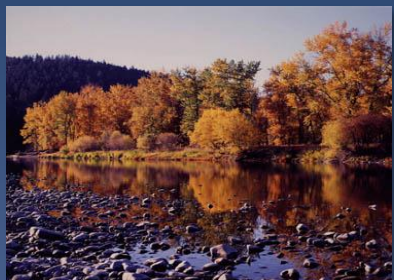




Northwest River Forecast Center



May 2021 Water Supply Briefing

Telephone Conference: (415) 930-5321
Audio Access Code: 524-795-021#

Henry Pai
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



Water Supply Forecast Briefing Outline

Observed Conditions

- Temperature
- Precipitation
- Snowpack
- Runoff

Forecast Conditions

- 10 Day Precipitation Forecasts
- Water Supply Forecasts

Additional Guidance

- Climate Prediction Center Outlook

Summary



Take Home Messages

Dry past two months brought seasonal precipitation down for the basin

- Most of the basin below normal for the water year

April saw above average temperatures for most of basin

- Snowmelt well underway across the basin

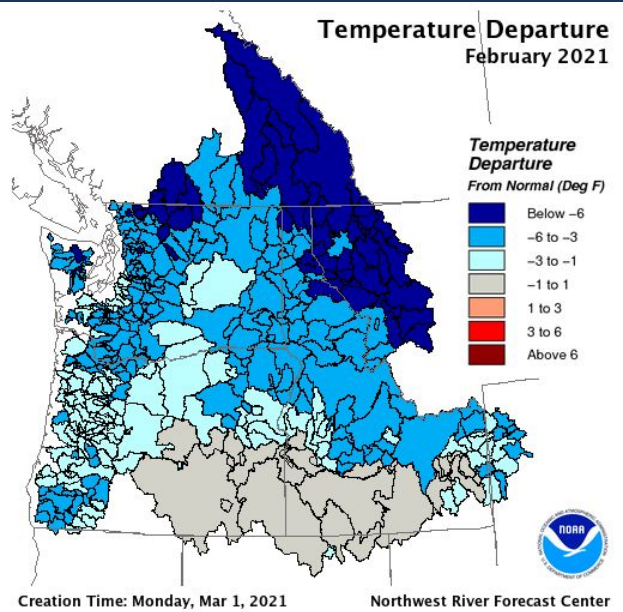
Water supply forecasts for April-September

- Decline in forecasts basin-wide
- Mixed near and below normal in the north
- Below normal in the south

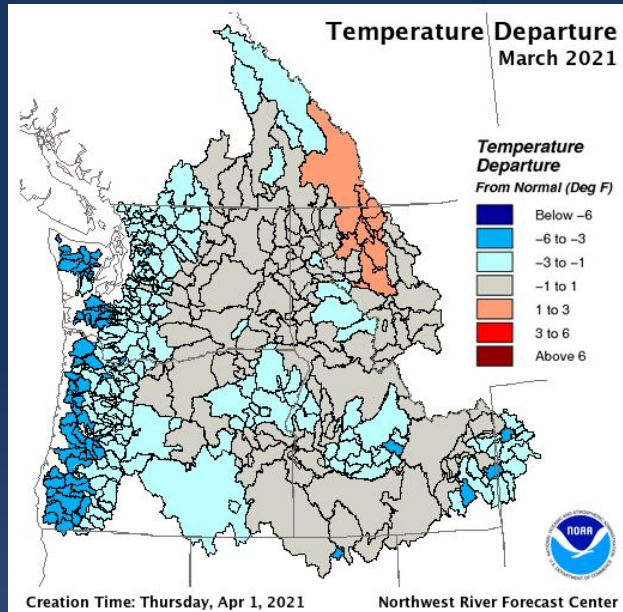


Monthly Temperature Departure

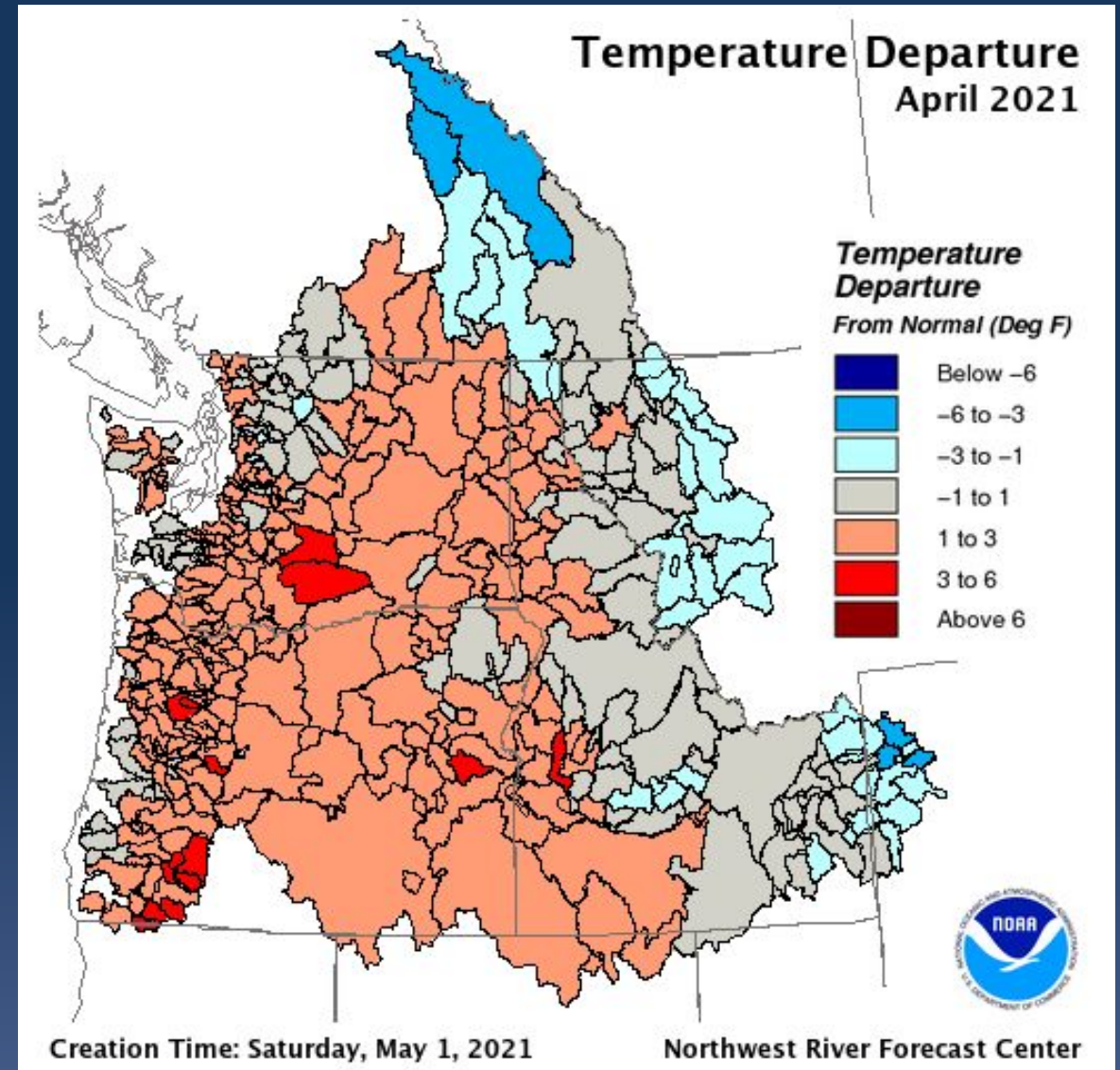
Temperature Departure
February 2021



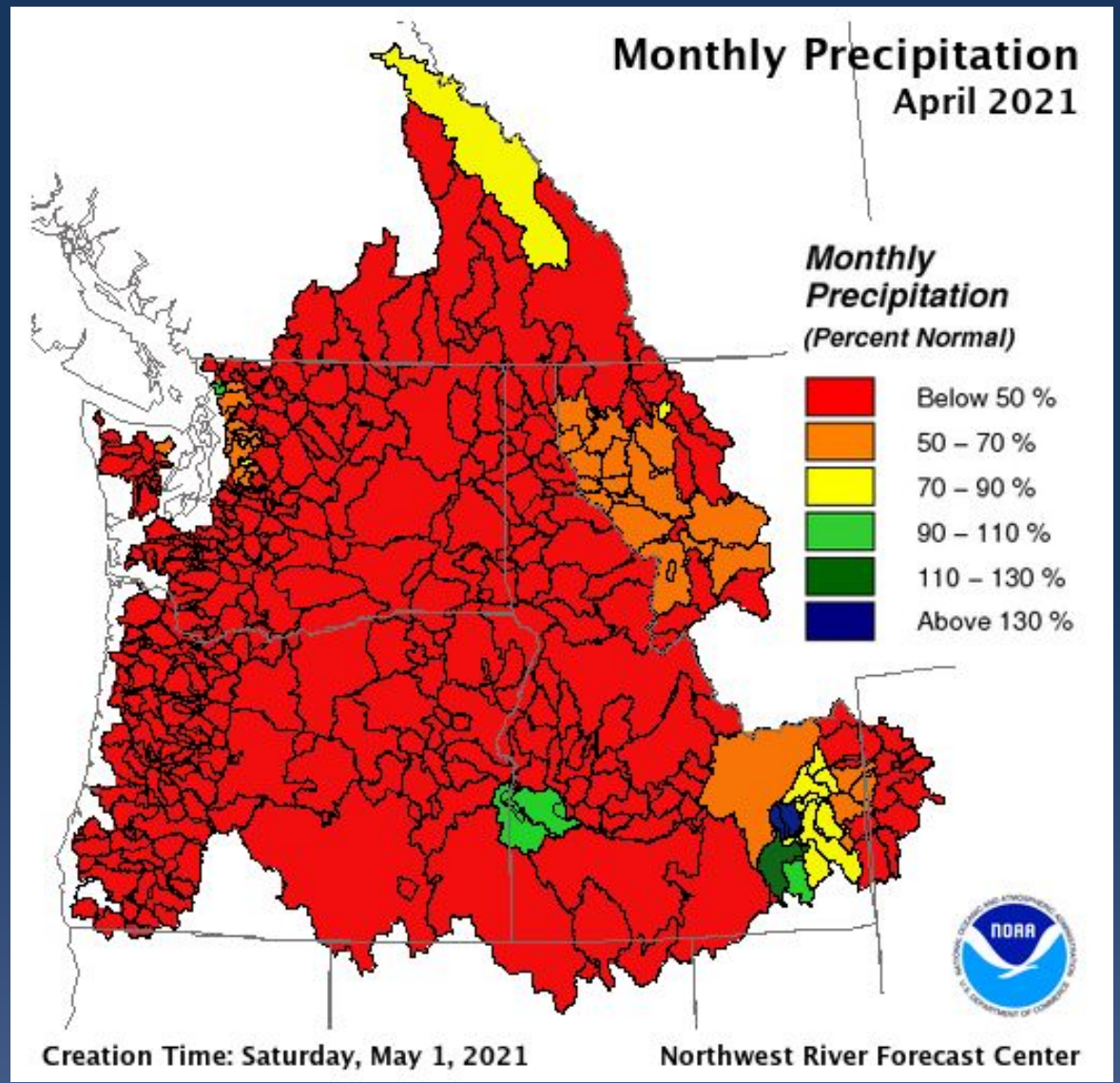
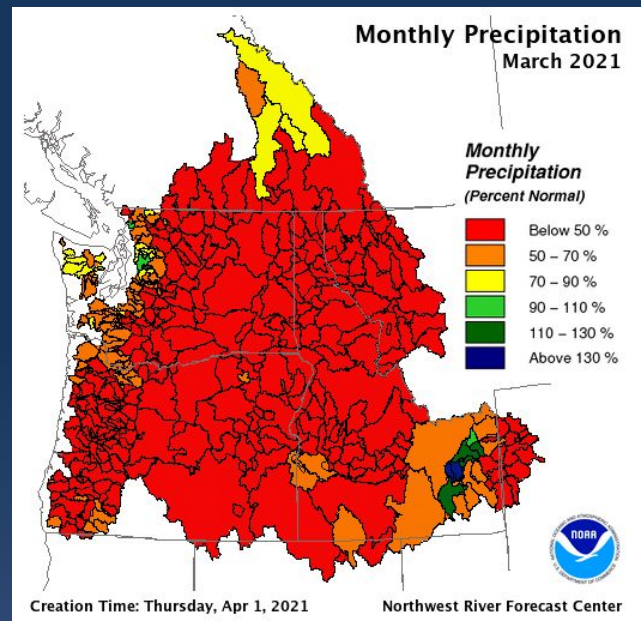
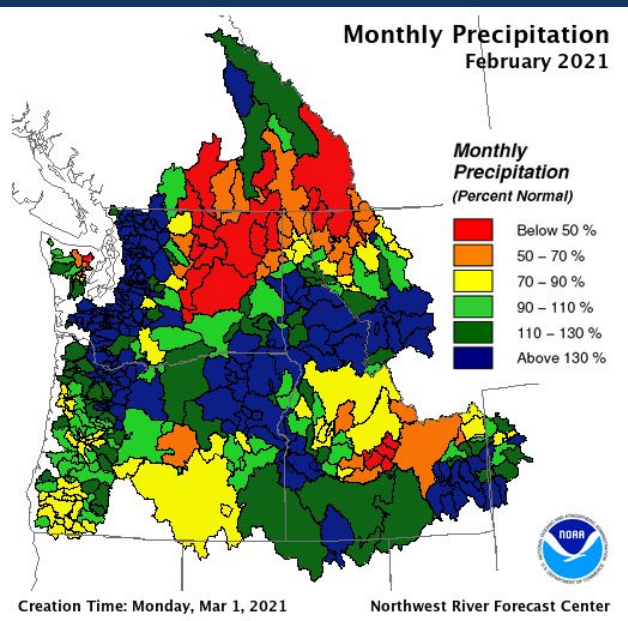
Temperature Departure
March 2021



