Northwest River Forecast Center

January 2024 Water Supply Briefing

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Webinar Phone Number: (631) 992-3221
Audio Access Code: 966-003-112#

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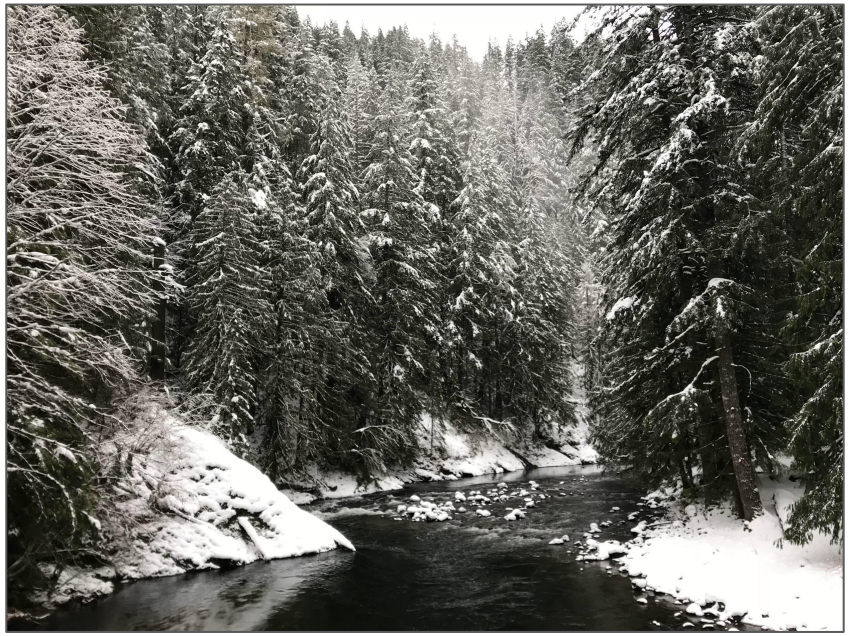
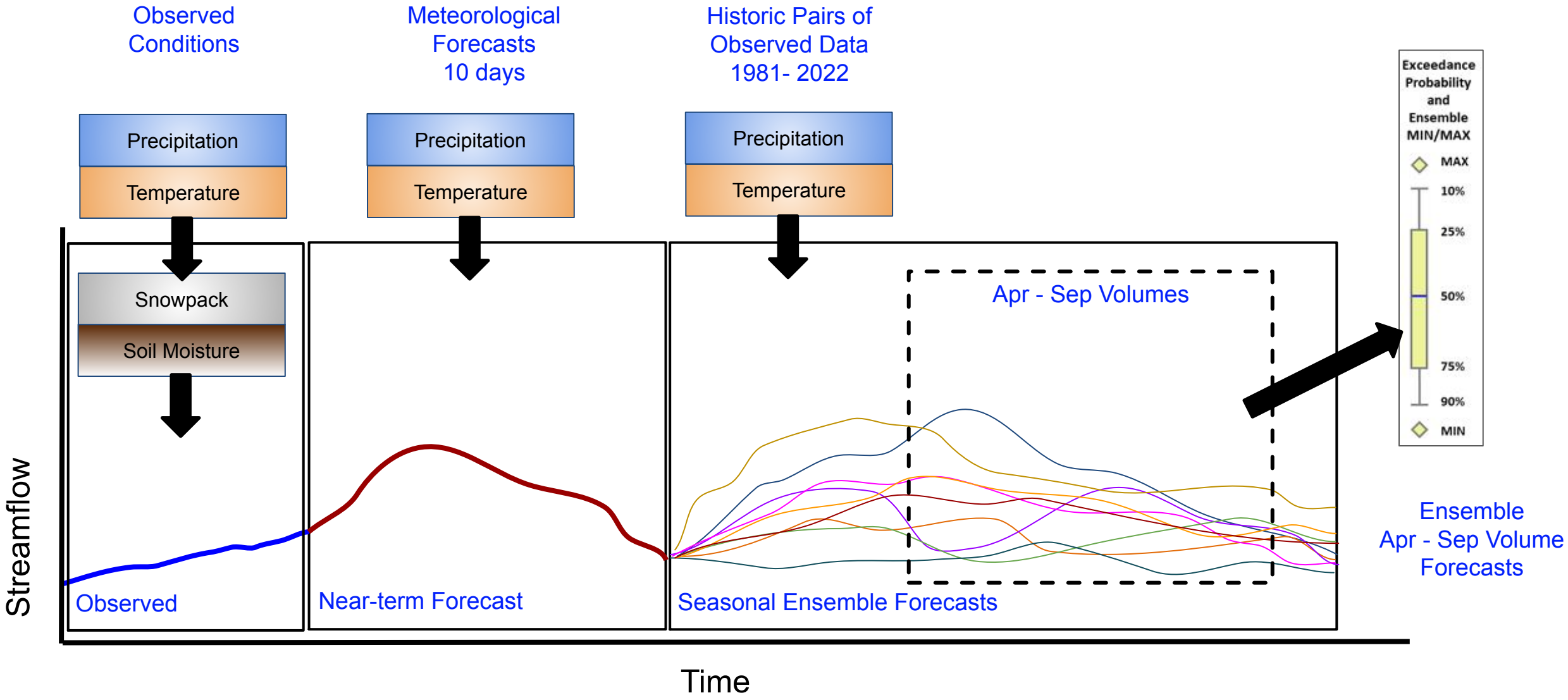


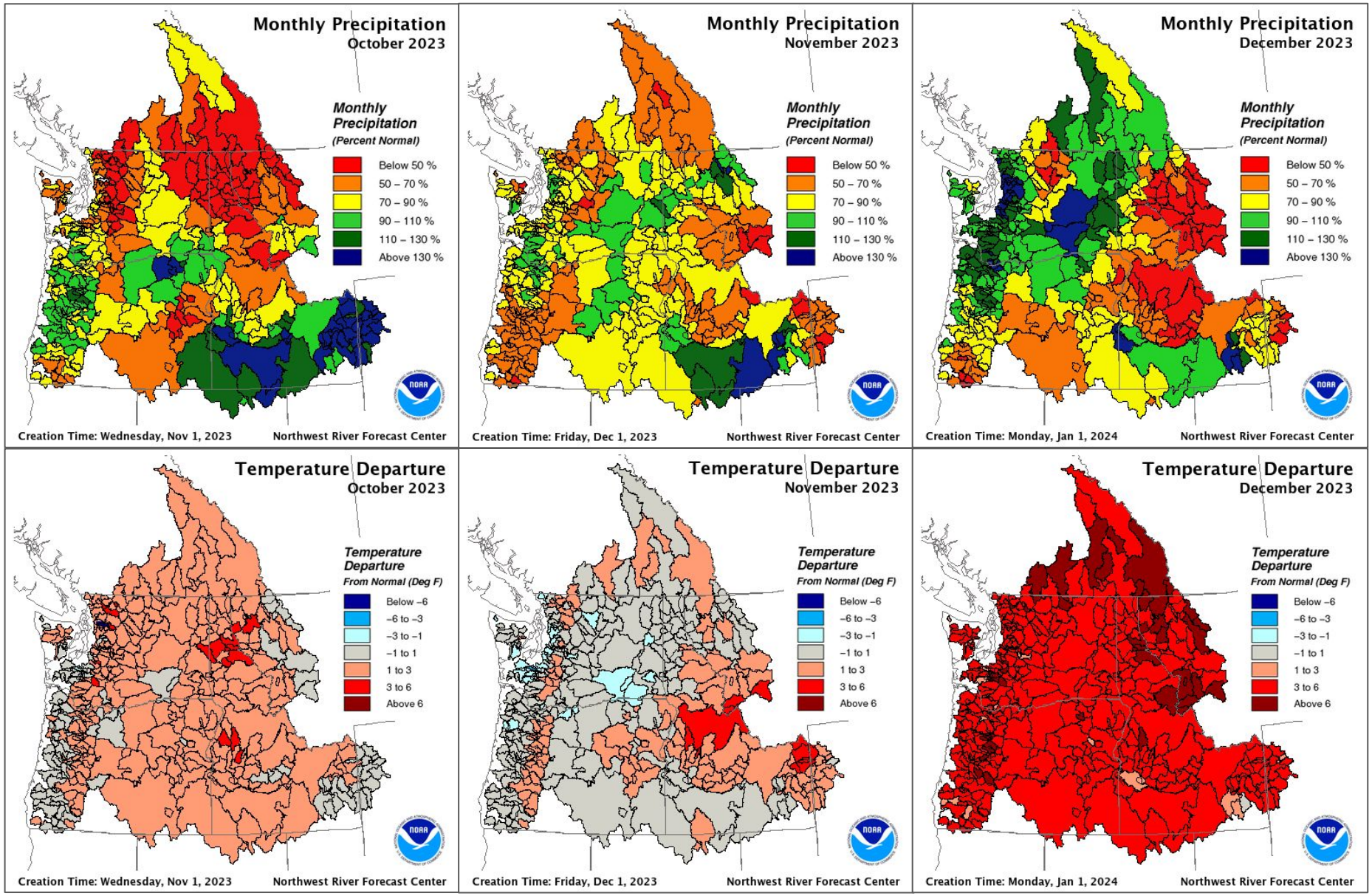
Takeaways

- Water year 2024 has been drier and warmer than normal
- Early season snowpacks are below normal
- Runoff volumes since October 1 are a mix of below and above normal
- Water supply forecasts are a mix of normal to below normal
- Precipitation and temperature 30 year normals updated to 1991-2020

