



Northwest River Forecast Center



February 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

The first half of January brought heavy precip while the second half brought very little.

Seasonal precipitation fell below normal for some portions of the basin.

Snowpack is near normal for most of the basin though percent normals have dropped.

Water supply forecasts have dropped in the southern areas of the basin and remained near normal in others.



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

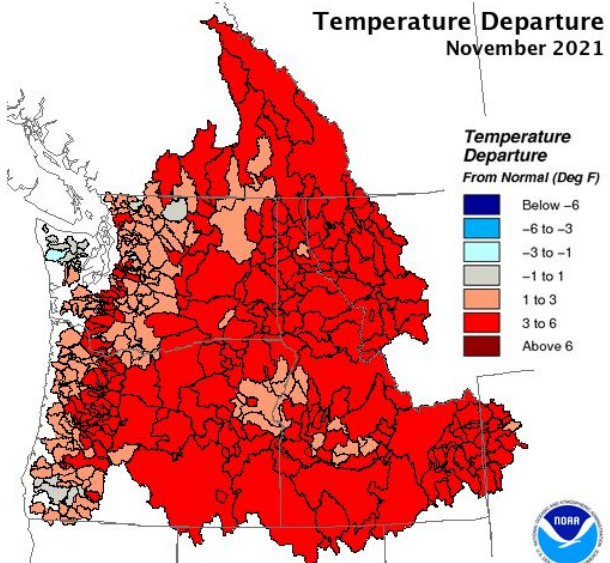
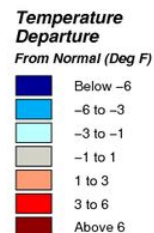
Model Inputs

Water Supply Forecasts



Monthly Temperature Departure

Temperature Departure
November 2021

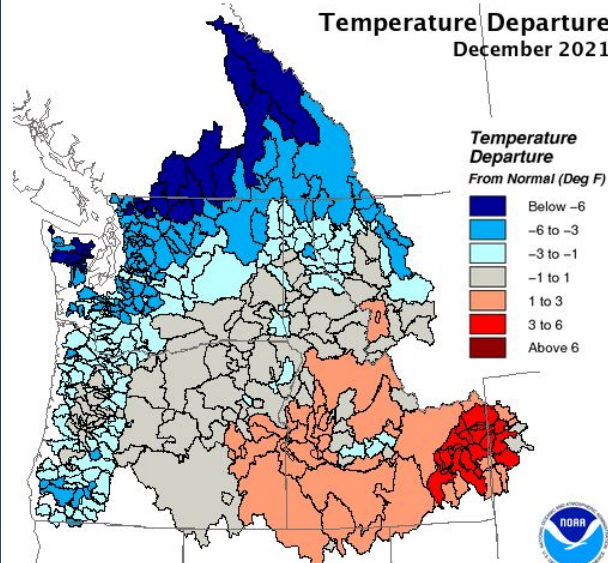
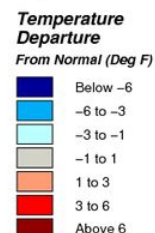


Creation Time: Wednesday, Dec 1, 2021

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Temperature Departure
December 2021

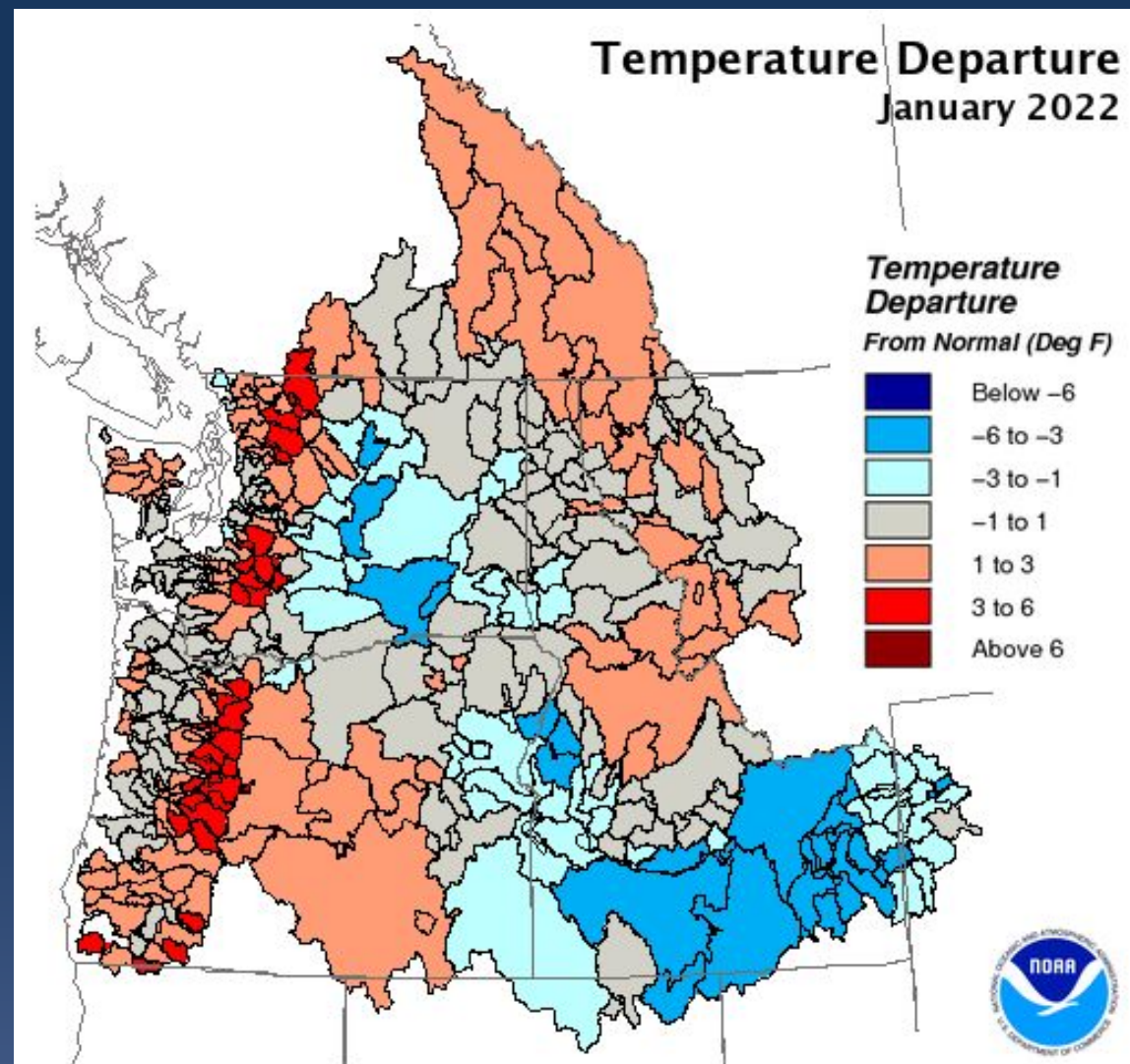
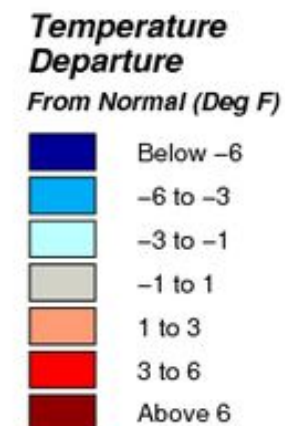


Creation Time: Saturday, Jan 1, 2022

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Temperature Departure
January 2022



Creation Time: Tuesday, Feb 1, 2022

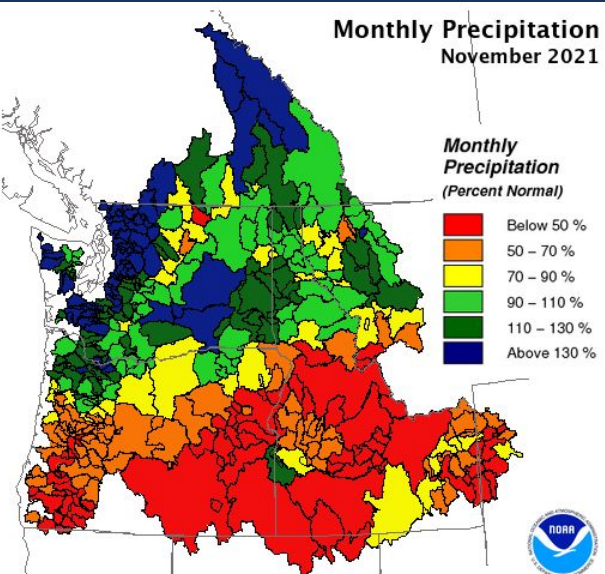
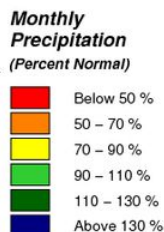
Northwest River Forecast Center





Monthly Precipitation

Monthly Precipitation
November 2021

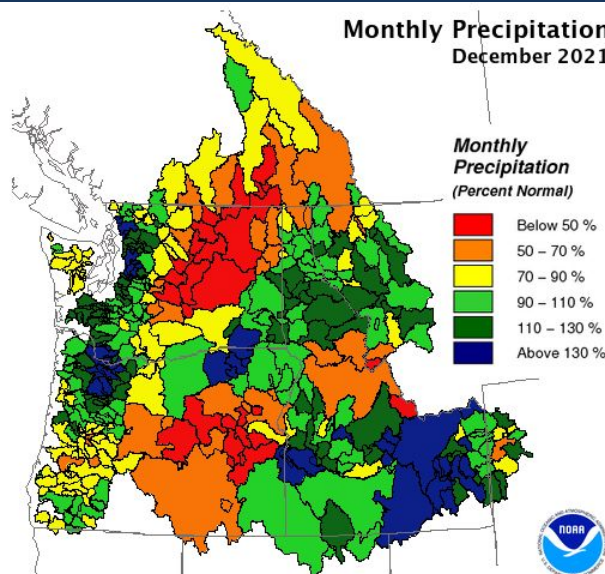
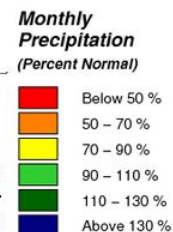


Creation Time: Wednesday, Dec 1, 2021

Northwest River Forecast Center



Monthly Precipitation
December 2021



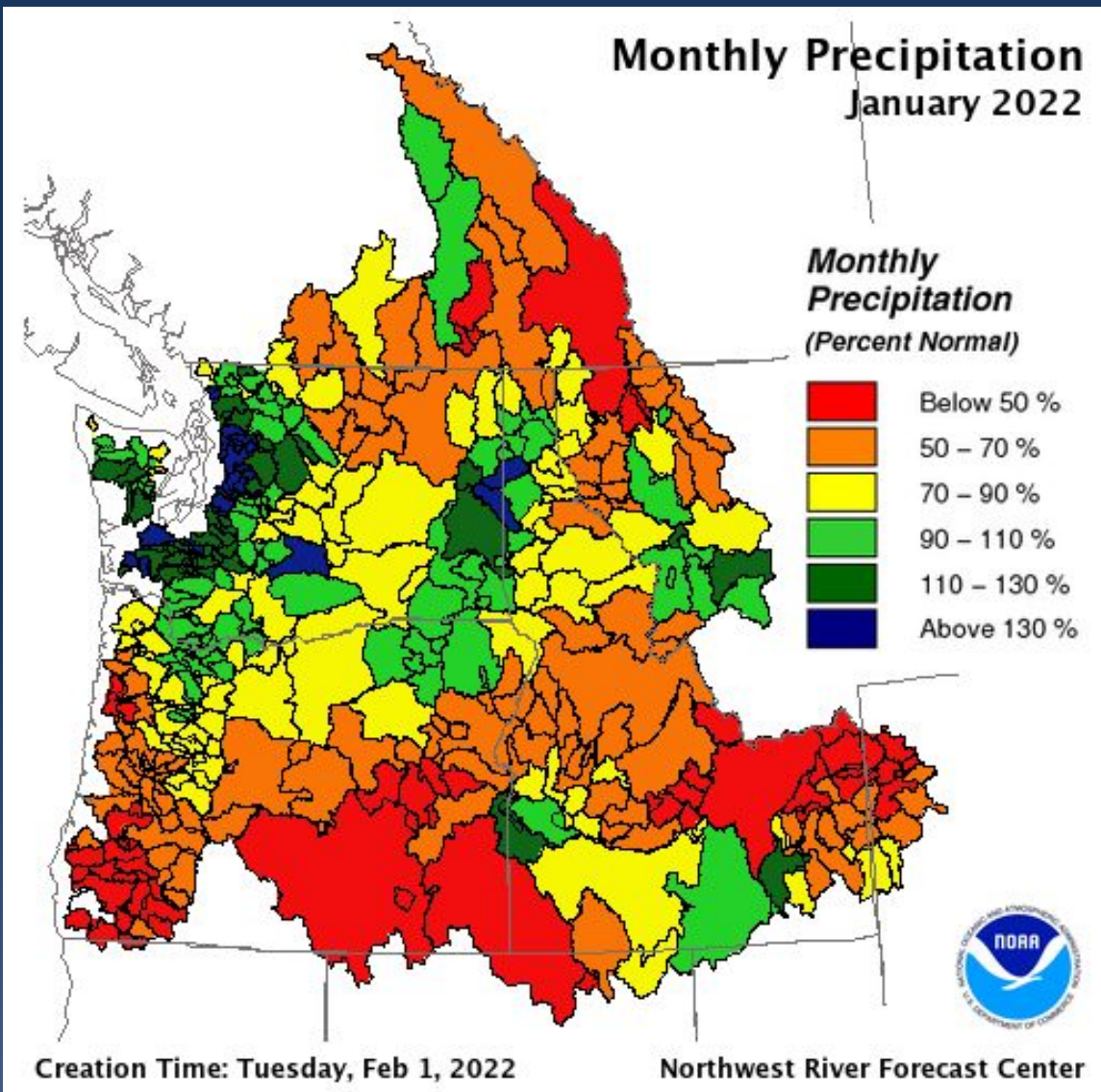
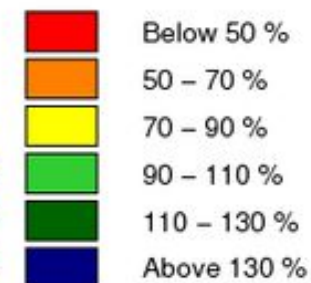
Creation Time: Saturday, Jan 1, 2022