Temperature Departure
April 2021



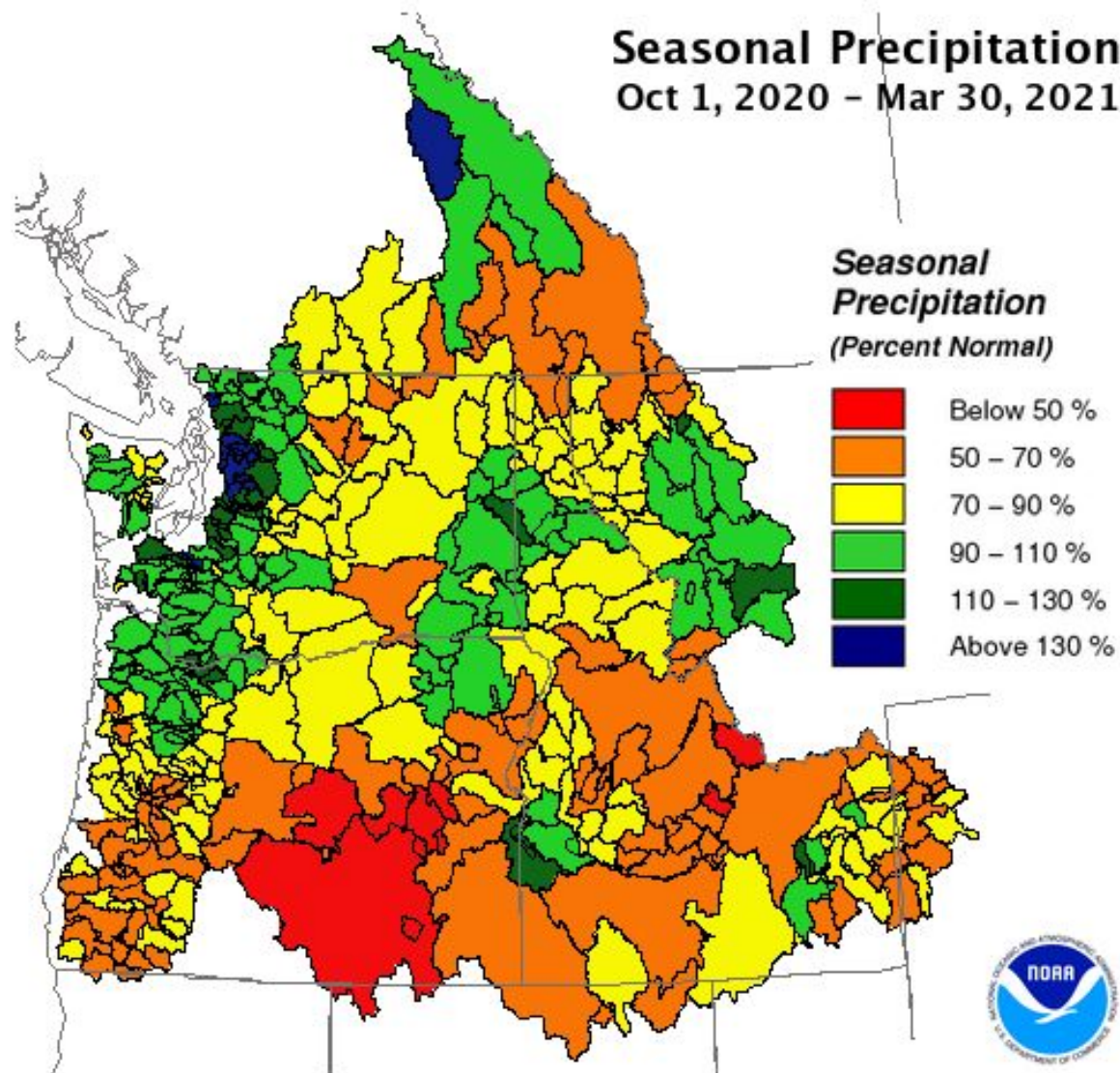
Monthly Precipitation





Water Year to Date Precipitation

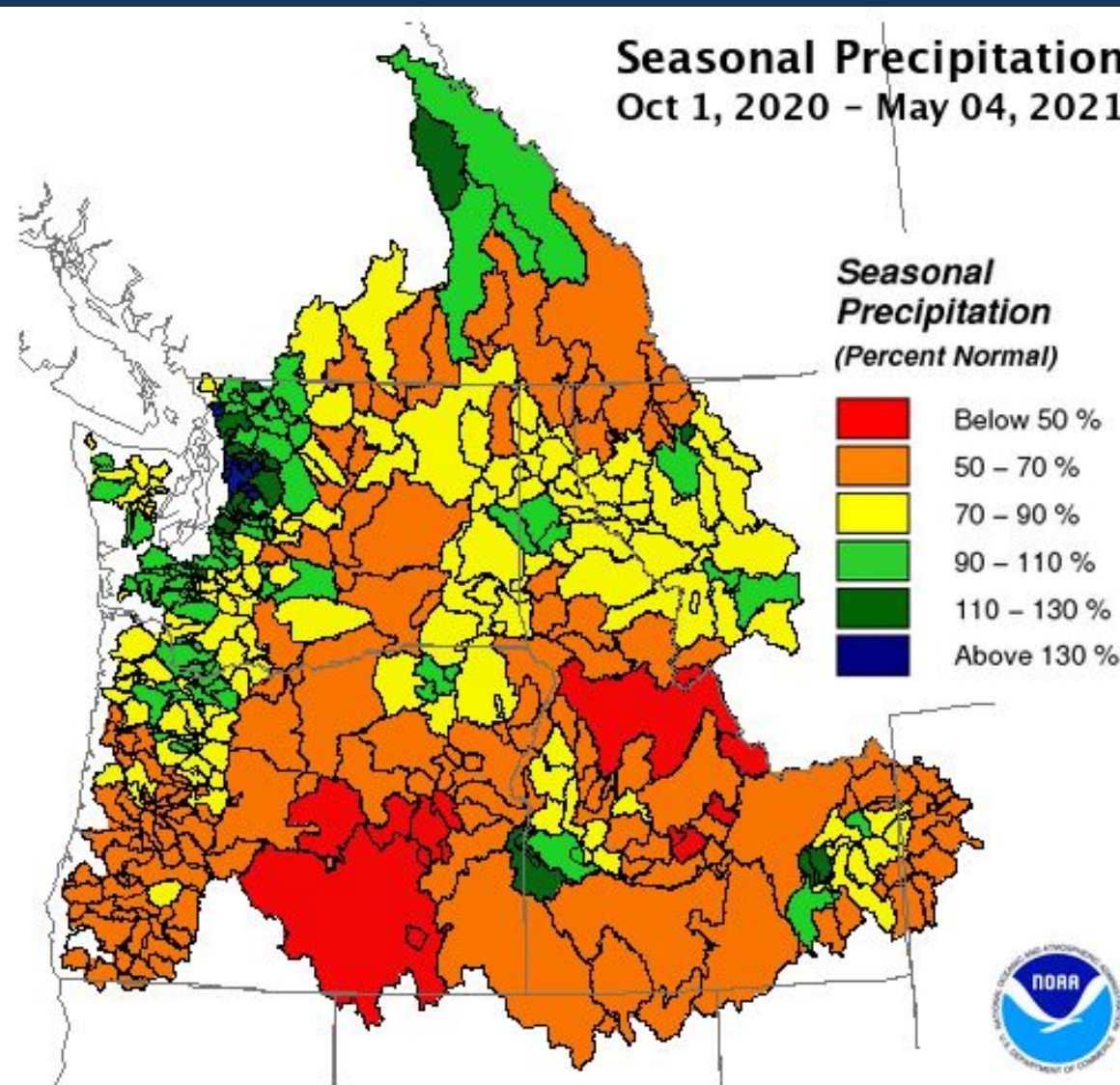
Seasonal Precipitation
Oct 1, 2020 - Mar 30, 2021