NWRFC Forecast Technique: Ensemble Streamflow Prediction

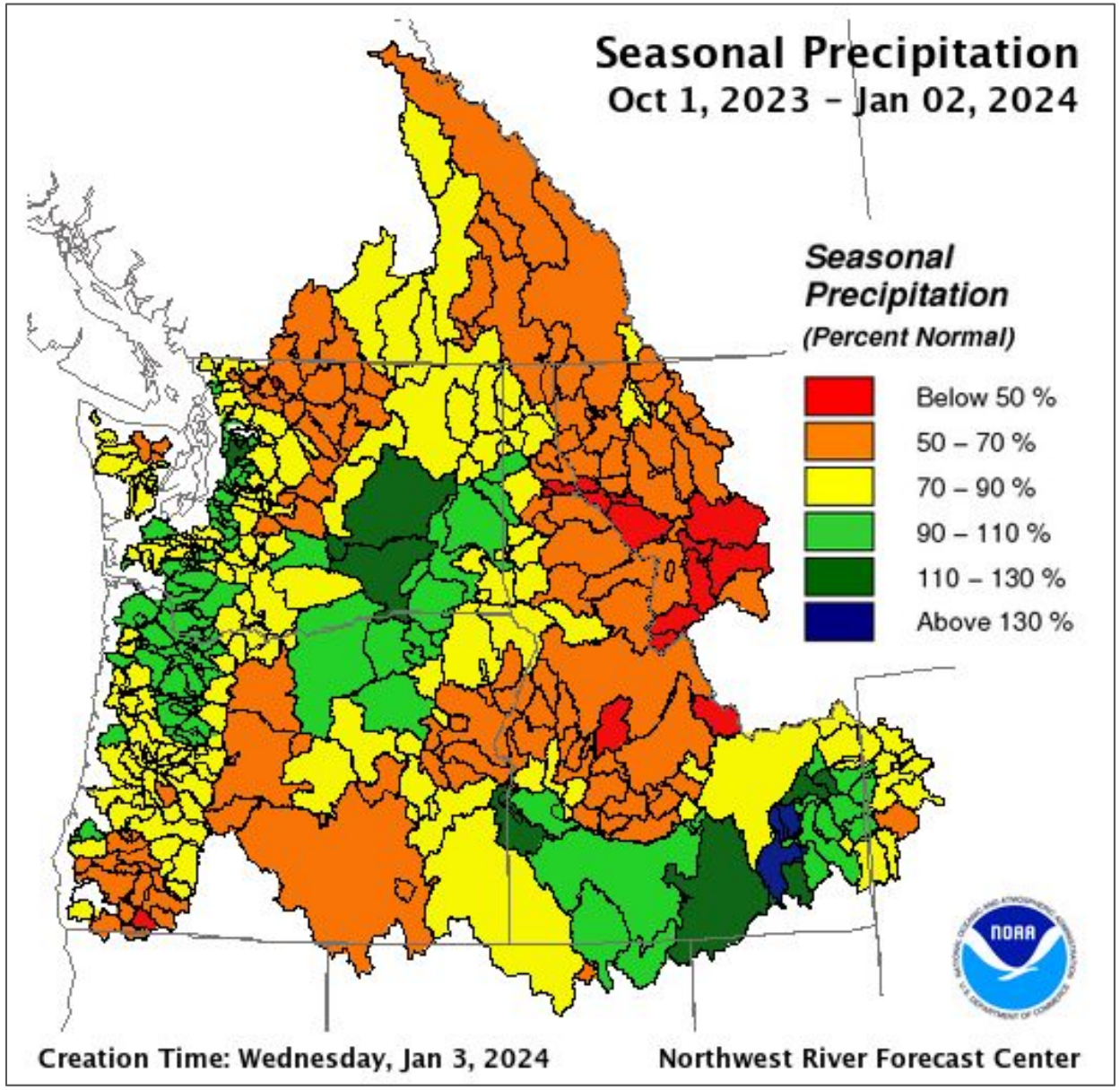


Monthly Precipitation and Temperature Departure



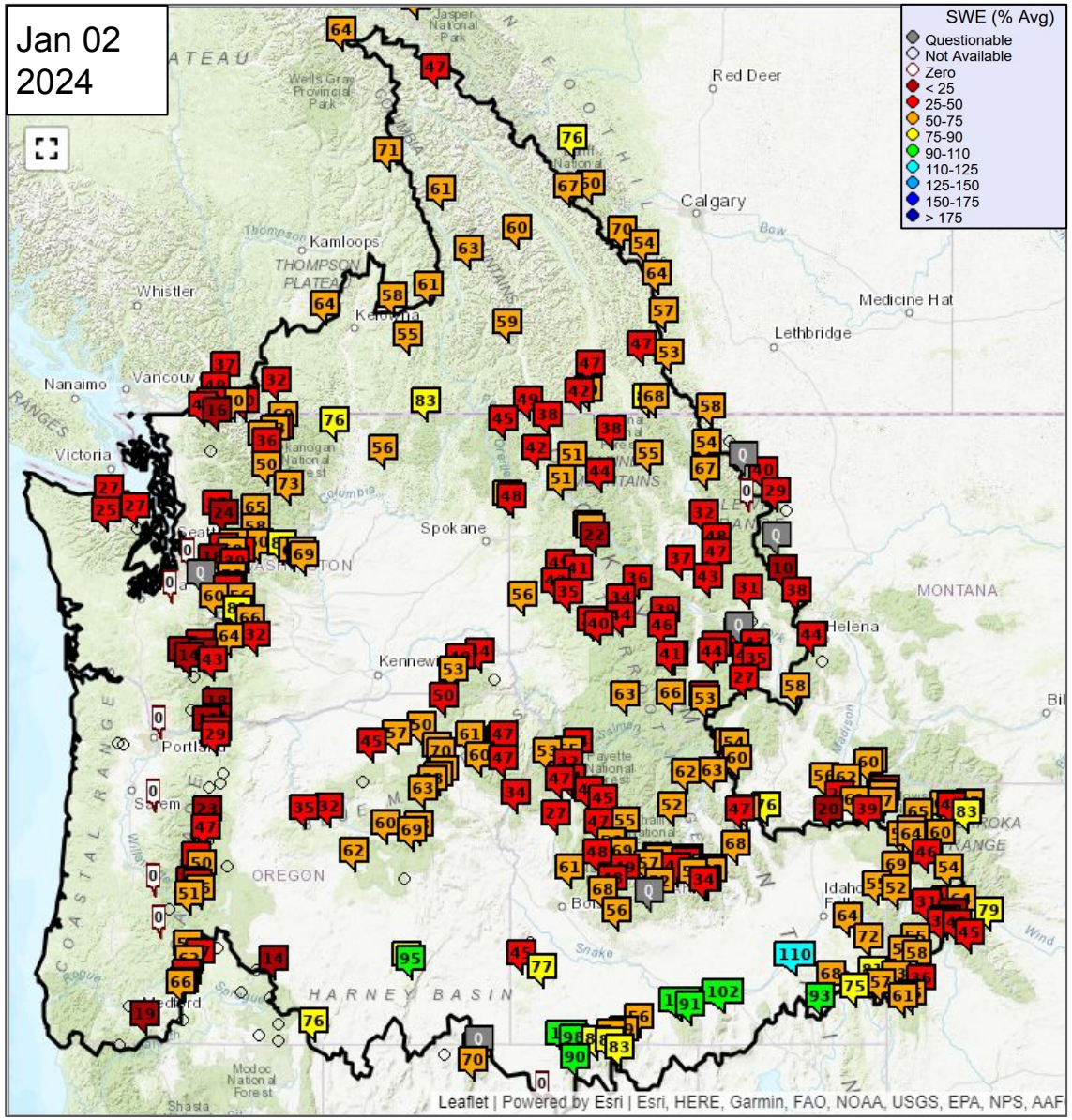
nwrfc.noaa.gov/water_supply/wy_summary/wy_summary.php?tab=2

Water Year to Date Precipitation



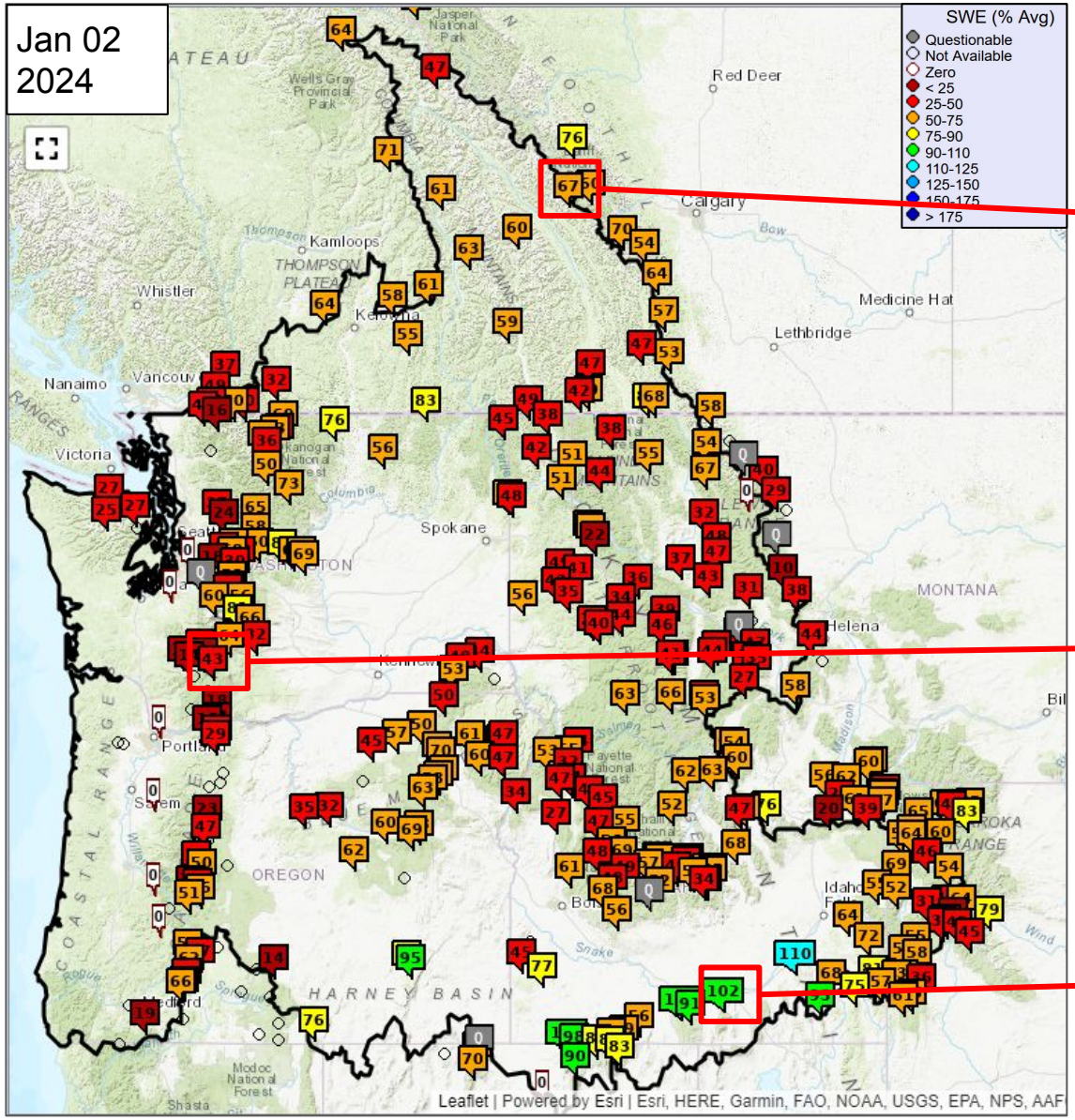
nwrfc.noaa.gov/water_supply/wy_summary/wy_summary.php?tab=2

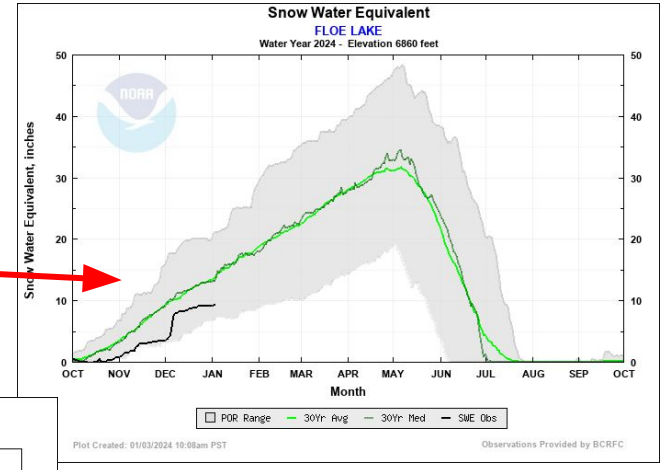
Snowpack

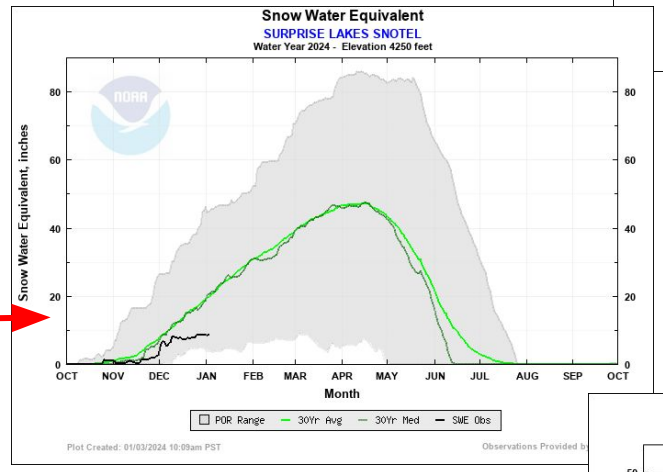


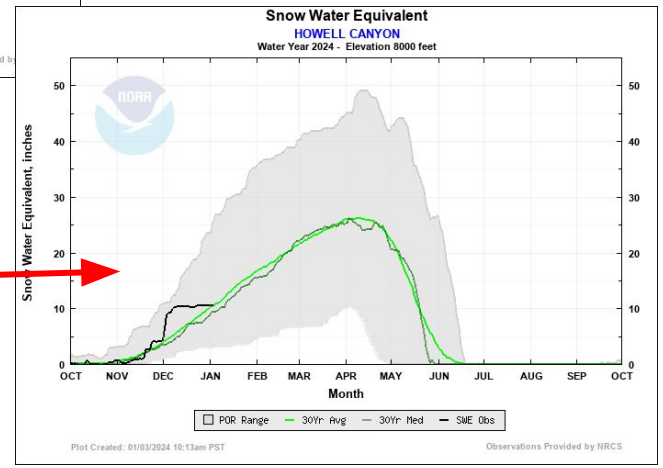
Snow data from Natural Resources Conservation Service, BC Hydro, Ministry of Environment and Climate Change Strategy, and Alberta Environment and Parks.

