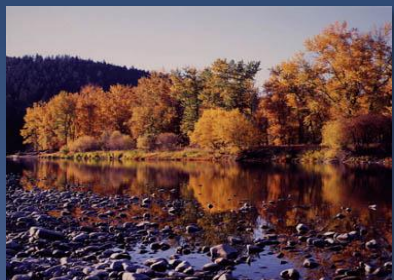




Northwest River Forecast Center



April 2022 Water Supply Briefing

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

Henry Pai
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

March was dry and warm.

Snowpack has begun to melt earlier than normal in most of Oregon and Southern Idaho.

Year to date percent normal runoff has shown increases and decreases depending on snowmelt since last month.

Water supply forecasts continued to drop in most regions.



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

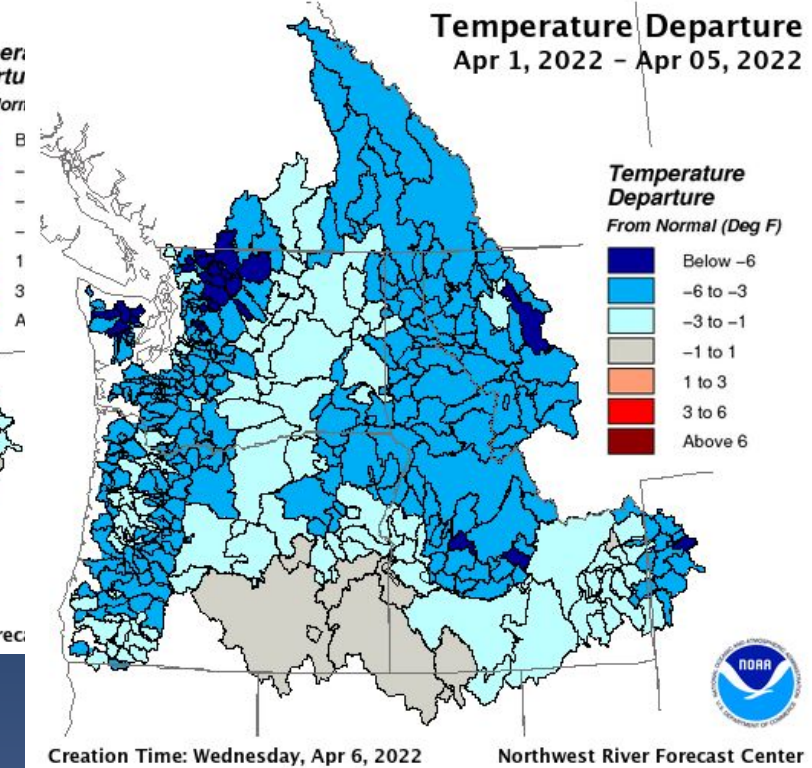
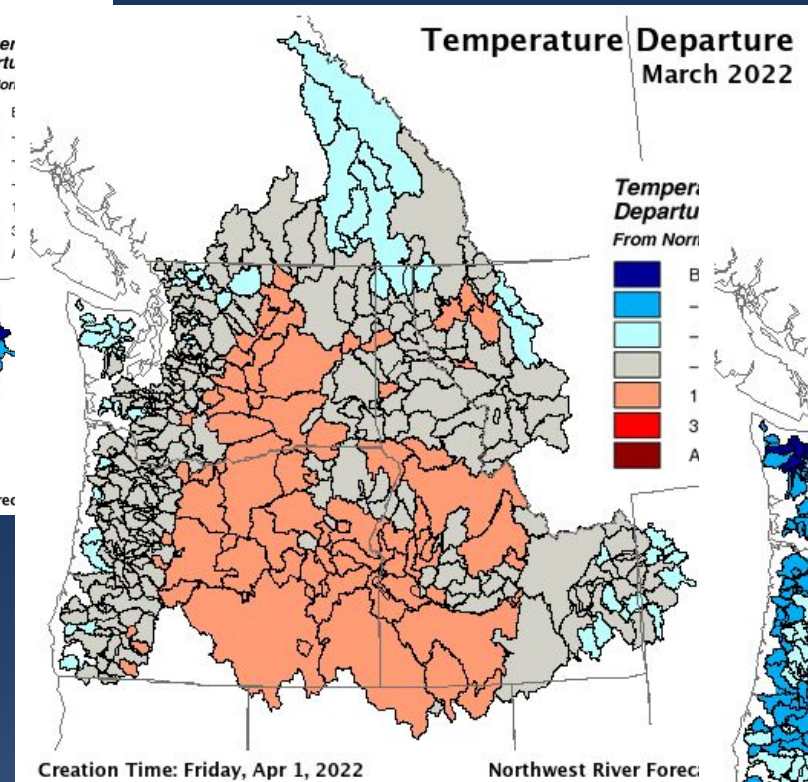
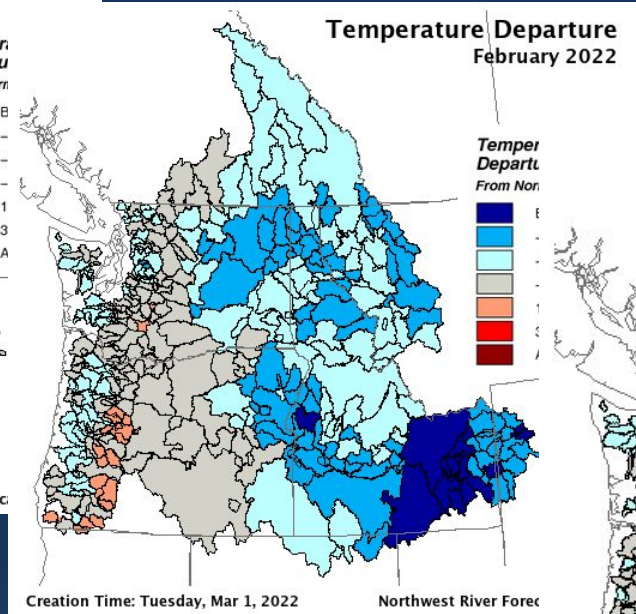
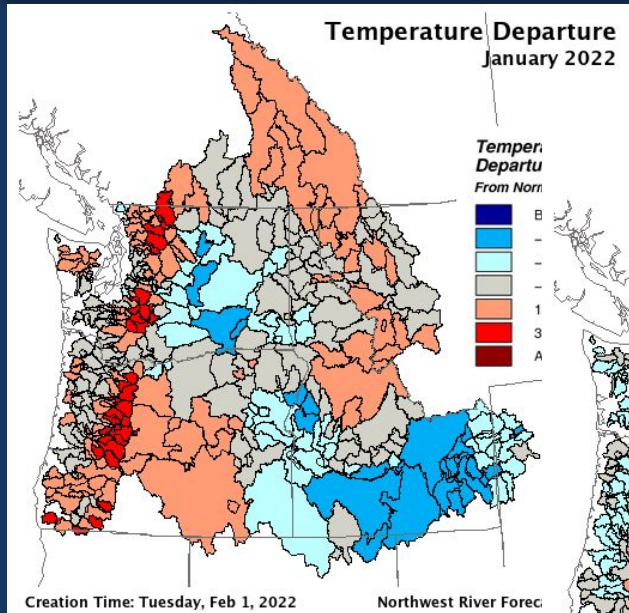
Model Forcings

Model Inputs

Water Supply Forecasts

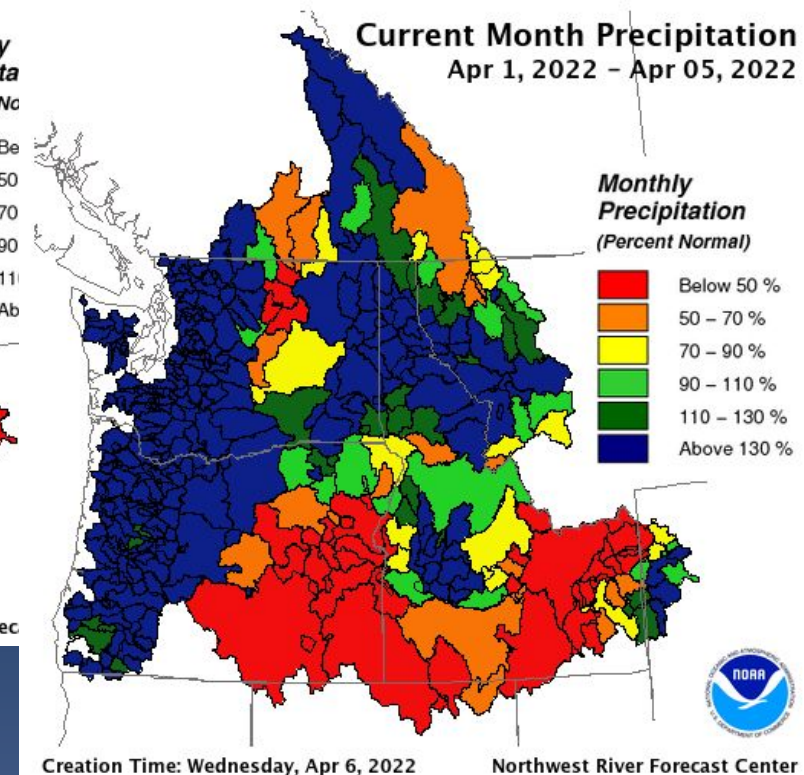
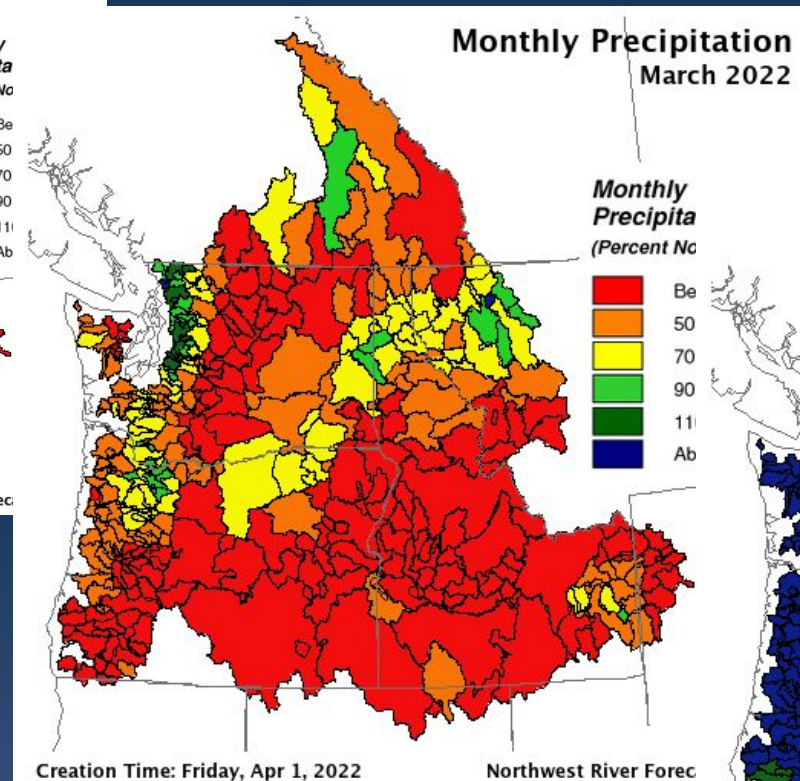
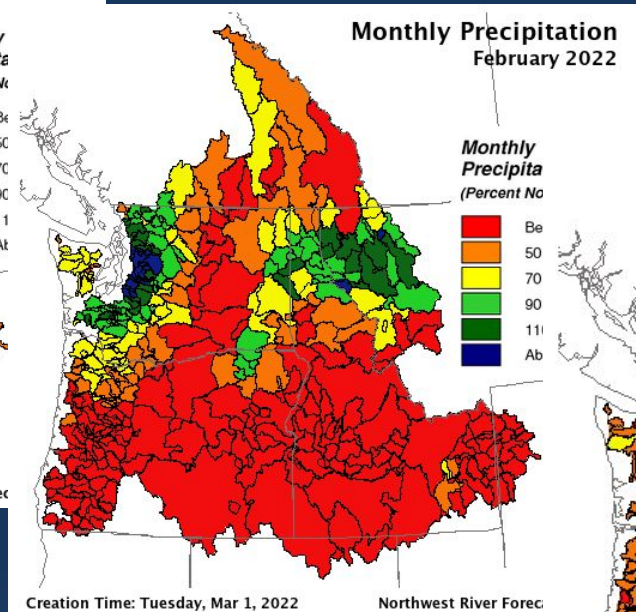
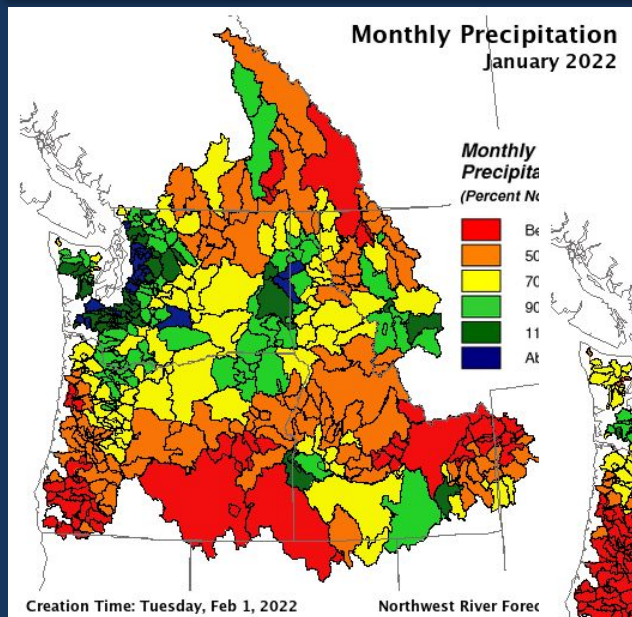