Northwest River Forecast Center



Monthly Precipitation
January 2022

**Monthly Precipitation
(Percent Normal)**



Creation Time: Tuesday, Feb 1, 2022

Northwest River Forecast Center

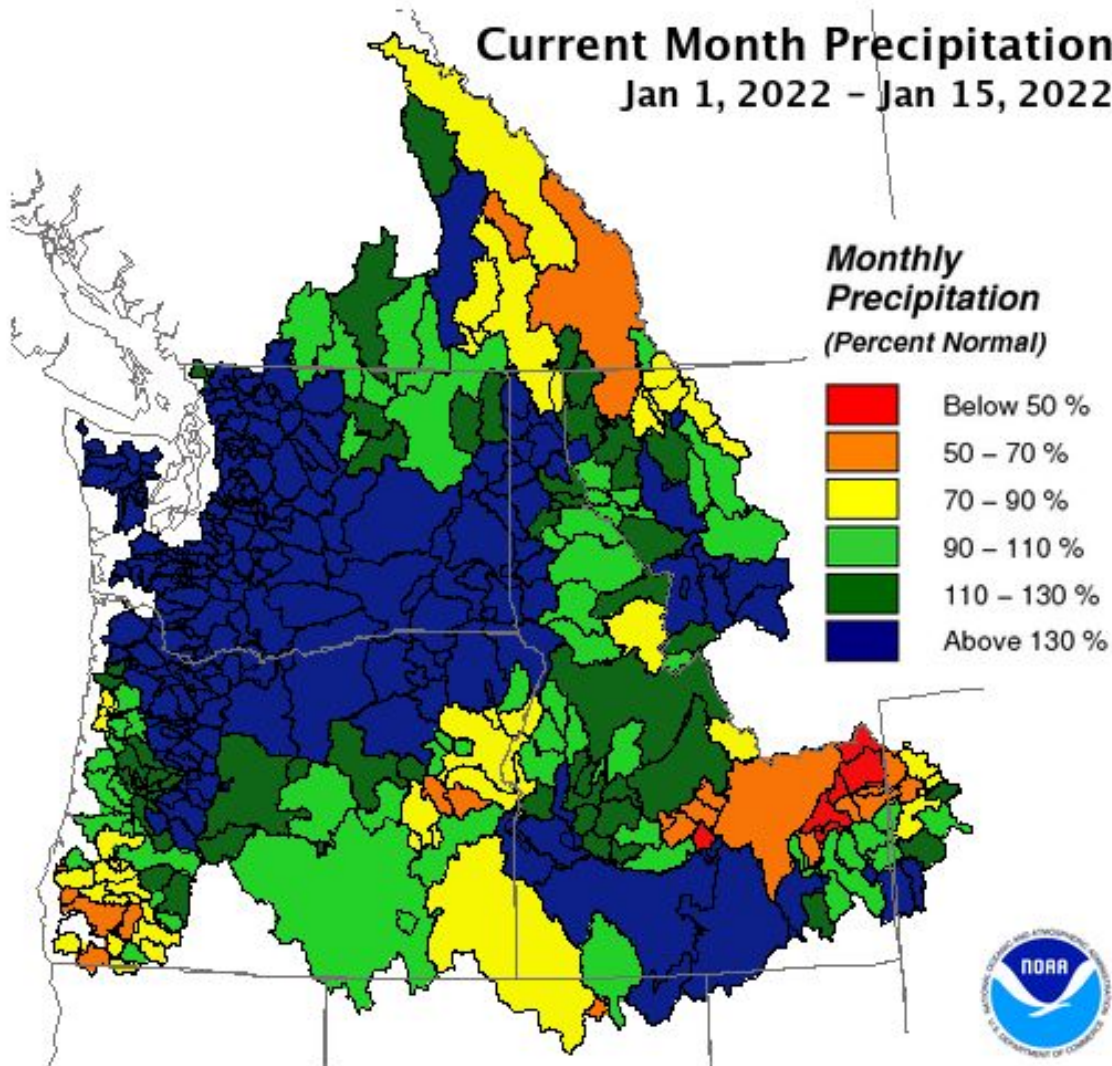
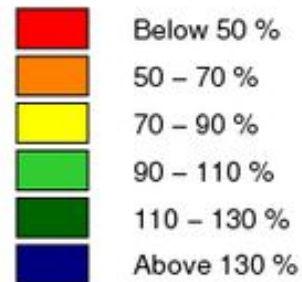




Change in Monthly Precipitation

Current Month Precipitation
Jan 1, 2022 – Jan 15, 2022

**Monthly
Precipitation**
(Percent Normal)



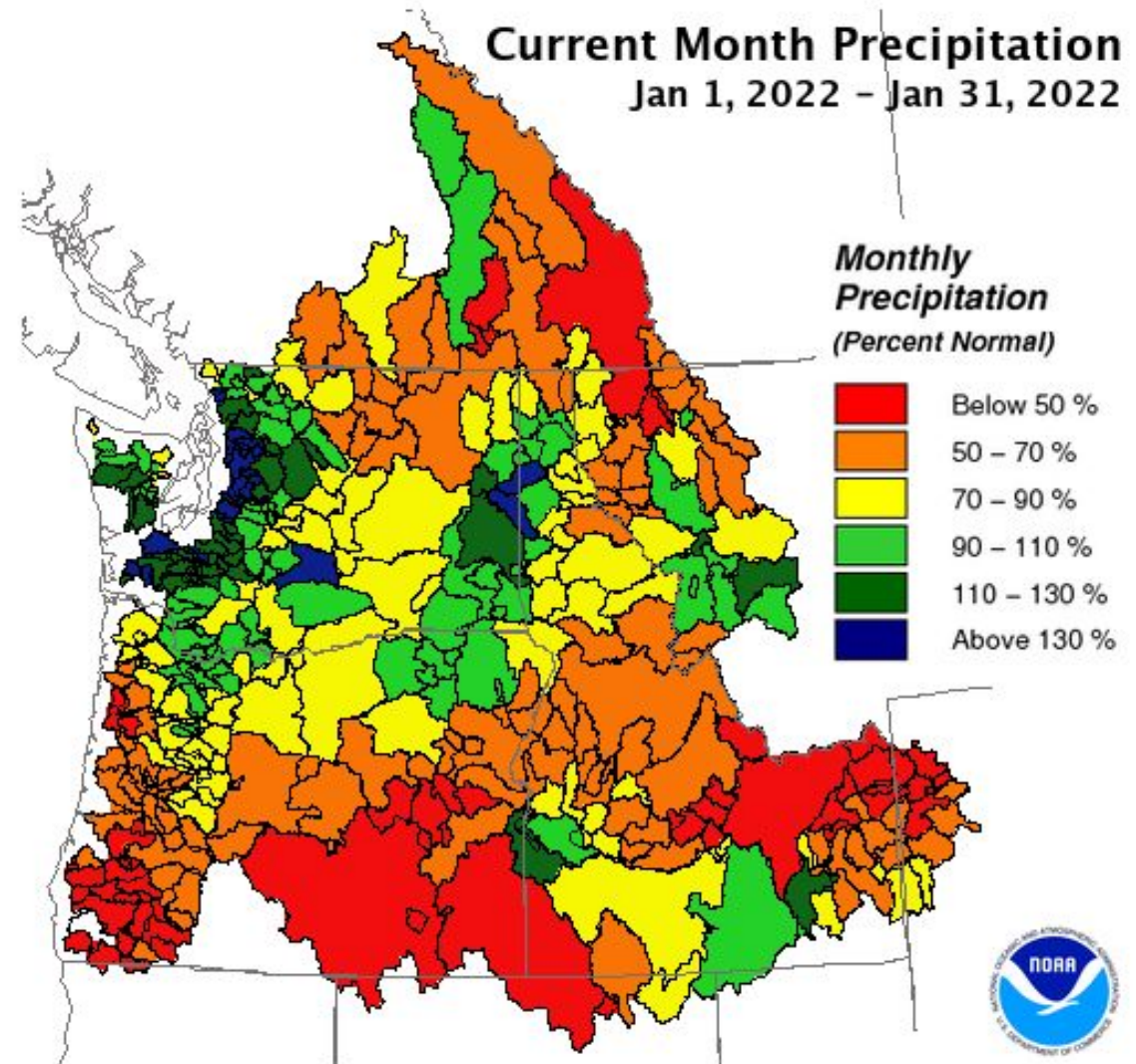
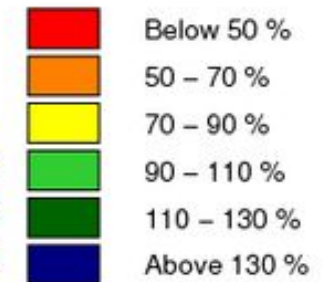
Creation Time: Sunday, Jan 16, 2022

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Current Month Precipitation
Jan 1, 2022 – Jan 31, 2022

**Monthly
Precipitation**
(Percent Normal)



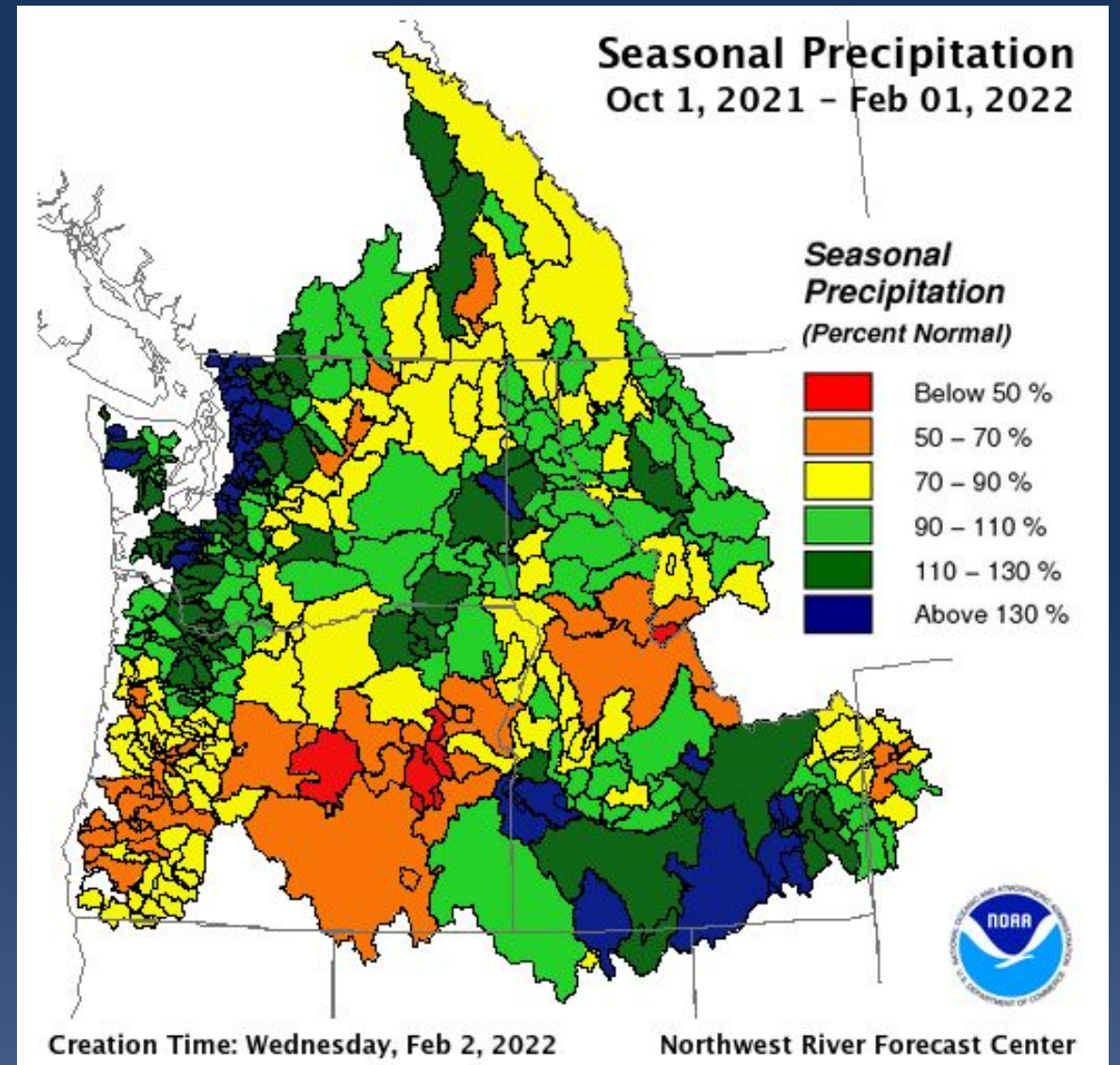
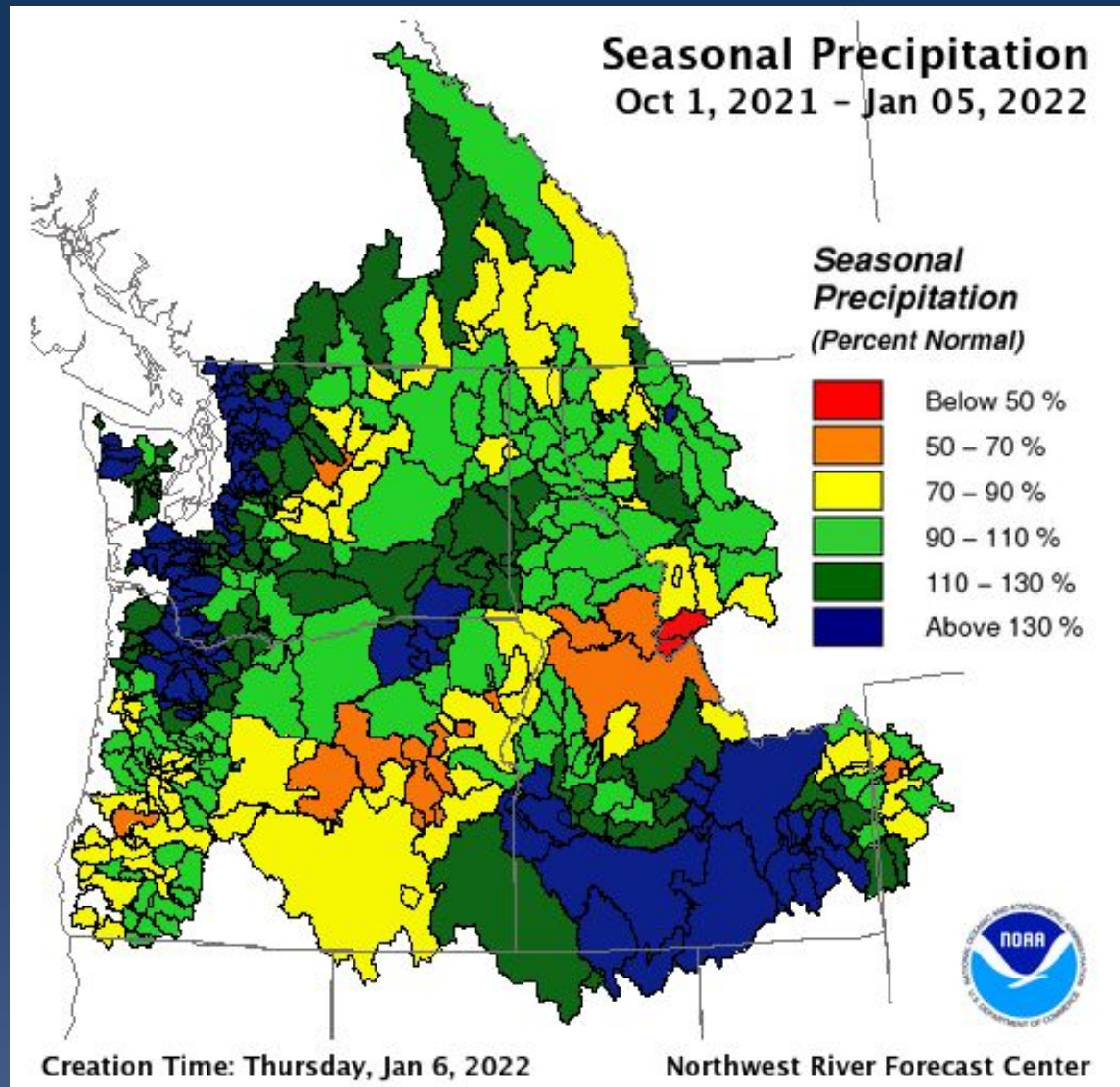
Creation Time: Tuesday, Feb 1, 2022