Snowpack









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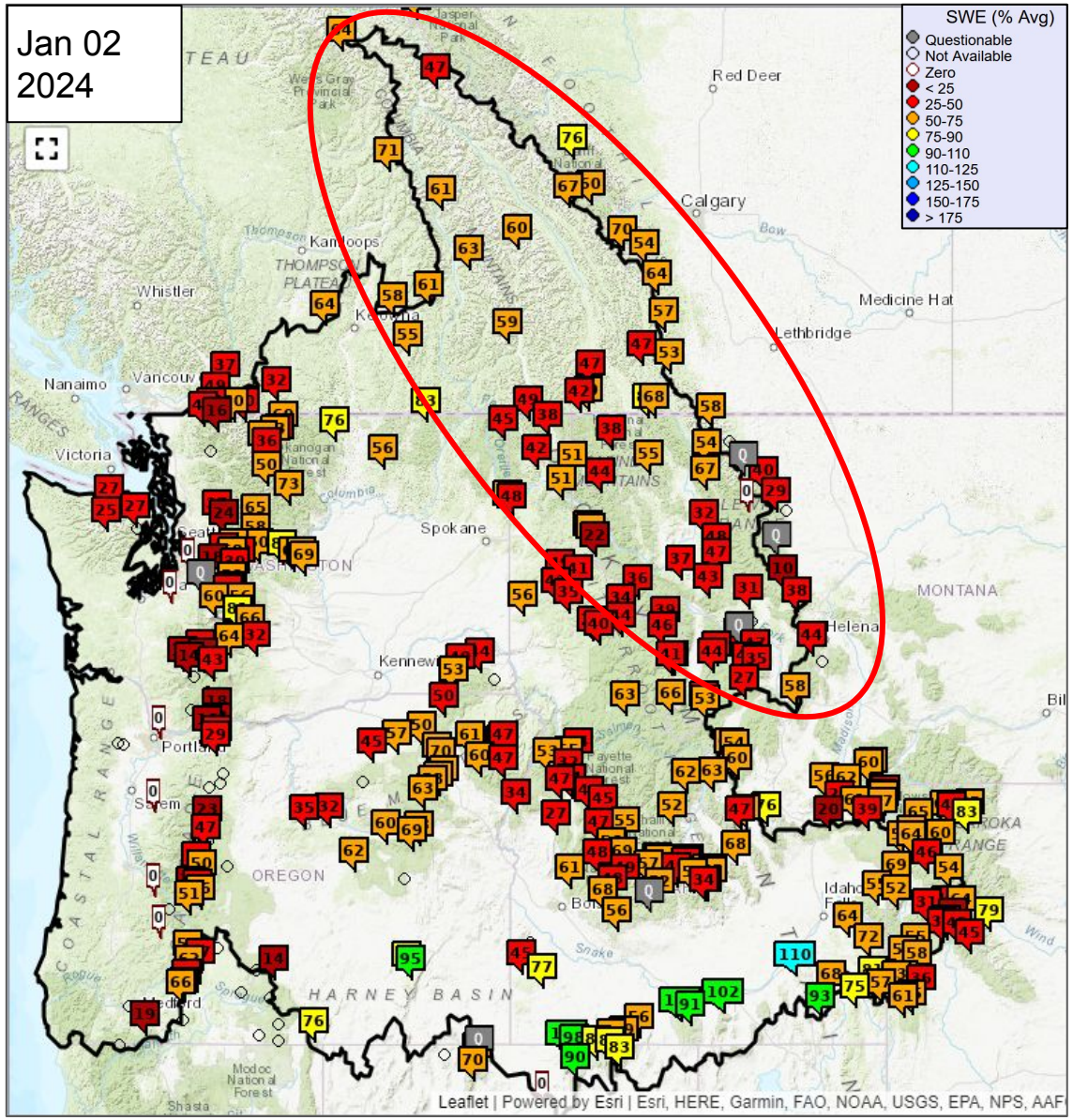
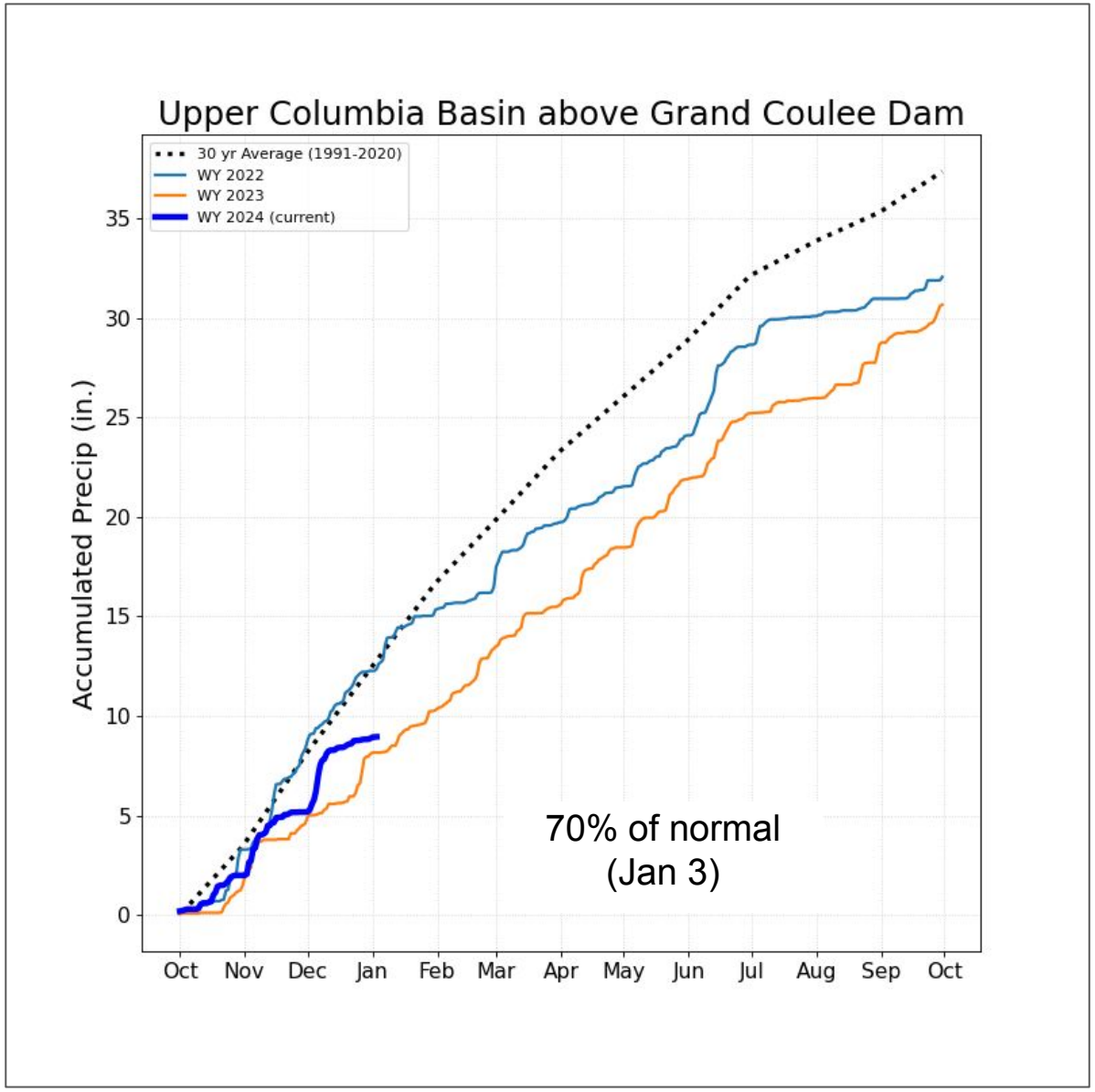
Snowpack and Precipitation

