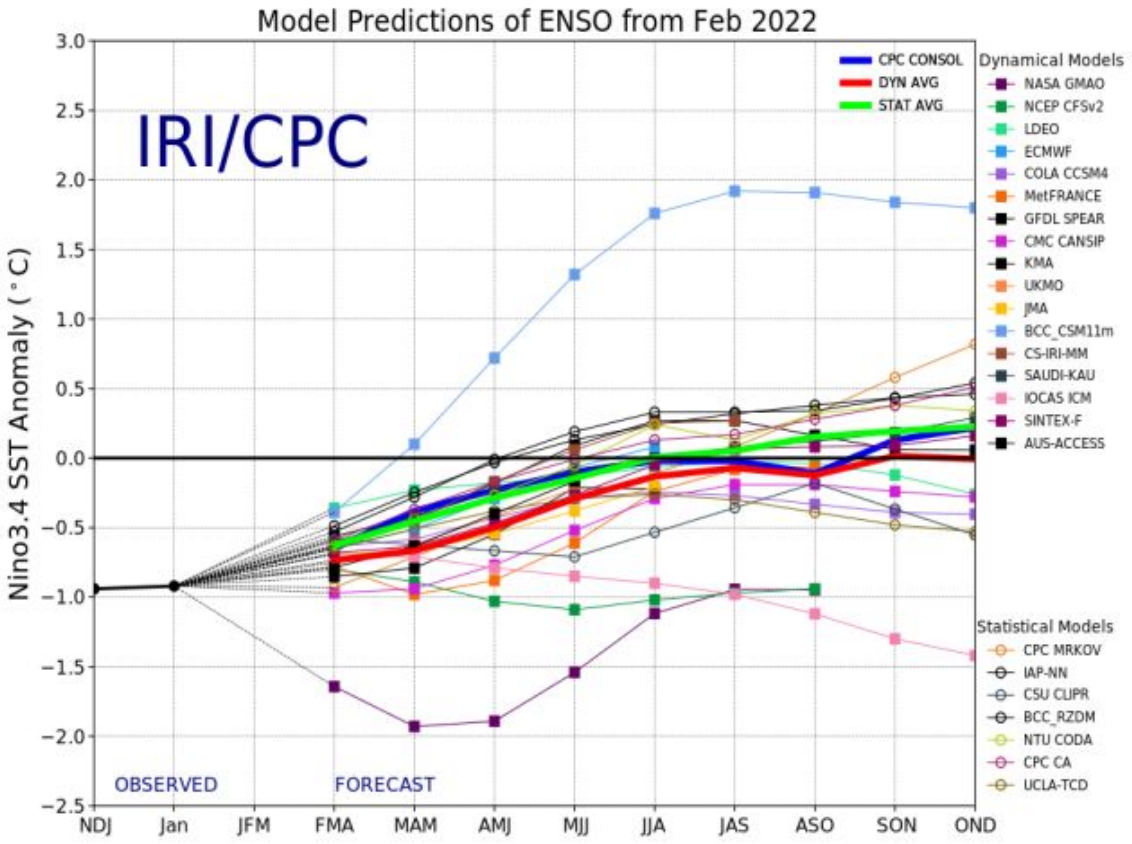
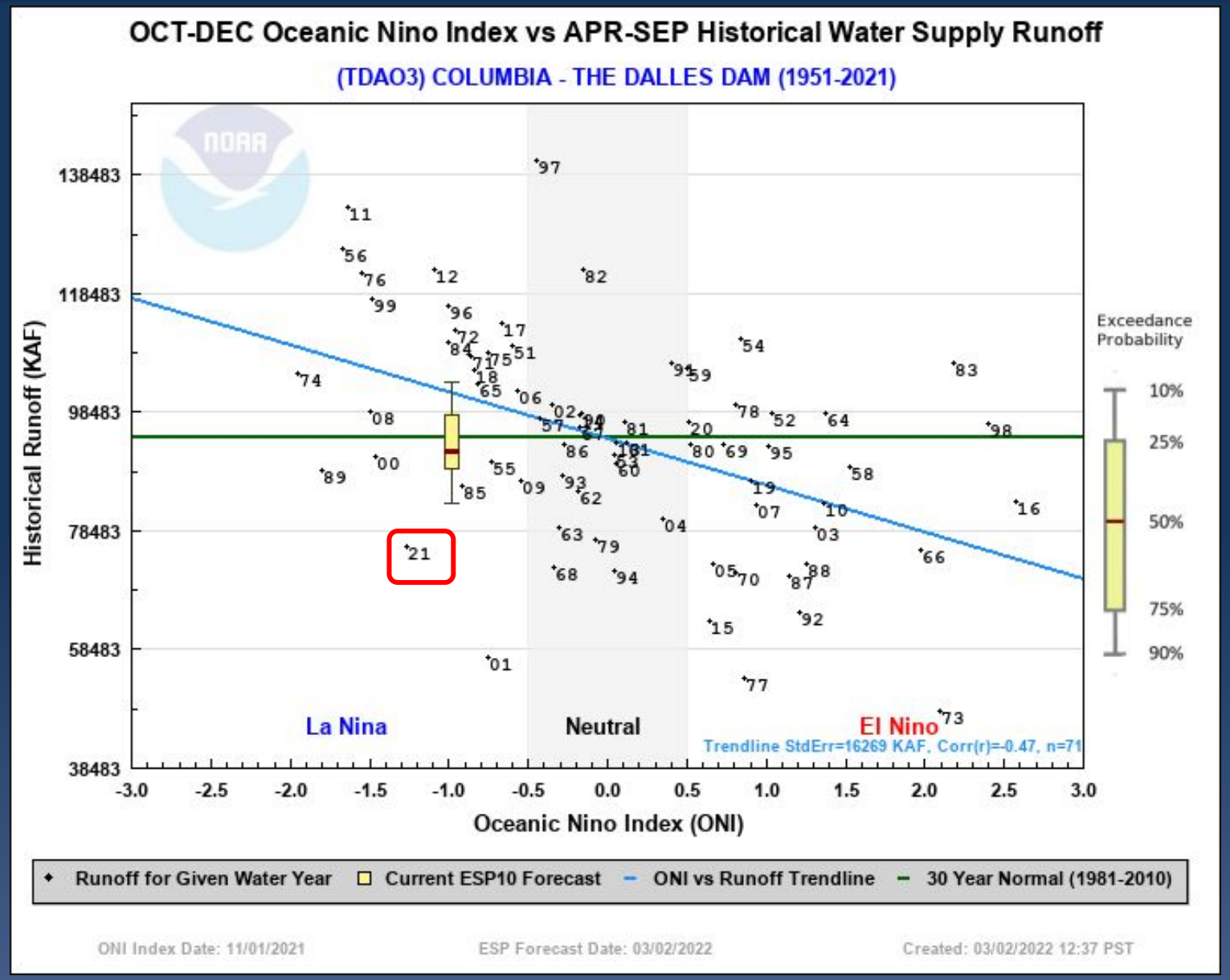