Northwest River Forecast Center



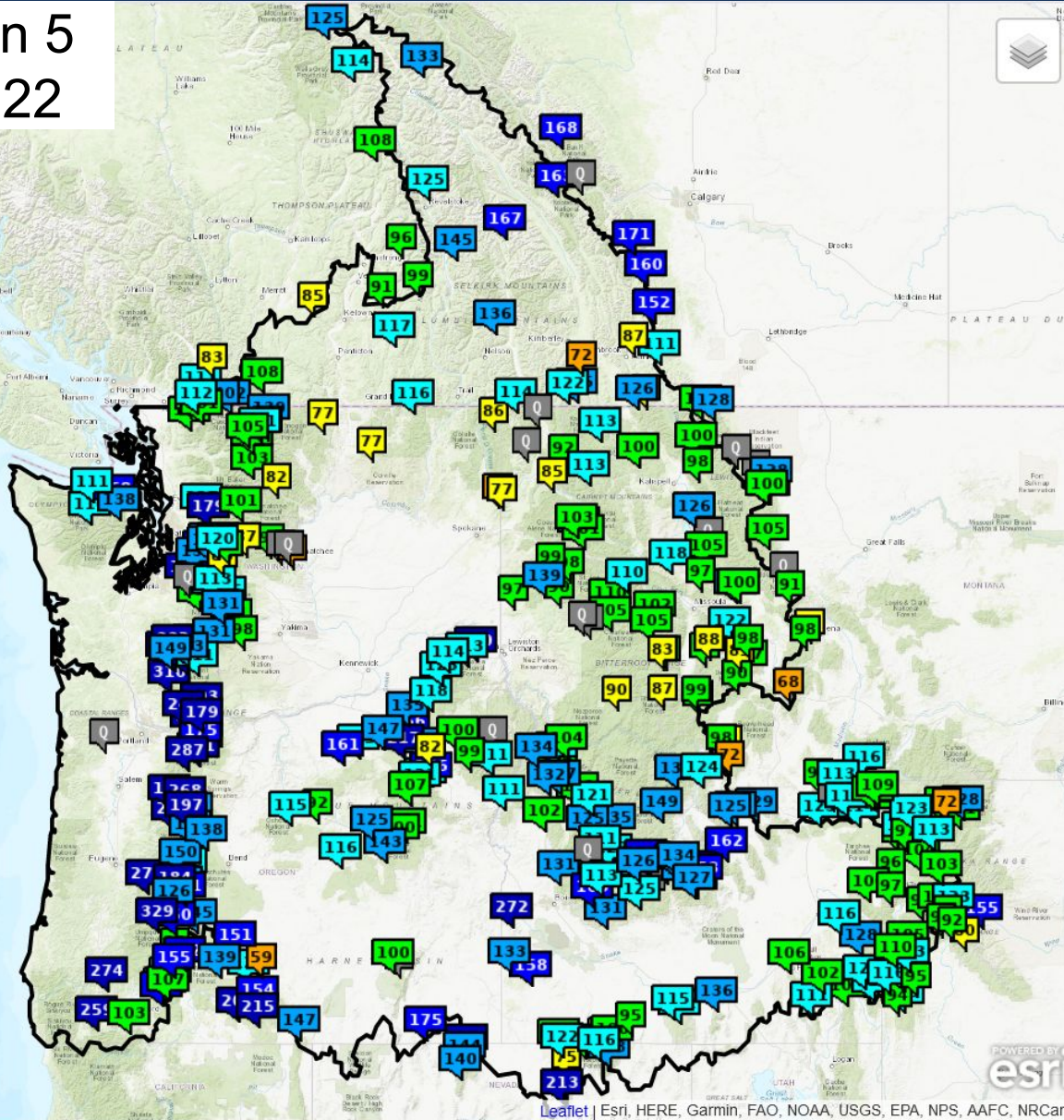


Change in Water Year Total Precipitation

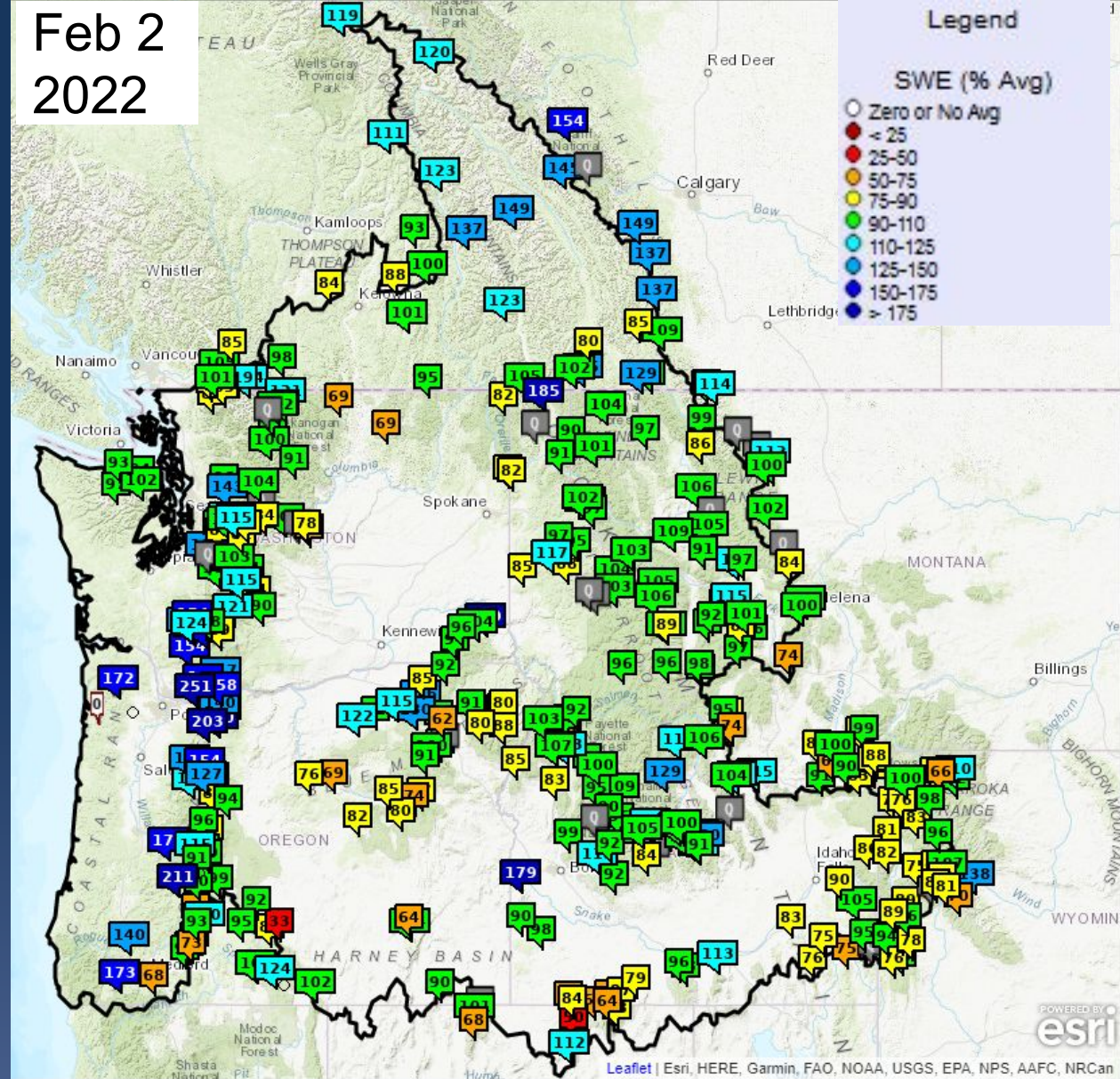


Change in Snowpack

Jan 5
2022

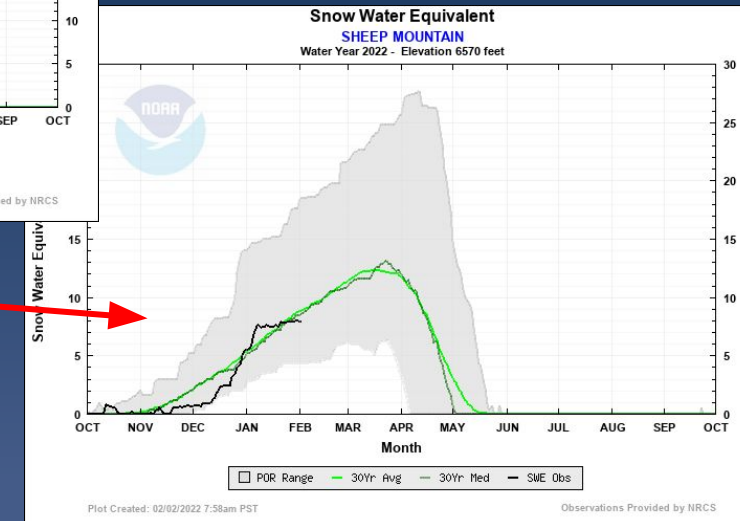
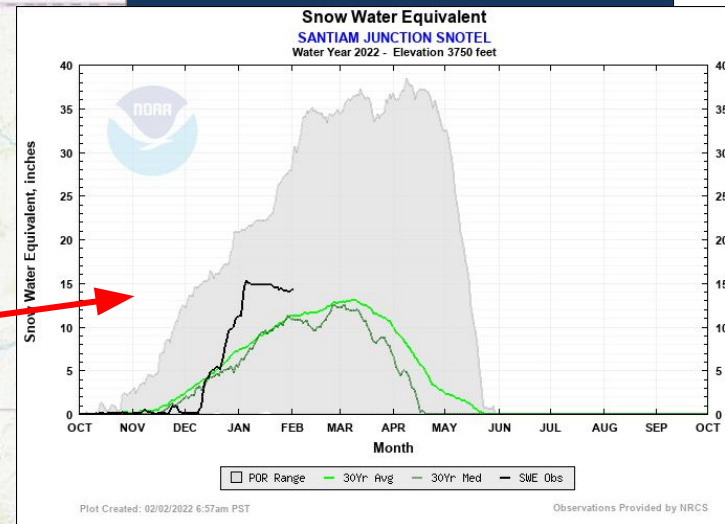
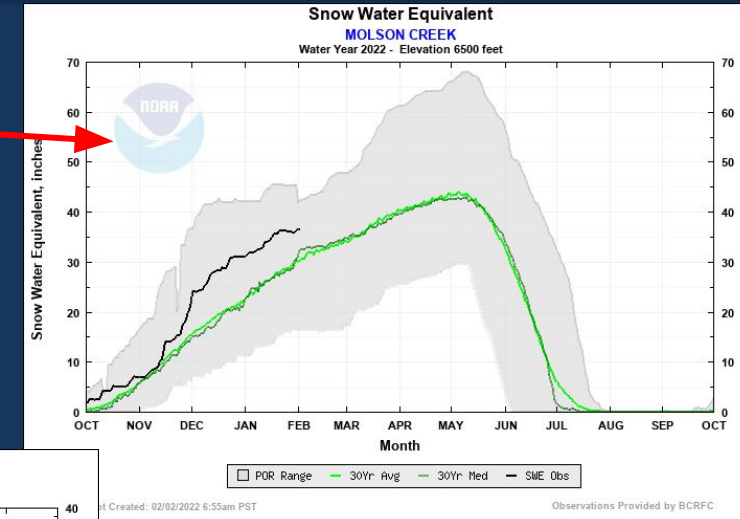
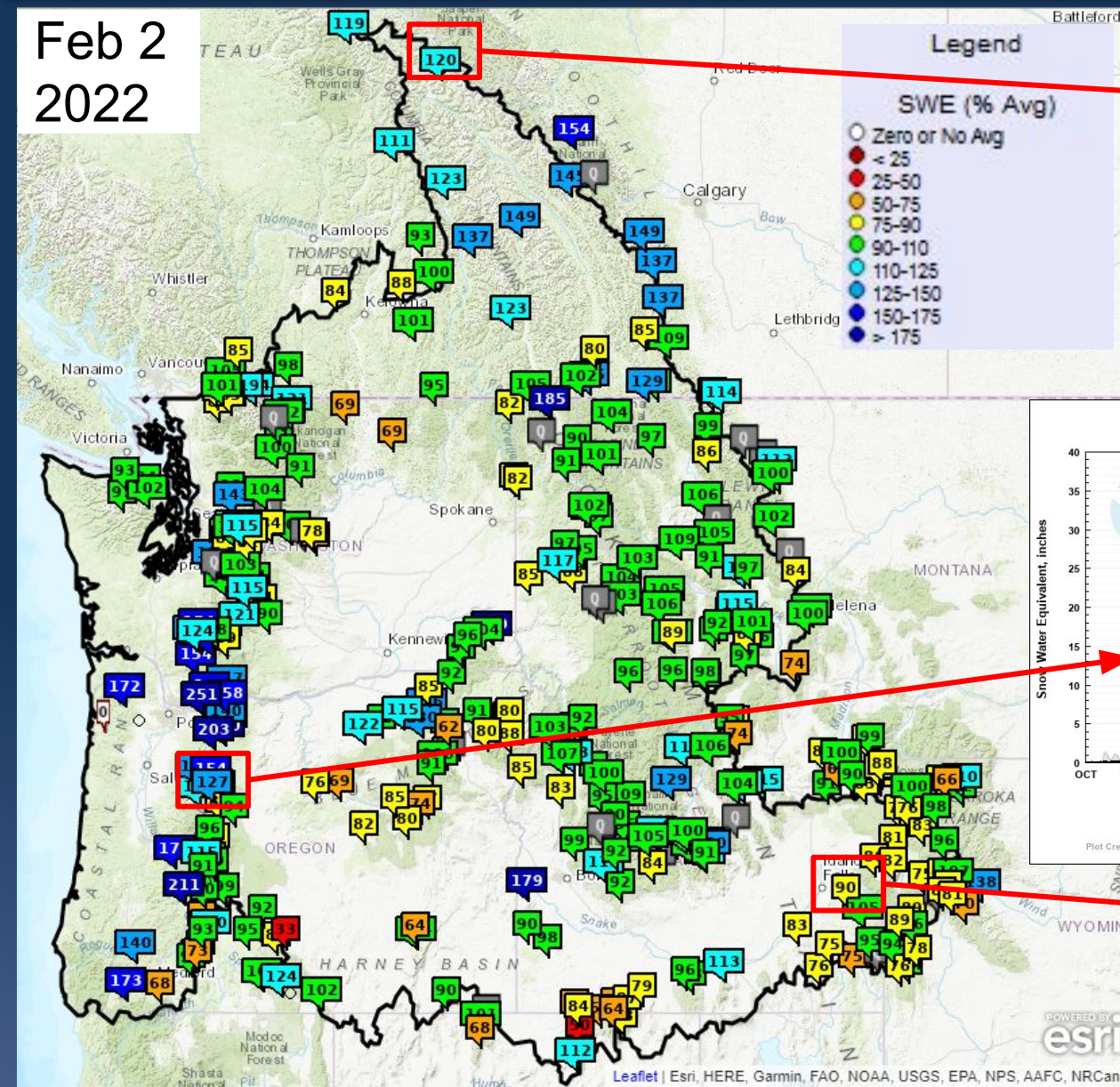