Creation Time: Wednesday, Mar 31, 2021

Northwest River Forecast Center

Seasonal Precipitation
Oct 1, 2020 - May 04, 2021

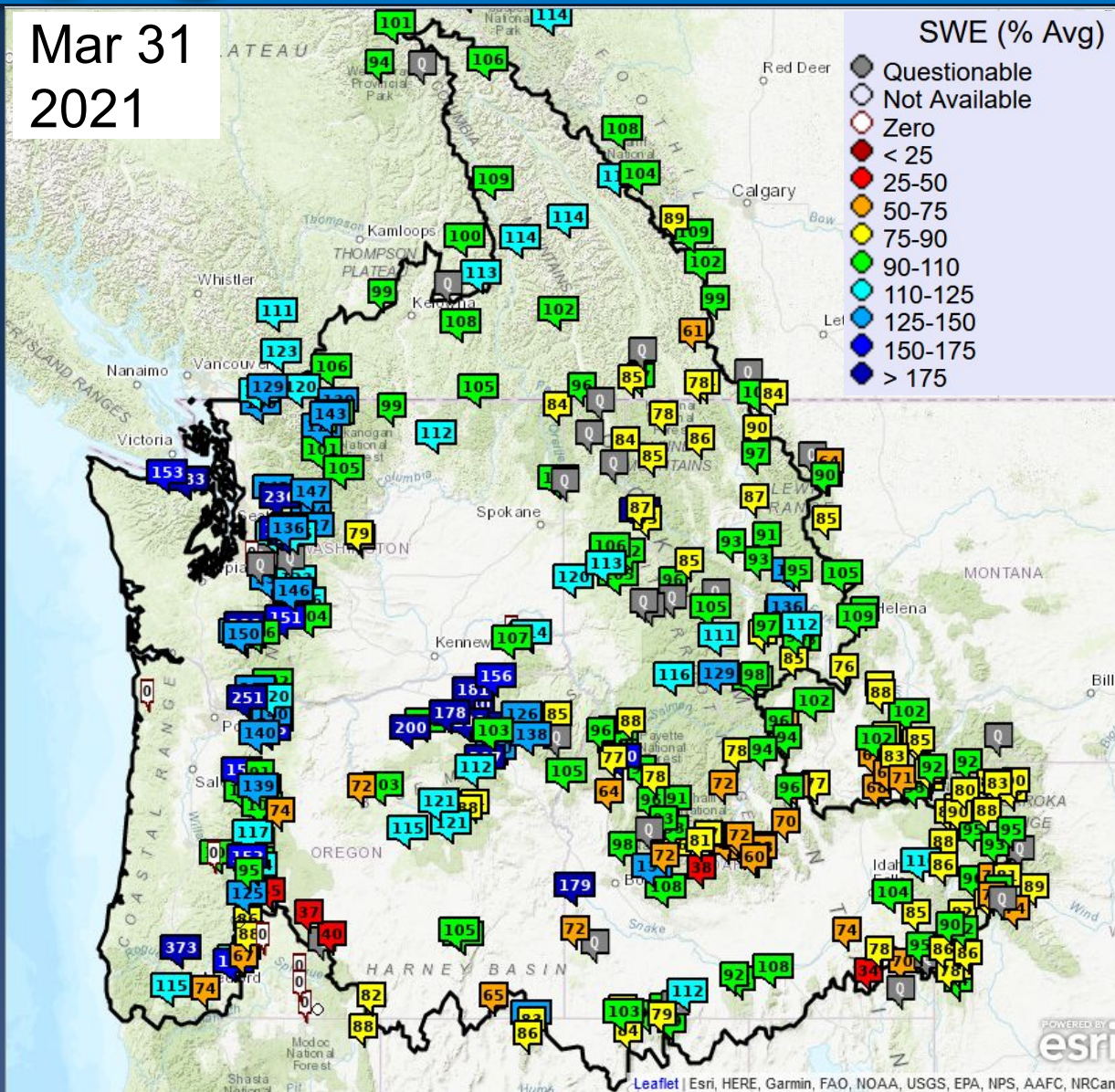


Creation Time: Wednesday, May 5, 2021

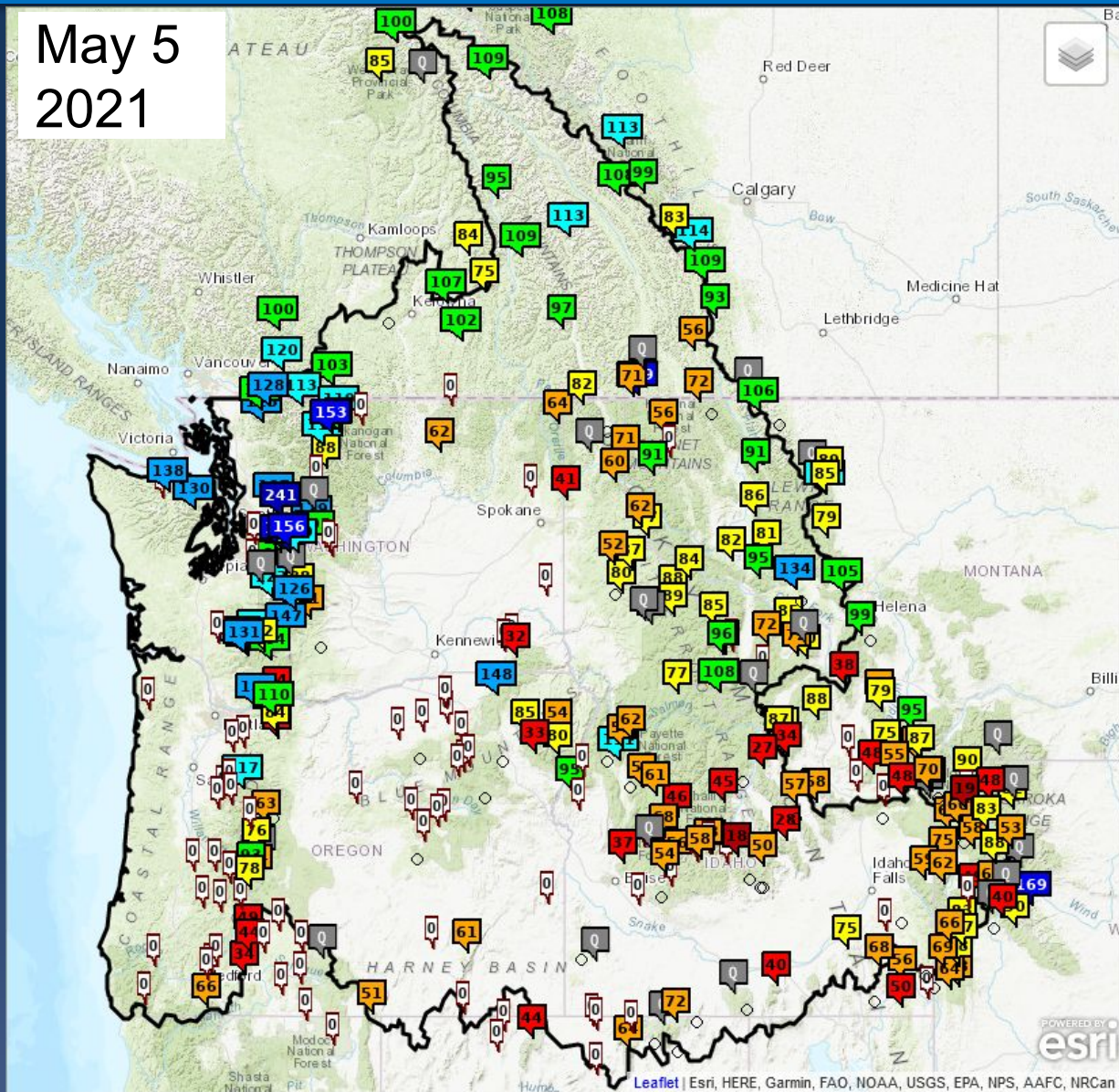
Northwest River Forecast Center

Snowpack

Mar 31
2021



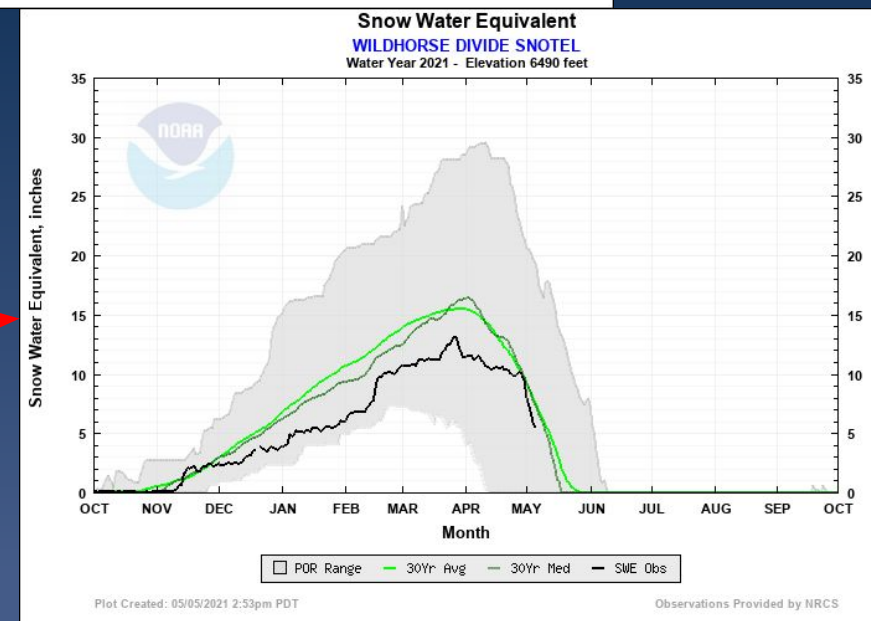
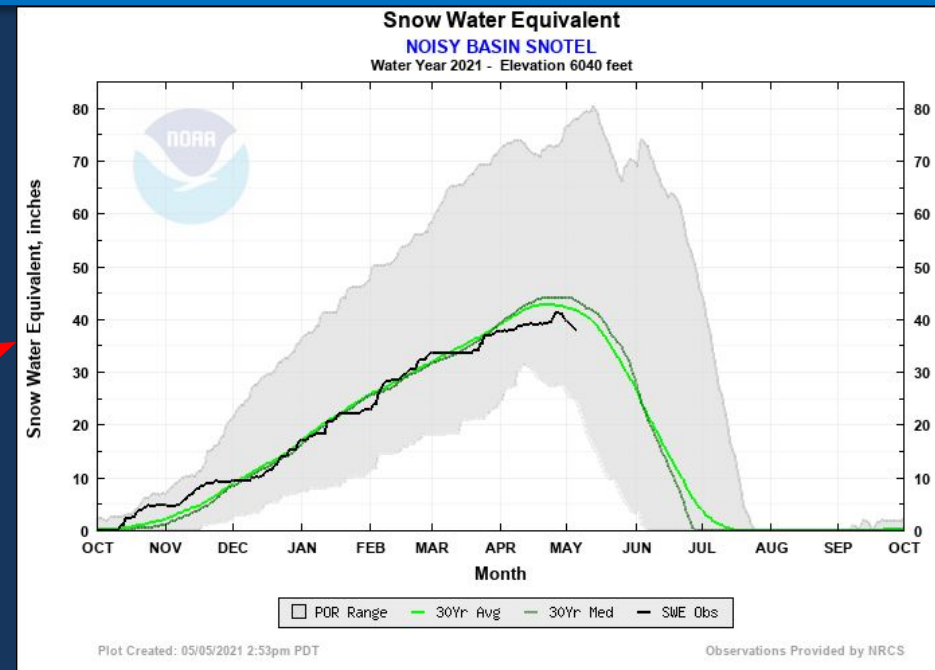
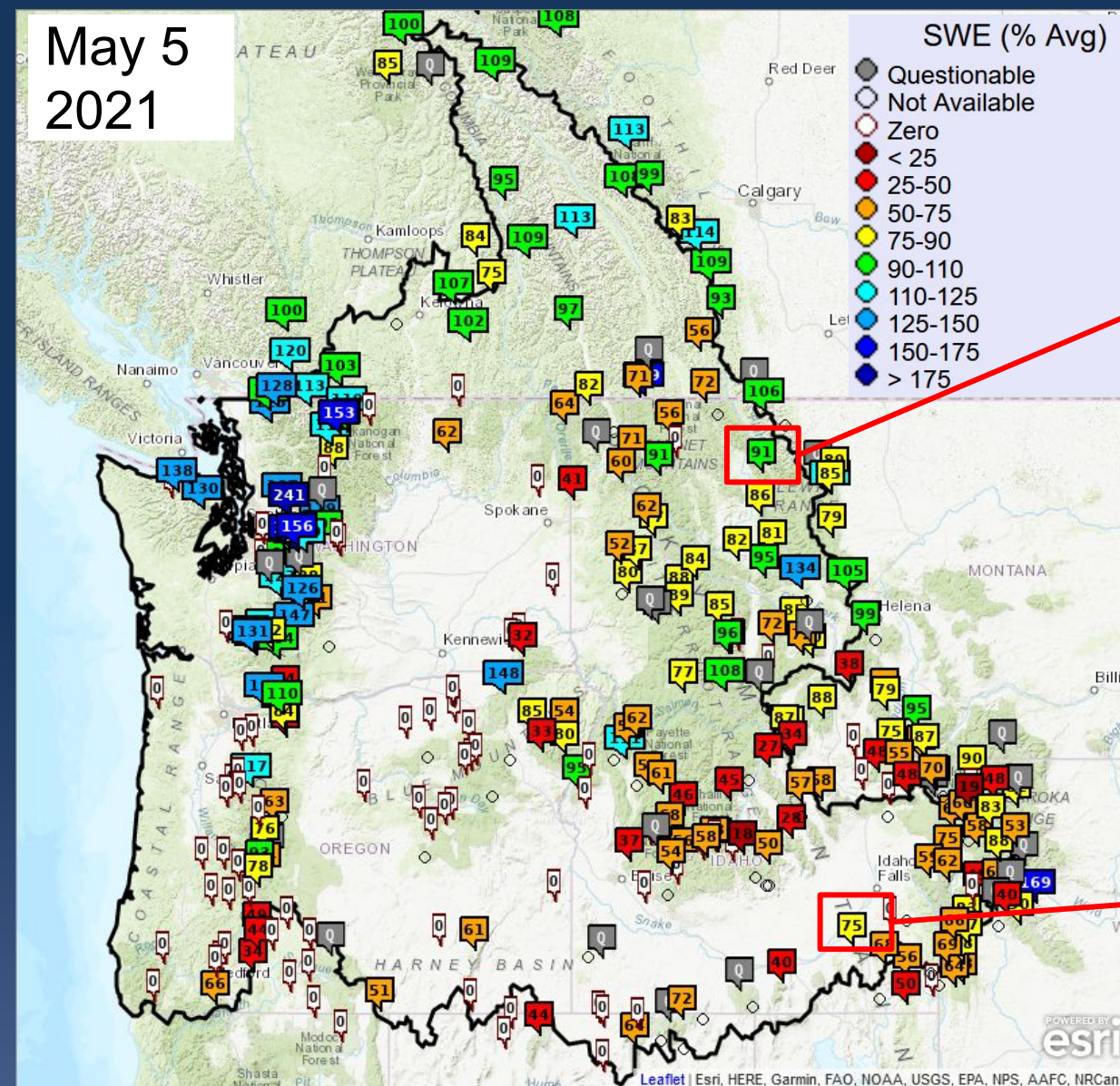
May 5
2021