Monthly Temperature Departure



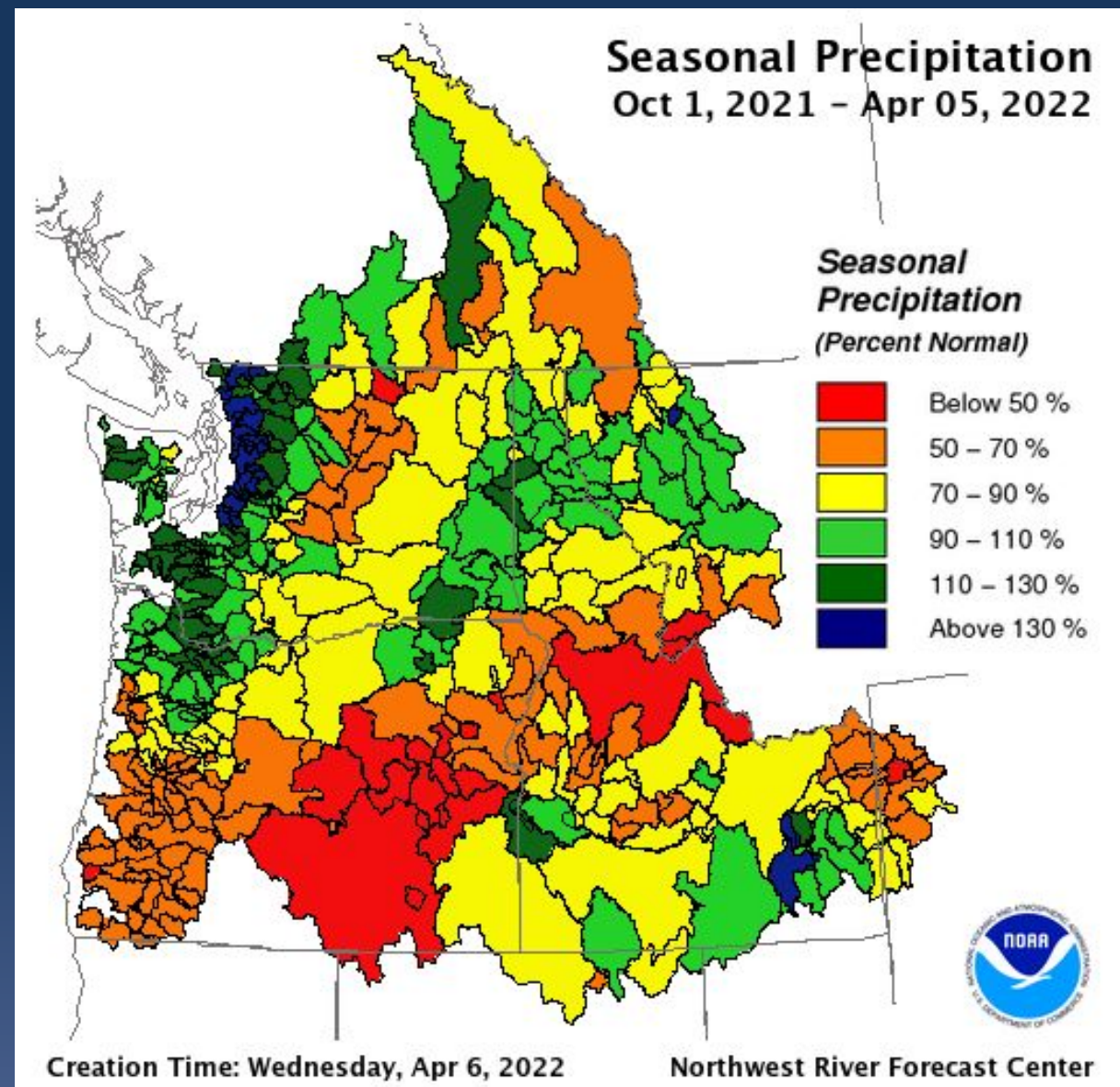
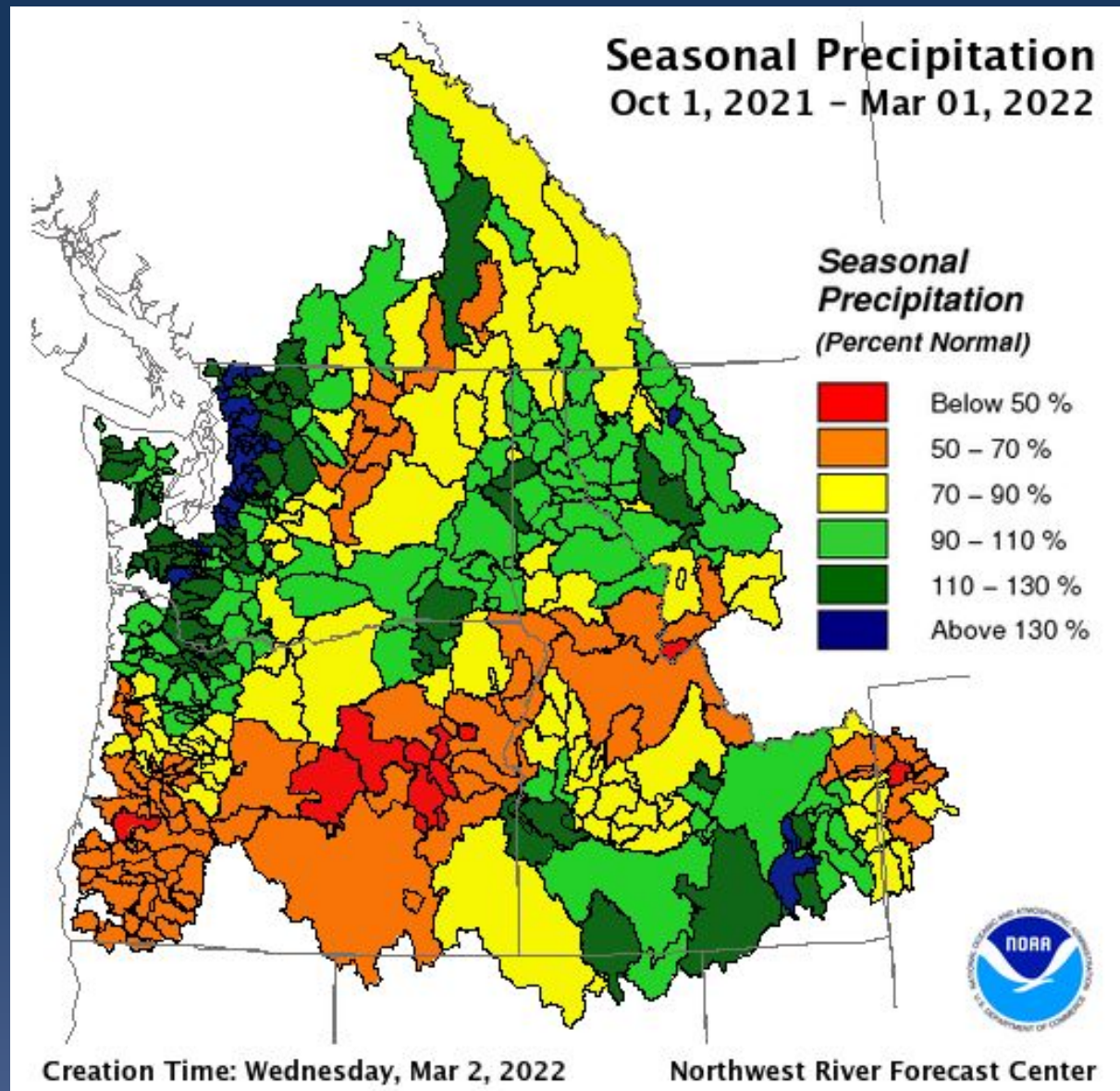