Feb 2
2022



Snowpack

Feb 2
2022

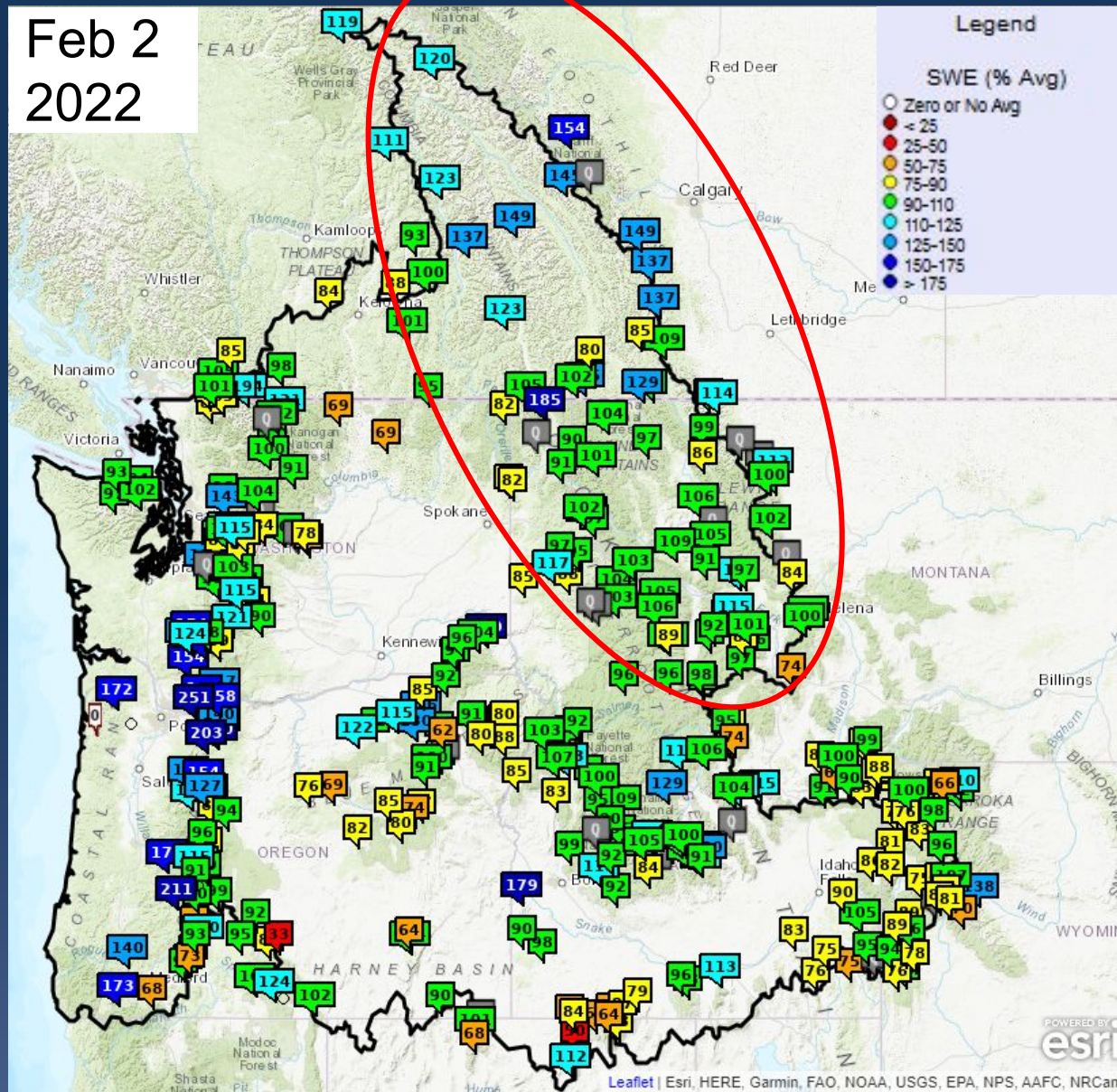


Snow data from NRCS, BC Hydro, and Alberta EP.

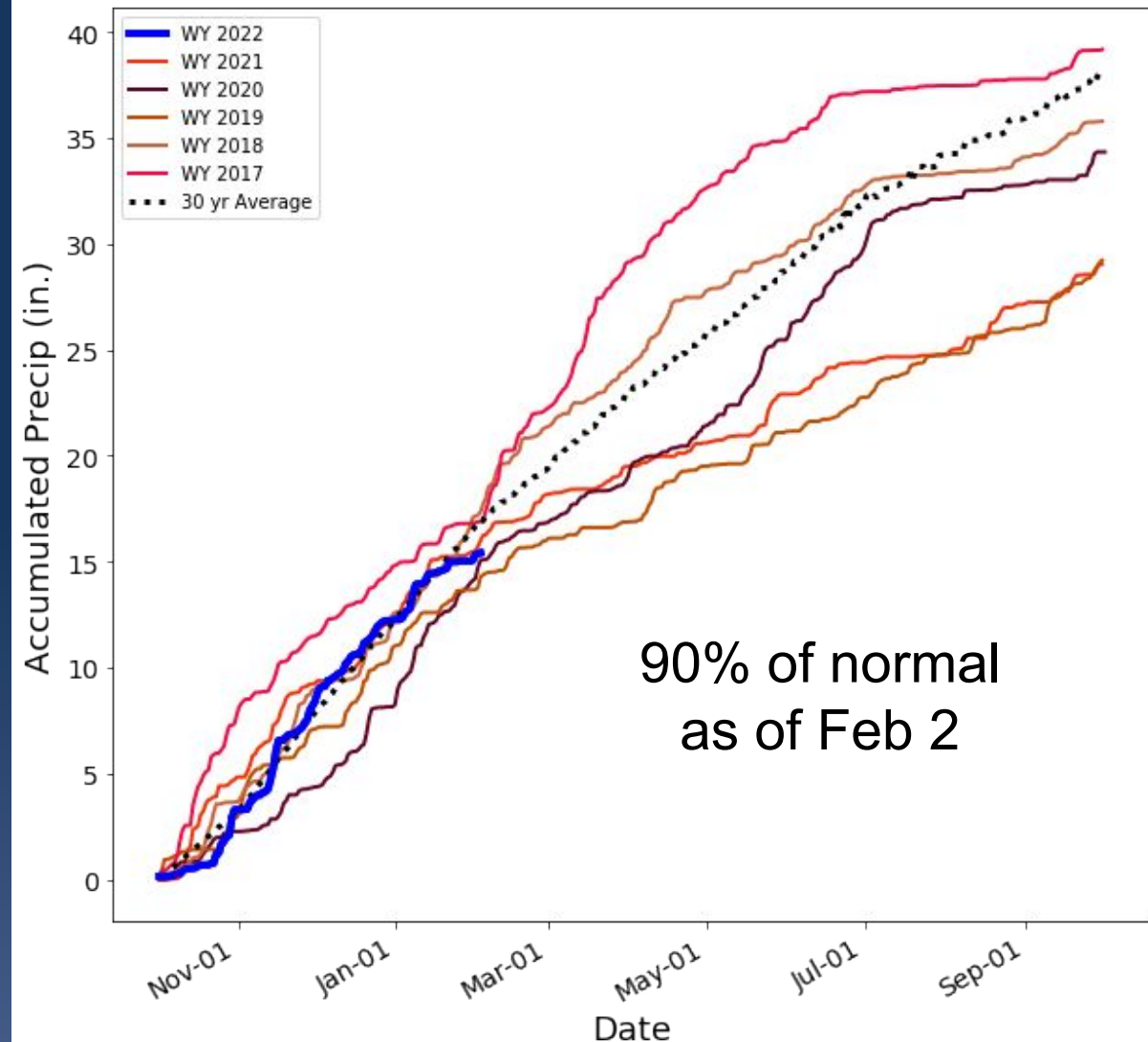


Snowpack and Seasonal Precipitation

Feb 2
2022



Upper Columbia

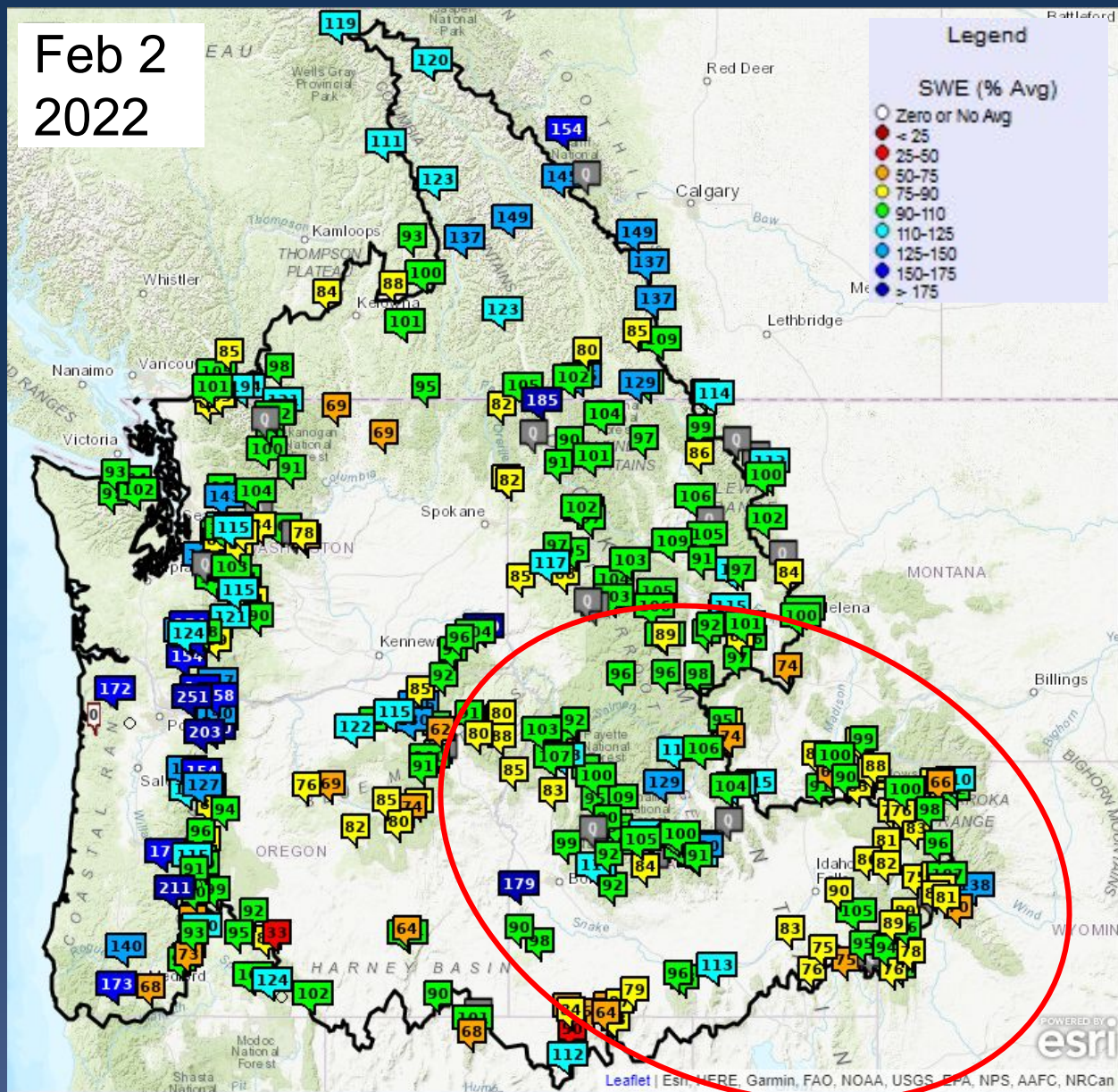


Data as of Feb 2, 2022. Snow data from NRCS, BC Hydro, and Alberta EP.