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

Snowpack

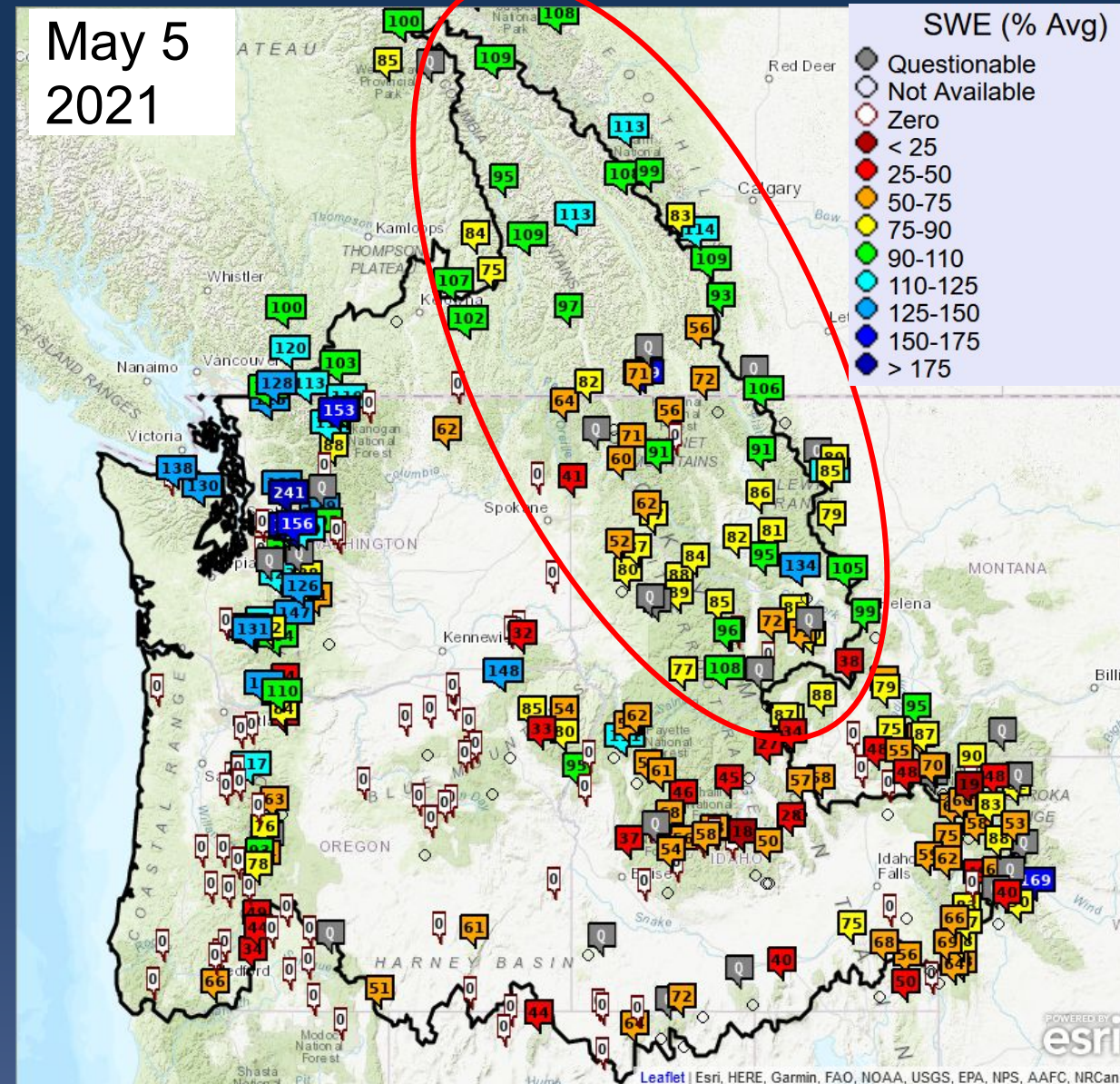
May 5
2021



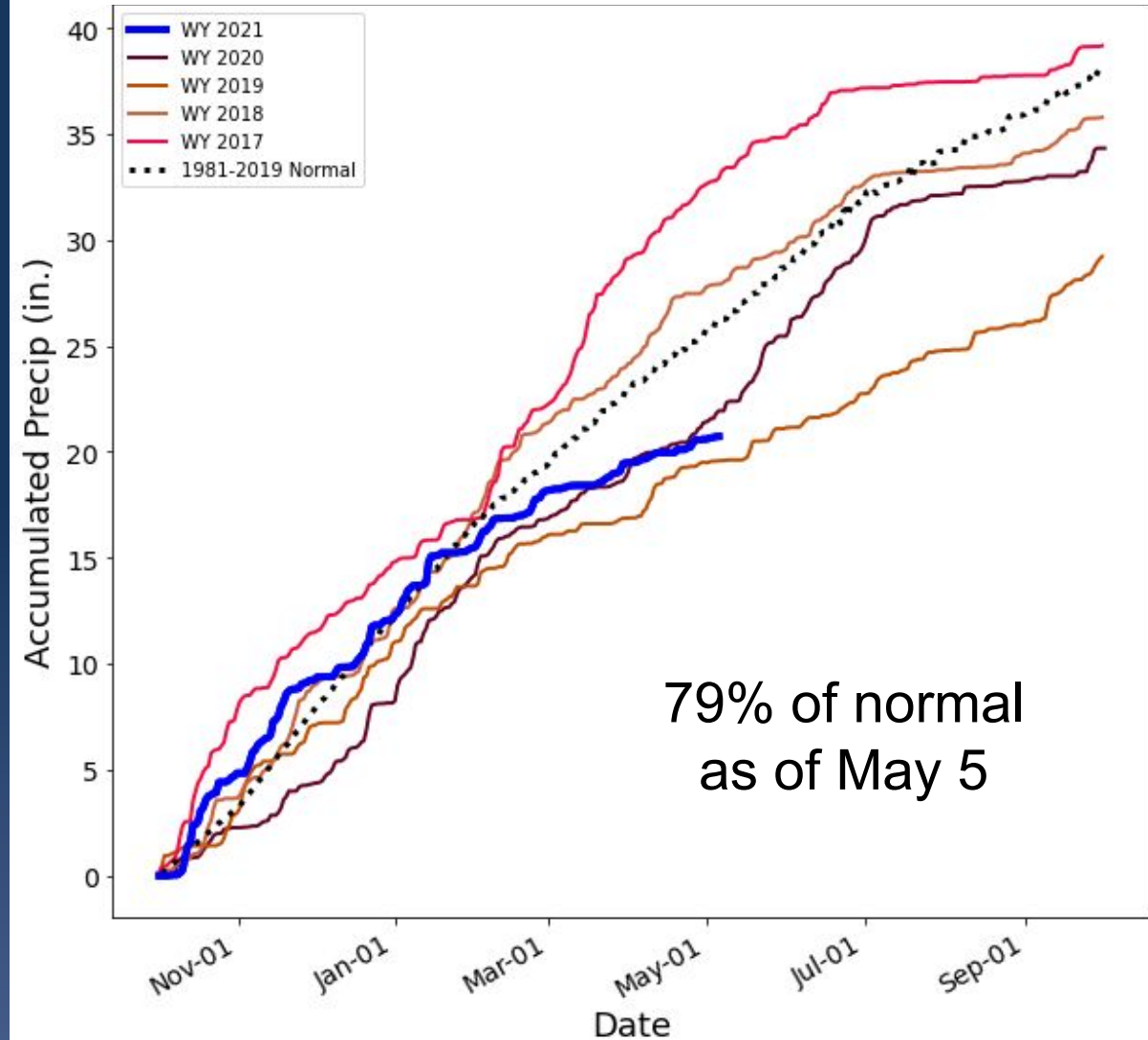
Snow data from NRCS, BC Hydro, and Alberta EP.