Monthly Precipitation



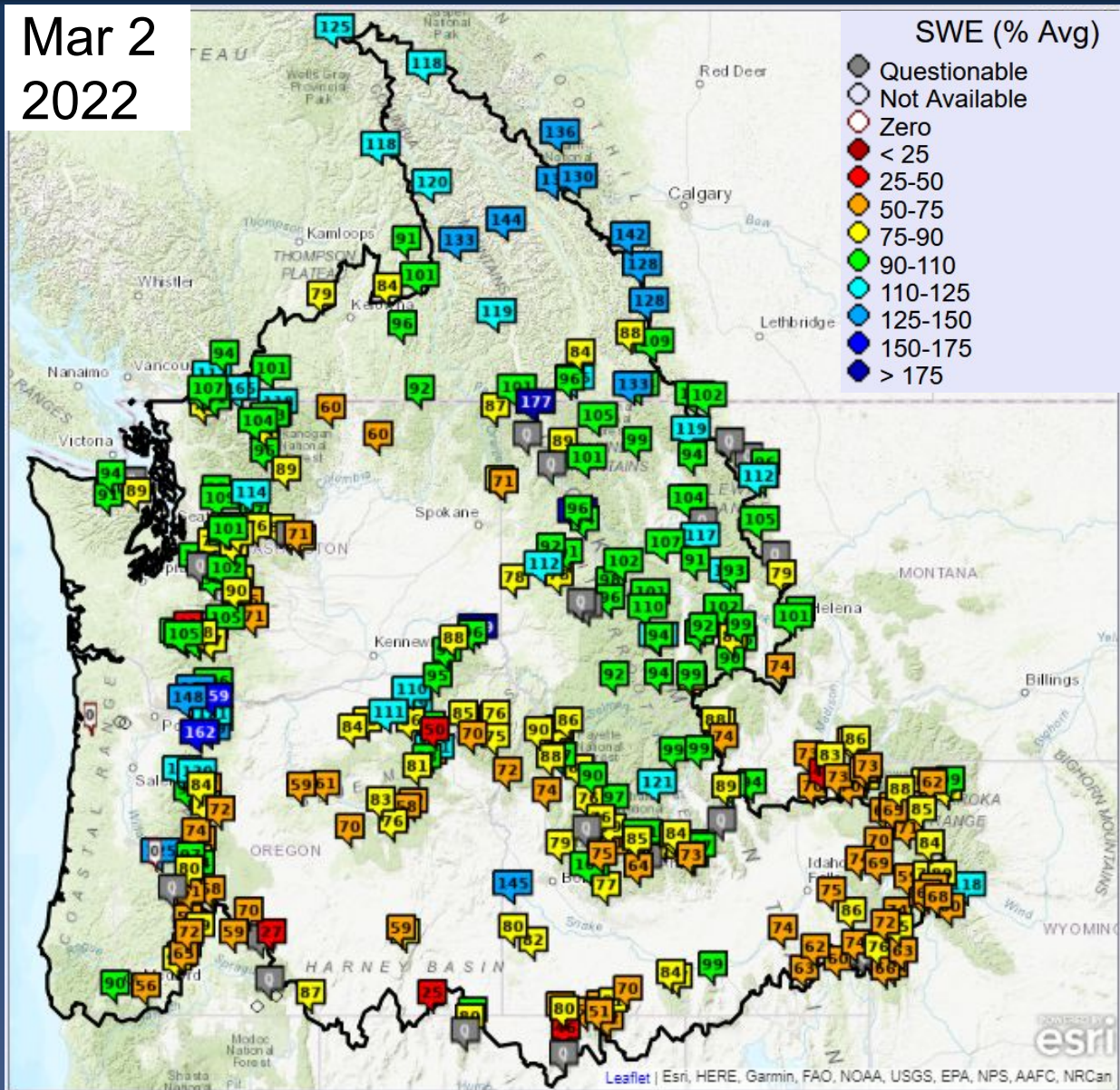


Water Year to Date Precipitation

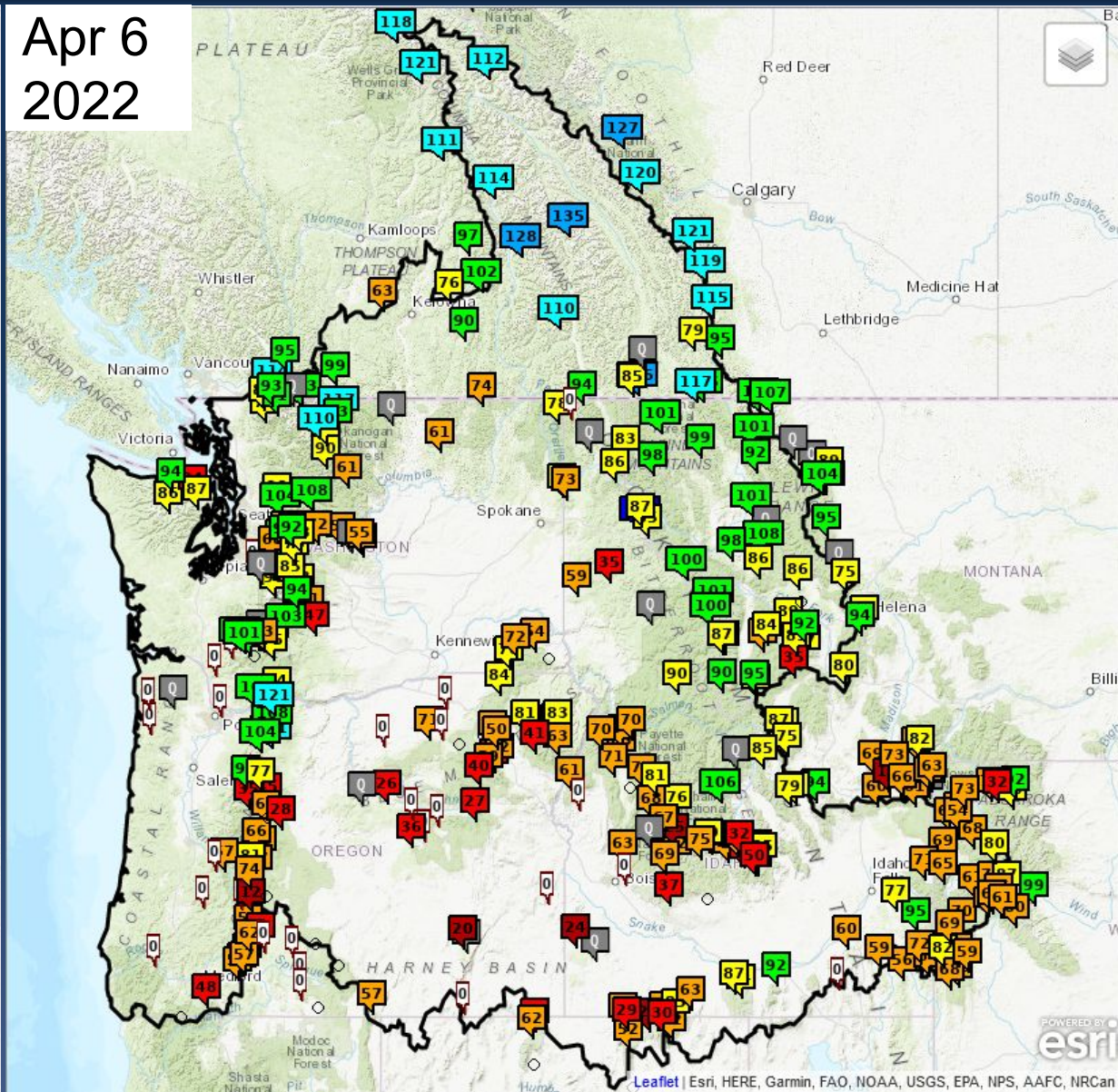


Snowpack Change

Mar 2
2022



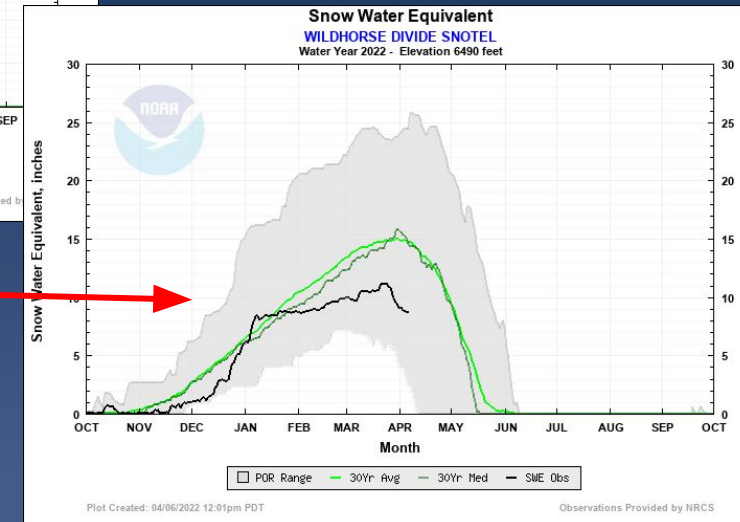
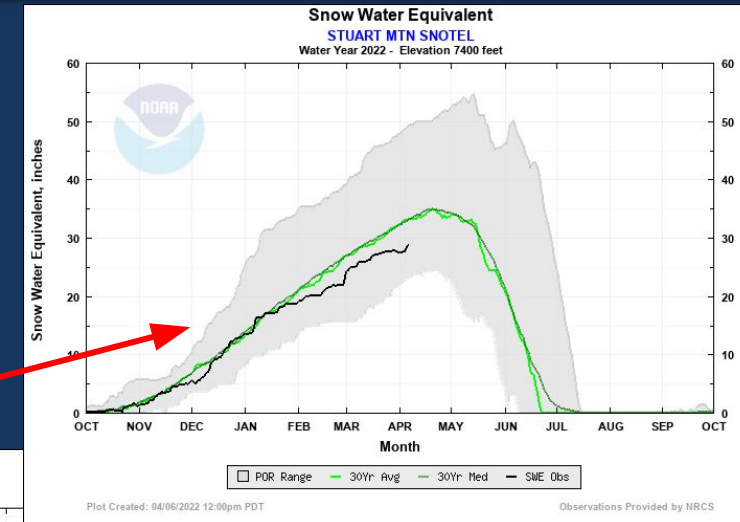
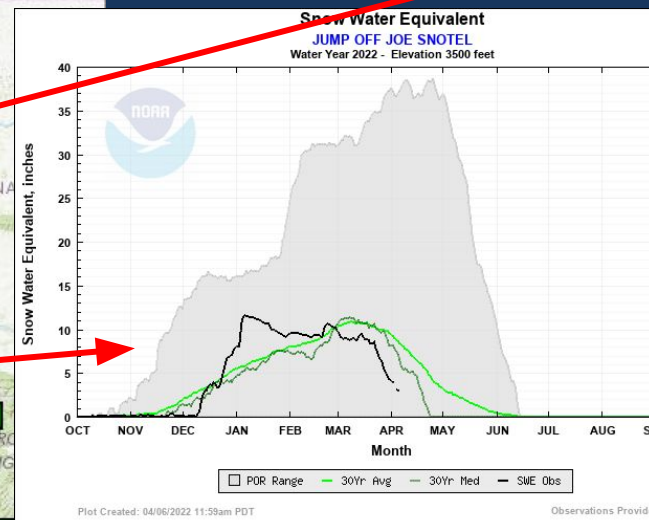
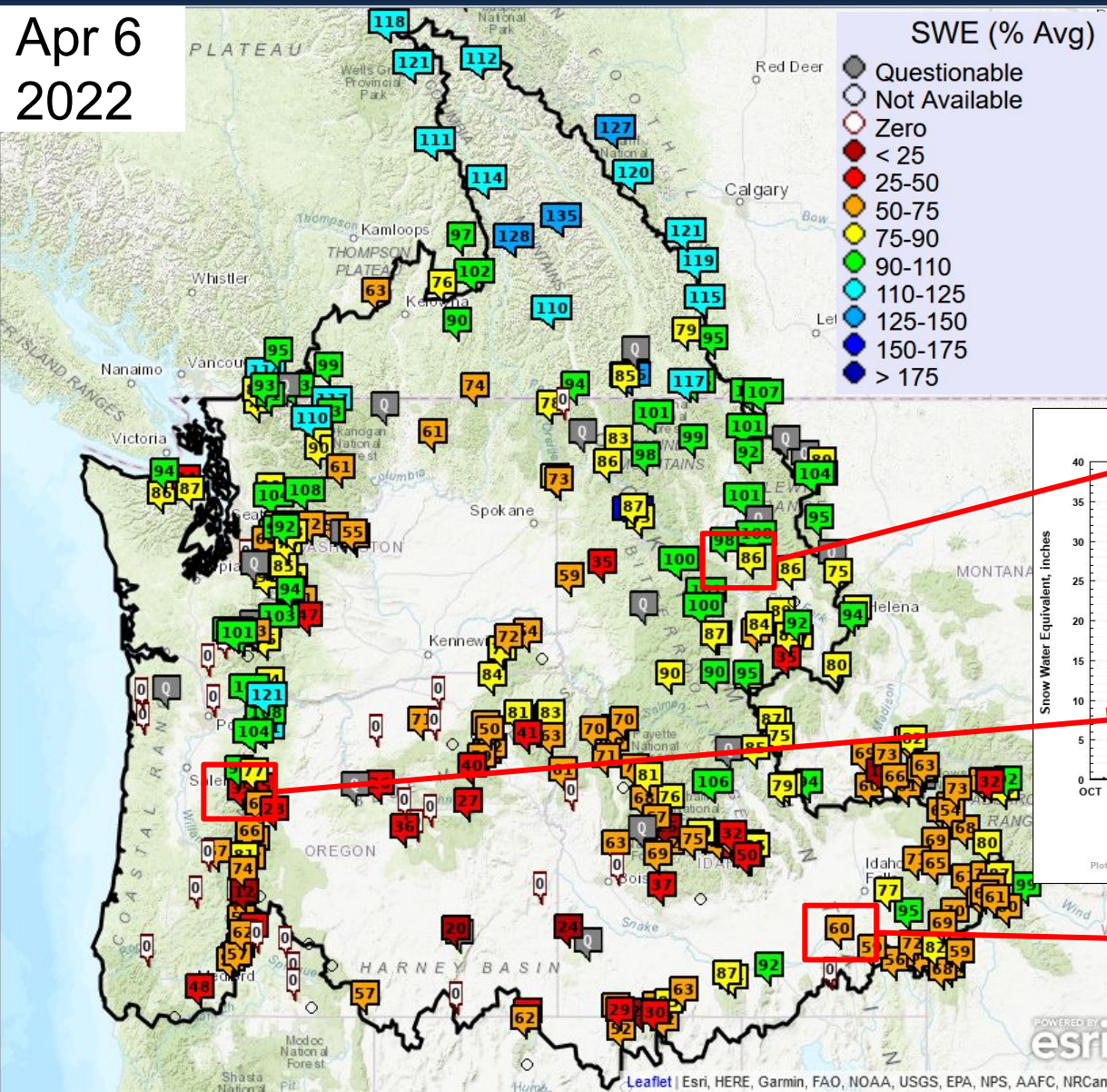
Apr 6
2022



Snow data from Natural Resources Conservation Service (NRCS), BC Hydro, and Alberta Environment and Parks (EP).

Snowpack

Apr 6
2022

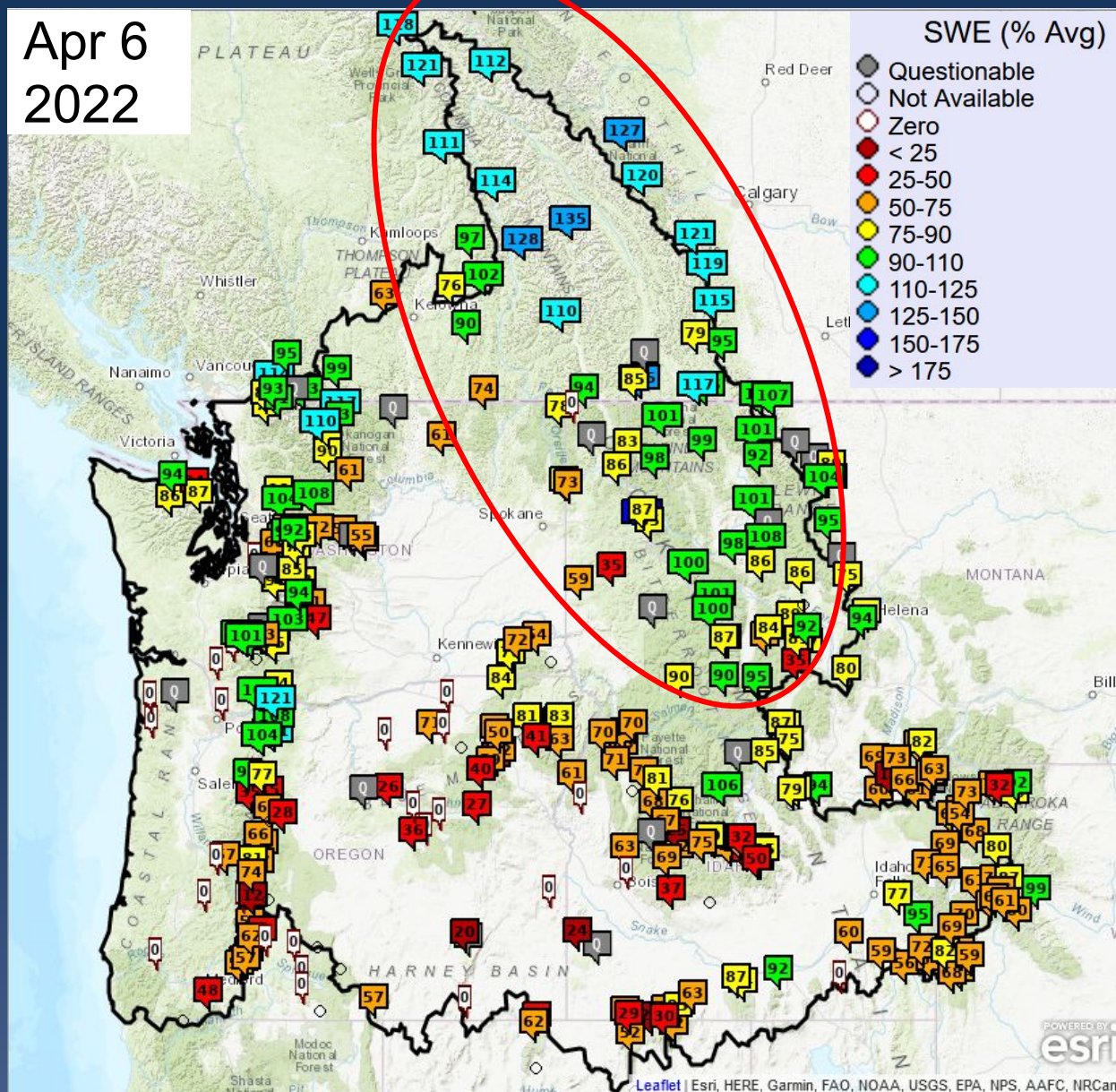


Snow data from NRCS, BC Hydro, and Alberta EP.