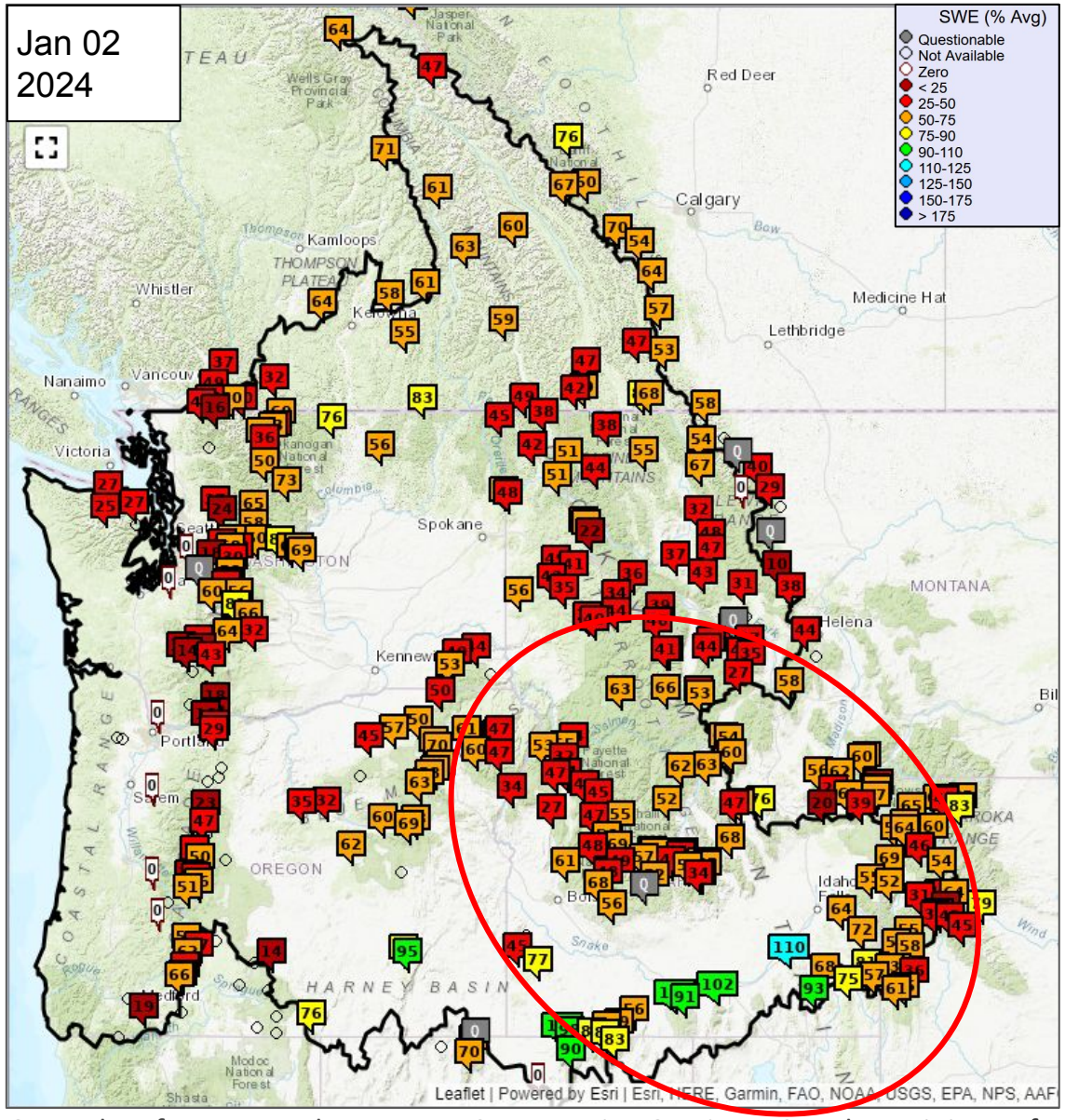


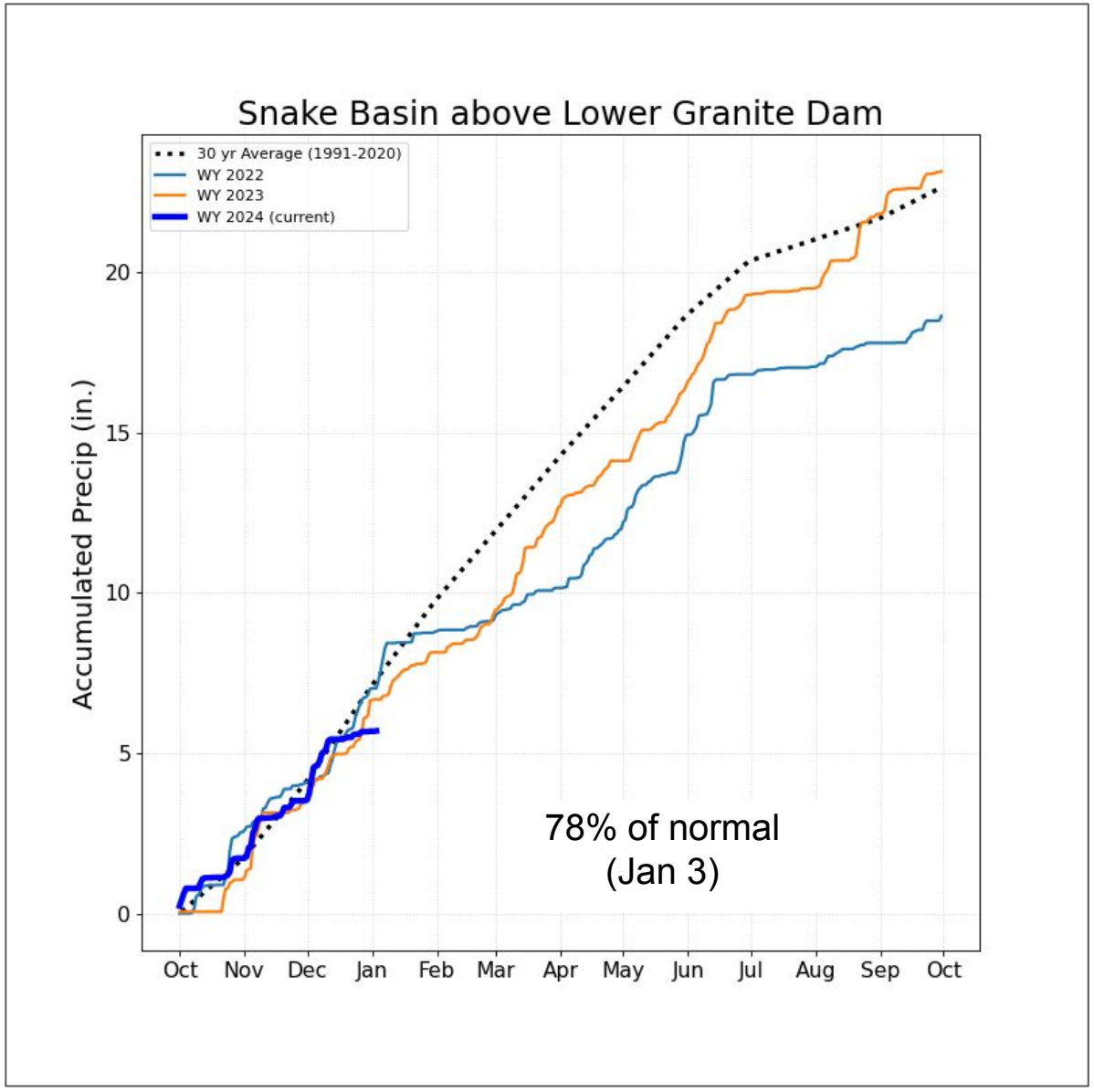


Snow data from Natural Resources Conservation Service, BC Hydro, Ministry of Environment and Climate Change Strategy, and Alberta Environment and Parks.

Precip averages from PRISM OSU and PCIC.

Snowpack and Precipitation





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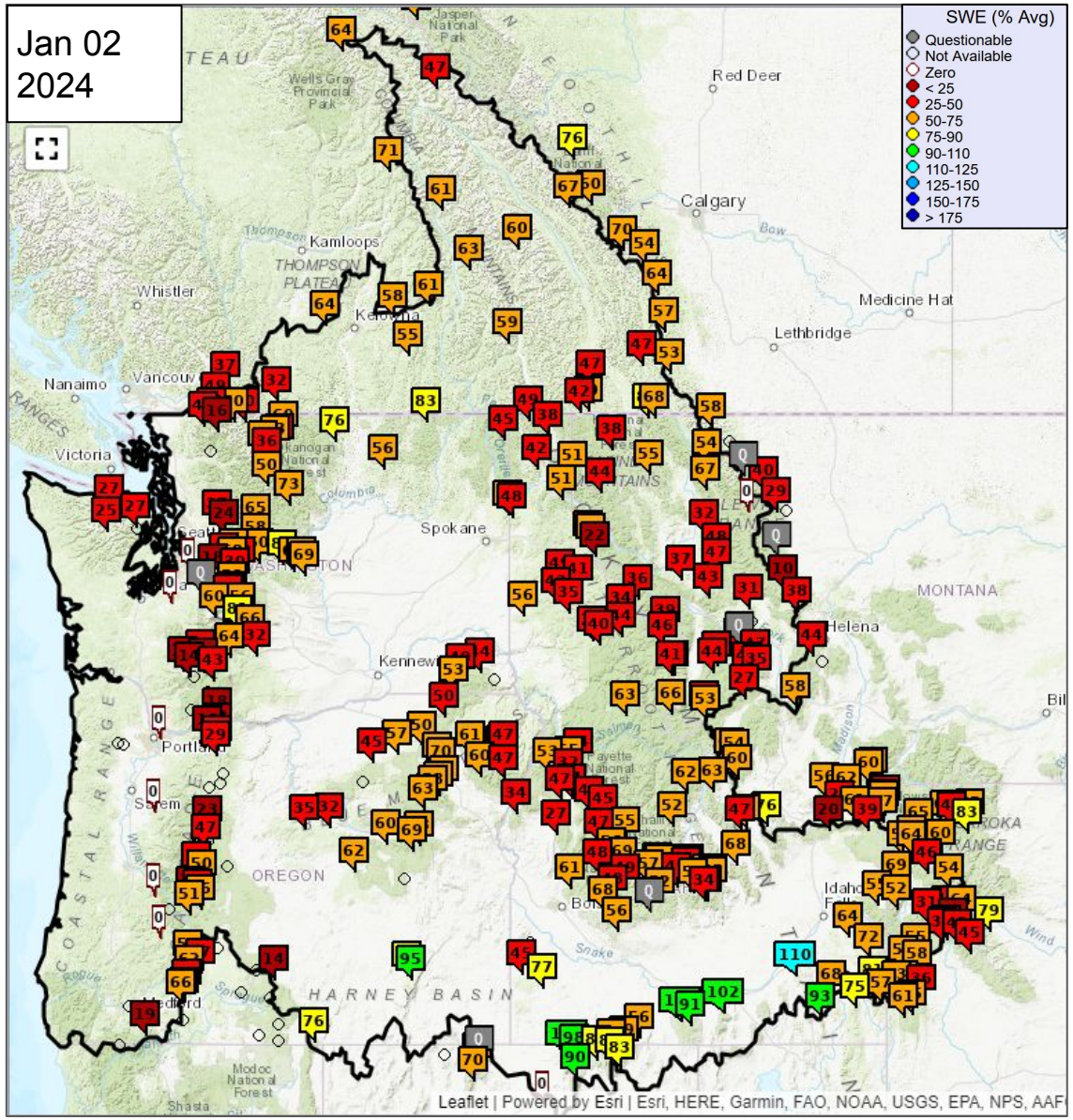
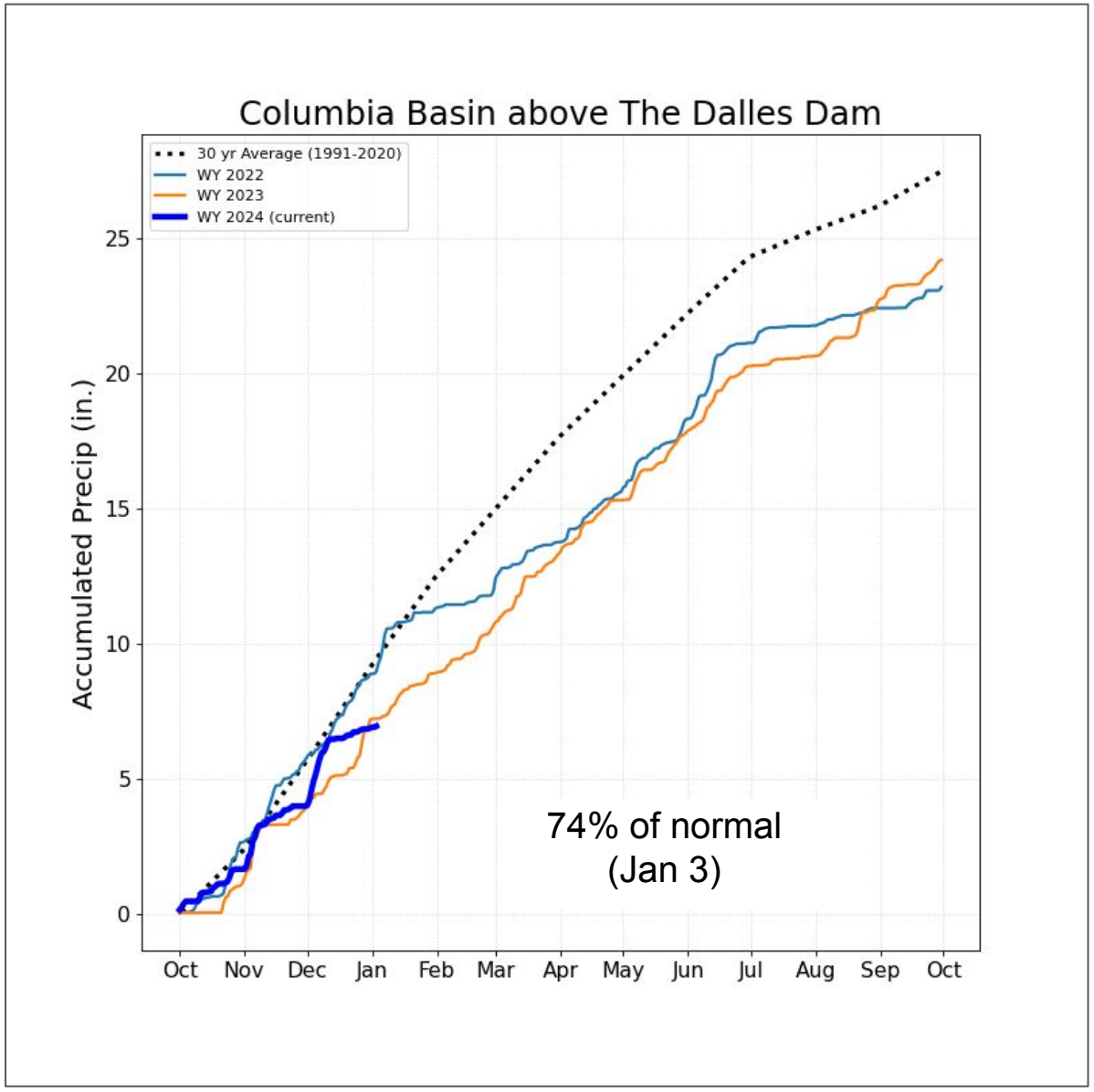
Snowpack and Precipitation