Snowpack and Seasonal Precipitation

May 5
2021

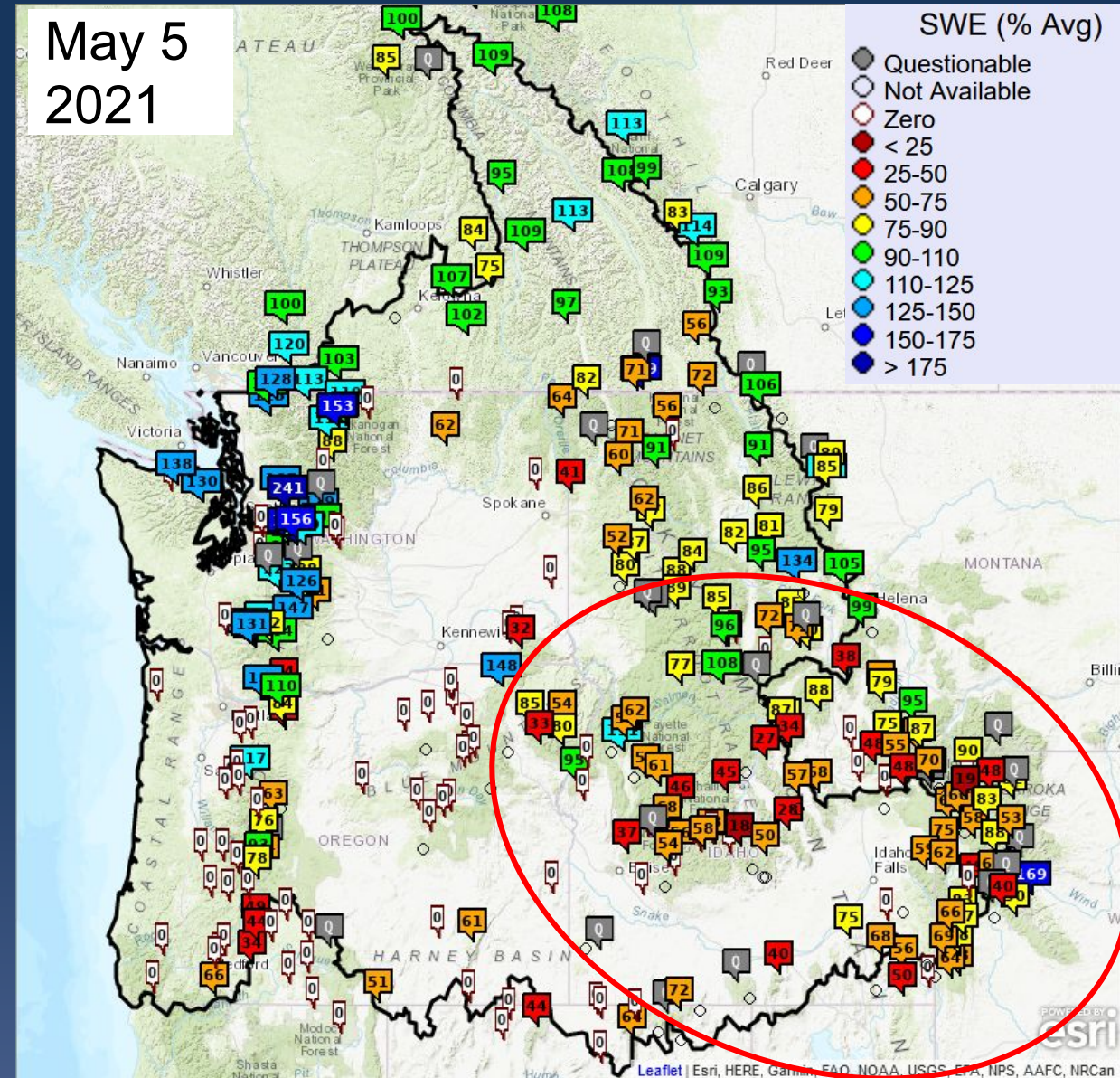


Upper Columbia

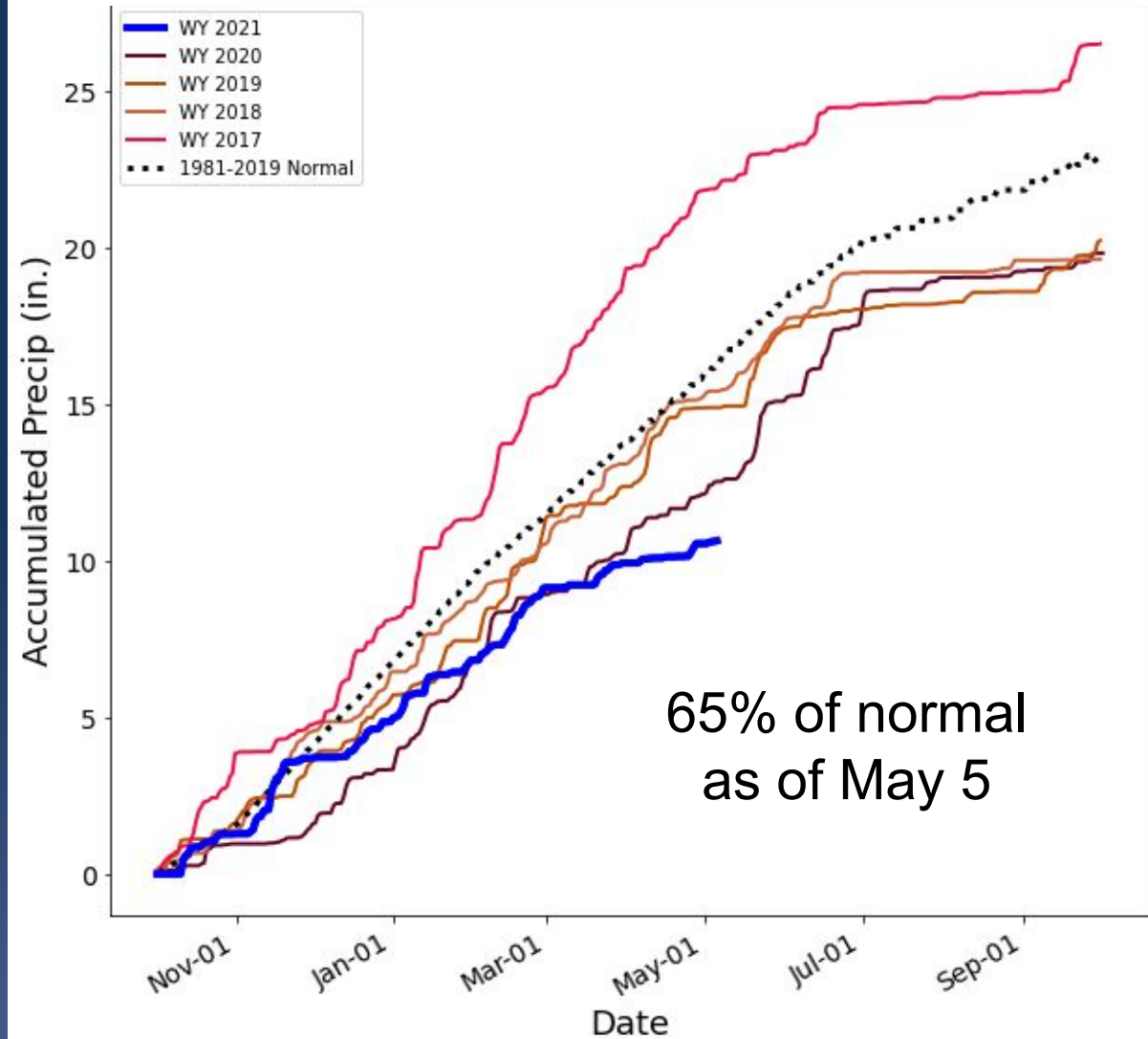


Snowpack and Seasonal Precipitation

May 5
2021

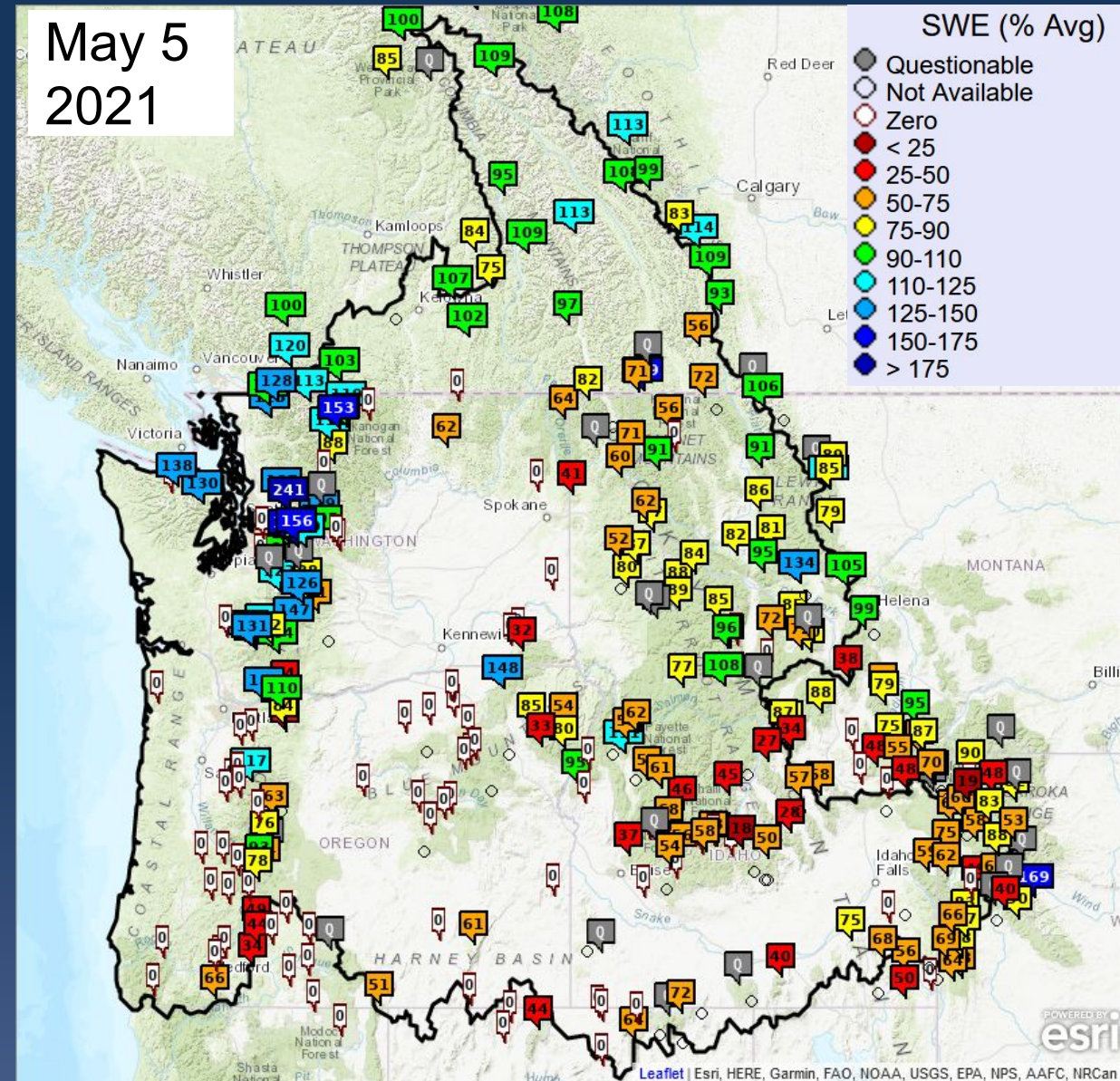


Snake River

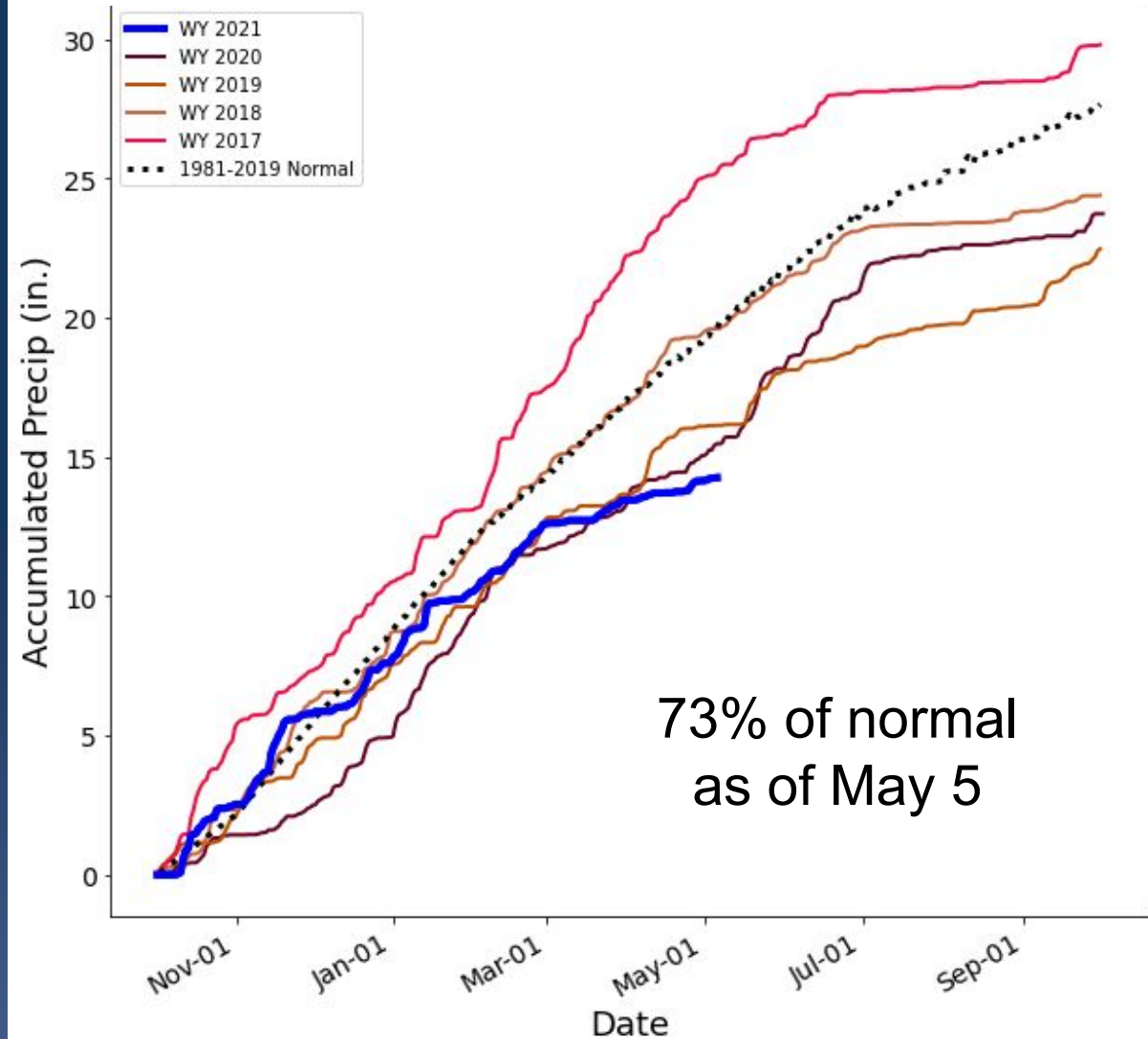


Snowpack and Seasonal Precipitation

May 5
2021



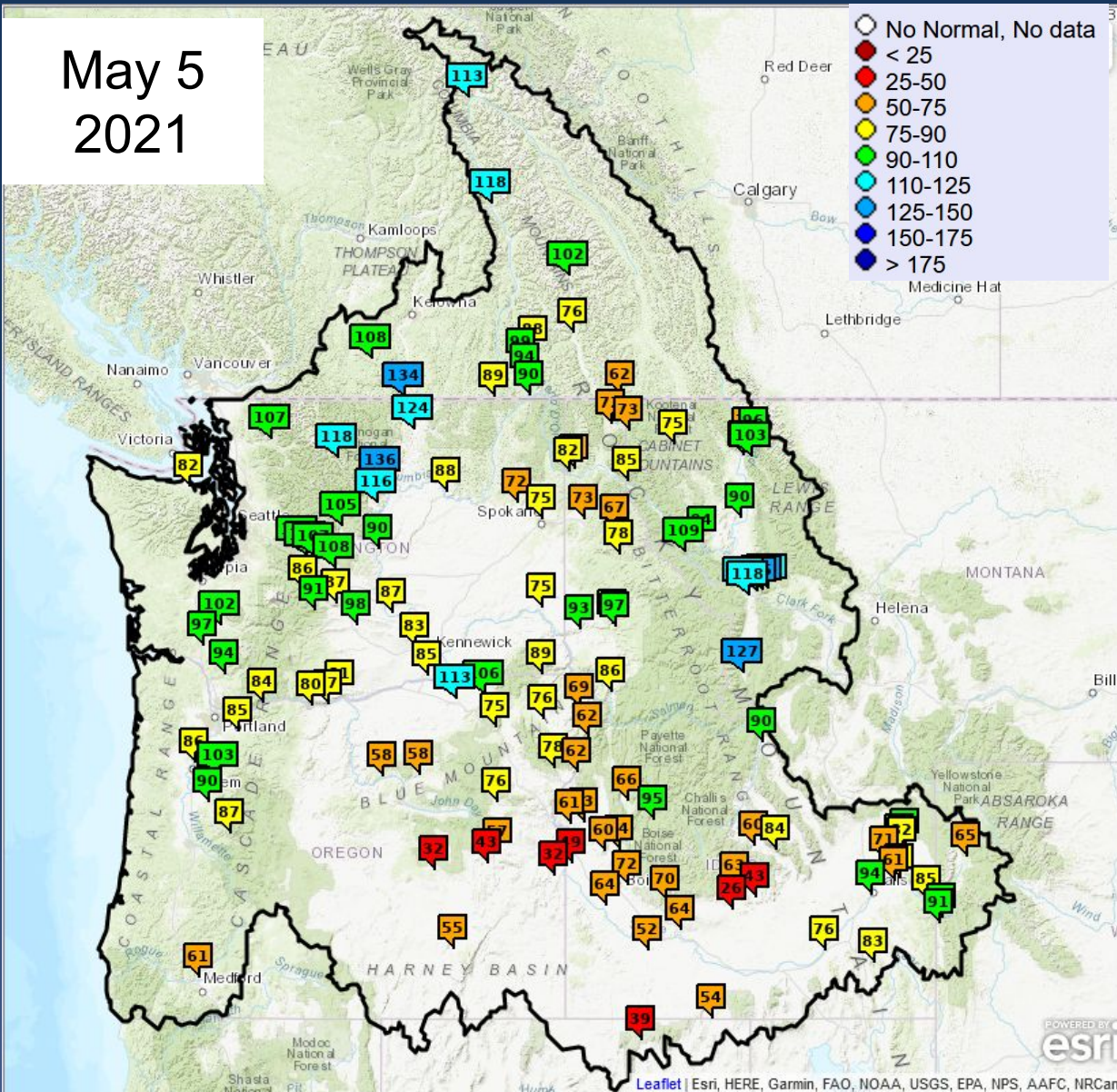
Columbia River above The Dalles





Water Year (WY) to Date Adjusted Runoff - East

May 5
2021



% Normal Runoff Oct 1- May 5

Upper Columbia Basin

Δ (since Apr 1)

Mica	113	-10
Duncan	102	-13
Queens Bay	76	-7
Libby	75	-6
Hungry Horse	103	-13
Grand Coulee	88	-8

Snake River Basin

American Falls	76	-8
Lucky Peak	72	-4
Dworshak	84	+5
Lower Granite	75	--

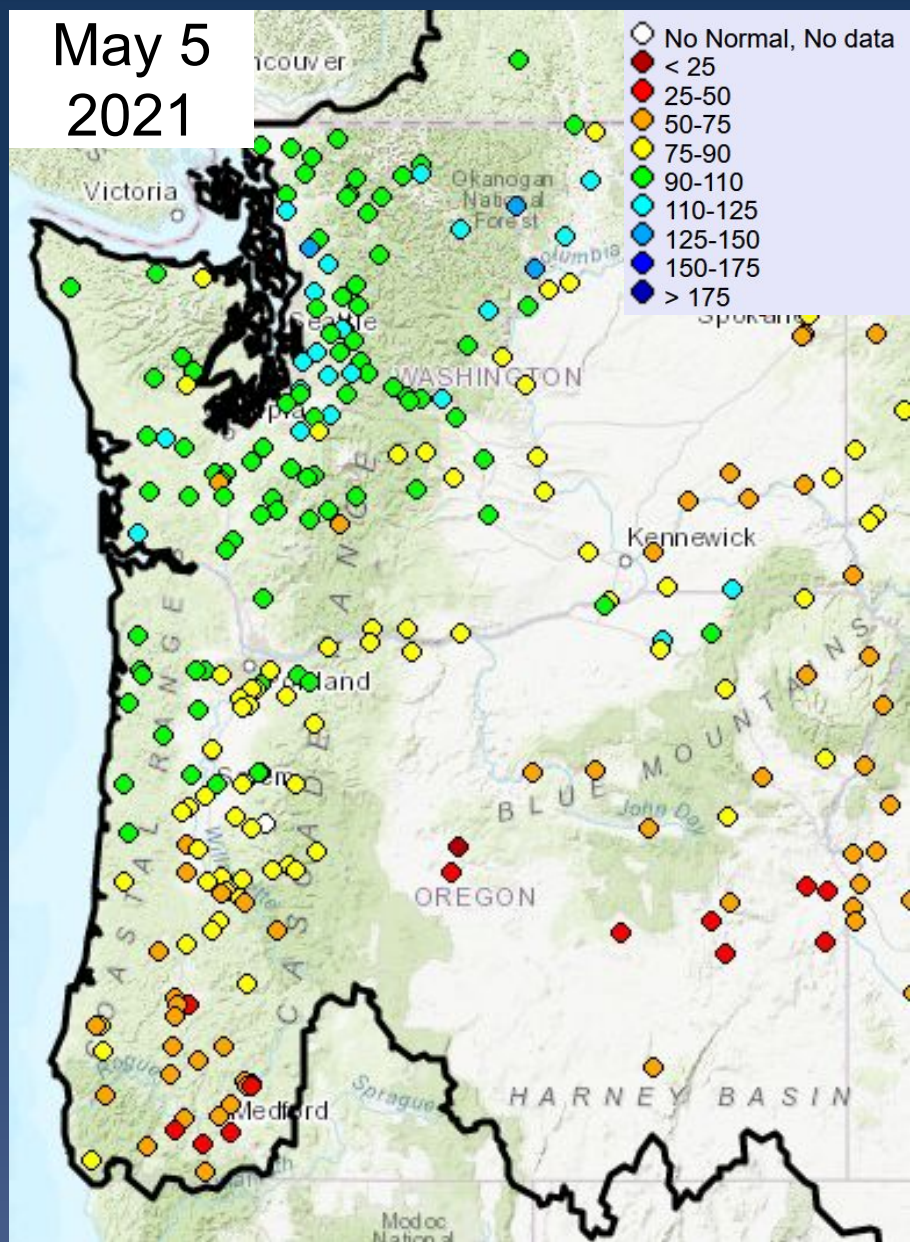
Lower Columbia Basin

The Dalles	80	-2
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WY to Date Adjusted Natural Runoff - OR,WA

May 5
2021



% Normal Runoff Oct 1- May 5

Washington

Δ (since Apr 1)