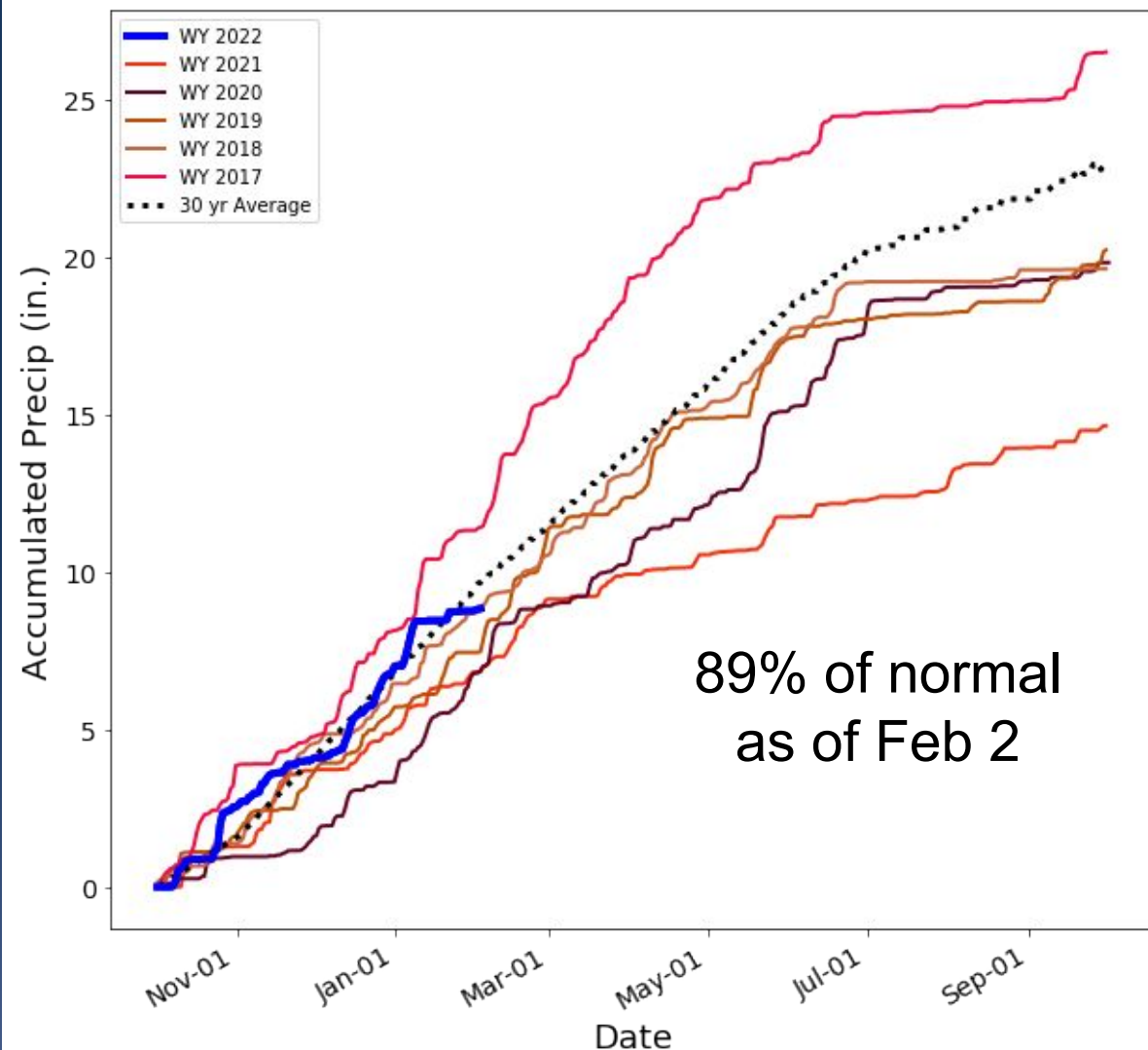


Snowpack and Seasonal Precipitation

Feb 2
2022



Snake River

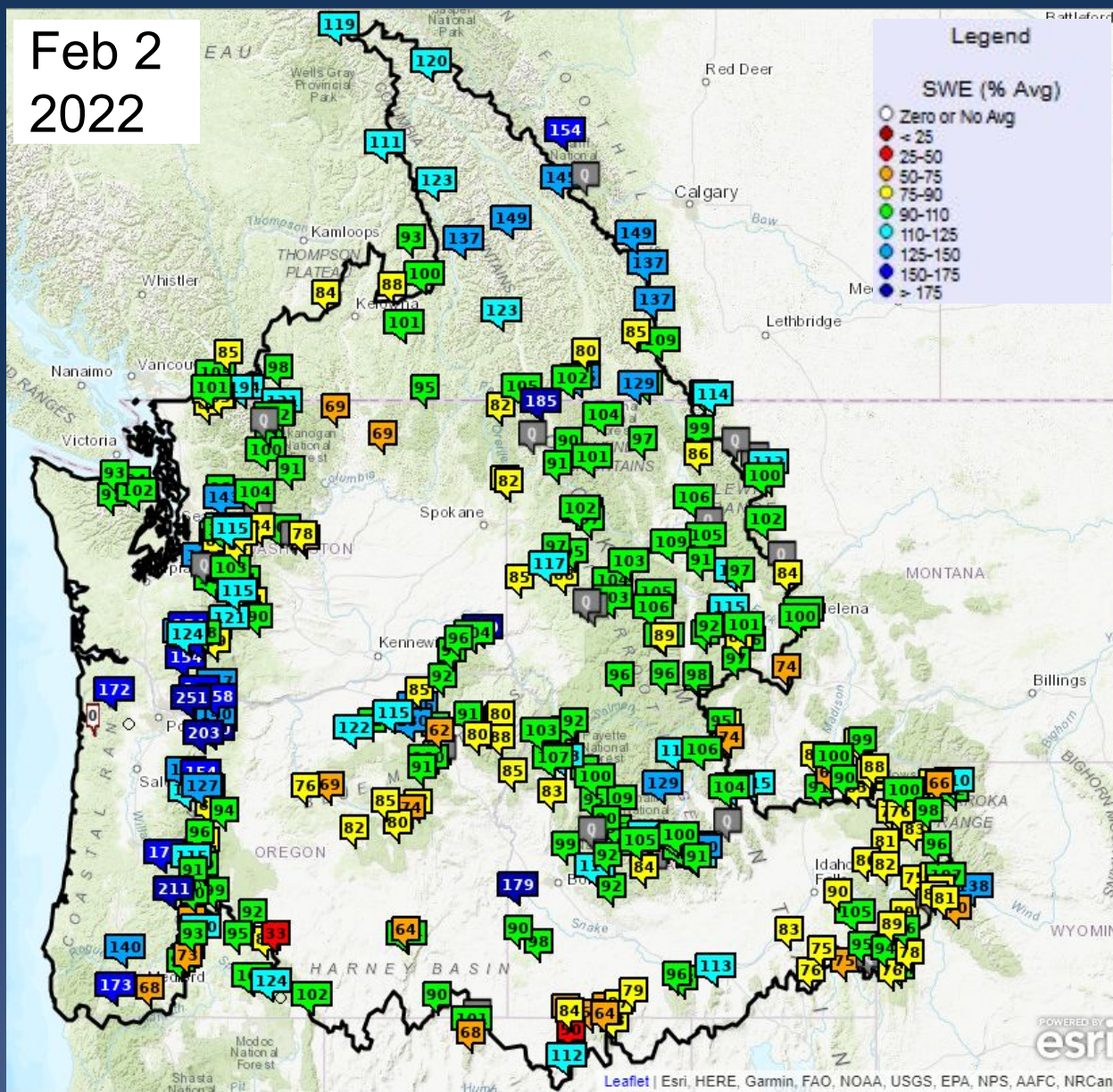


Data as of Feb 2, 2022. Snow data from NRCS, BC Hydro, and Alberta EP.

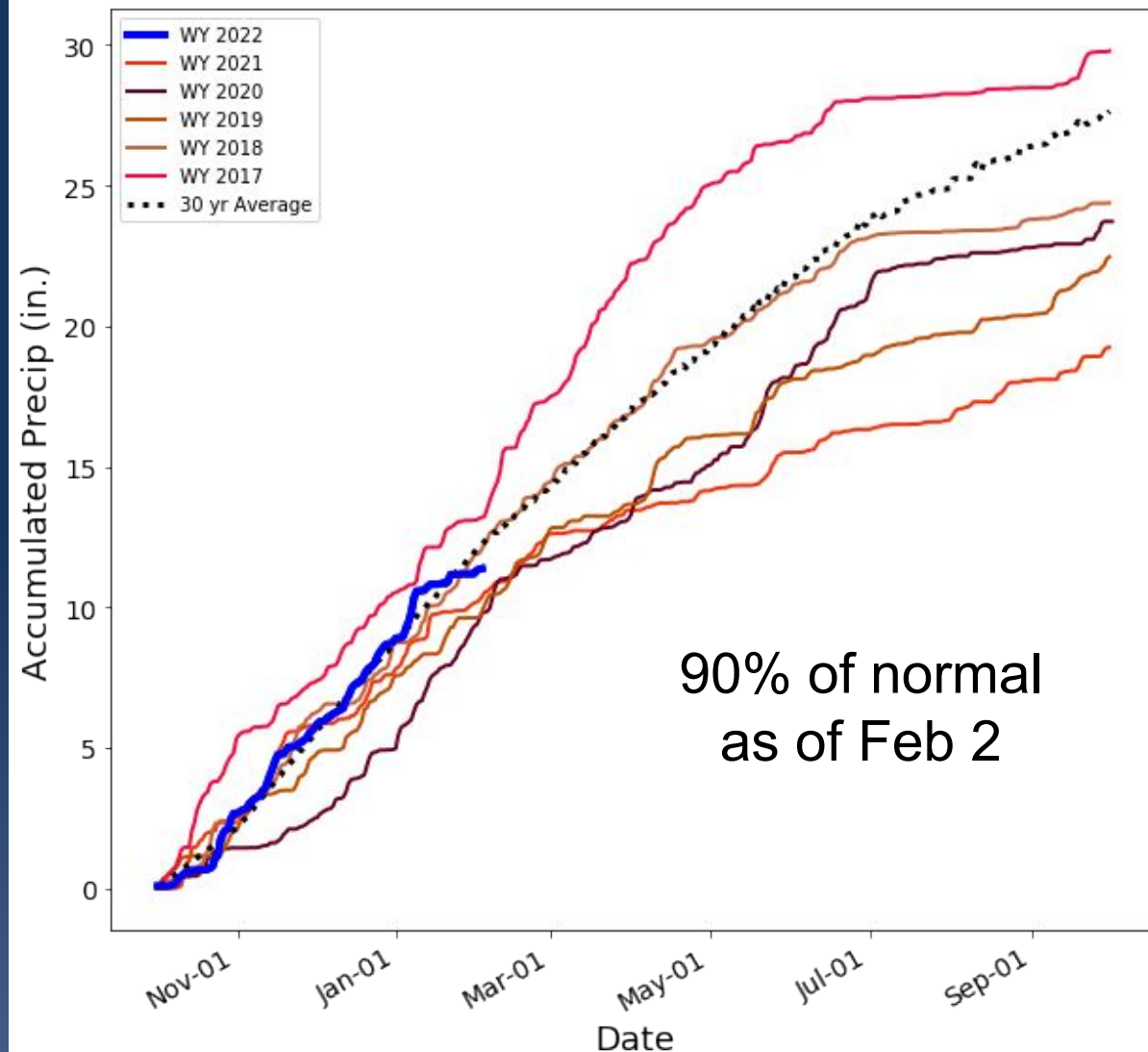


Snowpack and Seasonal Precipitation

Feb 2
2022



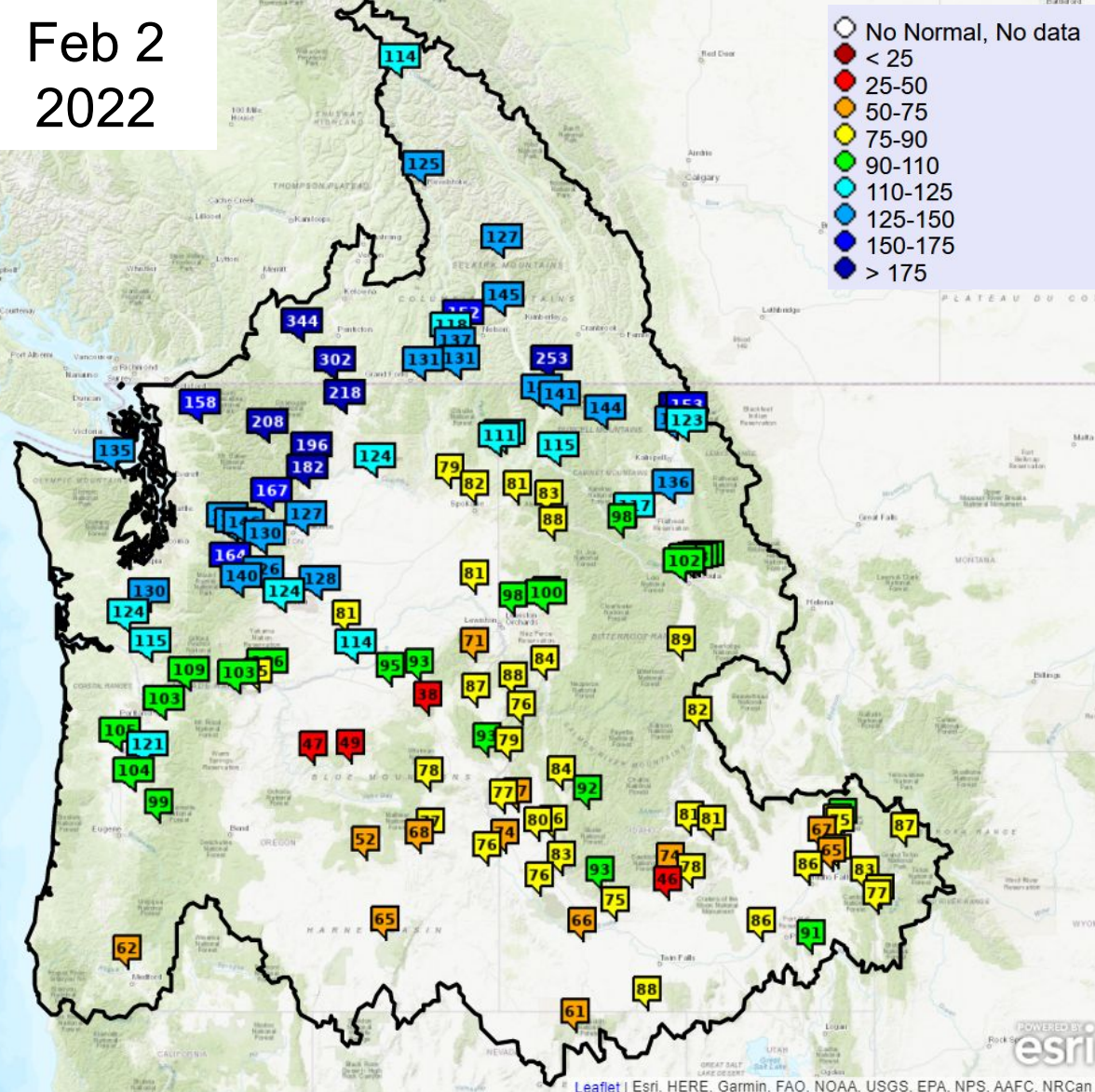
Columbia River above The Dalles



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

YTD Adjusted Runoff - East

Feb 2
2022



% Normal Runoff Oct 1- Feb 2

Upper Columbia Basin

		<u>Δ since Jan 5</u>
Mica	114	-1
Duncan	127	2
Queens Bay	145	-8
Libby	144	0
Hungry Horse	123	-1
Grand Coulee	124	-5

Snake River Basin

American Falls	86	-2
Lucky Peak	83	-4
Dworshak	90	-8
Lower Granite	81	-3

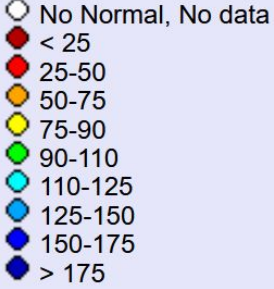
Lower Columbia Basin

The Dalles	103	-5
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YTD Adjusted Natural Runoff - OR, WA

Feb 2
2022



% Normal Runoff Oct 1- Feb 2

Washington

Δ since Jan 5

Skagit nr Mt Vernon	156	-8
Dungeness nr Sequim	134	-2
Chehalis at Porter	141	11
Okanogan at Malott	216	-16
Methow nr Pateros	195	-13
Yakima at Parker	118	-5
Walla Walla nr Touchet	68	16

Oregon

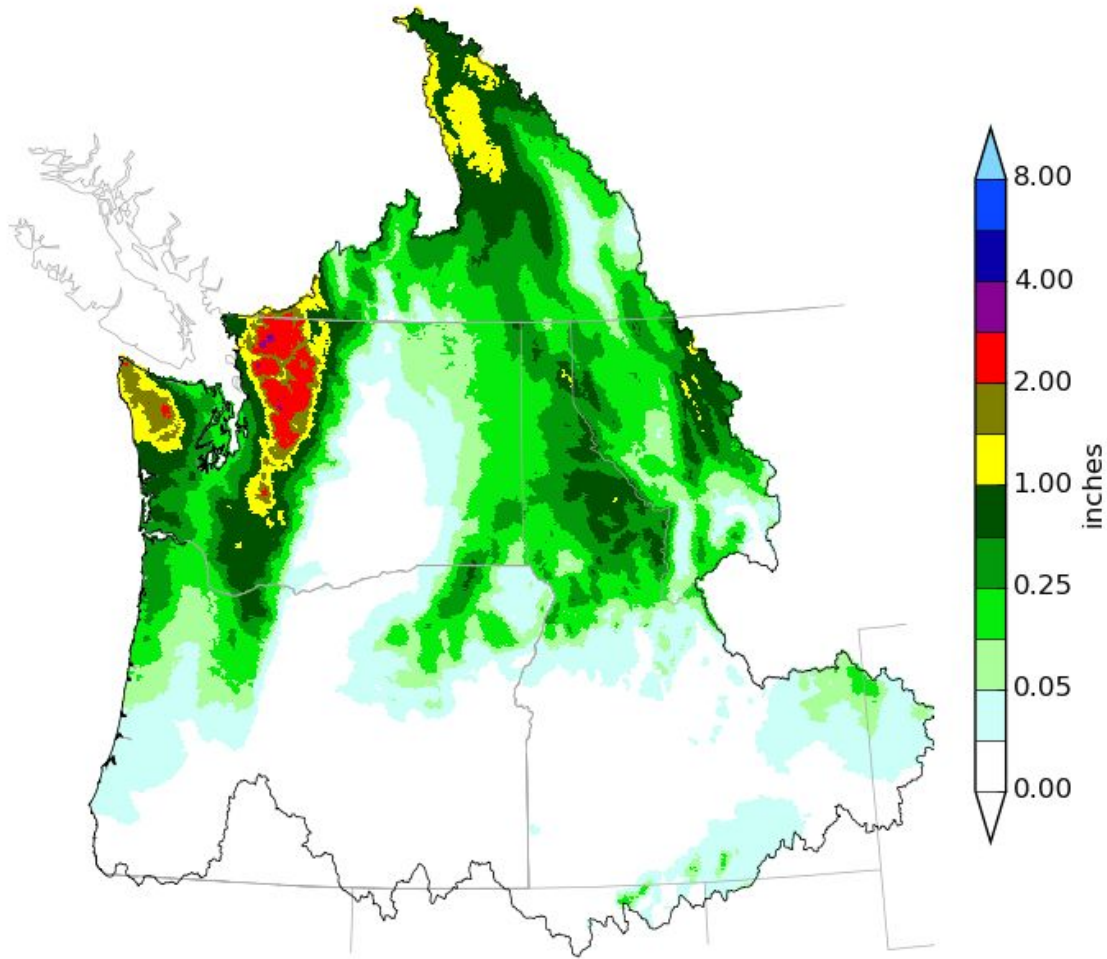
Willamette at Salem	93	5
Rogue at Raygold	60	1
Umatilla at Pendleton	94	27
Grande Ronde at Troy	70	0
Owyhee Dam	74	-4