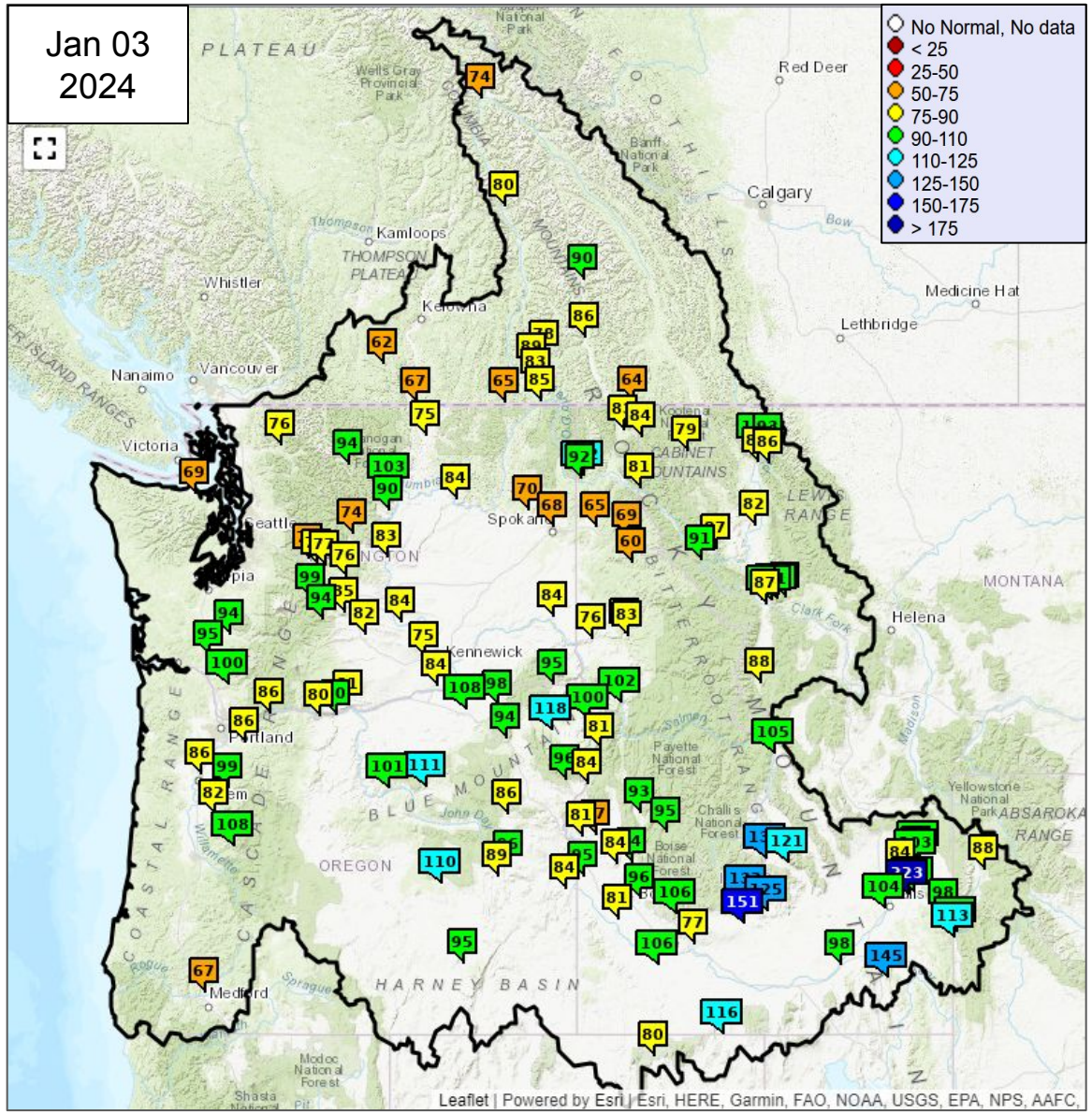
Snow data from Natural Resources Conservation Service, BC Hydro, Ministry of Environment and Climate Change Strategy, and Alberta Environment and Parks.

Precip averages from PRISM OSU and PCIC.

Water Year to Date Adjusted Runoff

% Normal Runoff Oct 1 - Jan 3

Upper Columbia Basin	
Mica	74
Duncan	90
Queens Bay	86
Libby	79
Hungry Horse	86
Grand Coulee	84
Snake River Basin	
American Falls	98
Lucky Peak	96
Dworshak	65
Lower Granite	84
Lower Columbia Basin	
The Dalles	80

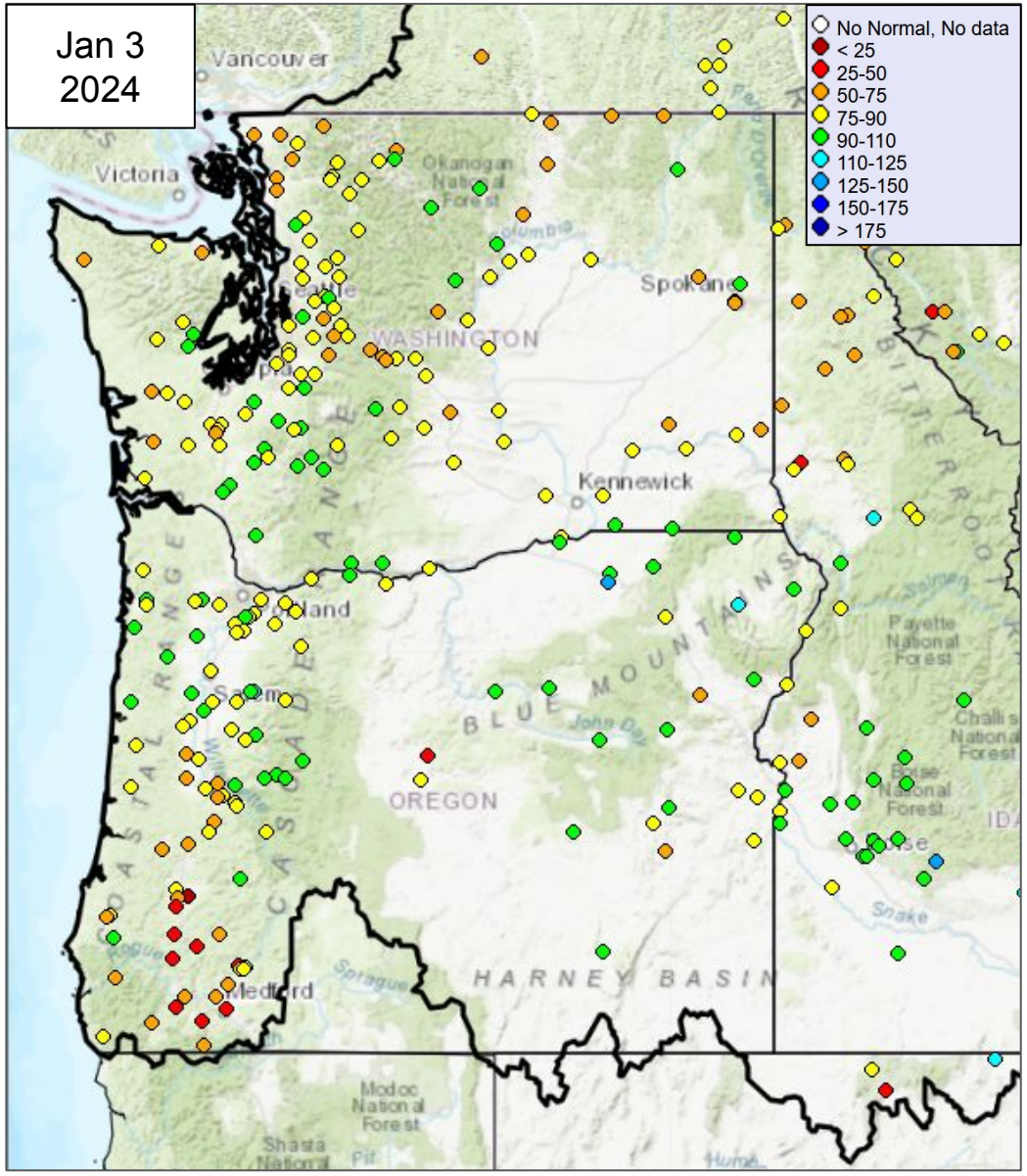


nwrfc.noaa.gov/ws/index.html?version=20190313v1

Water Year to Date Natural Runoff

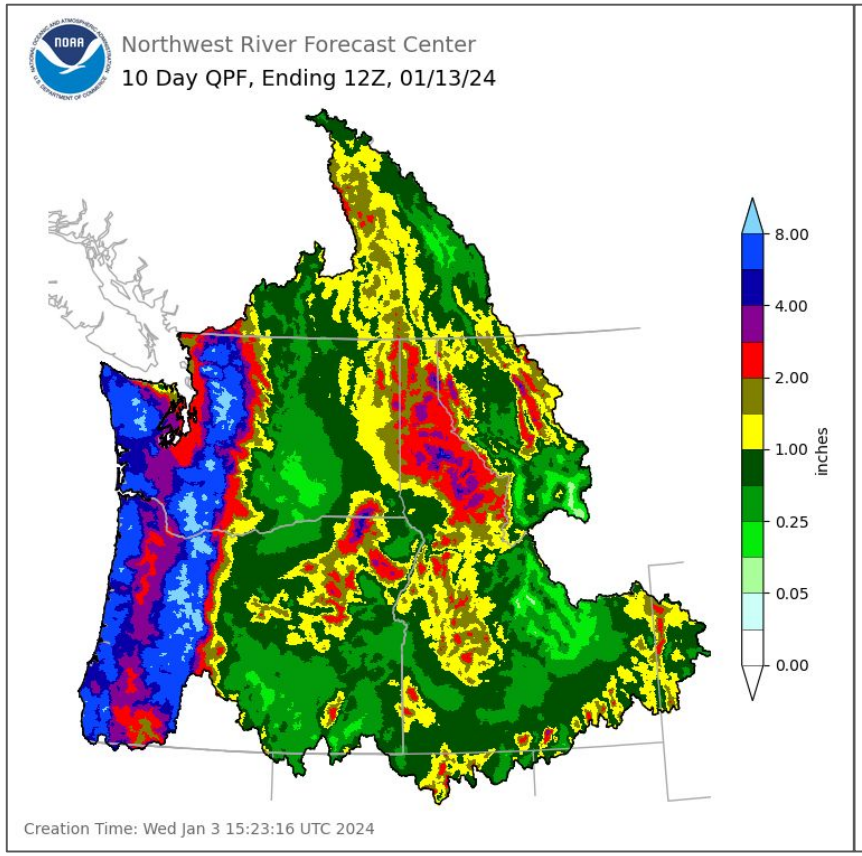
% Normal Runoff Oct 1 - Jan 3

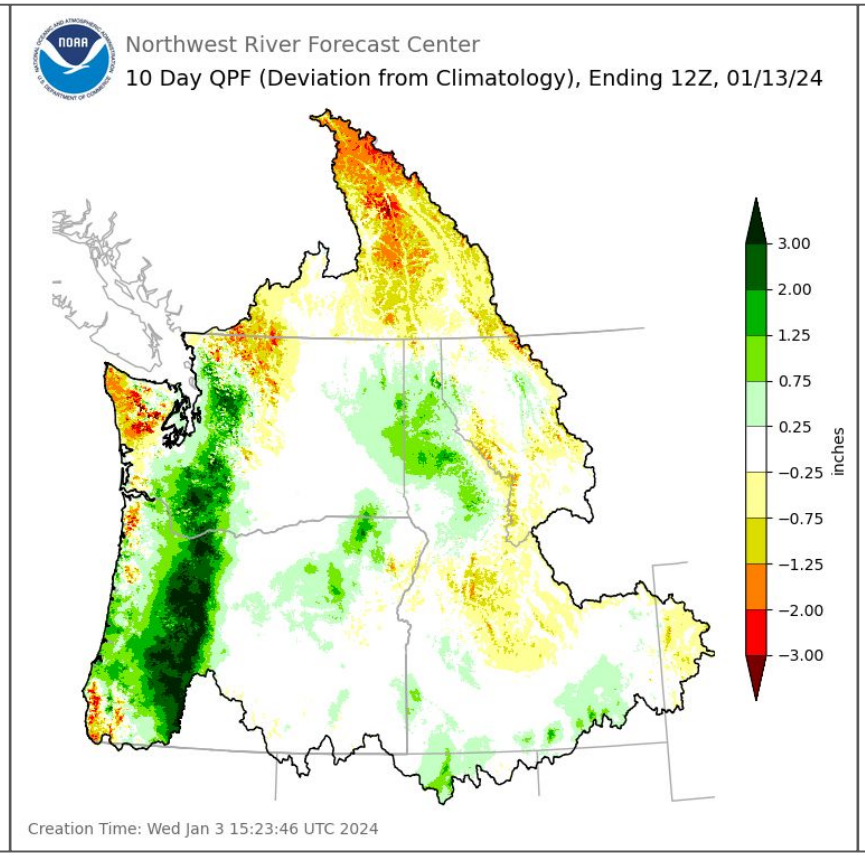
Washington	
Skagit near Mt Vernon	71
Dungeness near Sequim	69
Chehalis at Porter	80
Okanogan at Malott	73
Methow near Pateros	102
Yakima at Parker	78
Walla Walla near Touchet	94
Oregon	
Willamette at Salem	77
Rogue at Raygold	67
Umatilla at Pendleton	105
Grande Ronde at Troy	93
Crooked near Prineville	89
Owyhee Dam	81