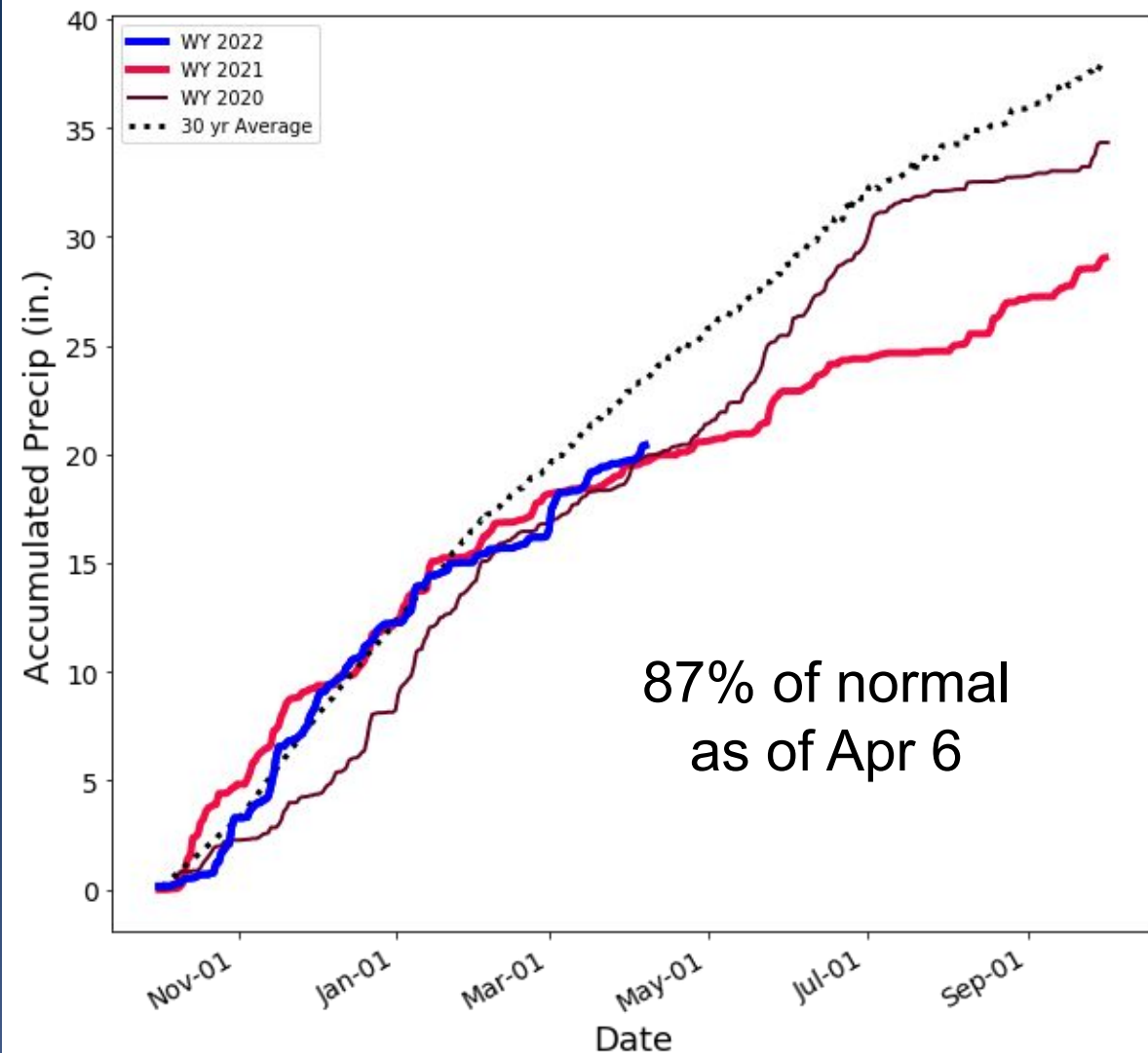


Snowpack and Seasonal Precipitation

Apr 6
2022



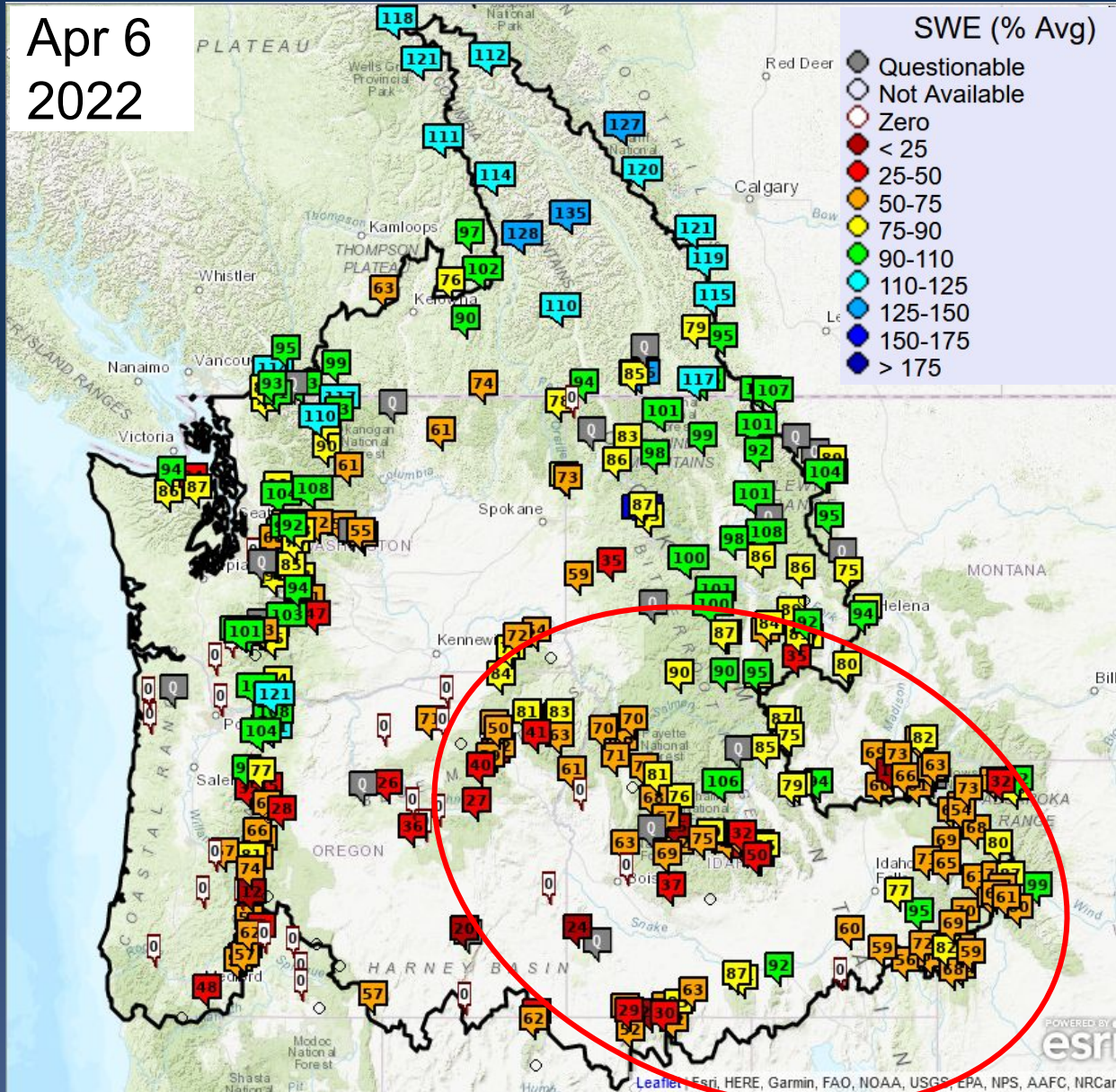
Upper Columbia



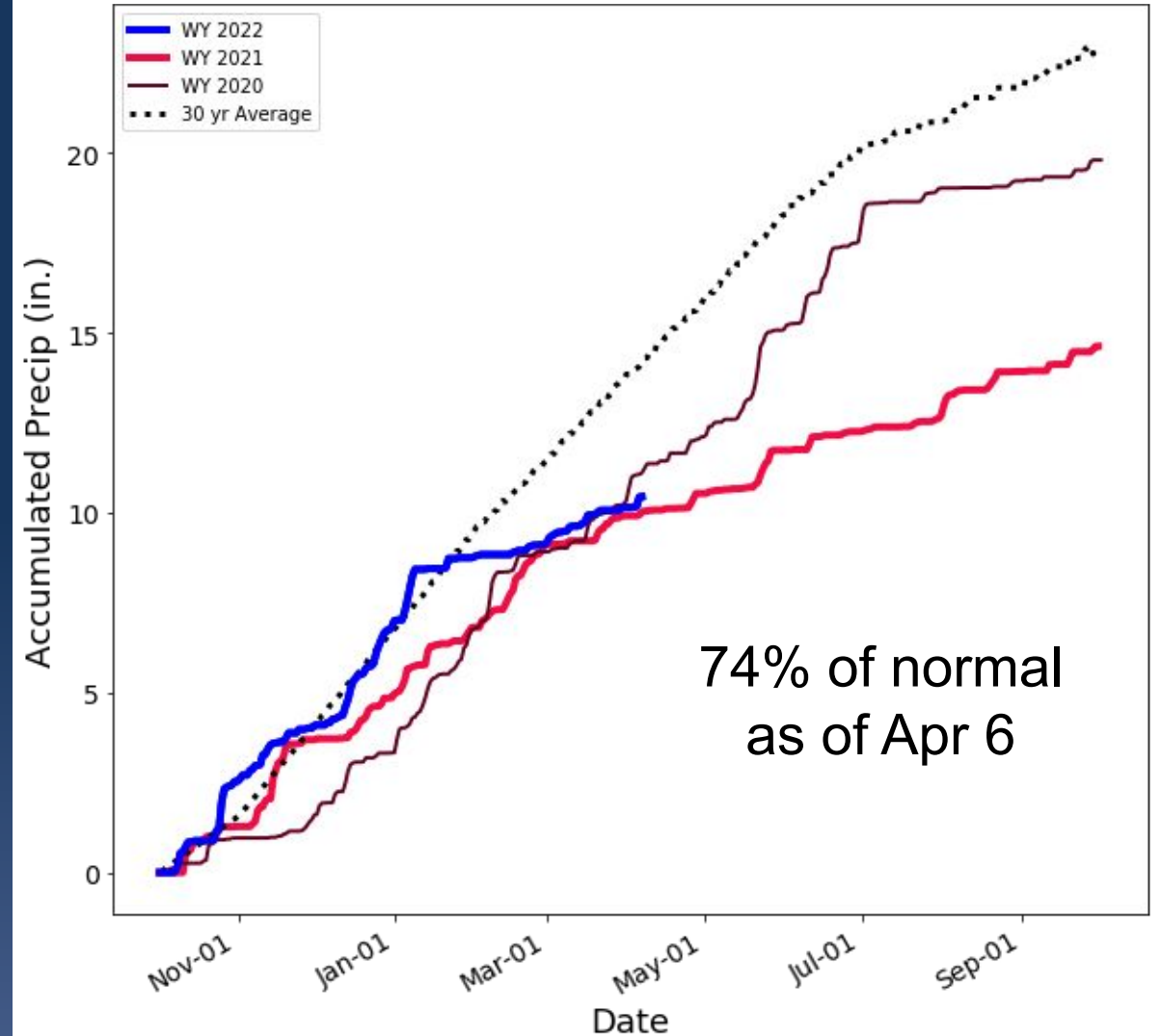
Snow data from NRCS, BC Hydro, and Alberta EP.

Snowpack and Seasonal Precipitation

Apr 6
2022



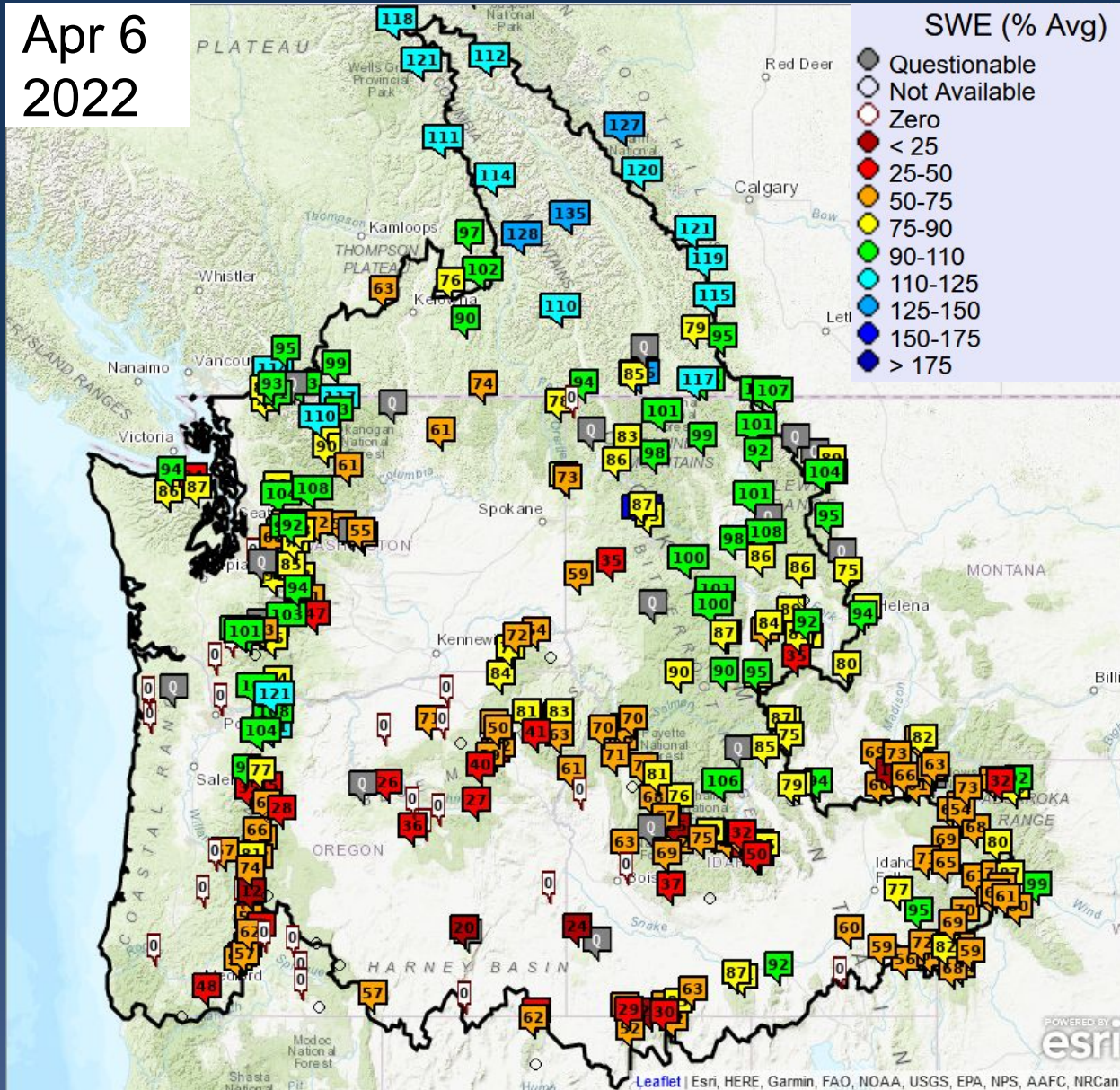
Snake River



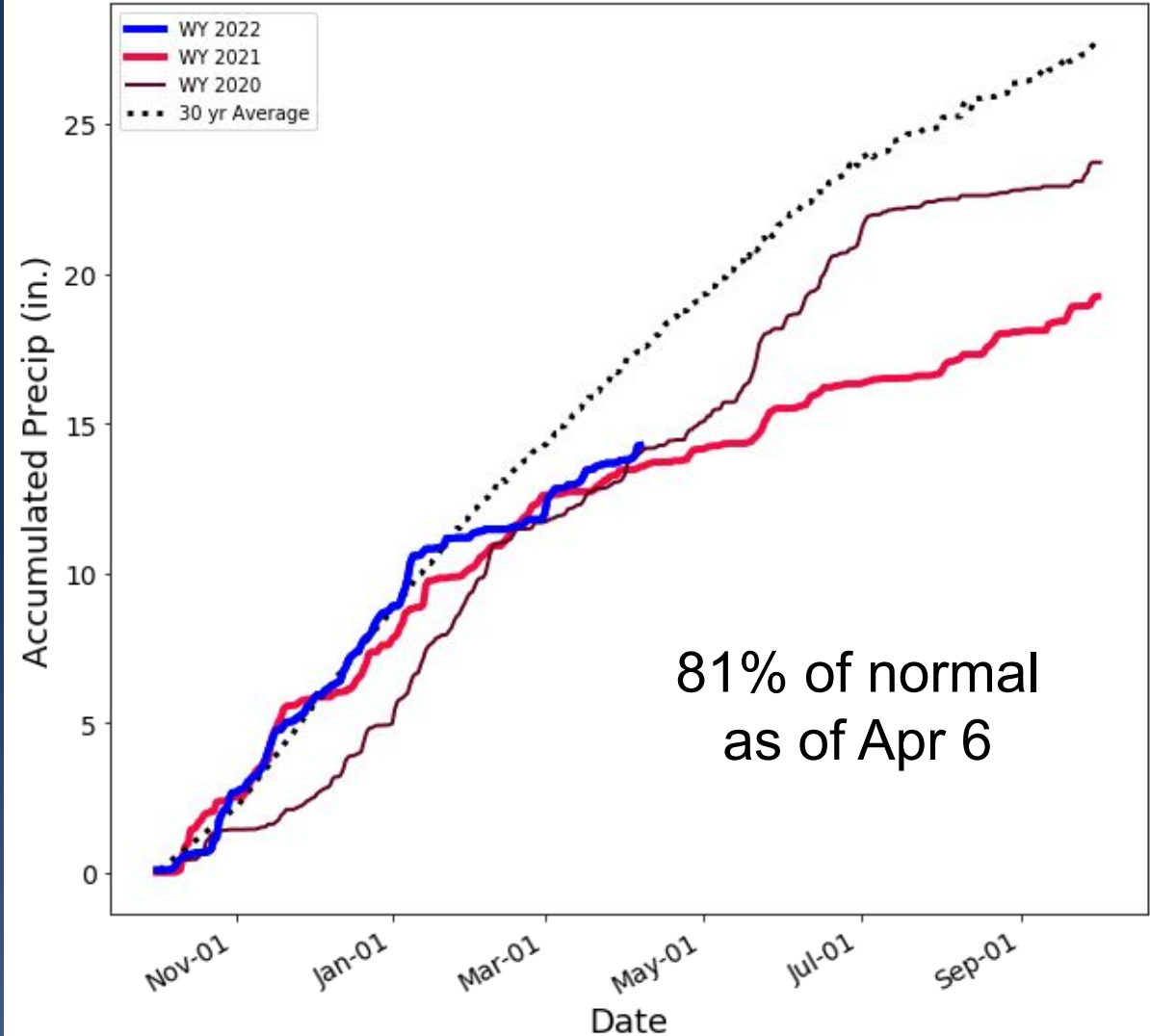
Snow data from NRCS, BC Hydro, and Alberta EP.

Snowpack and Seasonal Precipitation

Apr 6
2022



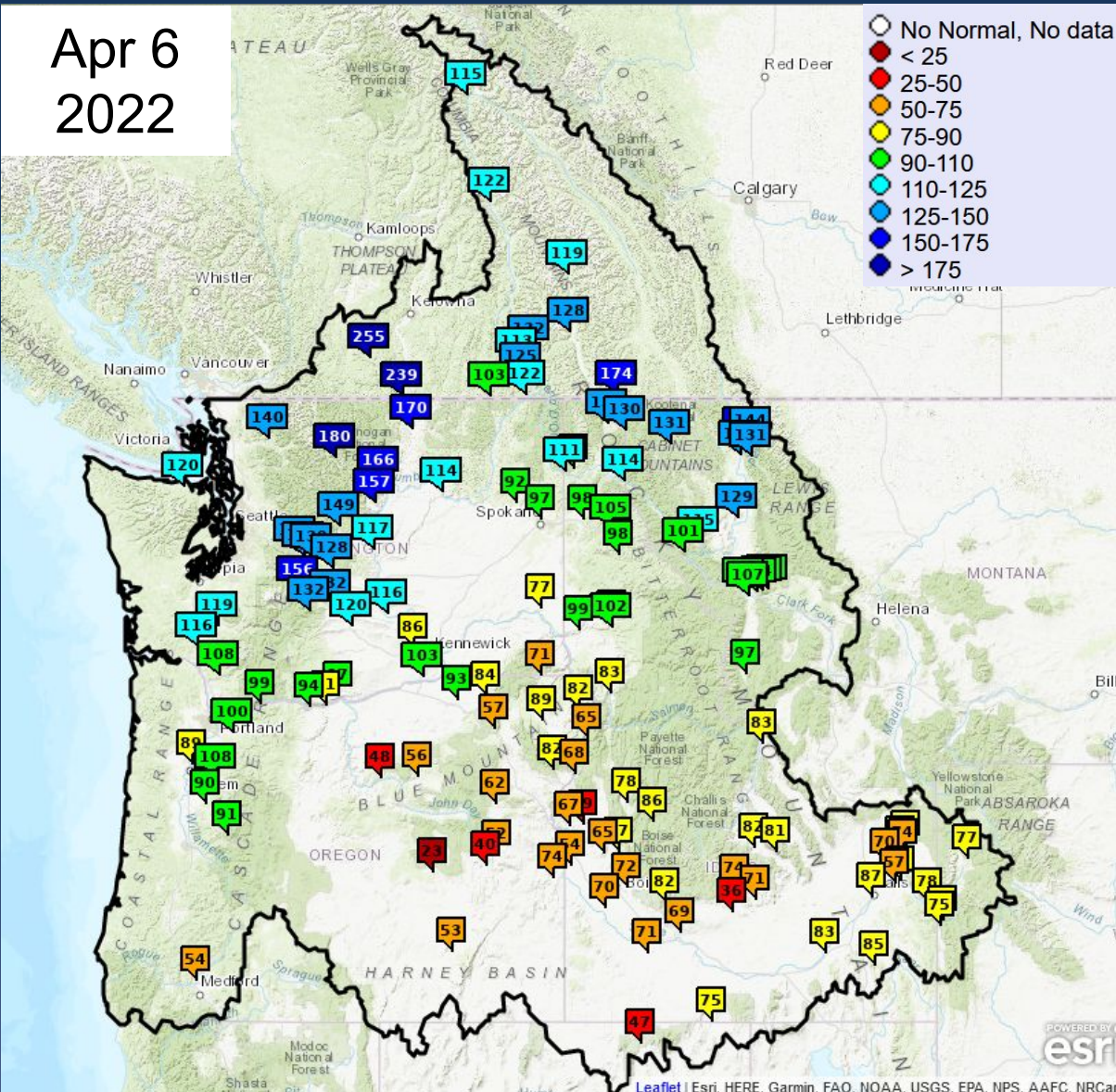
Columbia River above The Dalles



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

Year to Date Adjusted Runoff - East

Apr 6
2022



% Normal Runoff Oct 1- Apr 6

Upper Columbia Basin

Δ since Mar 2

Mica	115	-1
Duncan	119	-5
Queens Bay	128	-6
Libby	131	-8
Hungry Horse	131	15
Grand Coulee	114	-1