Precipitation Forecast (Feb 2 -12)



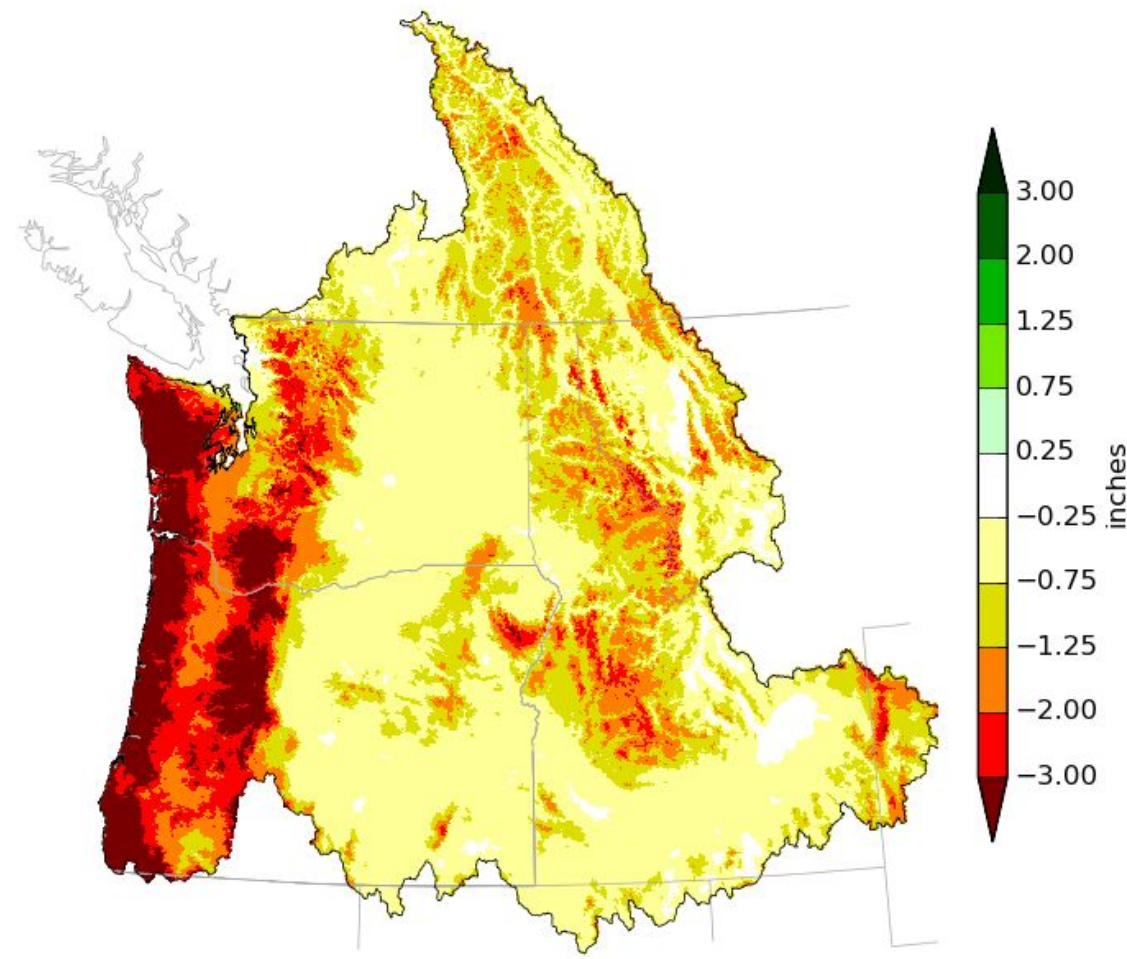
Northwest River Forecast Center
10 Day QPF, Ending 12Z, 02/12/22



Creation Time: Wed Feb 2 14:53:18 UTC 2022



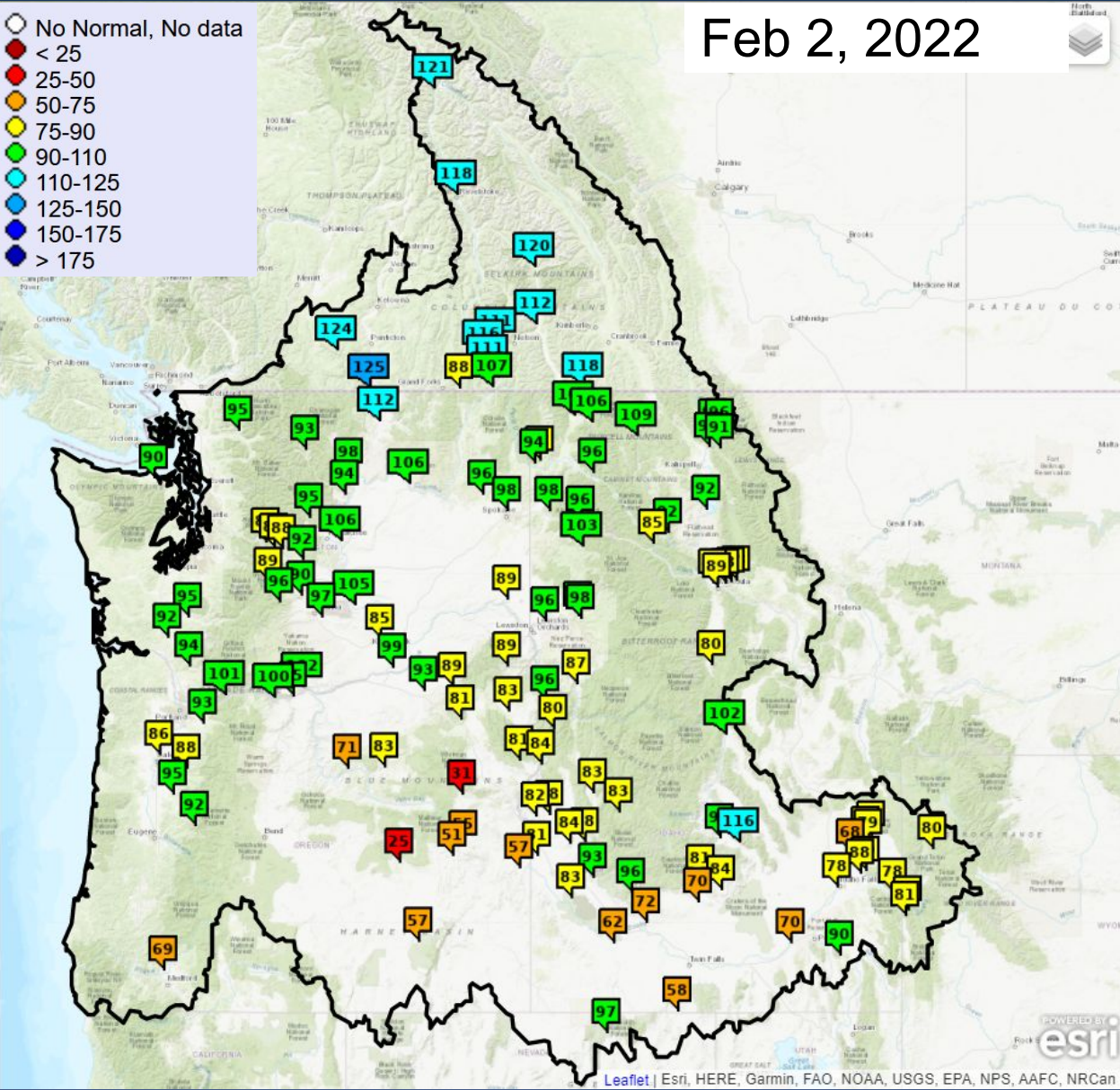
Northwest River Forecast Center
10 Day QPF (Deviation from Climatology), Ending 12Z, 02/12/22



Creation Time: Wed Feb 2 14:54:31 UTC 2022



ESP10 Water Supply Forecasts - East



% Normal Apr-Sep Volume

Upper Columbia Basin

Δ since Jan 5

Mica	121	3
Duncan	120	8
Queens Bay	112	3
Libby	109	3
Hungry Horse	91	0
Grand Coulee	106	1

Snake River Basin

American Falls	72	-26
Lucky Peak	93	-20
Dworshak	96	-8
Lower Granite	89	-16

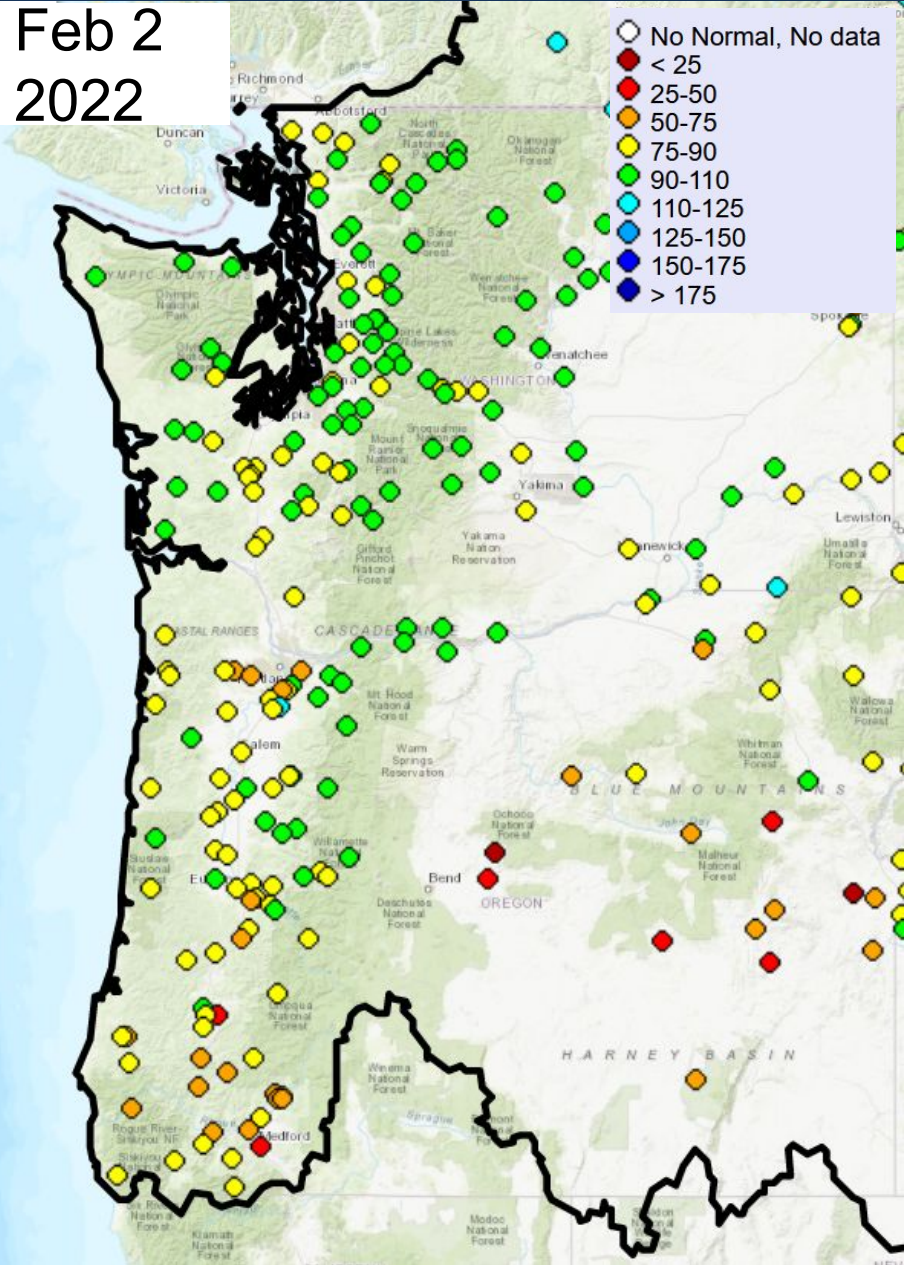
Lower Columbia Basin

The Dalles	100	-4
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ESP10 Natural Forecasts - OR, WA

Feb 2
2022



% Normal Apr -Sep Volume

Washington

Δ since Jan 5

Skagit nr Mt Vernon	95	-5
Dungeness nr Sequim	90	-10
Chehalis at Porter	88	-1
Okanogan at Malott	109	-5
Methow nr Pateros	98	-6
Yakima at Parker	88	-13
Walla Walla nr Touchet	77	-10

Oregon

Willamette at Salem	83	-8
Rogue at Raygold	71	-19
Umatilla at Pendleton	93	-20
Grande Ronde R at Troy	89	-16
Owyhee Dam	56	-36



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: 2022-02-02 Issued: 2022-02-02

Forecast Period	Forecasts Are in KAF				30 Year Average (1991-2020)
	90 %	50 %	% Average	10 %	
APR-SEP	56347	65309	106	74285	61483
APR-JUL	47140	55439	105	62361	52774
APR-AUG	52195	61785	106	69630	58186
JAN-SEP	66098	74423	106	84859	70457
JAN-JUL	57391	65218	106	72704	61749
OCT-SEP	76941	85266	108	95703	78842