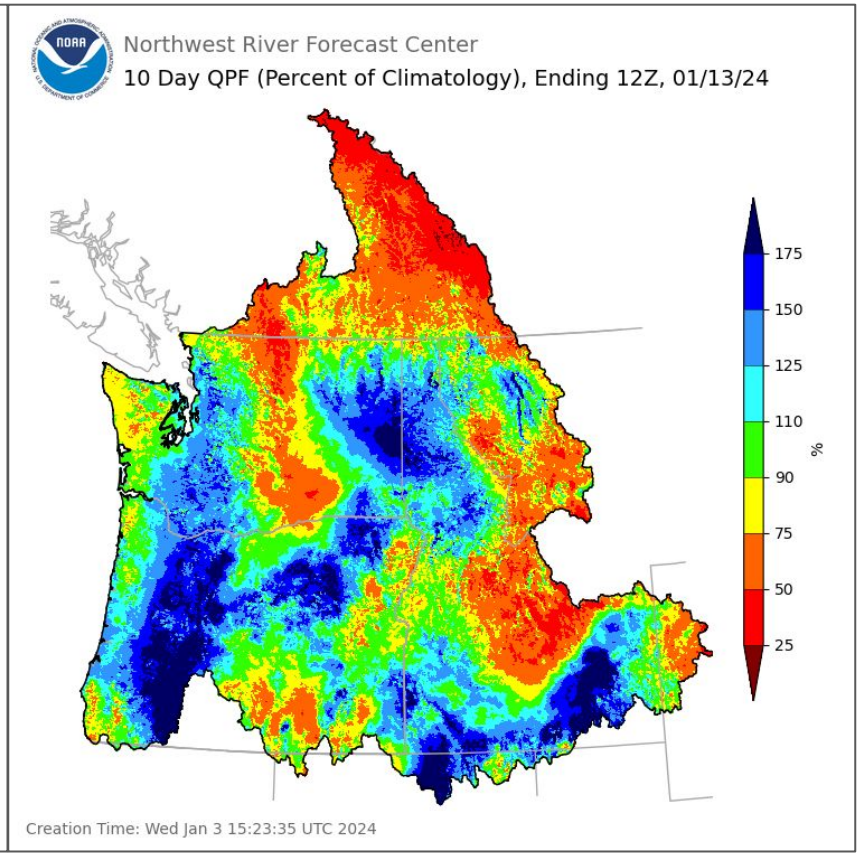


nwrfc.noaa.gov/natural/index.html?version=20190313v1

10 Day Precipitation Forecast used in ESP10





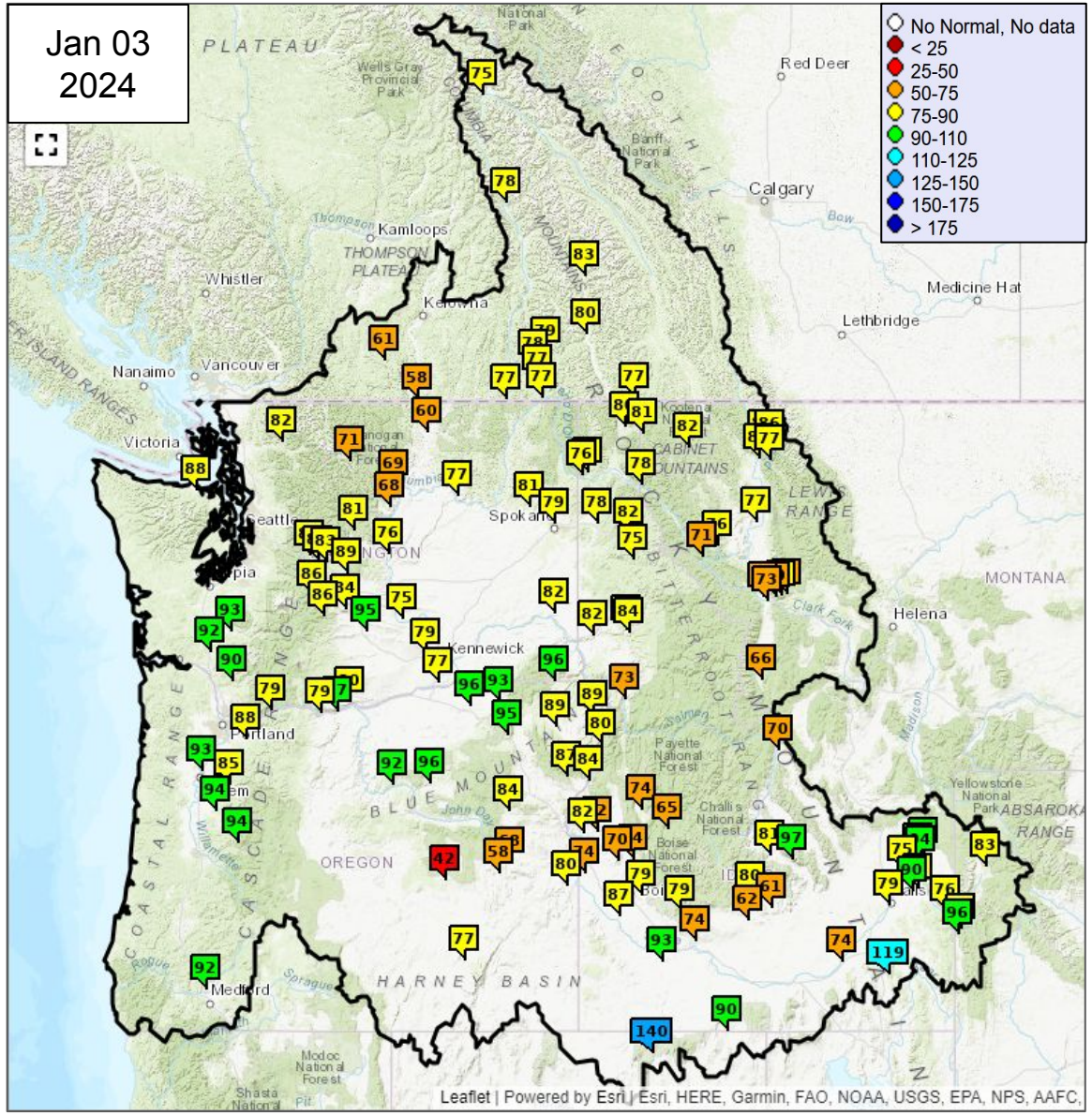


Quantitative Precipitation Forecast (QPF) Sources:

- Days 1 - 2 NWS Weather Forecast Offices (WFO) in the US, WPC in BC.
- Days 3 - 7 NWS Weather Prediction Center (WPC).
- Days 8 - 10 NWS National Blend of Models (NBM).

ESP10 Water Supply Forecasts

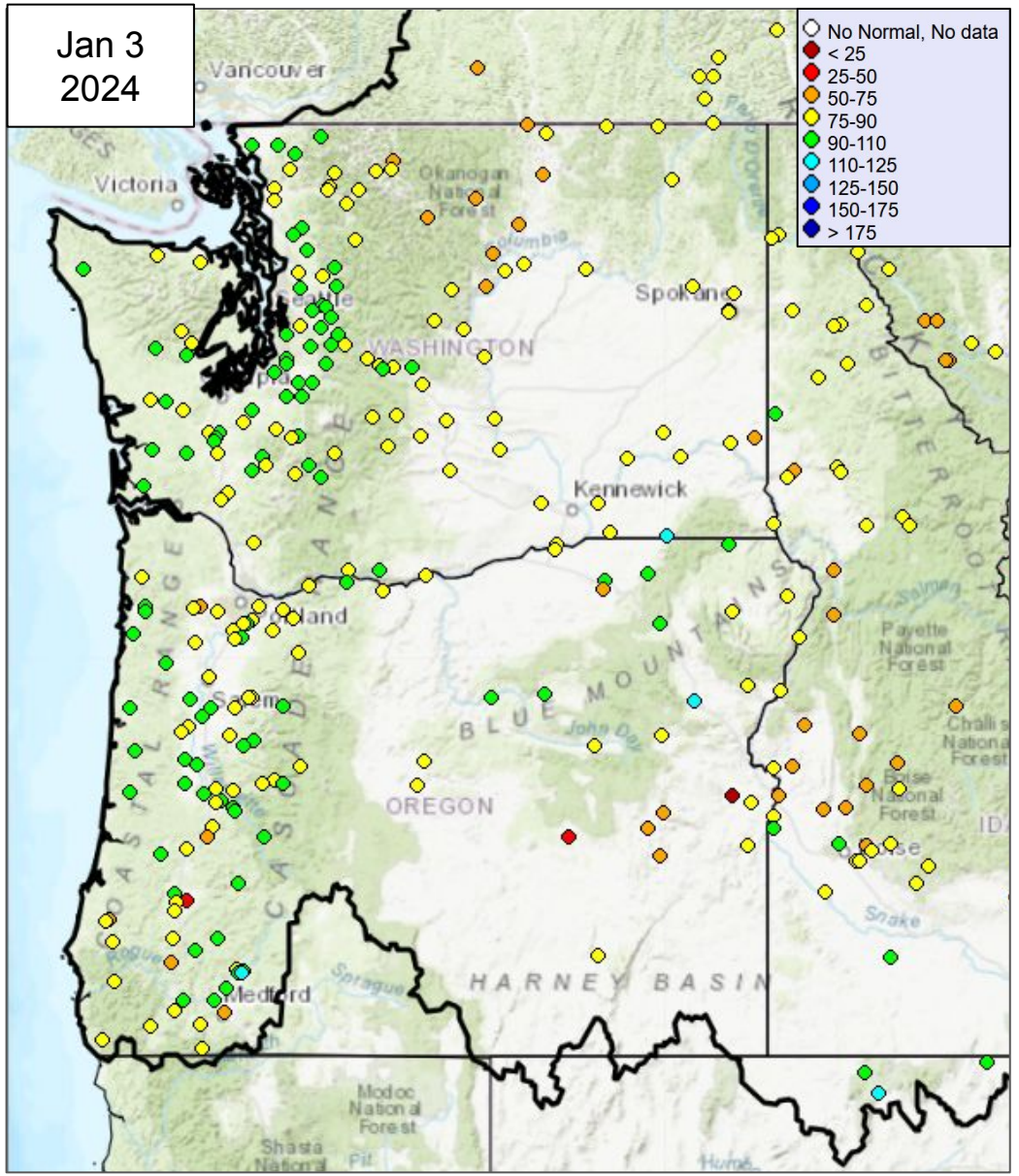
% Normal Apr - Sep Volume	
Upper Columbia Basin	
Mica	75
Duncan	83
Queens Bay	80
Libby	82
Hungry Horse	77
Grand Coulee	77
Snake River Basin	
American Falls	74
Lucky Peak	79
Dworshak	76
Lower Granite	82
Lower Columbia Basin	
The Dalles	79