Snake River Basin

American Falls	83	-1
Lucky Peak	72	-6
Dworshak	90	13
Lower Granite	77	3

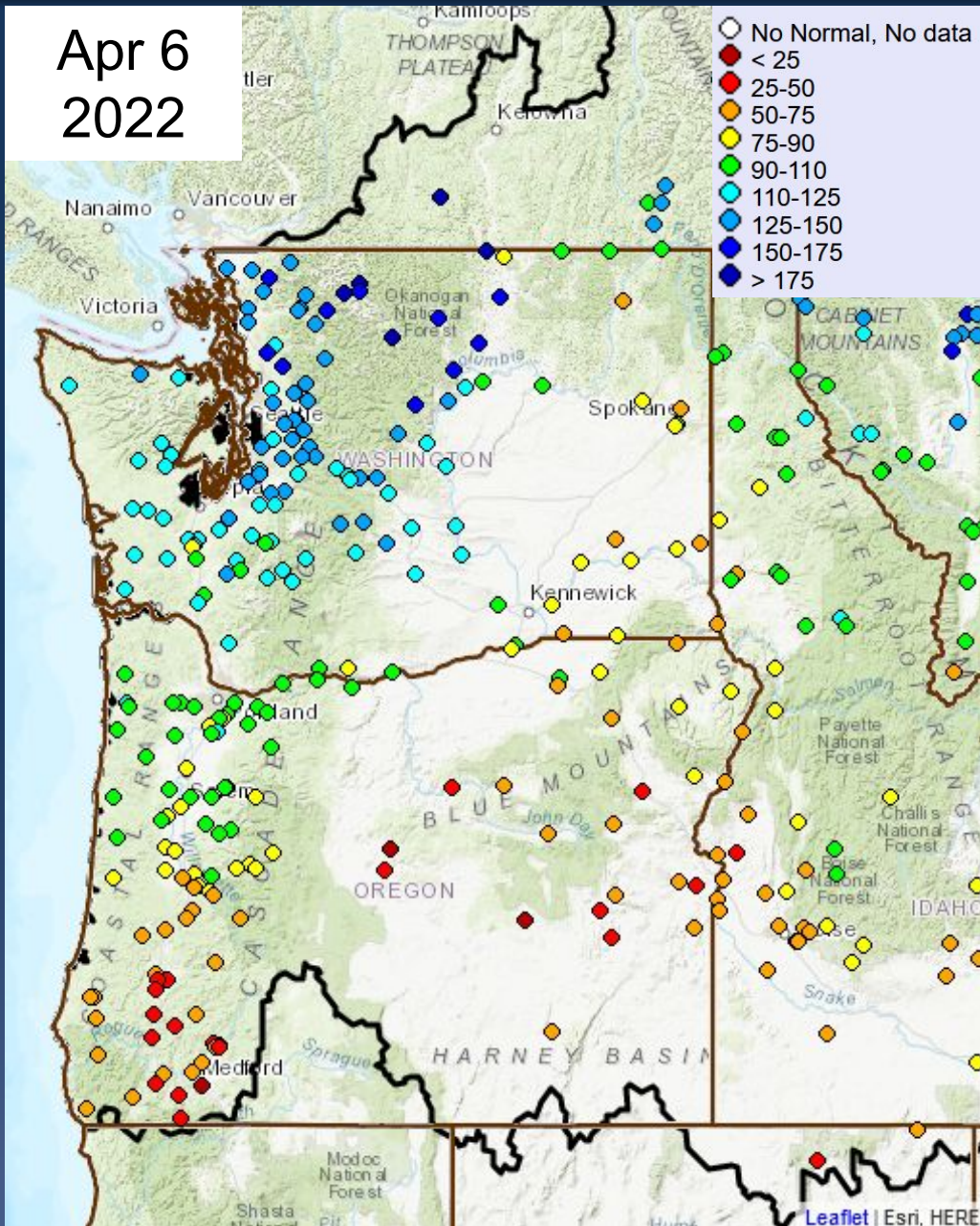
Lower Columbia Basin

The Dalles	94	-1
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Year to Date Adjusted Natural Runoff - OR, WA

Apr 6
2022



% Normal Runoff Oct 1- Apr 6

Washington

Δ since Mar 2

Skagit nr Mt Vernon	139	-5
Dungeness nr Sequim	119	-6
Chehalis at Porter	118	-3
Okanogan at Malott	172	-25
Methow nr Pateros	163	-23
Yakima at Parker	115	6
Walla Walla nr Touchet	72	8

Oregon

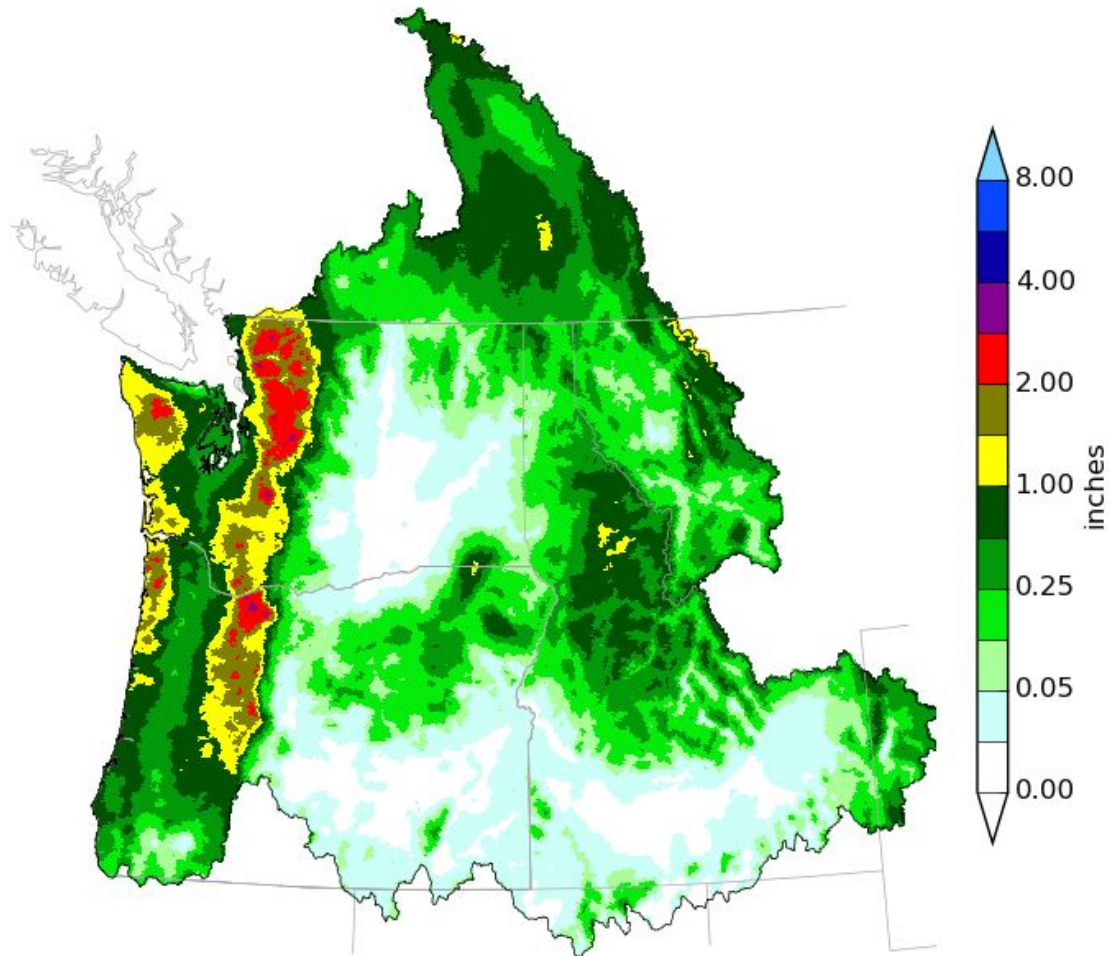
Willamette at Salem	79	-2
Rogue at Raygold	53	-2
Umatilla at Pendleton	92	11
Grande Ronde at Troy	70	9
Owyhee Dam	74	13



Precipitation Forecast (Apr 7 -16)



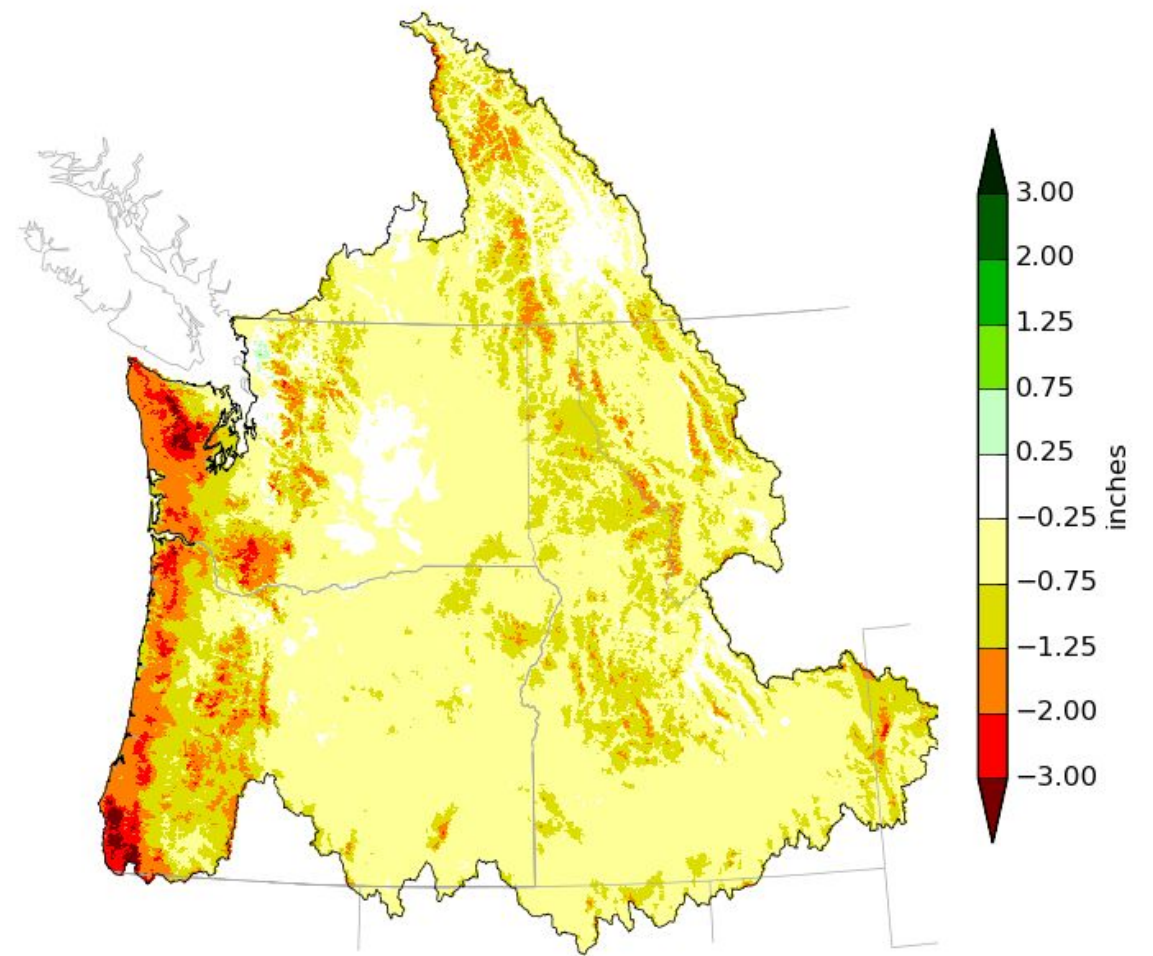
Northwest River Forecast Center
10 Day QPF, Ending 12Z, 04/16/22



Creation Time: Wed Apr 6 14:49:46 UTC 2022



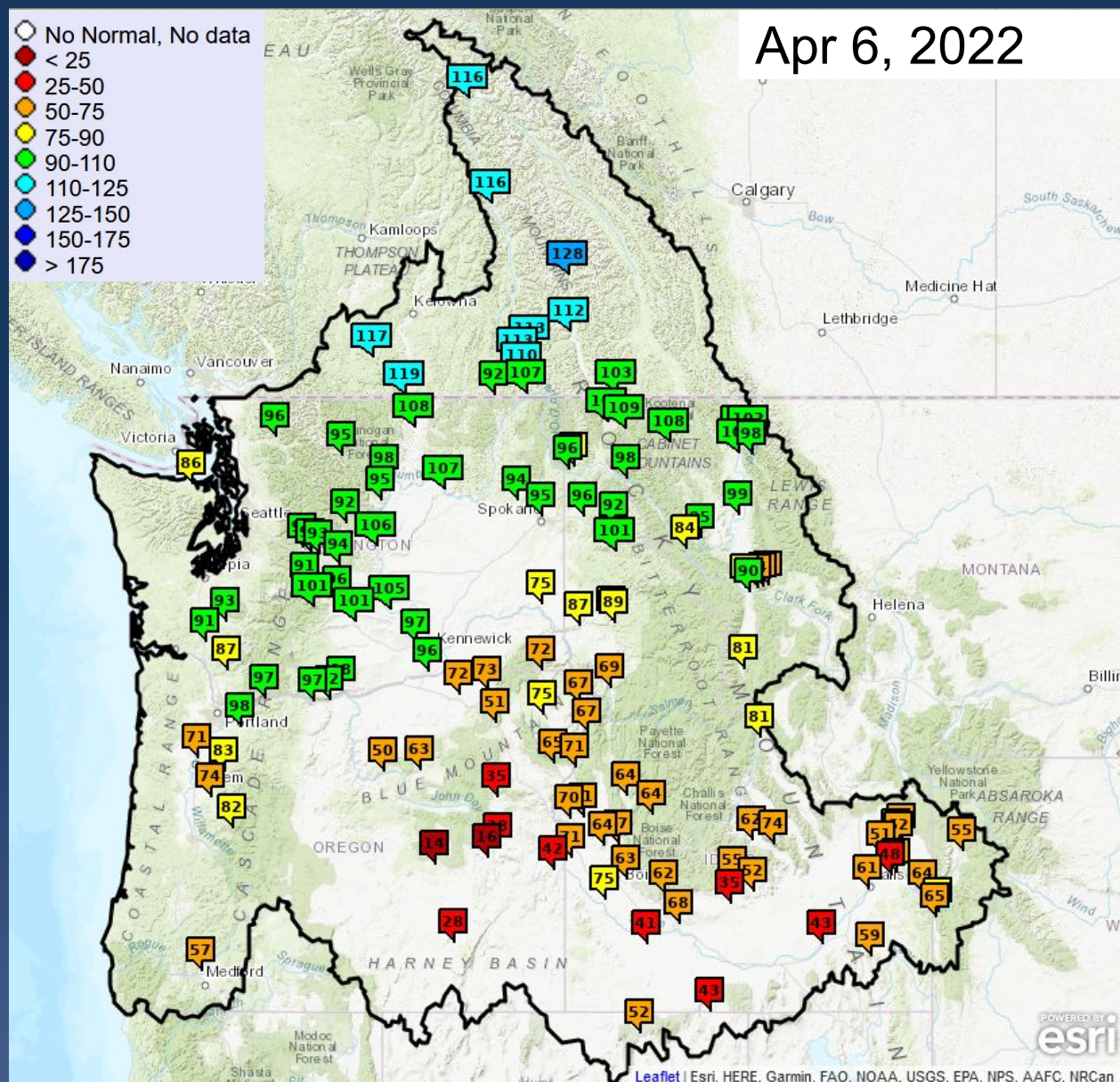
Northwest River Forecast Center
10 Day QPF (Deviation from Climatology), Ending 12Z, 04/16/22