Skagit nr Mt Vernon	110	-4
Dungeness nr Sequim	81	--
Chehalis at Porter	103	-6
Okanogan at Malott	124	--
Methow nr Pateros	132	+9
Yakima at Parker	96	+3
Walla Walla nr Touchet	88	-3

Oregon

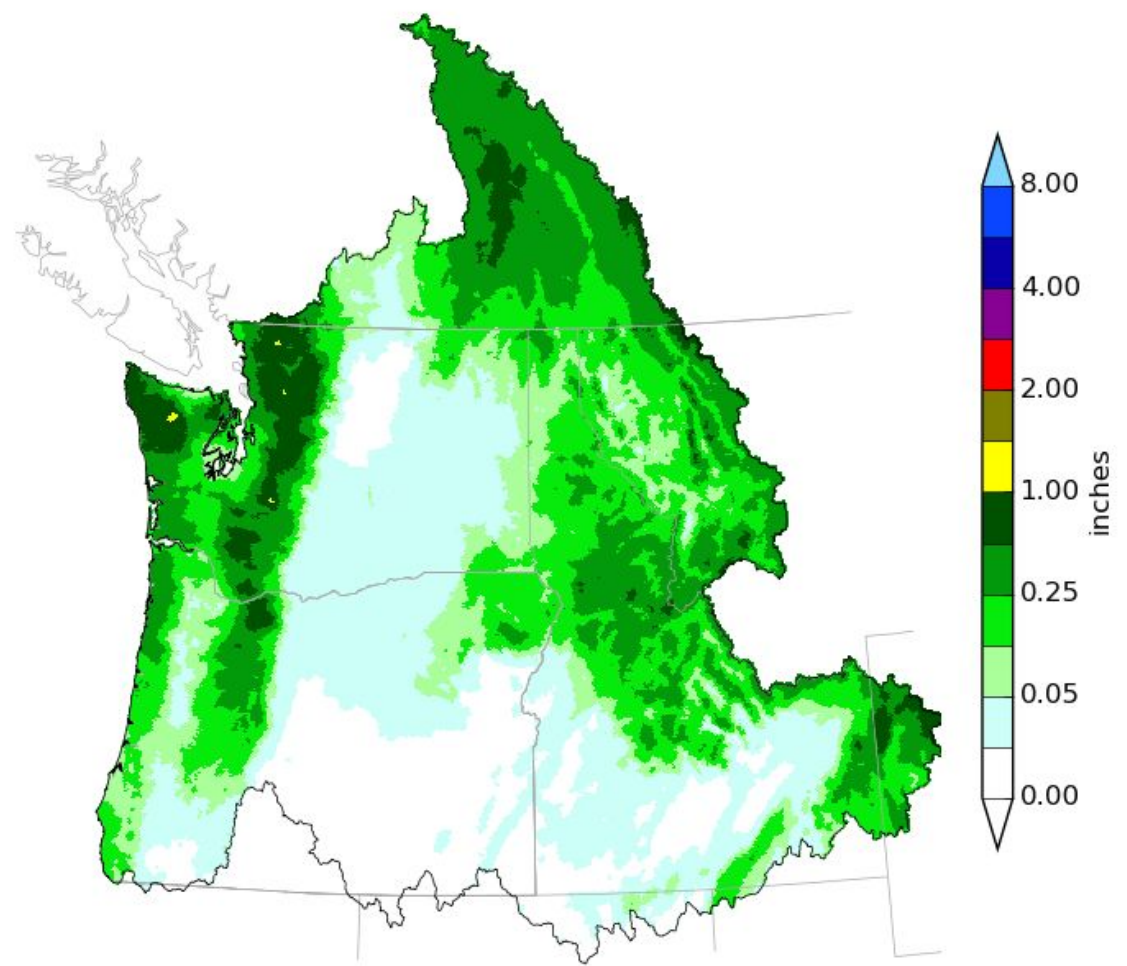
Willamette at Salem	77	-4
Rogue at Raygold	61	-2
Umatilla at Pendleton	113	+11
Grande Ronde at Troy	88	+6
Owyhee Dam	39	+2



Precipitation Forecast (May 5 - May 15)



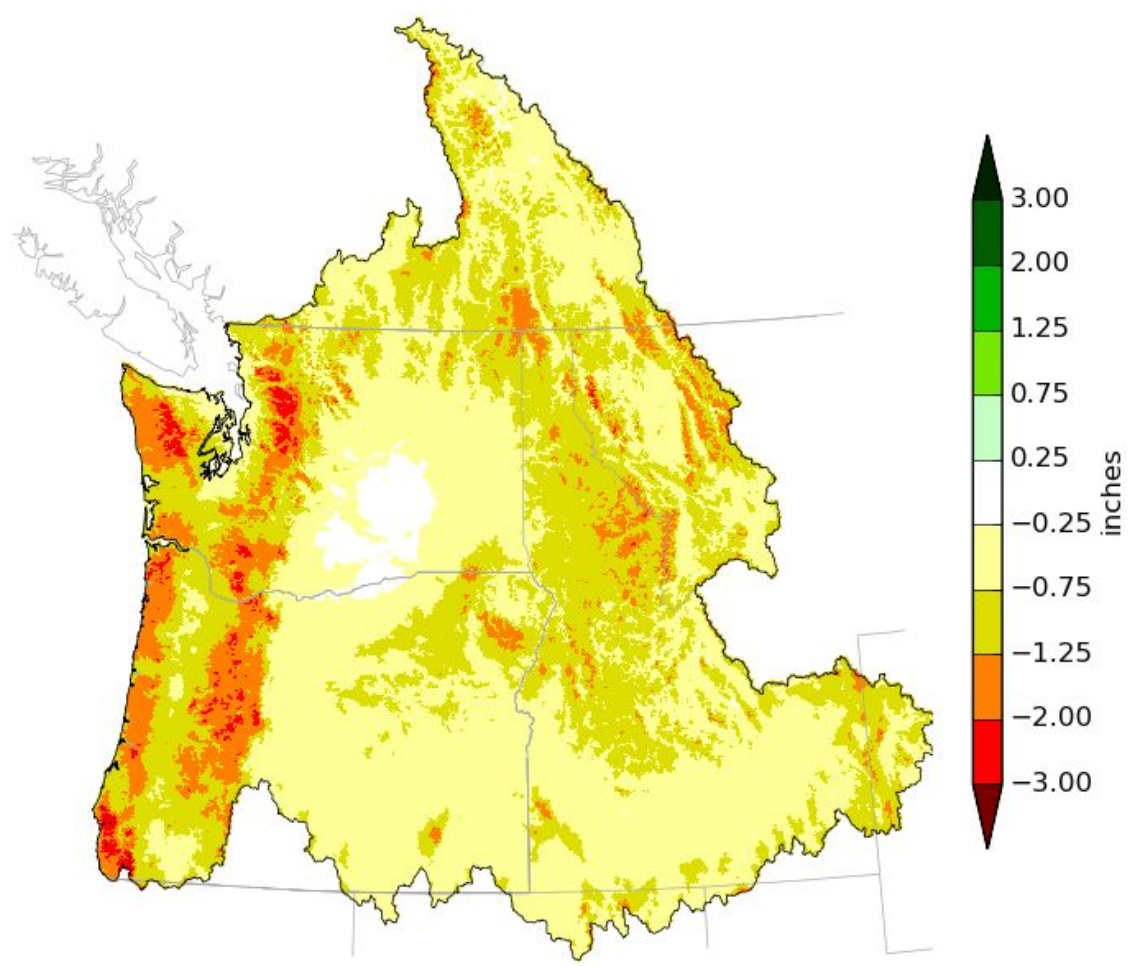
Northwest River Forecast Center
10 Day QPF, Ending 12Z, 05/15/21



Creation Time: Wed May 5 21:38:06 UTC 2021



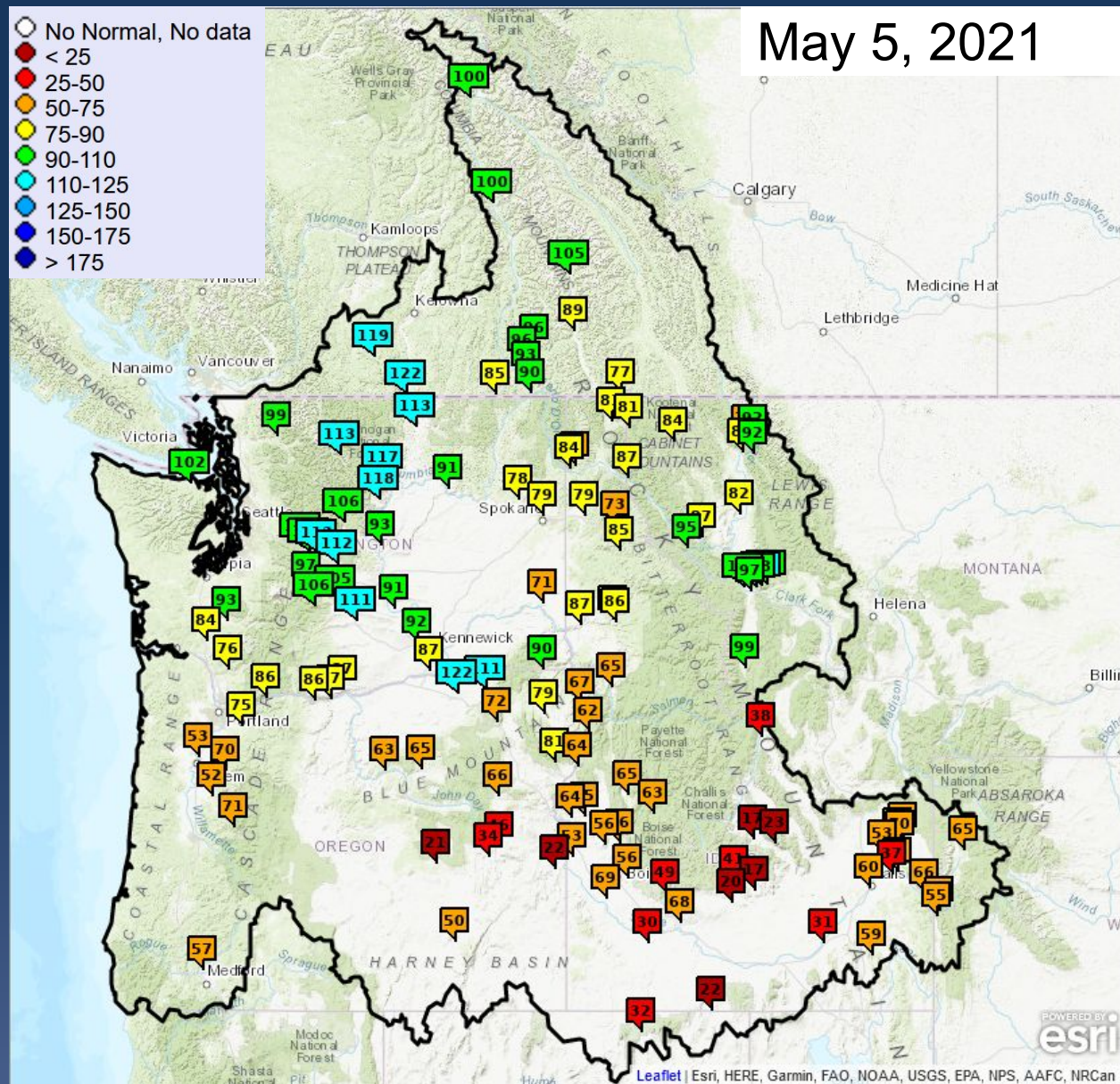
Northwest River Forecast Center
10 Day QPF (Deviation from Climatology), Ending 12Z, 05/15/21



Creation Time: Wed May 5 21:39:26 UTC 2021



ESP10 Water Supply Forecasts - East



% Normal Apr-Sep Volume

Upper Columbia Basin

Δ (since Apr 1)

Mica	100	-5
Duncan	105	-6
Queens Bay	89	-5
Libby	84	-4
Hungry Horse	92	+2
Grand Coulee	91	-6