nwrfc.noaa.gov/ws/index.html?version=20190313v1

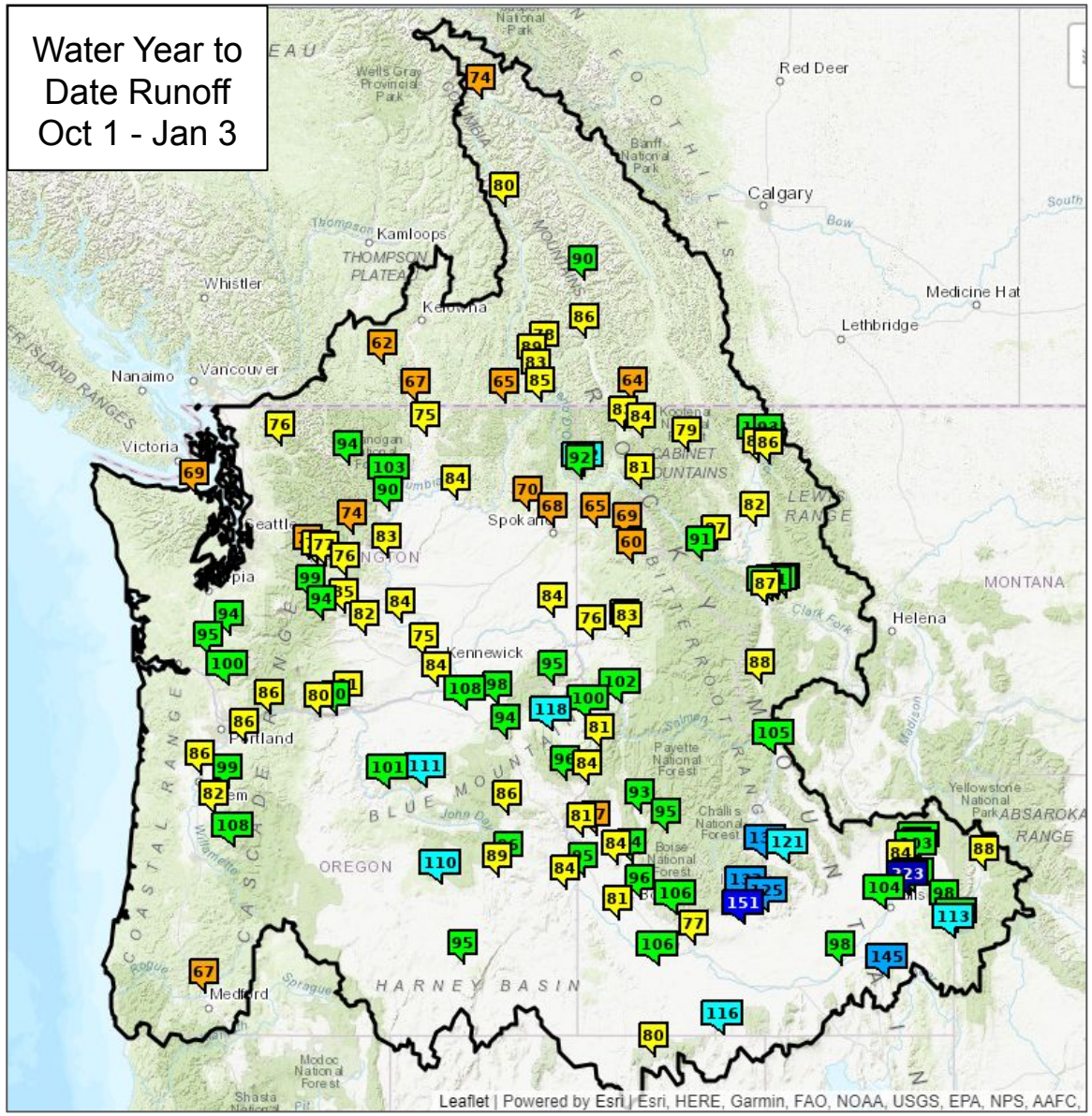
Natural Water Supply Forecasts

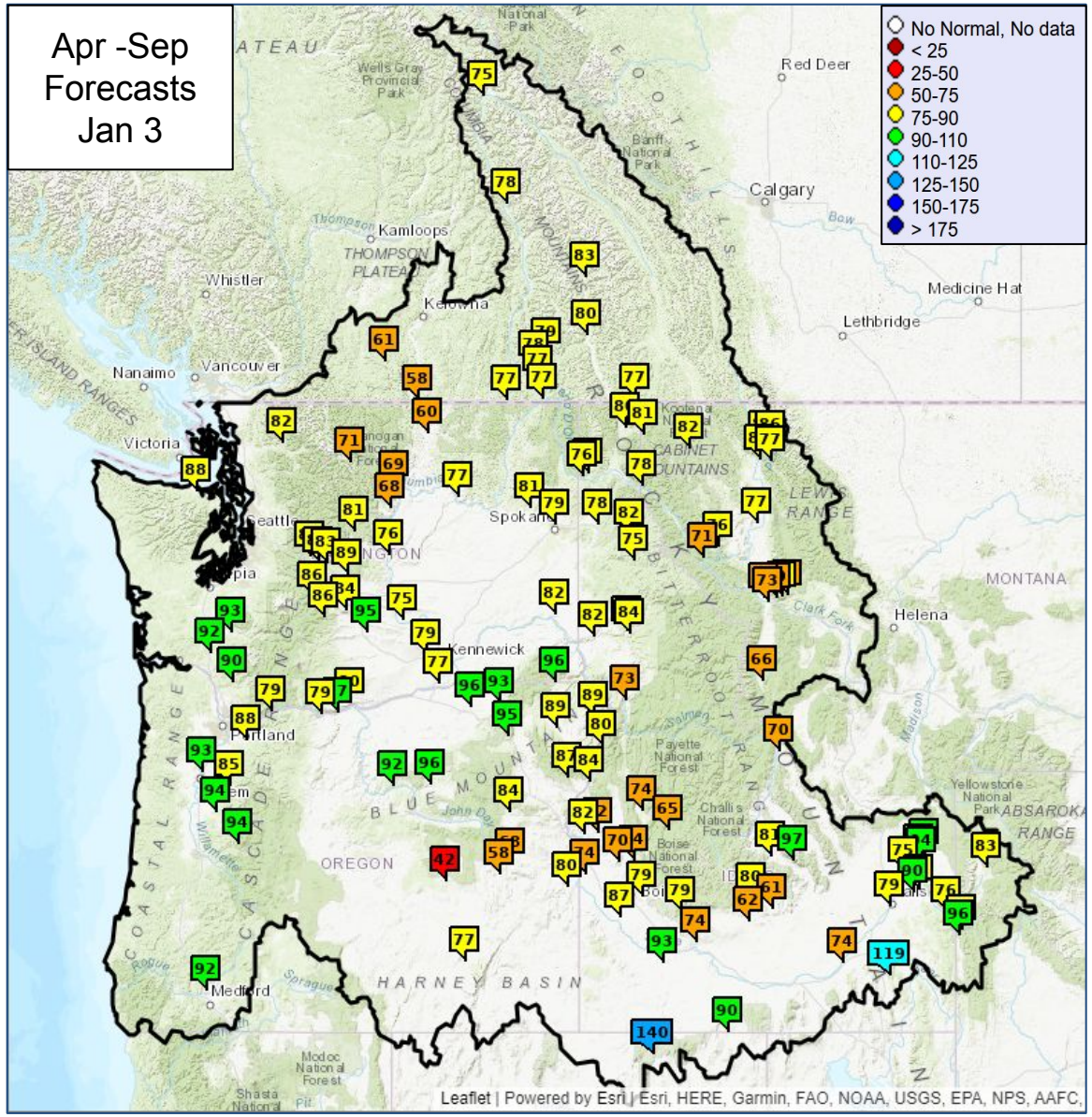
% Normal Apr - Sep Volume	
Washington	
Skagit near Mt Vernon	82
Dungeness near Sequim	88
Chehalis at Porter	88
Okanogan at Malott	60
Methow near Pateros	69
Yakima at Parker	87
Walla Walla near Touchet	87
Oregon	
Willamette at Salem	89
Rogue at Raygold	94
Umatilla at Pendleton	96
Grande Ronde at Troy	96
Crooked near Prineville	77
Owyhee Dam	79



nwrfc.noaa.gov/natural/index.html?version=20190313v1

Adjusted Runoff and Water Supply Forecasts





nwrfc.noaa.gov/ws/index.html?version=20190313v1

ESP10 Water Supply Forecast

COLUMBIA - THE DALLES DAM (TDAO3)
Forecasts for Water Year 2024

Official Water Supply

ESP with 10 Days QPF ***Ensemble:*** 2024-01-03 ***Issued:*** 2024-01-03

Forecast Period	Forecasts Are in KAF				30 Year Average (1991-2020)
	90 %	50 %	% Average	10 %	
APR-SEP	57437	74268	79	89438	94166
APR-JUL	48430	62047	76	77383	81933
APR-AUG	53266	69287	78	84194	89196
JAN-SEP	75590	93622	81	112917	115946
JAN-JUL	66186	82714	80	100496	103714
OCT-SEP	88822	106855	81	126150	132314

Experimental Water Supply

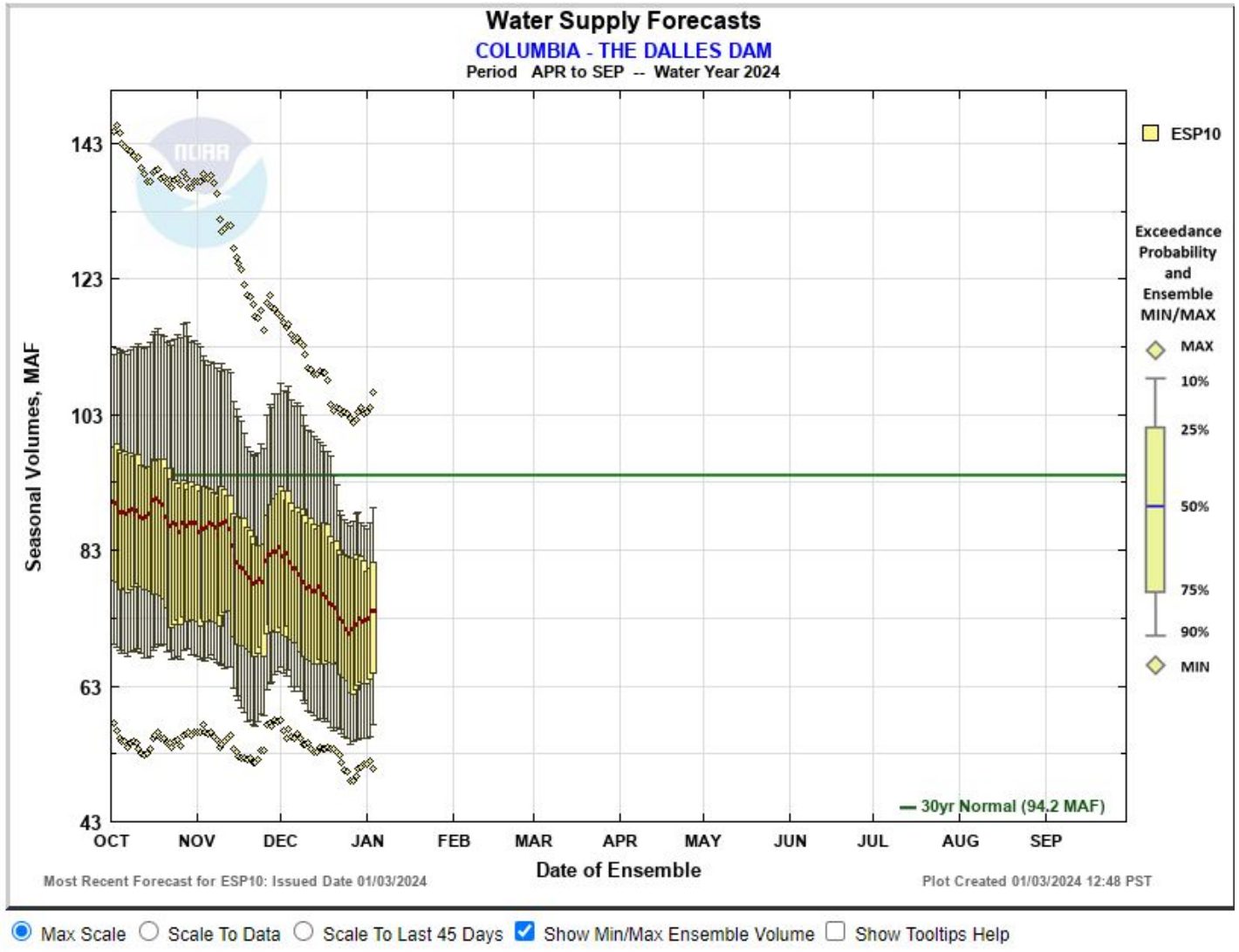
HEFS with 15 days EQPF ***Ensemble:*** 2024-01-03 ***Issued:*** 2024-01-03