Creation Time: Wed Apr 6 14:51:04 UTC 2022



ESP10 Water Supply Forecasts - East



% Normal Apr-Sep Volume

Upper Columbia Basin

Δ since Mar 2

Mica	116	0
Duncan	128	2
Queens Bay	112	-1
Libby	108	-1
Hungry Horse	98	2
Grand Coulee	107	1

Snake River Basin

American Falls	43	-15
Lucky Peak	63	-10
Dworshak	89	-1
Lower Granite	75	-4

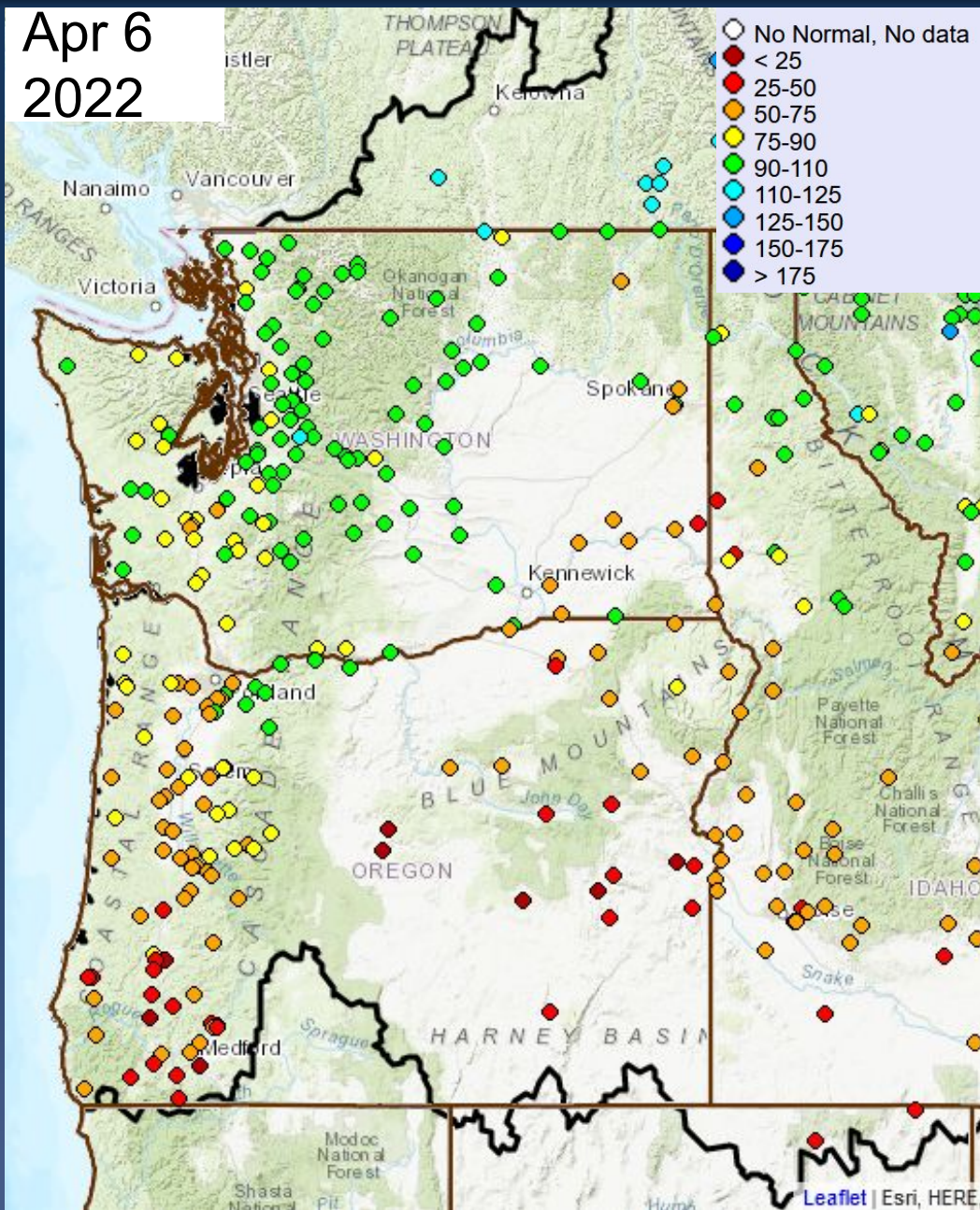
Lower Columbia Basin

The Dalles	97	-1
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ESP10 Natural Forecasts - OR, WA

Apr 6
2022



% Normal Apr -Sep Volume

Washington

Δ since Mar 2

Skagit nr Mt Vernon	99	4
Dungeness nr Sequim	86	2
Chehalis at Porter	79	-8
Okanogan at Malott	106	1
Methow nr Pateros	98	4
Yakima at Parker	92	7
Walla Walla nr Touchet	63	-11

Oregon

Willamette at Salem	68	-9
Rogue at Raygold	60	-4
Umatilla at Pendleton	73	-13
Grande Ronde R at Troy	72	-11
Owyhee Dam	42	-2



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: 2022-04-06 Issued: 2022-04-06

Forecast Period	Forecasts Are in KAF				30 Year Average (1991-2020)
	90 %	50 %	% Average	10 %	
APR-SEP	61413	65535	107	71857	61483
APR-JUL	51106	55579	105	61595	52774
APR-AUG	57419	61888	106	68126	58186
JAN-SEP	70913	75036	106	81358	70457
JAN-JUL	60606	65080	105	71096	61749
OCT-SEP	81757	85879	109	92202	78842

Experimental Water Supply

HEFS with 15 days EQPF Ensemble: 2022-04-06 Issued: 2022-04-06

APR-SEP	62577	67086	109	72736	61483
APR-JUL	51855	57064	108	62506	52774
APR-AUG	58112	63084	108	68864	58186
JAN-SEP	72078	76587	109	82237	70457
JAN-JUL	61356	66565	108	72006	61749
OCT-SEP	82921	87430	111	93080	78842

Reference

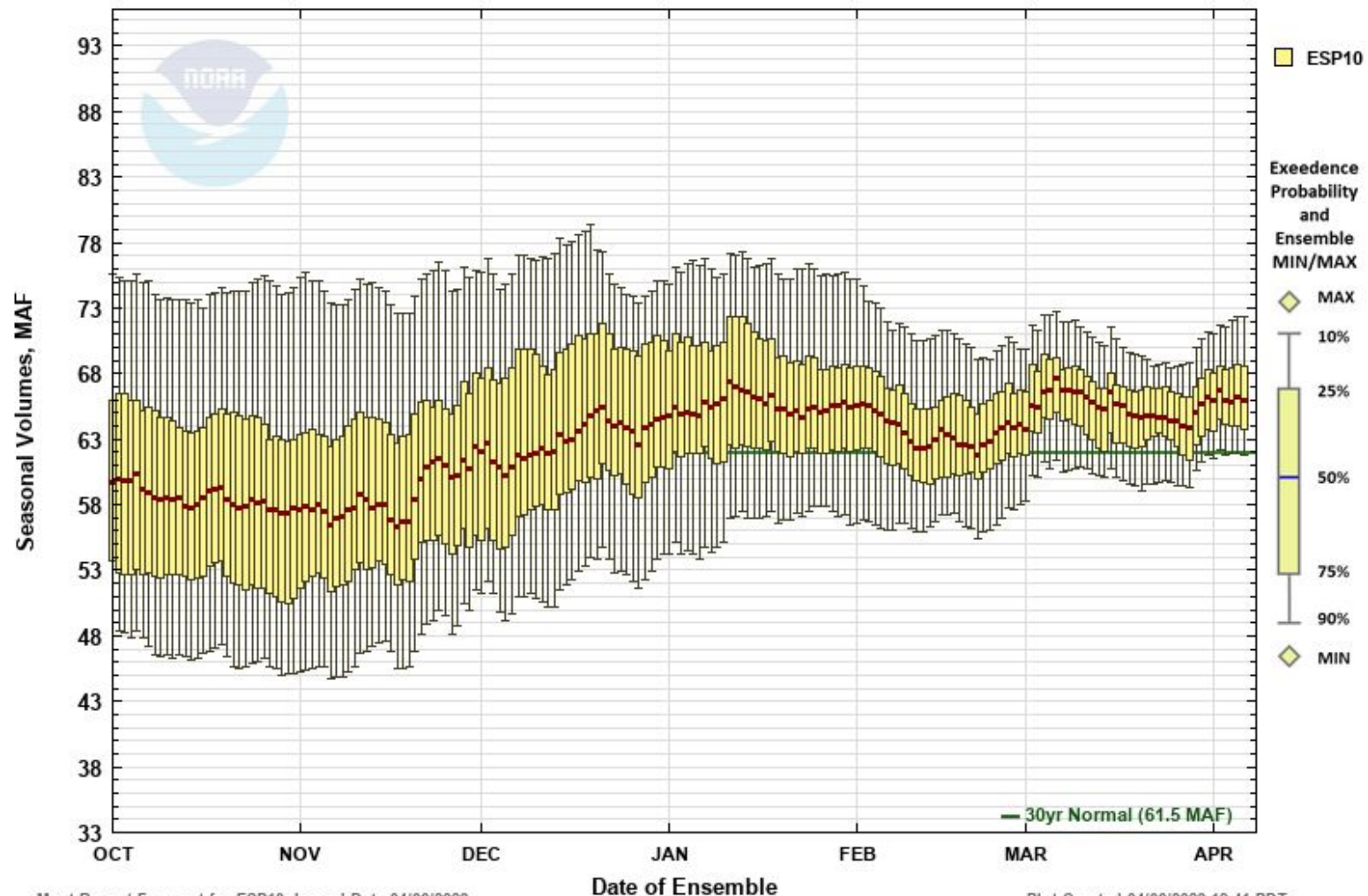
ESP with 0 Days QPF Ensemble: 2022-04-06 Issued: 2022-04-06

APR-SEP	63023	67632	110	72301	61483
APR-JUL	52643	57120	108	62593	52774
APR-AUG	58472	63726	110	68440	58186
JAN-SEP	72524	77133	109	81802	70457
JAN-JUL	62144	66621	108	72094	61749
OCT-SEP	83368	87976	112	92646	78842

Water Supply Forecasts

COLUMBIA - GRAND COULEE DAM

Period APR to SEP -- Water Year 2022



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



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: 2022-04-06 Issued: 2022-04-06

Forecast Period	Forecasts Are in KAF				30 Year Average (1991-2020)
	90 %	50 %	% Average	10 %	
APR-SEP	14893	16705	75	19563	22232
APR-JUL	12812	14500	73	17228	19946
APR-AUG	13796	15627	74	18436	21121
JAN-SEP	20379	22192	75	25050	29736
JAN-JUL	18299	19987	73	22714	27450
OCT-SEP	24284	26097	76	28955	34287

Experimental Water Supply

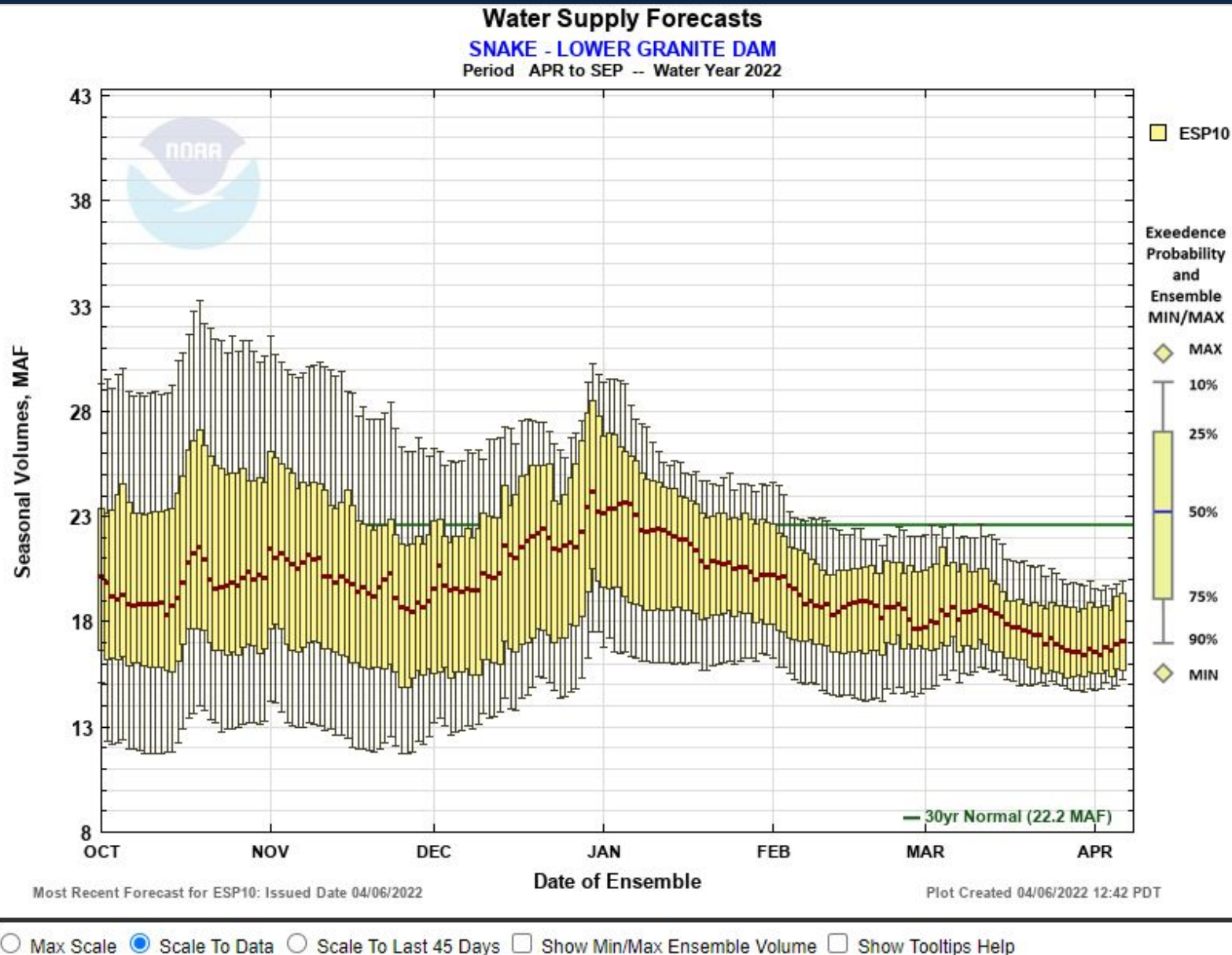
HEFS with 15 days EQPF Ensemble: 2022-04-06 Issued: 2022-04-06