Figure provided by the International Research Institute (IRI) for Climate and Society (updated 18 February 2022).

A majority of models indicate La Niña is expected to continue into spring 2022 and then transition to ENSO-neutral.

https://www.cpc.ncep.noaa.gov/products/analysis_monitoring/lanina/enso_evolution-status-fcsts-web.pdf

Oceanic Nino Index vs Runoff



https://www.nwrfc.noaa.gov/runoff/enso/enso_runoff_analysis.php?id=TDAO3&wstype=WS

Take Home Messages

February was dry and cold.

Snowpack was mostly preserved by the cold but did not build much and dropped in percent normal, especially in Southern Oregon and Idaho.

Year to date percent normal runoff has decreased since Feb 1.

Water supply forecasts continued to drop.

WY2022 Schedule for Live Water Supply Briefings	
Apr	May
7	5
All presentations held at 10:00 am PST/PDT unless noted otherwise	

Telephone Conference Call Number
(same for each month's brief):
(562) 247 - 8422

Pass Code :
146-348-602#

NORTHWEST RIVER FORECAST CENTER
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

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Questions?

In order to ask questions using your phone, you will need to enter the AUDIO PIN followed by the # sign using your phone keypad. The AUDIO PIN was provided when you logged into the webinar. If you need to enter the PIN after you are connected, try #PIN#

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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