Experimental Water Supply

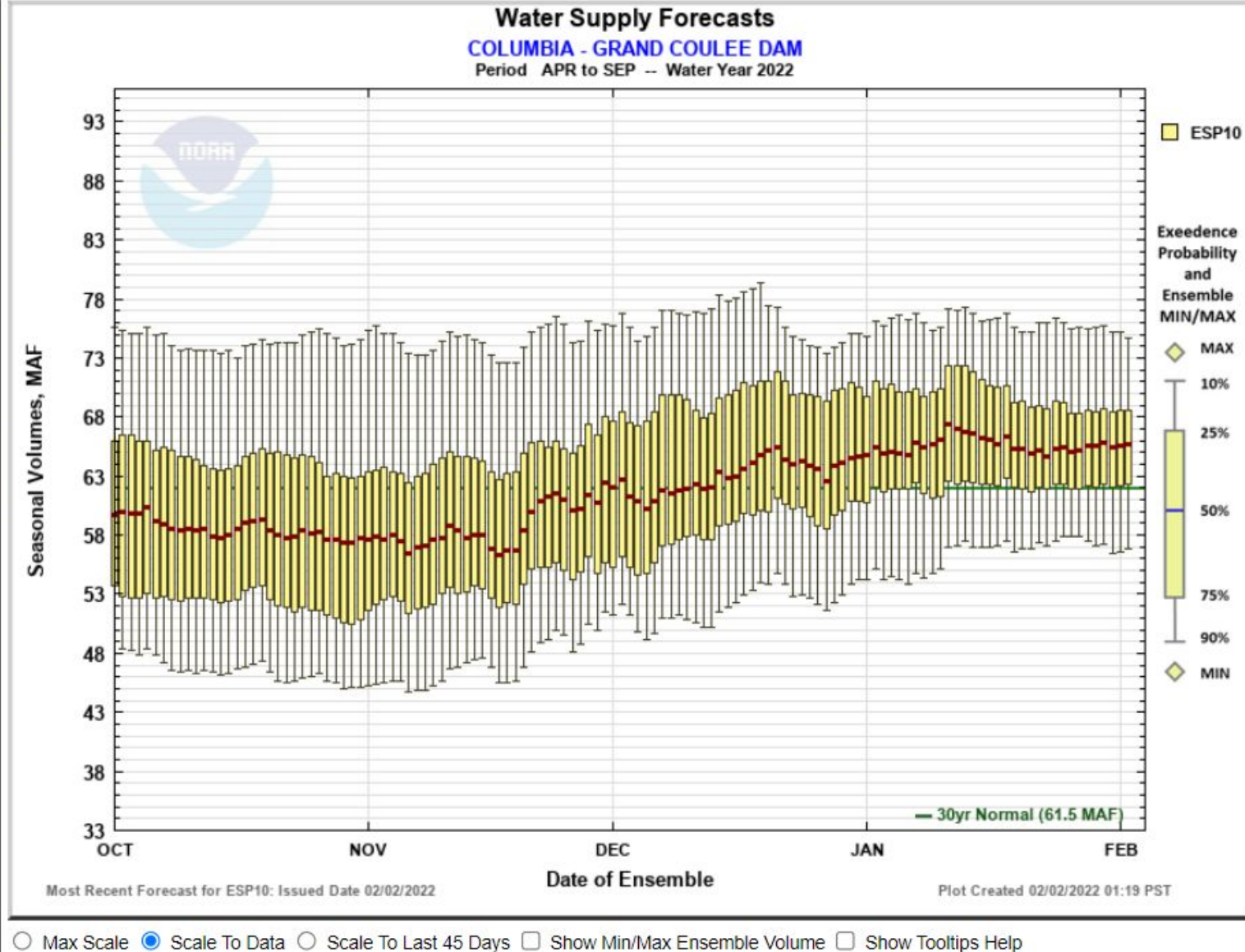
HEFS with 15 days EQPF Ensemble: 2022-02-02 Issued: 2022-02-02

APR-SEP	58843	66234	108	75516	61483
APR-JUL	49236	56403	107	63043	52774
APR-AUG	54417	62626	108	70816	58186
JAN-SEP	67363	75279	107	83740	70457
JAN-JUL	57871	65130	105	71267	61749
OCT-SEP	78206	86123	109	94584	78842

Reference

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

APR-SEP	58757	66380	108	77650	61483
APR-JUL	49245	57350	109	64984	52774
APR-AUG	54989	63246	109	72854	58186
JAN-SEP	67280	76263	108	86402	70457
JAN-JUL	57842	65734	106	73518	61749
OCT-SEP	78123	87107	110	97246	78842





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: 2022-02-02 Issued: 2022-02-02

Forecast Period	Forecasts Are in KAF				30 Year Average (1991-2020)
	90 %	50 %	% Average	10 %	
APR-SEP	15458	19725	89	24116	22232
APR-JUL	13457	17381	87	21399	19946
APR-AUG	14437	18607	88	22777	21121
JAN-SEP	21665	25708	86	30456	29736
JAN-JUL	19382	23331	85	27629	27450
OCT-SEP	25570	29613	86	34361	34287

Experimental Water Supply

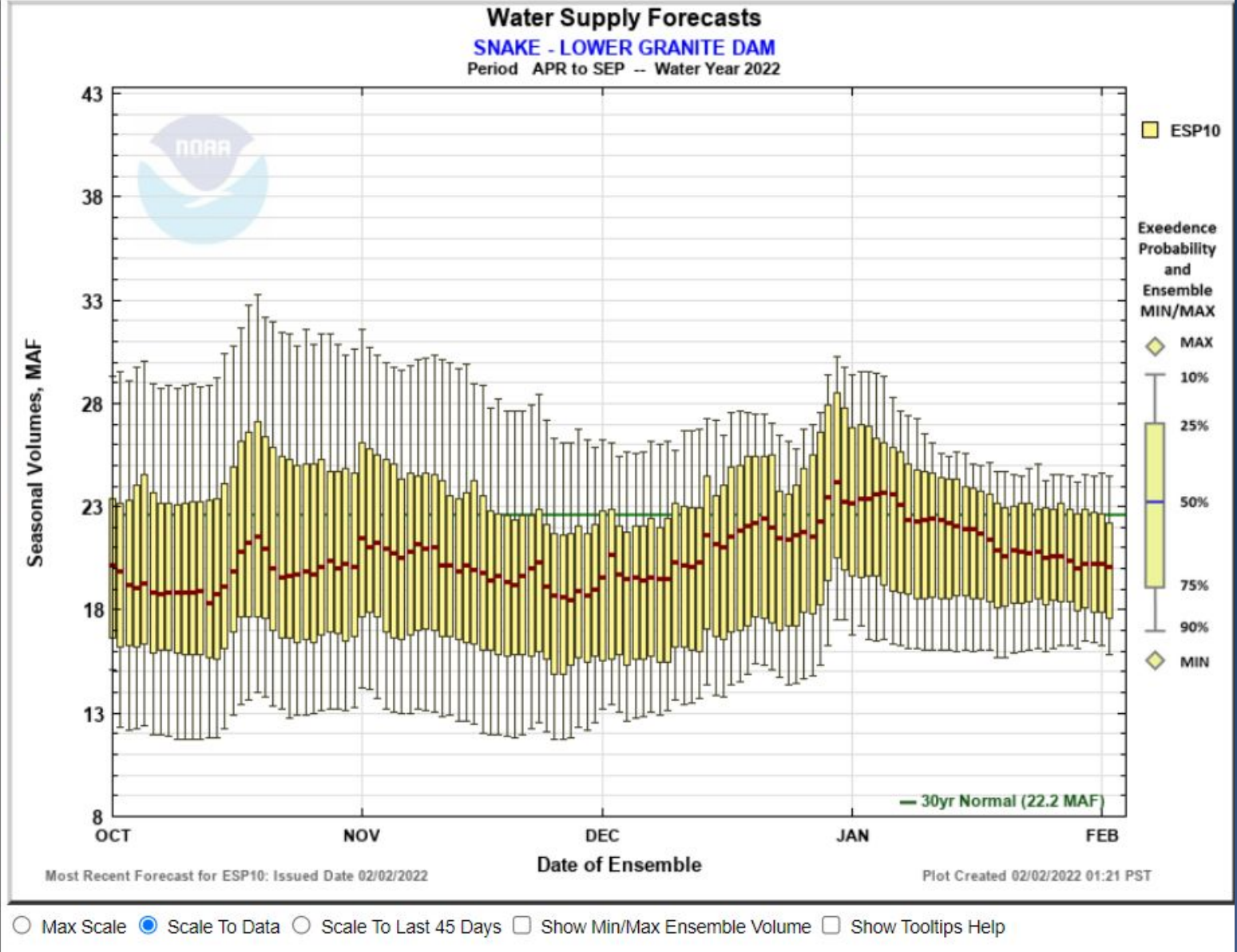
HEFS with 15 days EQPF Ensemble: 2022-02-02 Issued: 2022-02-02

APR-SEP	15269	19493	88	23189	22232
APR-JUL	13290	17204	86	20434	19946
APR-AUG	14253	18367	87	21845	21121
JAN-SEP	21503	25223	85	30067	29736
JAN-JUL	19468	22861	83	27536	27450
OCT-SEP	25408	29128	85	33972	34287

Reference

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

APR-SEP	15964	20668	93	24371	22232
APR-JUL	13910	18296	92	21819	19946
APR-AUG	14932	19523	92	23138	21121
JAN-SEP	21715	26579	89	32098	29736
JAN-JUL	19675	24195	88	29527	27450
OCT-SEP	25620	30484	89	36003	34287





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: 2022-02-02 Issued: 2022-02-02

Forecast Period	Forecasts Are in KAF				30 Year Average (1991-2020)
	90 %	50 %	% Average	10 %	
APR-SEP	80197	94514	100	107729	94166
APR-JUL	67512	80666	98	92329	81933
APR-AUG	74502	88776	100	100316	89196
JAN-SEP	99279	112538	97	131428	115946
JAN-JUL	86561	99414	96	116892	103714
OCT-SEP	117344	130603	99	149493	132314

Experimental Water Supply

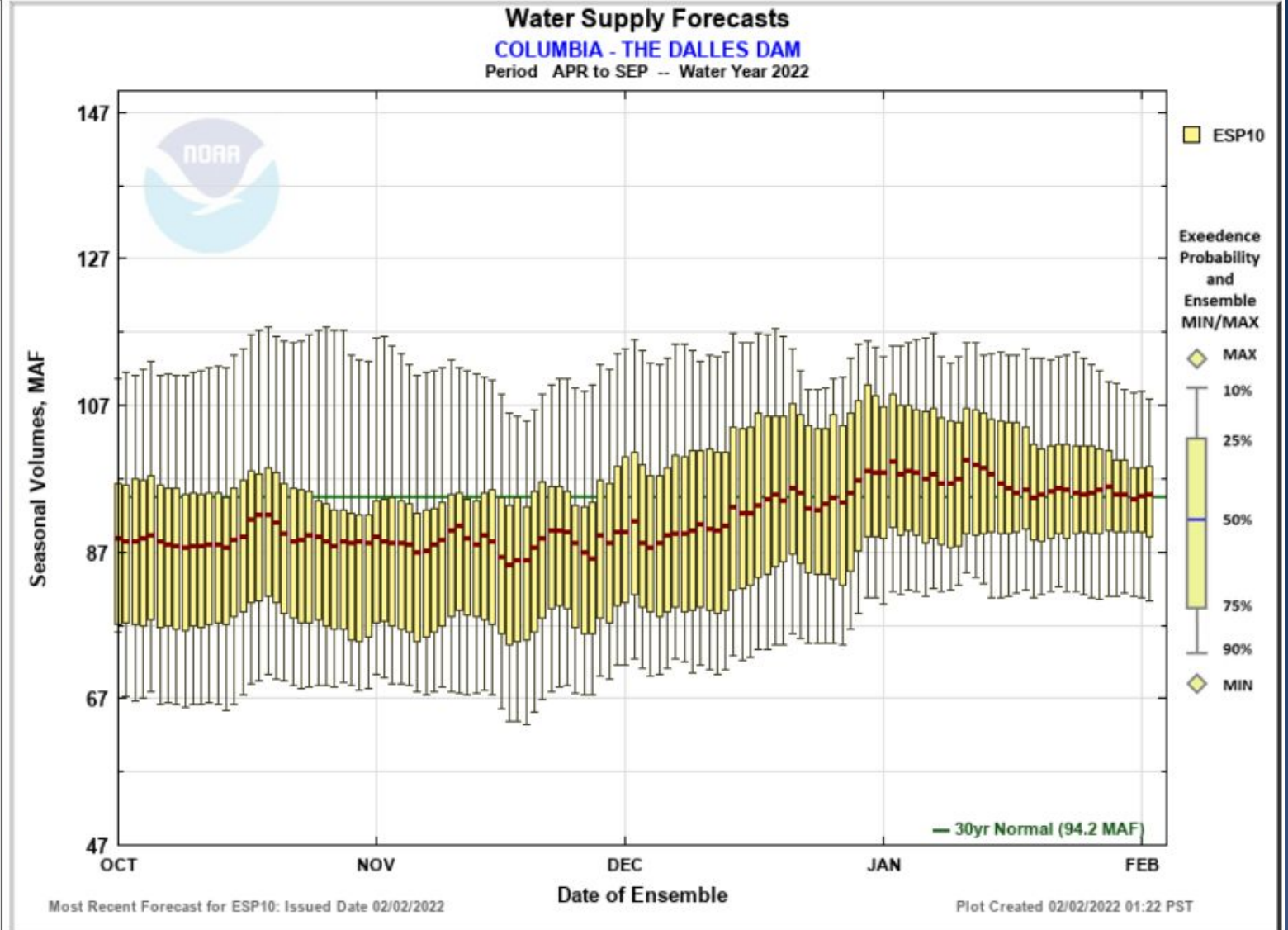
HEFS with 15 days EQPF Ensemble: 2022-02-02 Issued: 2022-02-02

APR-SEP	80544	95717	102	110128	94166
APR-JUL	68056	80905	99	94552	81933
APR-AUG	74833	89803	101	103929	89196
JAN-SEP	102055	113866	98	131133	115946
JAN-JUL	89787	99119	96	115317	103714
OCT-SEP	120119	131932	100	149199	132314