APR-SEP	15335	17003	76	20129	22232
APR-JUL	13177	14817	74	17645	19946
APR-AUG	14274	15889	75	18906	21121
JAN-SEP	20821	22489	76	25616	29736
JAN-JUL	18663	20304	74	23131	27450
OCT-SEP	24726	26394	77	29521	34287

Reference

ESP with 0 Days QPF Ensemble: 2022-04-06 Issued: 2022-04-06

APR-SEP	15603	17381	78	20467	22232
APR-JUL	13464	15267	77	18009	19946
APR-AUG	14535	16338	77	19295	21121
JAN-SEP	21090	22868	77	25953	29736
JAN-JUL	18950	20753	76	23495	27450
OCT-SEP	24995	26773	78	29858	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: 2022-04-06 Issued: 2022-04-06

Forecast Period	Forecasts Are in KAF				30 Year Average (1991-2020)
	90 %	50 %	% Average	10 %	
APR-SEP	85309	91124	97	101851	94166
APR-JUL	71440	78546	96	87668	81933
APR-AUG	80027	85355	96	96245	89196
JAN-SEP	103705	109521	94	120247	115946
JAN-JUL	89837	96942	93	106064	103714
OCT-SEP	121770	127586	96	138313	132314

Experimental Water Supply

HEFS with 15 days EQPF Ensemble: 2022-04-06 Issued: 2022-04-06

APR-SEP	86712	93243	99	102700	94166
APR-JUL	73830	80050	98	88817	81933
APR-AUG	80915	87999	99	96971	89196
JAN-SEP	105109	111639	96	121096	115946
JAN-JUL	92227	98447	95	107214	103714
OCT-SEP	123174	129704	98	139161	132314

Reference

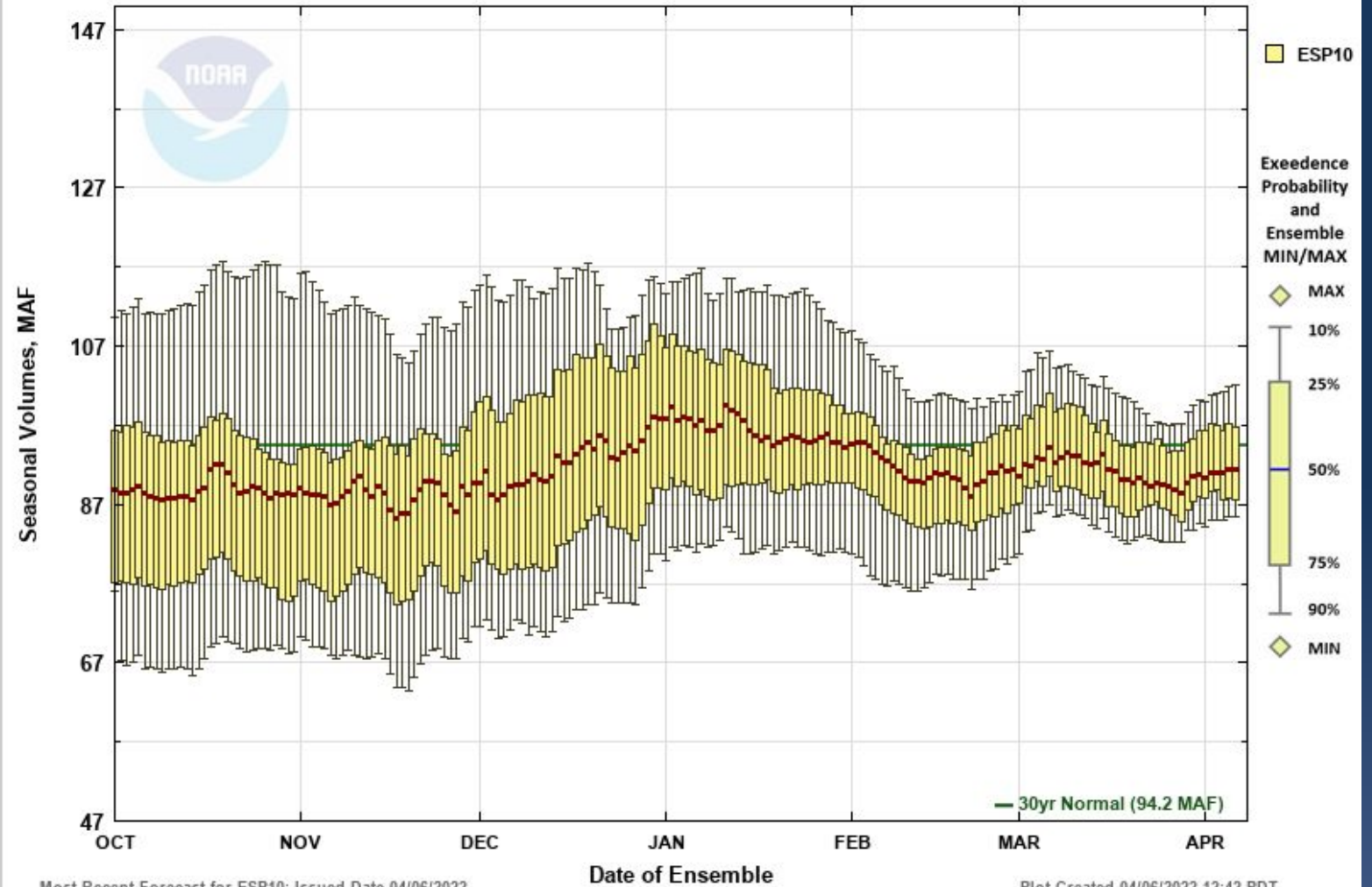
ESP with 0 Days QPF Ensemble: 2022-04-06 Issued: 2022-04-06

APR-SEP	87513	94466	100	102726	94166
APR-JUL	75353	81998	100	88995	81933
APR-AUG	82711	89315	100	96830	89196
JAN-SEP	105909	112863	97	121122	115946
JAN-JUL	93750	100395	97	107392	103714
OCT-SEP	123974	130928	99	139187	132314

Water Supply Forecasts

COLUMBIA - THE DALLES DAM

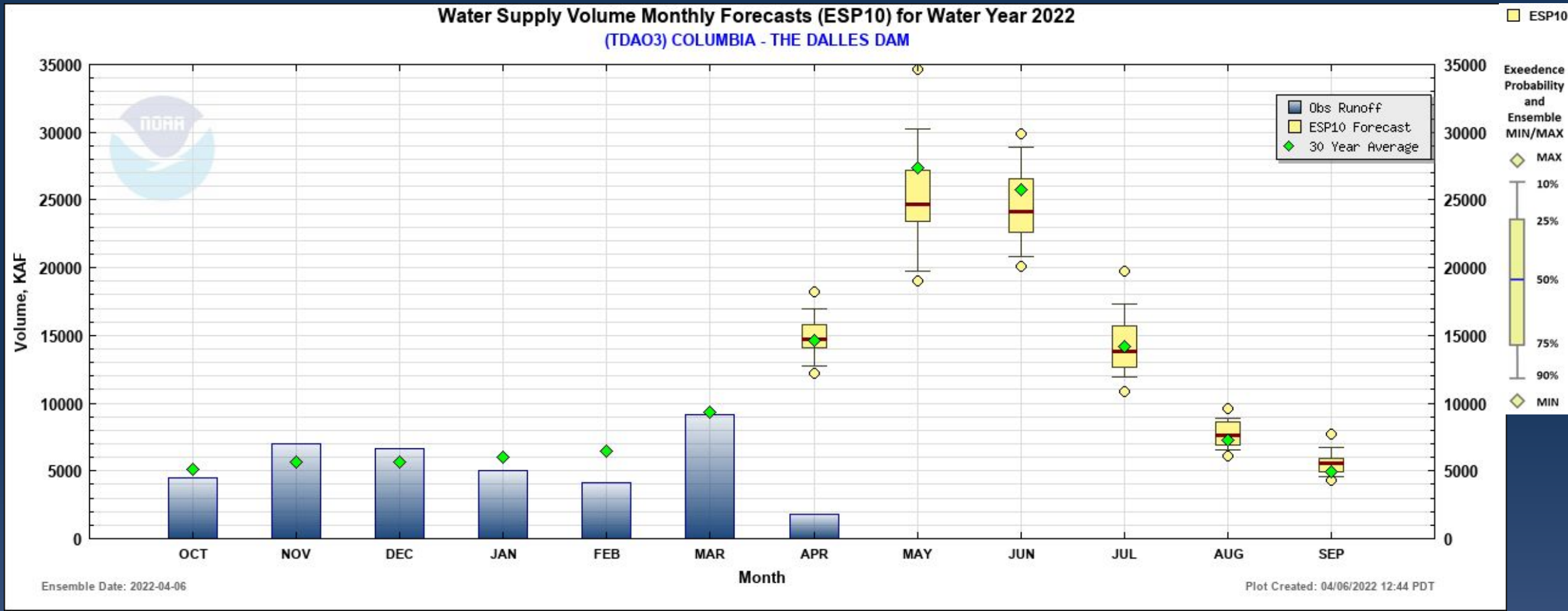
Period APR to SEP -- Water Year 2022



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



ESP10 Water Supply Volume Monthly Forecasts



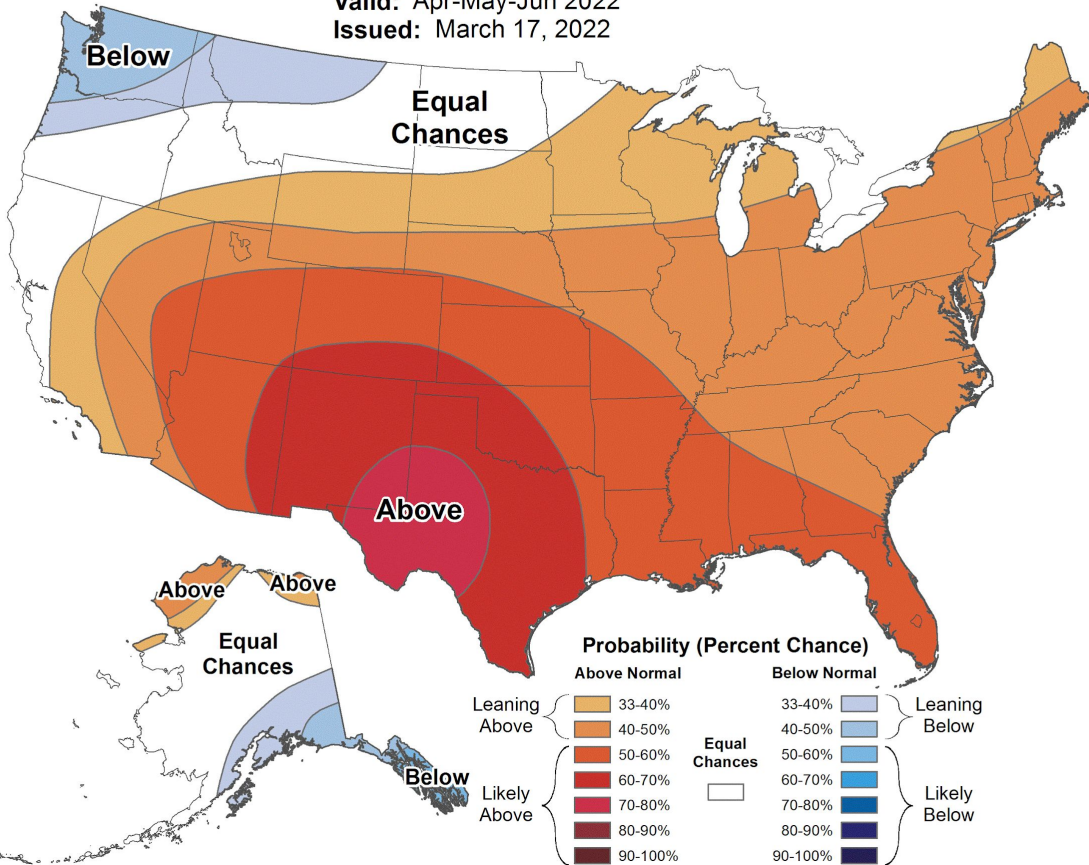
CPC Three-Month Outlook



Seasonal Temperature Outlook



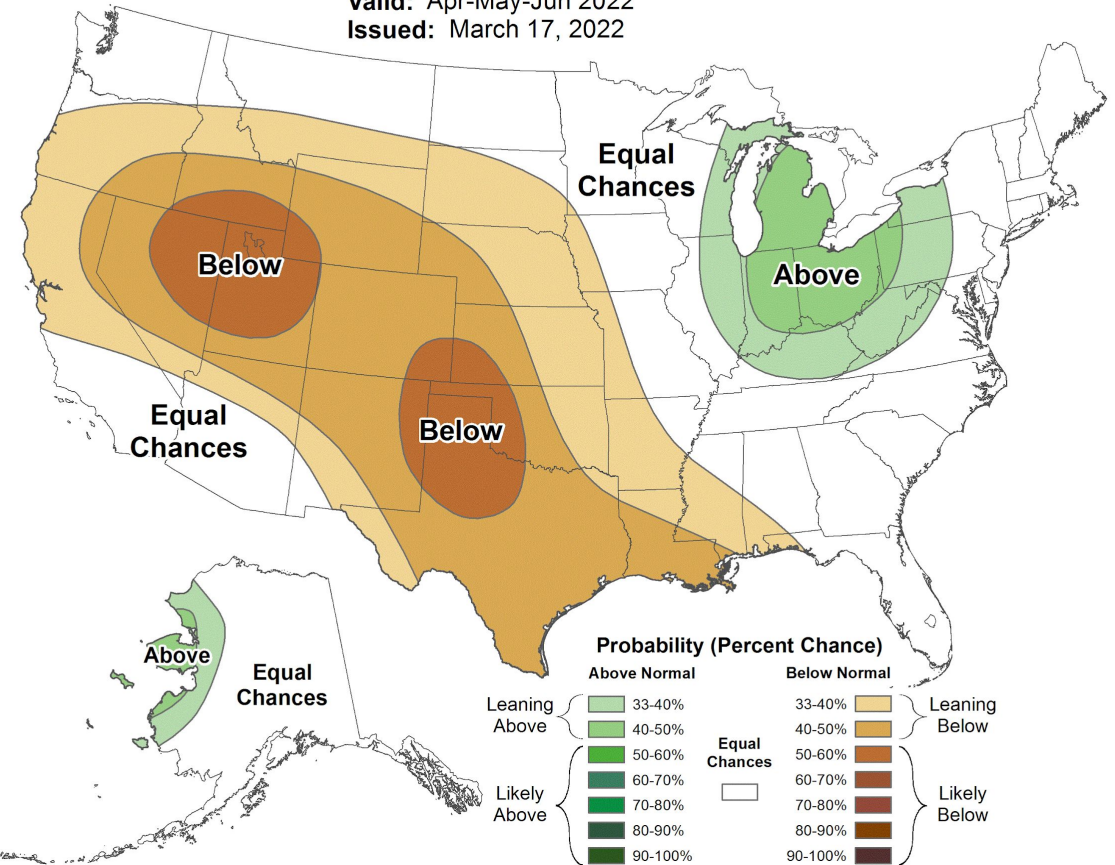
Valid: Apr-May-Jun 2022
Issued: March 17, 2022