Snake River Basin

American Falls	31	-22
Lucky Peak	56	-12
Dworshak	88	-5
Lower Granite	71	-8

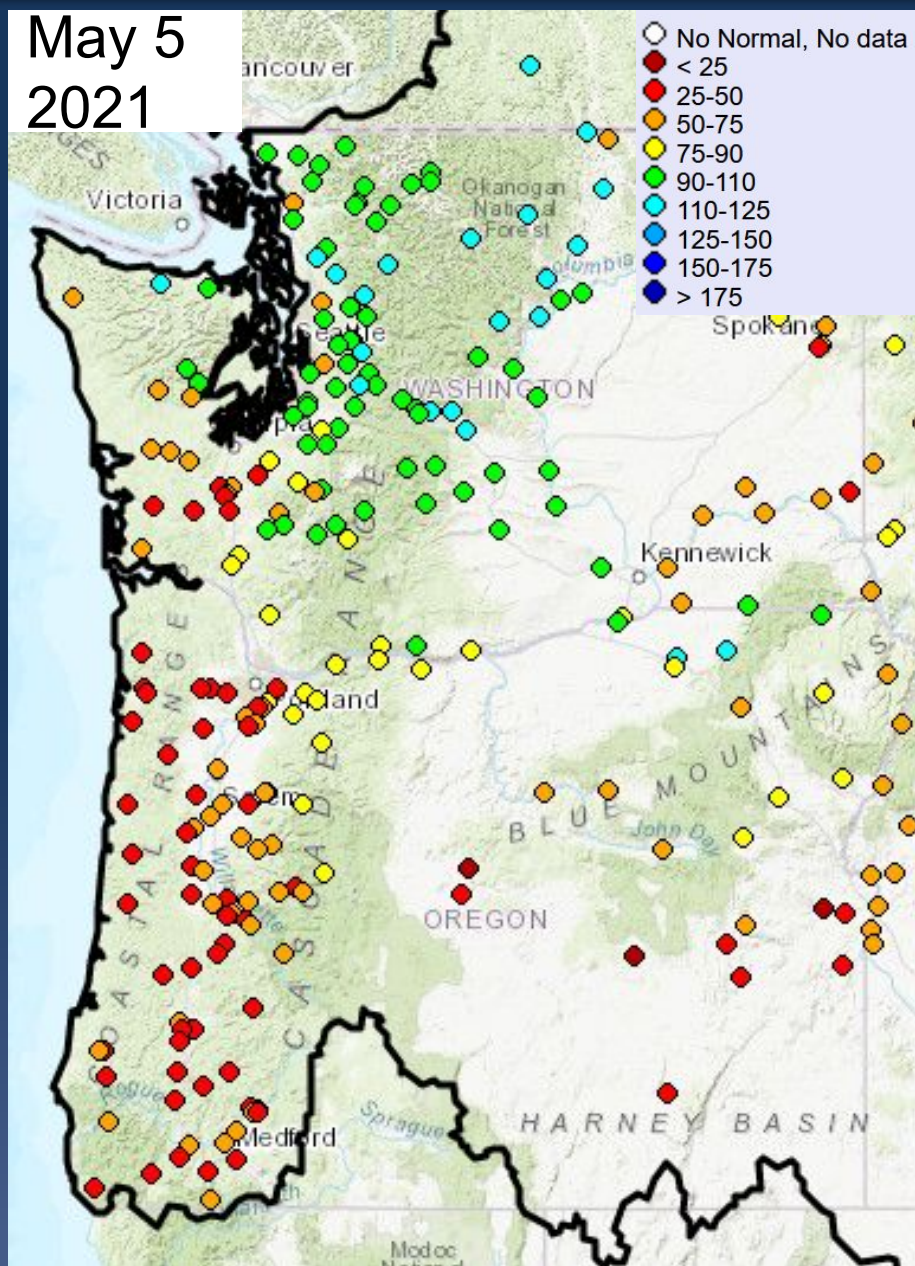
Lower Columbia Basin

The Dalles	86	-5
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ESP10 Natural Forecasts - OR, WA

May 5
2021



% Normal Apr -Sep Vol

Washington

		<u>Δ (since Apr 1)</u>
Skagit nr Mt Vernon	99	-6
Dungeness nr Sequim	102	+6
Chehalis at Porter	55	-18
Okanogan at Malott	111	+7
Methow nr Pateros	117	+7
Yakima at Parker	104	-9
Walla Walla nr Touchet	73	-11

Oregon

Willamette at Salem	54	-17
Rogue at Raygold	59	-13
Umatilla at Pendleton	119	-10
Grande Ronde R at Troy	90	-12
Owyhee Dam	34	+2



ESP10 Apr-Sep Water Supply Forecasts

COLUMBIA - GRAND COULEE DAM (GCDW1) Forecasts for Water Year 2021

Official Water Supply

ESP with 10 Days QPF Ensemble: 2021-05-05 Issued: 2021-05-05

Forecast Period	Forecasts Are in KAF				30 Year Average (1981-2010)
	90 %	50 %	% Average	10 %	
APR-SEP	51930	54621	91	59840	60110
APR-JUL	42339	44932	88	49673	51015
APR-AUG	47588	50446	89	56206	56763
JAN-SEP	59182	61872	90	67092	68694
JAN-JUL	49591	52183	88	56925	59599
OCT-SEP	67968	70658	92	75877	76824

Experimental Water Supply

HEFS with 15 days EQPF Ensemble: 2021-05-05 Issued: 2021-05-05

APR-SEP	52344	56281	94	62011	60110
APR-JUL	43987	46870	92	52210	51015
APR-AUG	49240	52753	93	58418	56763
JAN-SEP	59596	63533	92	69262	68694
JAN-JUL	51239	54121	91	59461	59599
OCT-SEP	68382	72319	94	78048	76824

Reference

ESP with 0 Days QPF Ensemble: 2021-05-05 Issued: 2021-05-05

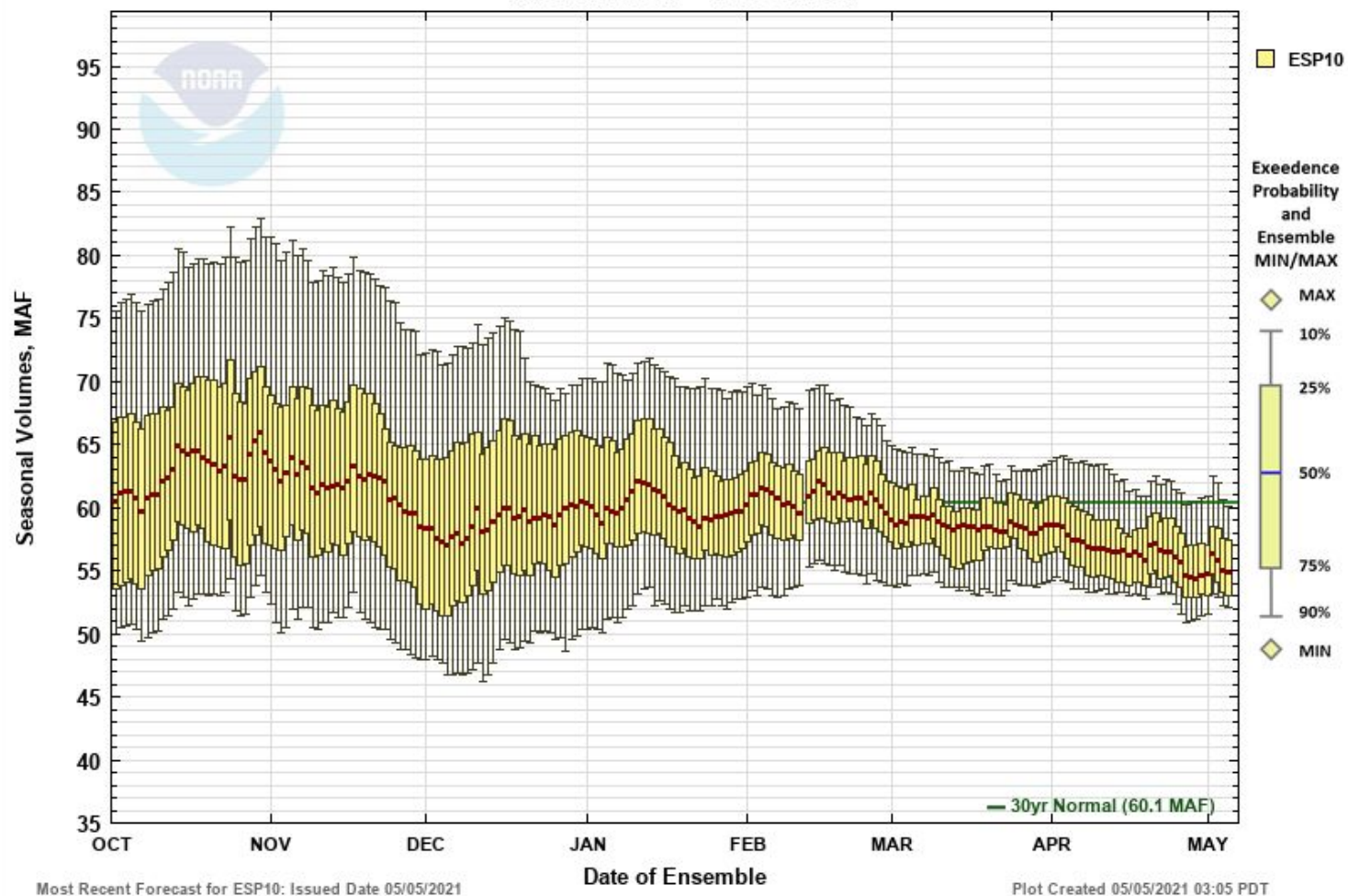
APR-SEP	52083	55941	93	61291	60110
APR-JUL	43484	46313	91	51333	51015
APR-AUG	49195	52267	92	57792	56763
JAN-SEP	59335	63193	92	68542	68694
JAN-JUL	50735	53565	90	58585	59599
OCT-SEP	68120	71979	94	77328	76824

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

Water Supply Forecasts

COLUMBIA - GRAND COULEE DAM

Period APR to SEP -- Water Year 2021



☐ 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 2021

Official Water Supply

ESP with 10 Days QPF Ensemble: 2021-05-05 Issued: 2021-05-05

Forecast Period	Forecasts Are in KAF				30 Year Average (1981-2010)
	90 %	50 %	% Average	10 %	
APR-SEP	15193	15856	71	18332	22279
APR-JUL	13076	13634	69	15956	19848
APR-AUG	14129	14771	70	17133	21091
JAN-SEP	20470	21133	71	23609	29872
JAN-JUL	18353	18911	69	21233	27440
OCT-SEP	24567	25230	73	27706	34667

Experimental Water Supply

HEFS with 15 days EQPF Ensemble: 2021-05-05 Issued: 2021-05-05

APR-SEP	15234	16224	73	18973	22279
APR-JUL	13137	13948	70	16601	19848
APR-AUG	14186	15054	71	17783	21091
JAN-SEP	20512	21502	72	24251	29872
JAN-JUL	18414	19225	70	21879	27440
OCT-SEP	24609	25599	74	28348	34667

Reference

ESP with 0 Days QPF Ensemble: 2021-05-05 Issued: 2021-05-05

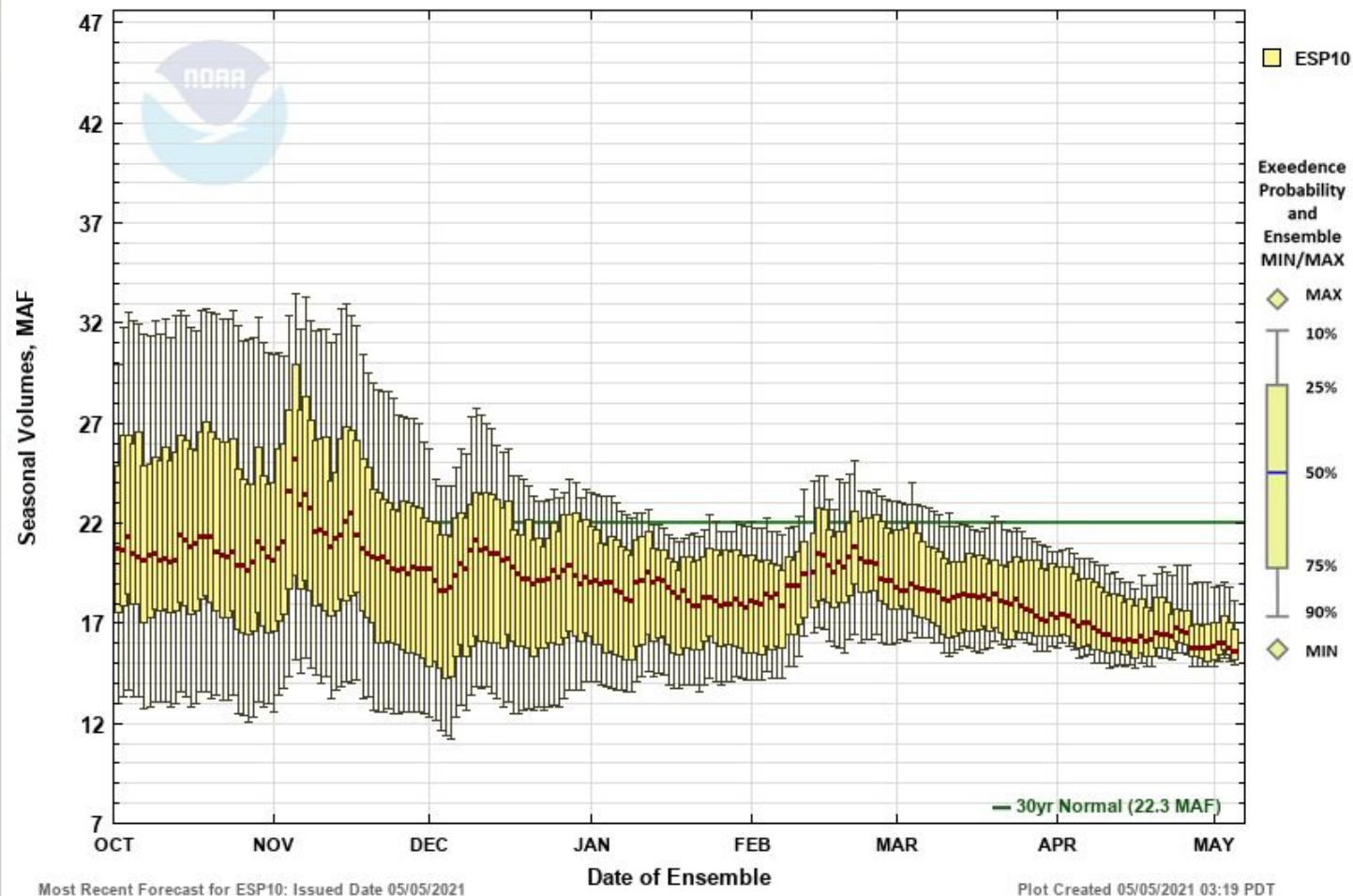
APR-SEP	15298	16427	74	19591	22279
APR-JUL	13228	14157	71	17110	19848
APR-AUG	14246	15234	72	18293	21091
JAN-SEP	20576	21704	73	24868	29872
JAN-JUL	18506	19434	71	22387	27440
OCT-SEP	24673	25801	74	28966	34667