Reference

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

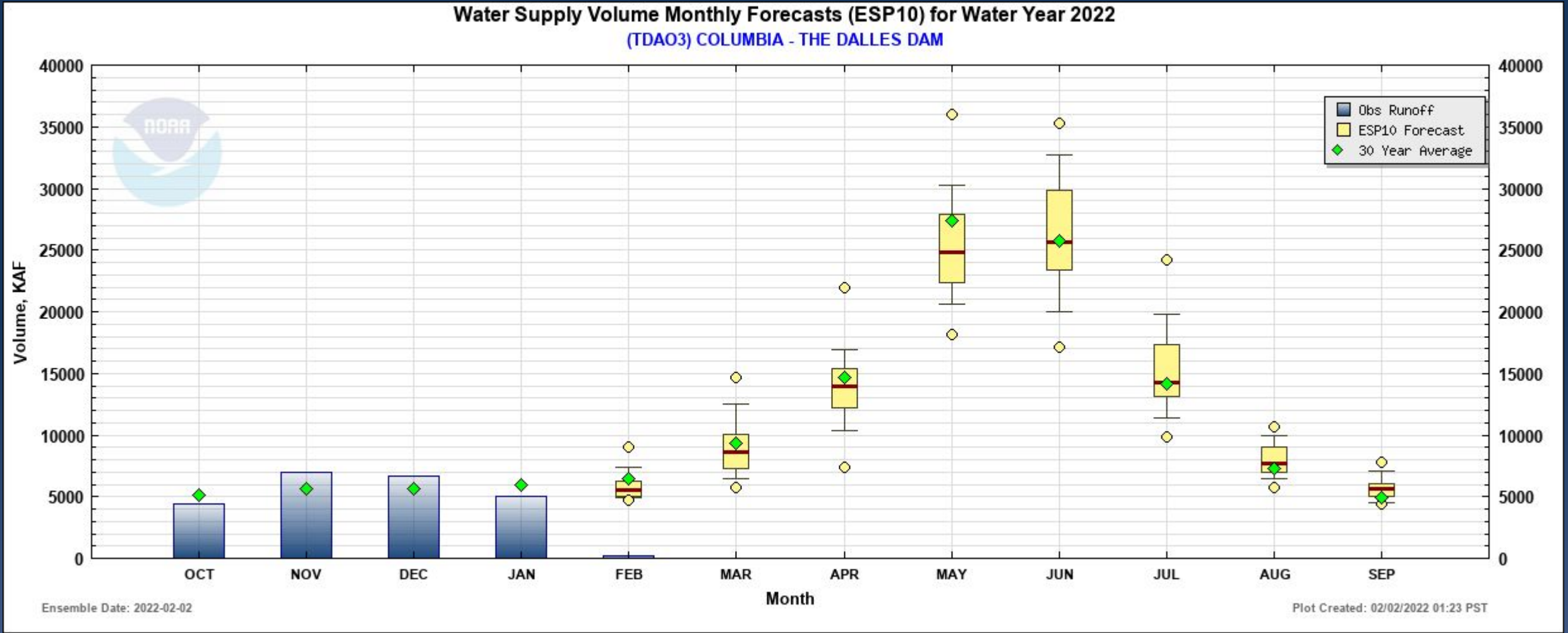
APR-SEP	83651	97743	104	116112	94166
APR-JUL	71216	81800	100	99458	81933
APR-AUG	77671	91424	102	109187	89196
JAN-SEP	105786	117197	101	138173	115946
JAN-JUL	93016	102579	99	121440	103714
OCT-SEP	123851	135262	102	156239	132314



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



ESP10 Water Supply Volume Monthly Forecasts



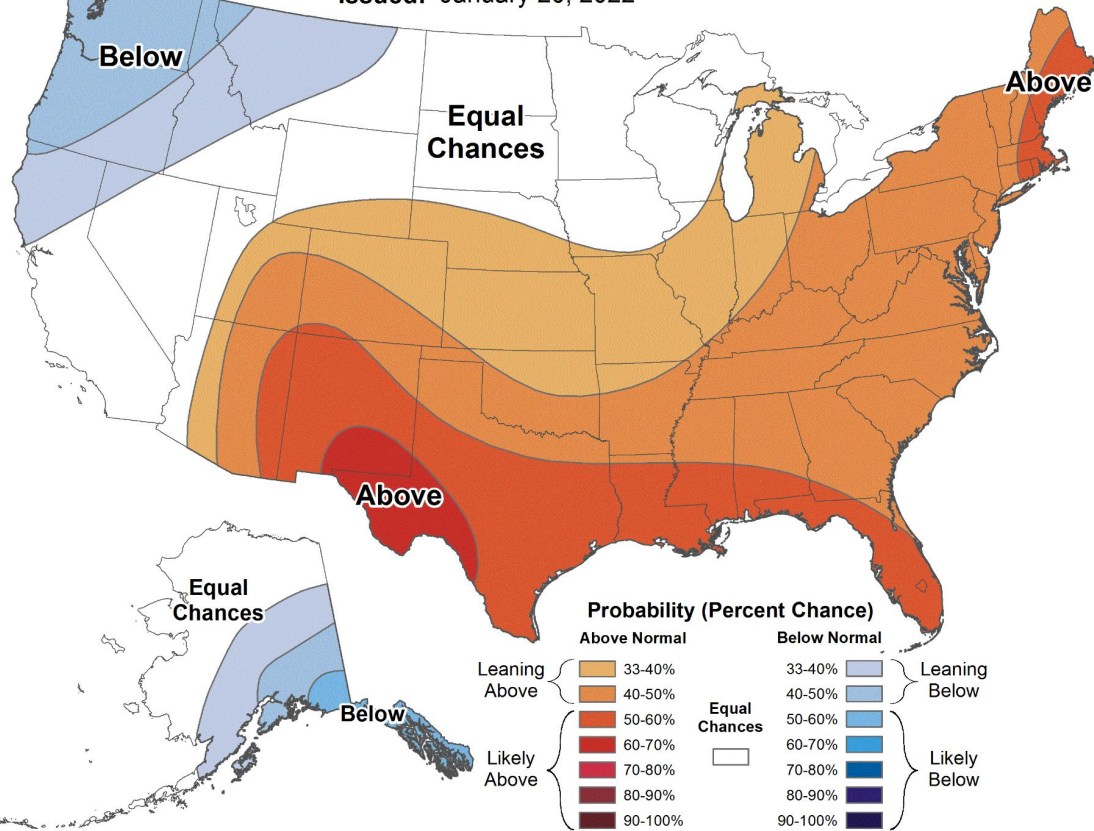
CPC Three-Month Outlook



Seasonal Temperature Outlook



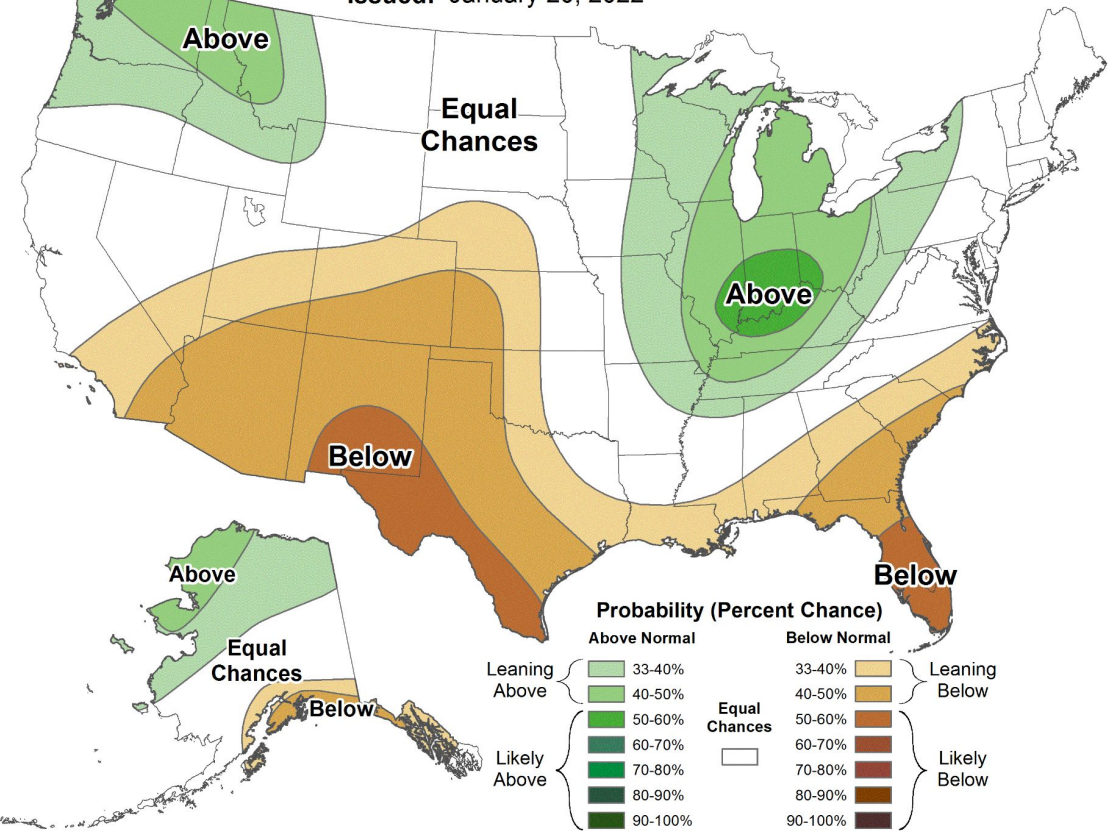
Valid: Feb-Mar-Apr 2022
Issued: January 20, 2022



Seasonal Precipitation Outlook



Valid: Feb-Mar-Apr 2022
Issued: January 20, 2022





CPC Model Predictions

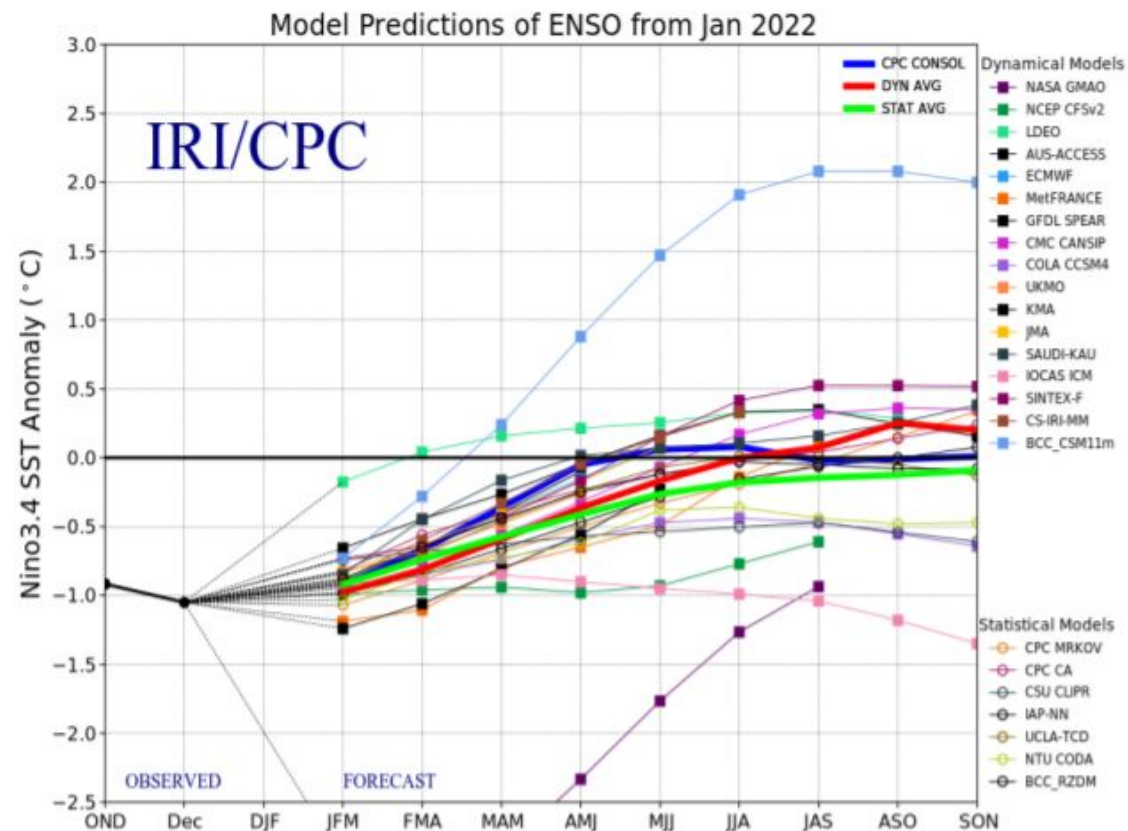
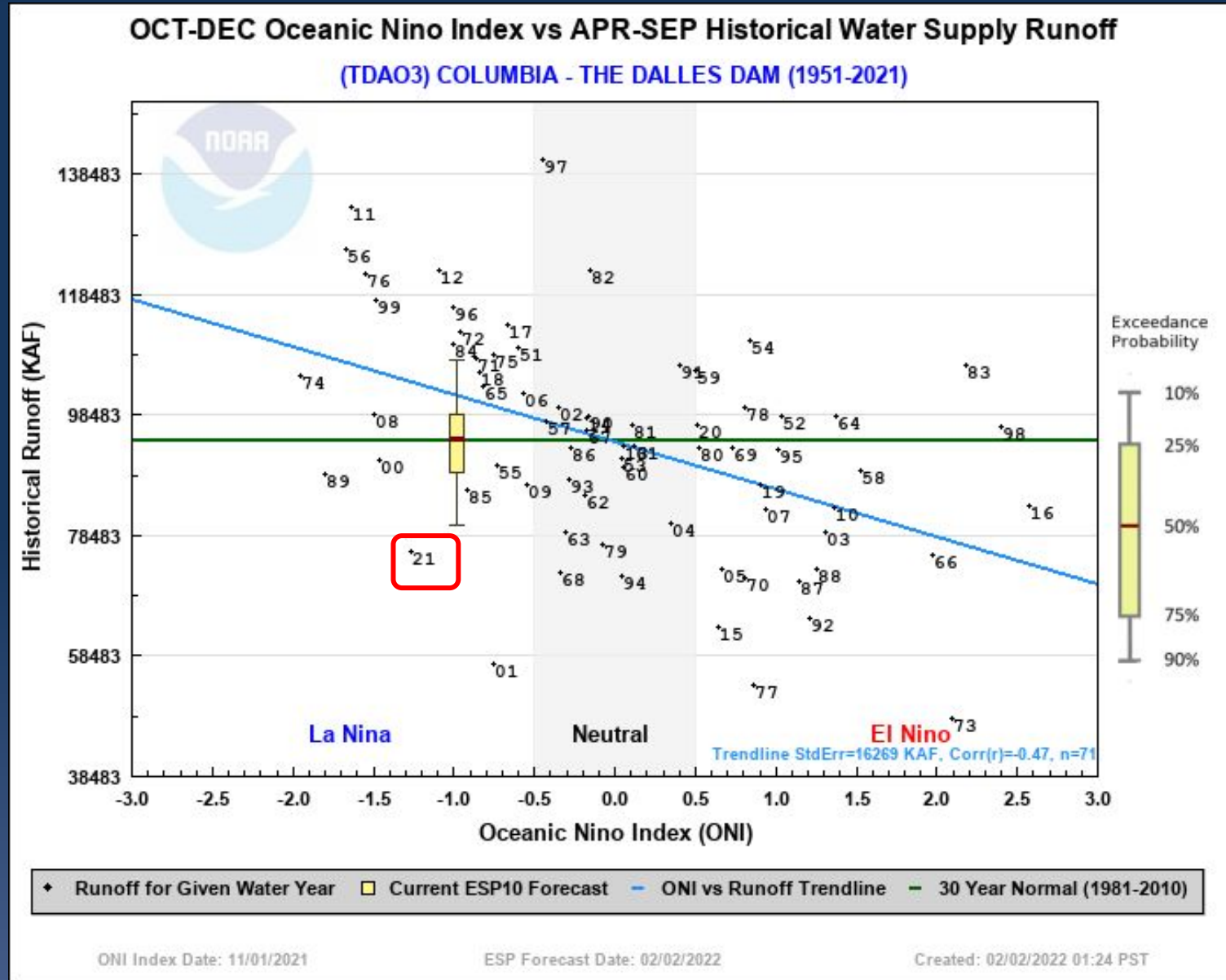


Figure provided by the International Research Institute (IRI) for Climate and Society (updated 19 January 2022).

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





Take Home Messages

The first half of January brought heavy precip while the second half brought very little.

Seasonal precipitation fell below normal for some portions of the basin.

Snowpack is near normal for most of the basin though percent normals have dropped.

Water supply forecasts have dropped in the southern areas of the basin and remained near normal in others.



WY2022 Schedule for Live Water Supply Briefings

Mar

Apr

May

3

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#



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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