Seasonal Precipitation Outlook

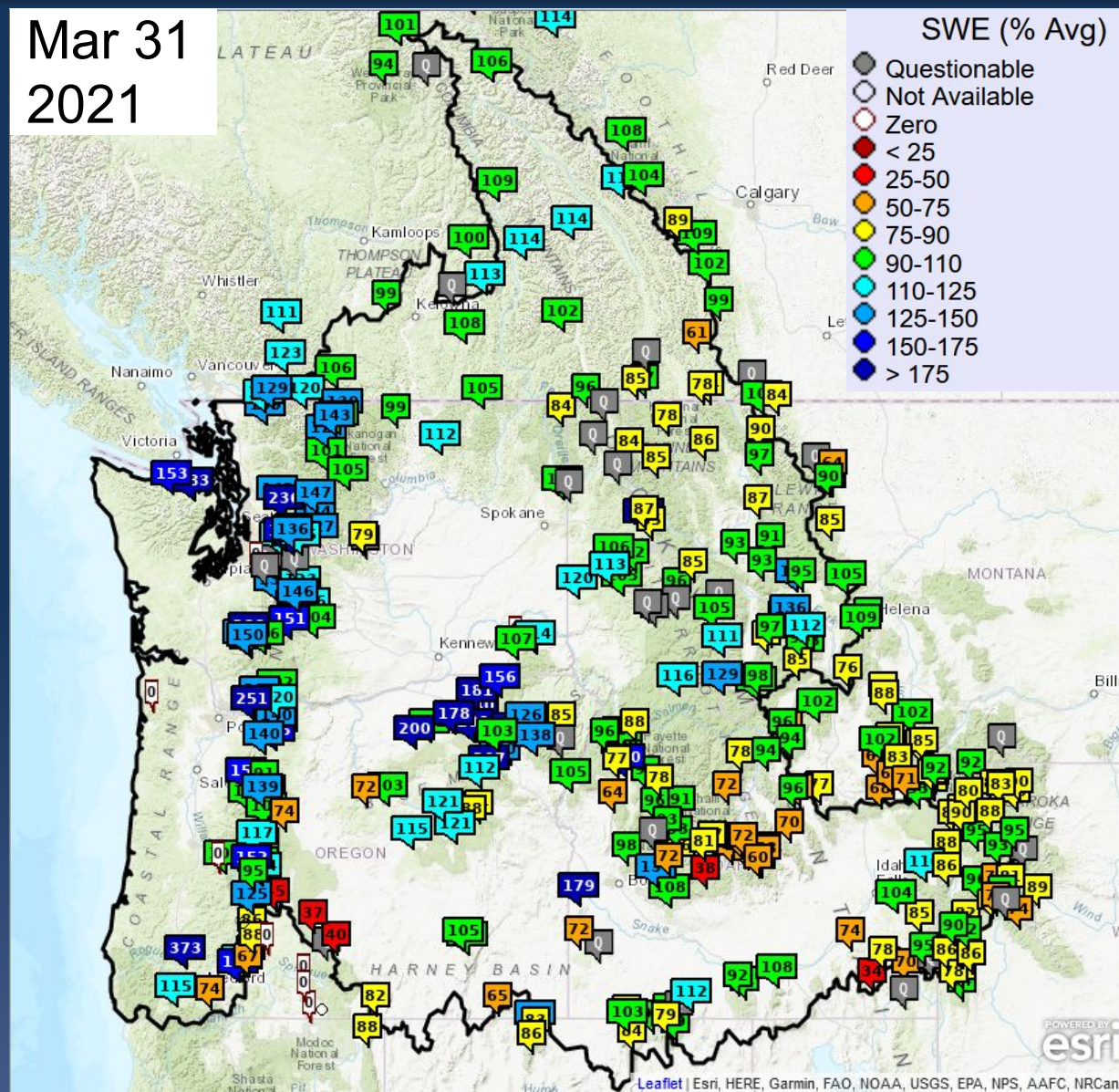


Valid: Apr-May-Jun 2022
Issued: March 17, 2022

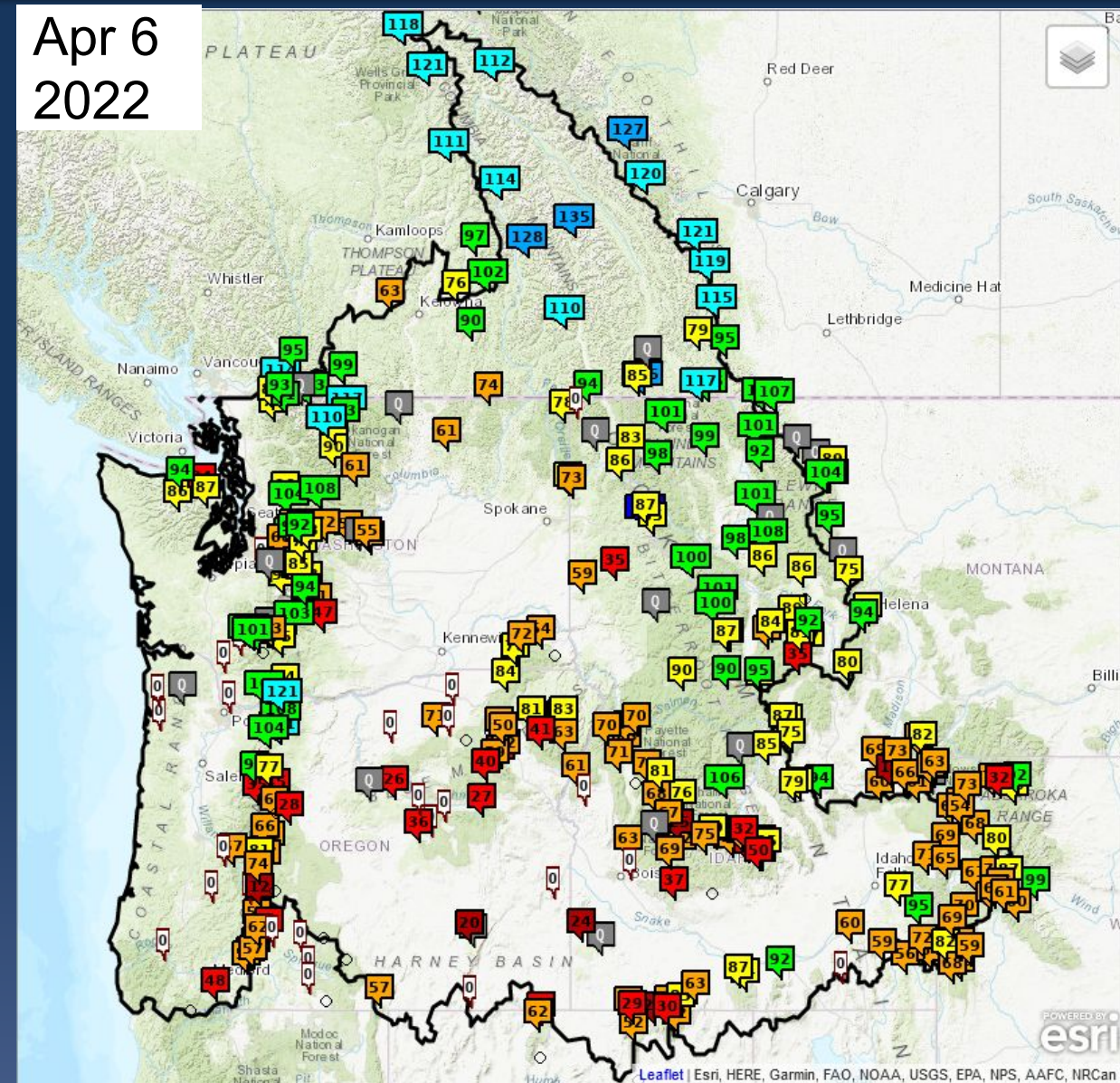


Snowpack Comparison

Mar 31
2021

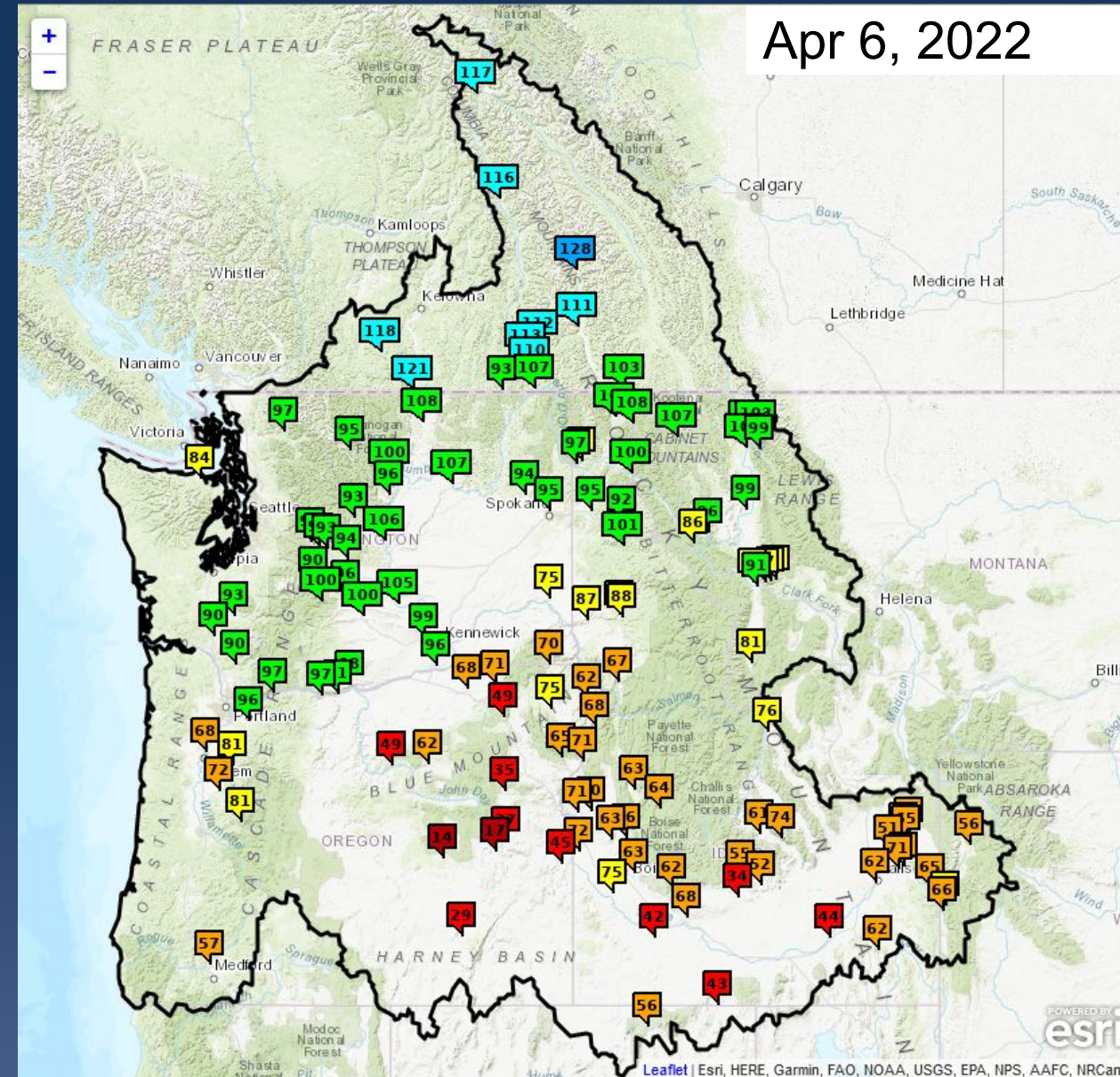
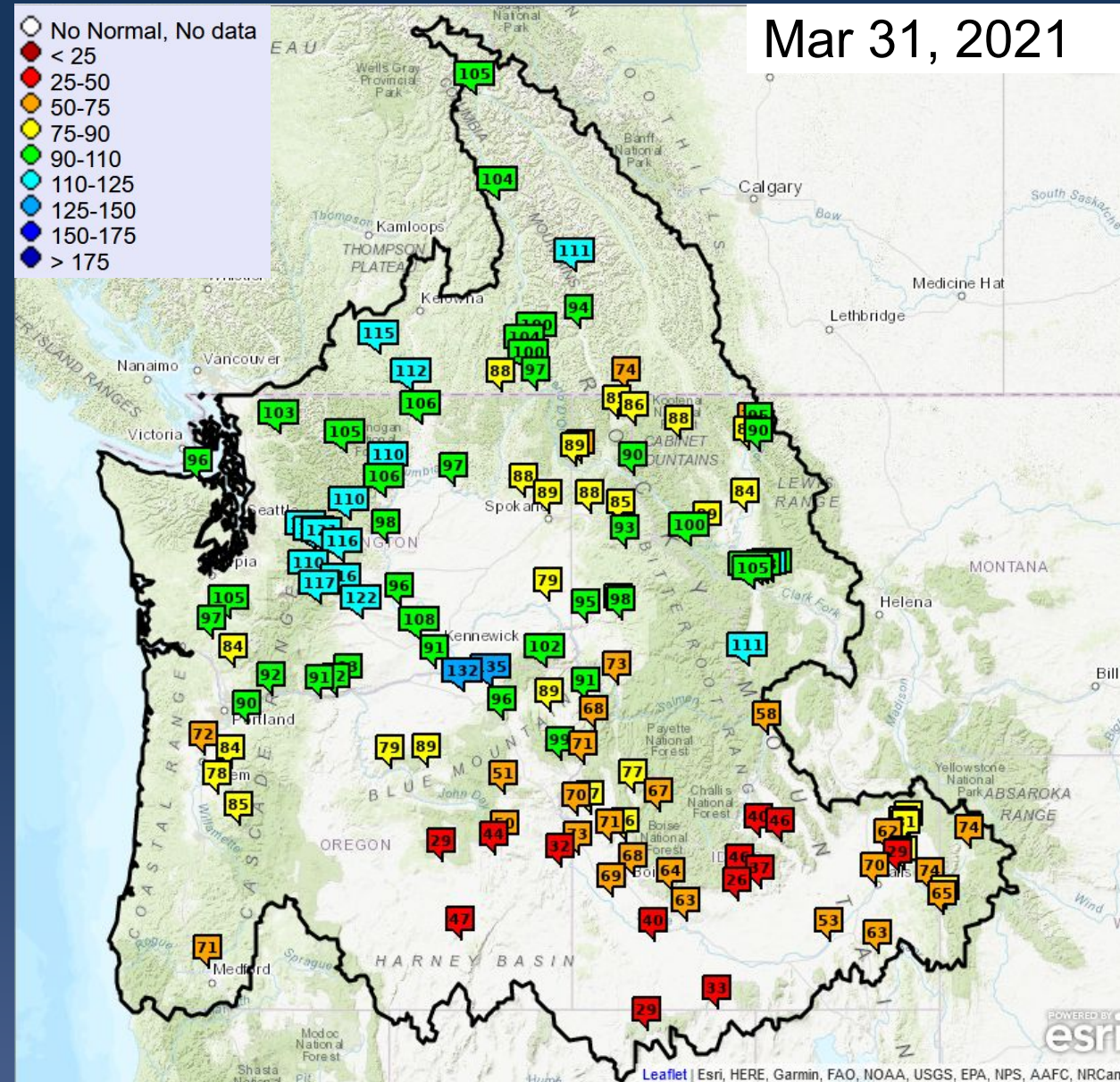


Apr 6
2022



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

Water Supply Forecast Comparison





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Water supply forecasts continued to drop in most regions.



WY2022 Schedule for Live Water Supply Briefings

May

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?

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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.

NWRFC.watersupply@noaa.gov
(503) 326-7291