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

Water Supply Forecasts

SNAKE - LOWER GRANITE DAM

Period APR to SEP -- Water Year 2021



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



ESP10 Apr-Sep Water Supply Forecasts

COLUMBIA - THE DALLES DAM (TDAO3) Forecasts for Water Year 2021

Official Water Supply

ESP with 10 Days QPF Ensemble: 2021-05-05 Issued: 2021-05-05

Forecast Period	Forecasts Are in KAF				30 Year Average (1981-2010)
	90 %	50 %	% Average	10 %	
APR-SEP	75965	79779	86	87248	92704
APR-JUL	63398	67030	84	74058	79855
APR-AUG	70549	74529	85	82229	87532
JAN-SEP	92197	96012	84	103481	114216
JAN-JUL	79631	83262	82	90290	101368
OCT-SEP	107367	111182	85	118651	130518

Experimental Water Supply

HEFS with 15 days EQPF Ensemble: 2021-05-05 Issued: 2021-05-05

APR-SEP	77749	81823	88	89963	92704
APR-JUL	65790	69674	87	76358	79855
APR-AUG	72611	76700	88	84474	87532
JAN-SEP	93982	98056	86	106195	114216
JAN-JUL	82023	85907	85	92591	101368
OCT-SEP	109152	113226	87	121365	130518

Reference

ESP with 0 Days QPF Ensemble: 2021-05-05 Issued: 2021-05-05

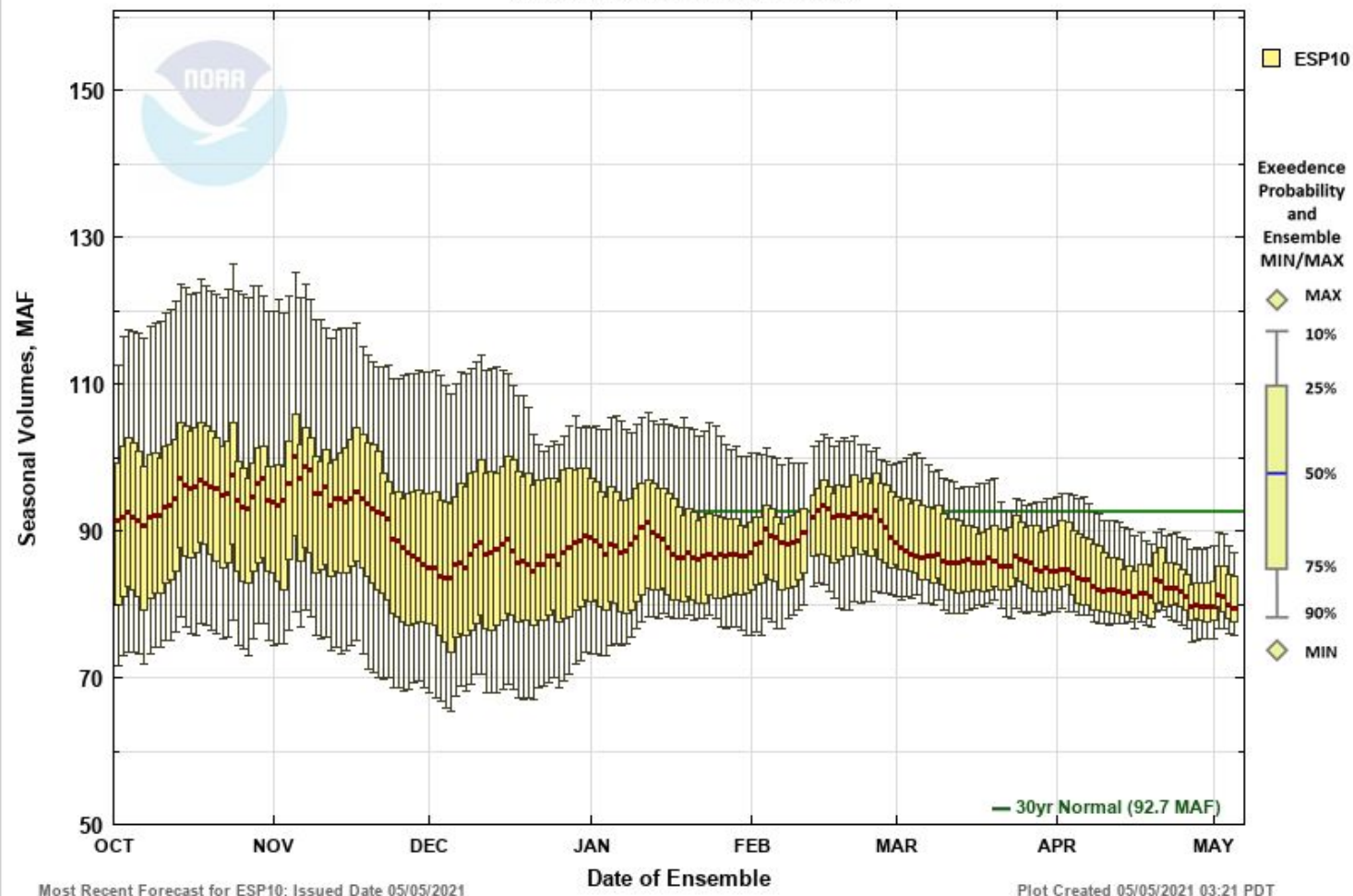
APR-SEP	77423	81791	88	89328	92704
APR-JUL	65395	69678	87	76834	79855
APR-AUG	72442	76625	88	84014	87532
JAN-SEP	93656	98024	86	105561	114216
JAN-JUL	81628	85910	85	93067	101368
OCT-SEP	108826	113194	87	120731	130518

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

Water Supply Forecasts

COLUMBIA - THE DALLES DAM

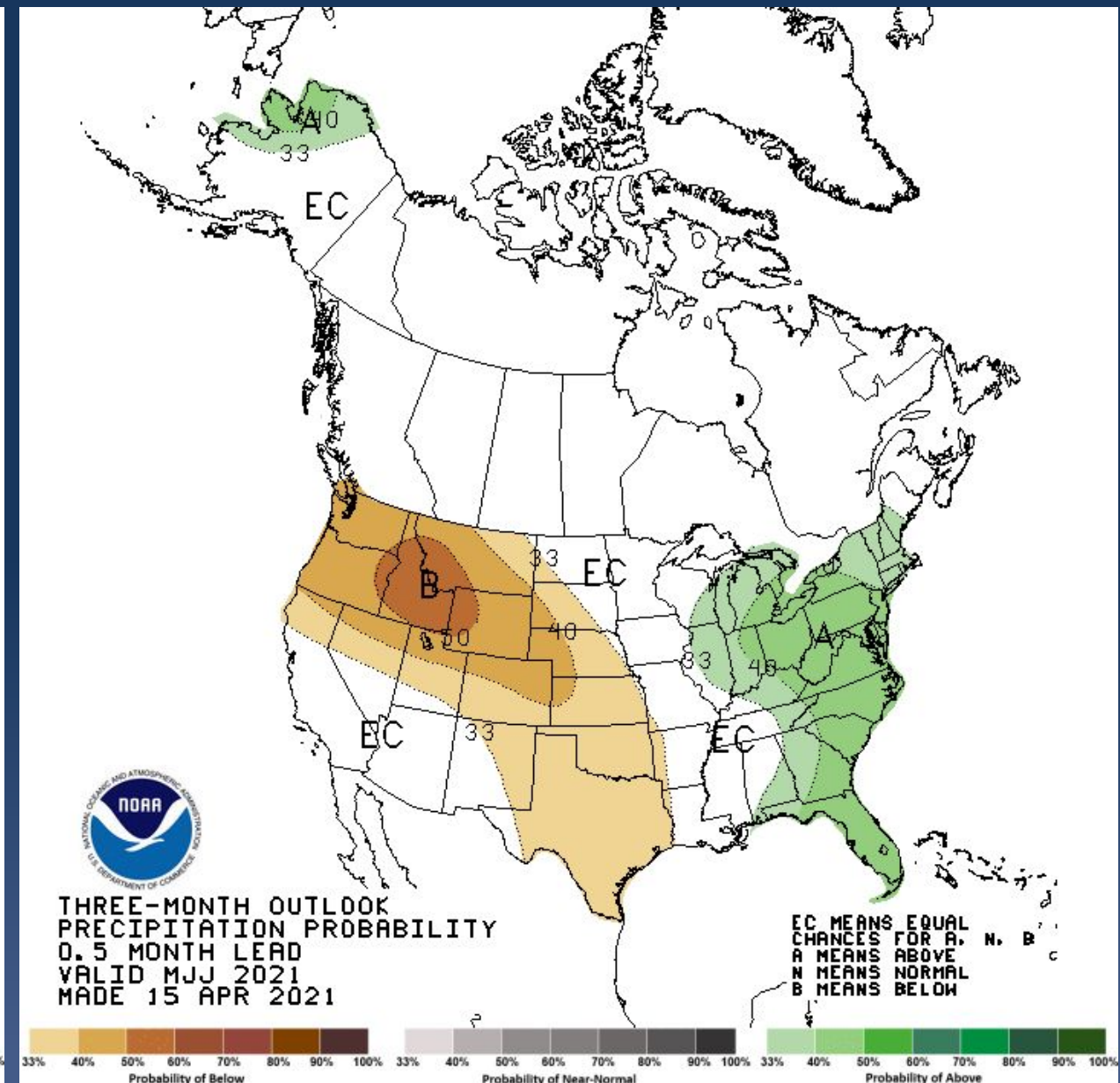
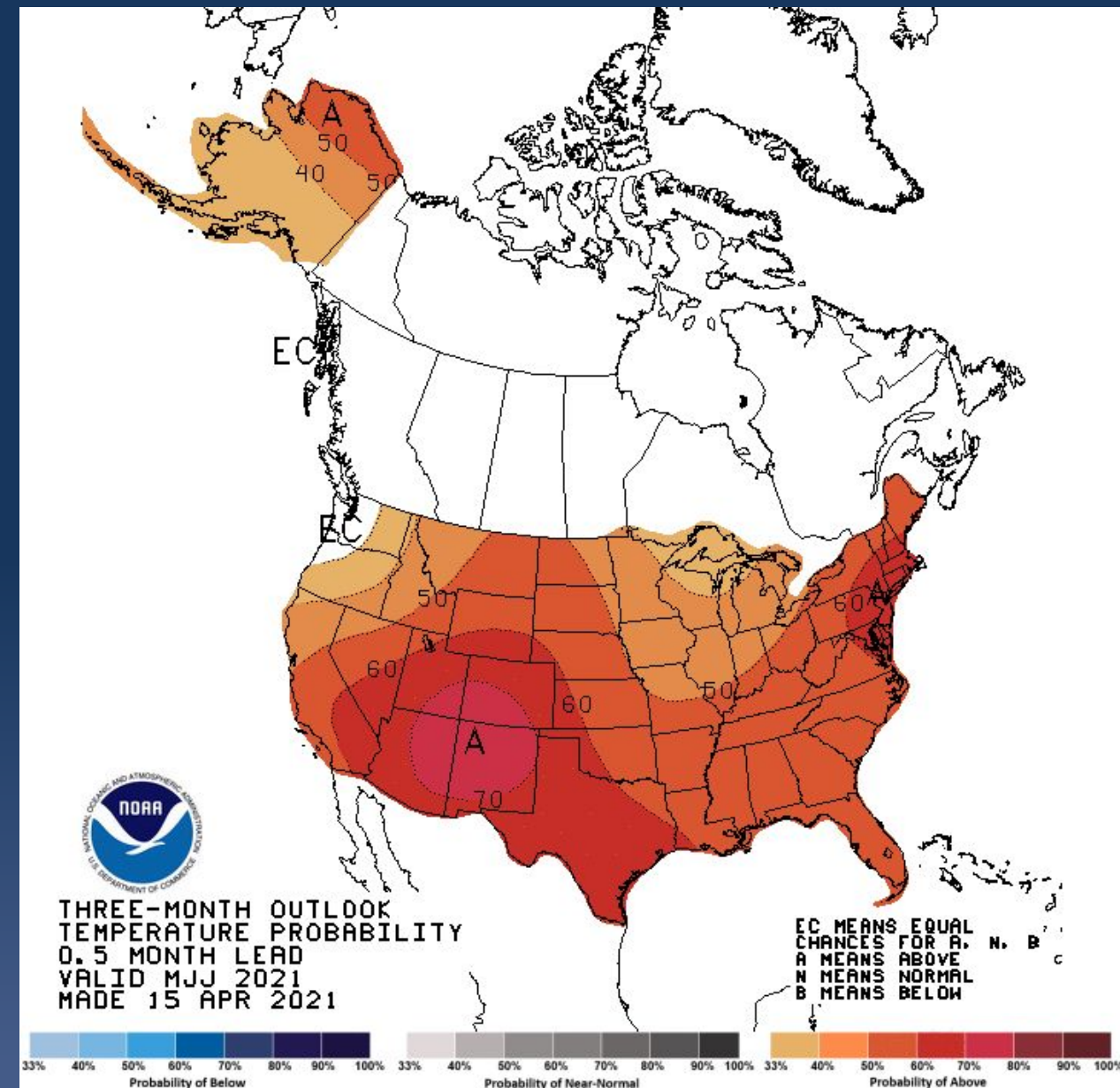
Period APR to SEP -- Water Year 2021



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



CPC Three-Month Outlook





Take Home Messages

Dry past two months brought seasonal precipitation down for the basin

- Most of the basin below normal for the water year

April saw above average temperatures for most of basin

- Snowmelt well underway across the basin

Water supply forecasts for April-September

- Decline in forecasts basin-wide
- Mixed near and below normal in the north
- Below normal in the south



Water Year 2021 Live Breifing Schedule

June

3

All presentations held at 10:00 am PST/PDT unless noted otherwise

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(same for each month's brief):
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Pass Code :
524-795-021#



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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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