APR-SEP	58119	76136	81	91141	94166
APR-JUL	48646	64157	78	80484	81933
APR-AUG	53886	71231	80	86716	89196
JAN-SEP	75853	95037	82	114653	115946
JAN-JUL	66584	83044	80	102948	103714
OCT-SEP	89086	108269	82	127886	132314

Reference

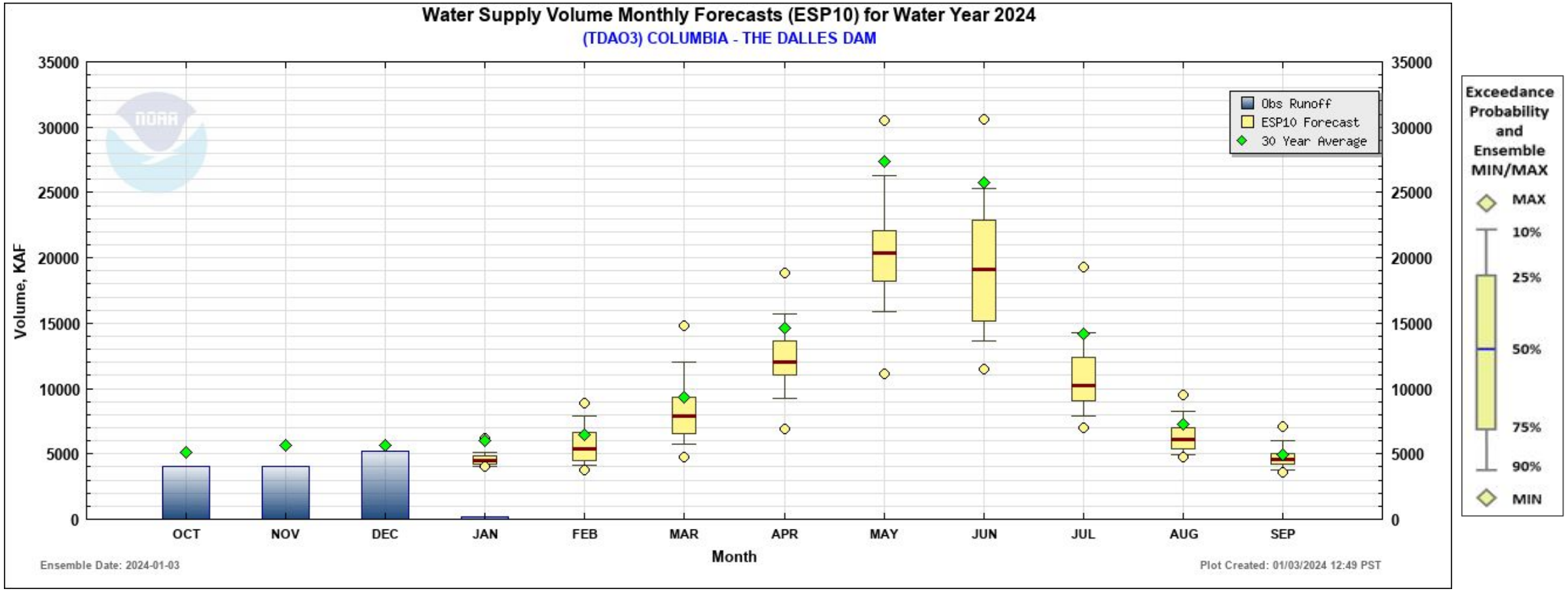
ESP with 0 Days QPF ***Ensemble:*** 2024-01-03 ***Issued:*** 2024-01-03

APR-SEP	56840	73970	79	88838	94166
APR-JUL	47490	62907	77	77485	81933
APR-AUG	52336	69031	77	83855	89196
JAN-SEP	73410	93110	80	112018	115946
JAN-JUL	64226	80435	78	100753	103714
OCT-SEP	86642	106342	80	125251	132314



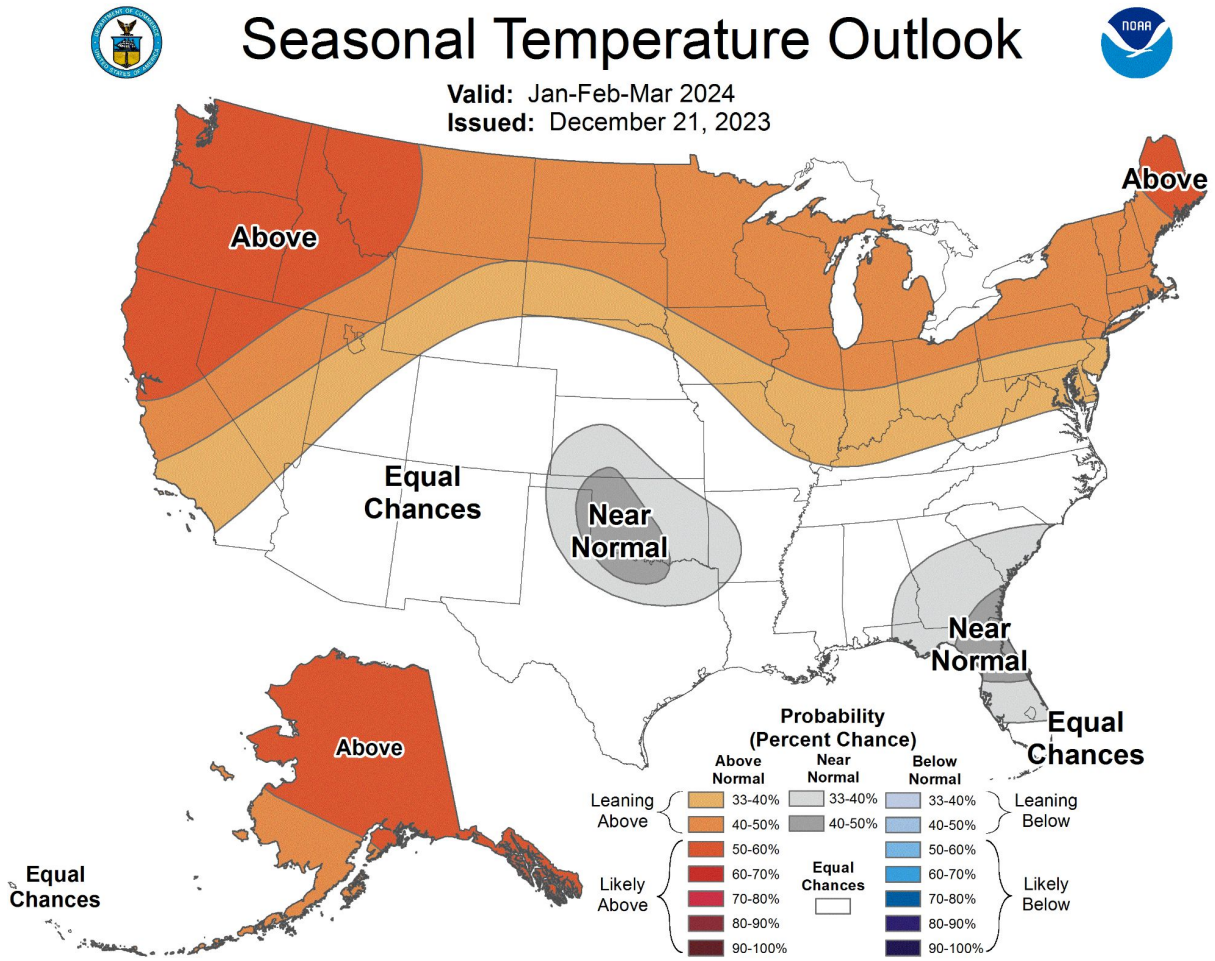
nwrfc.noaa.gov/water_supply/ws_forecasts.php?id=TDAO3

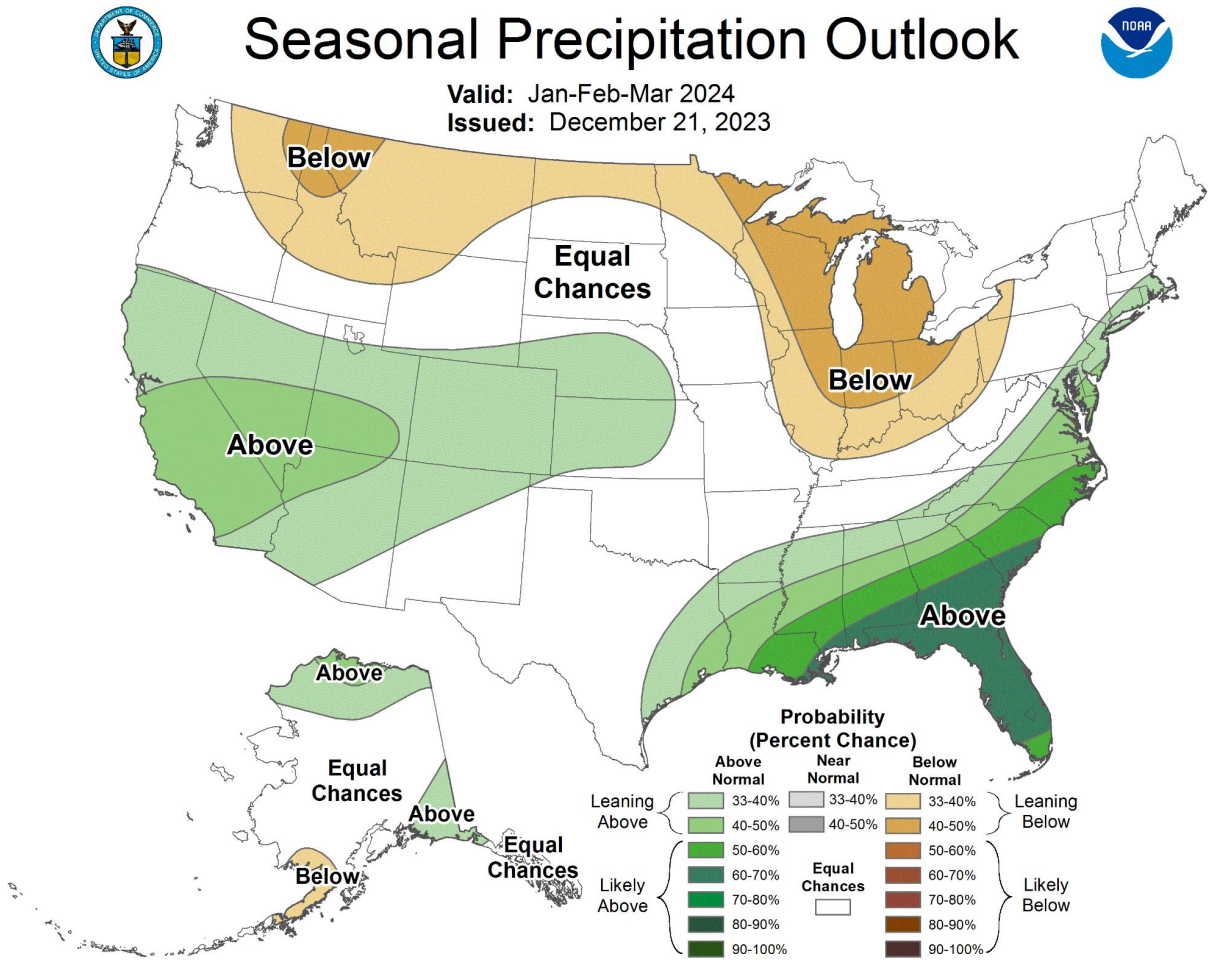
ESP10 Water Supply Forecast



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

Climate Prediction Center Seasonal Outlook





cpc.ncep.noaa.gov

Climate Prediction Center Model Predictions

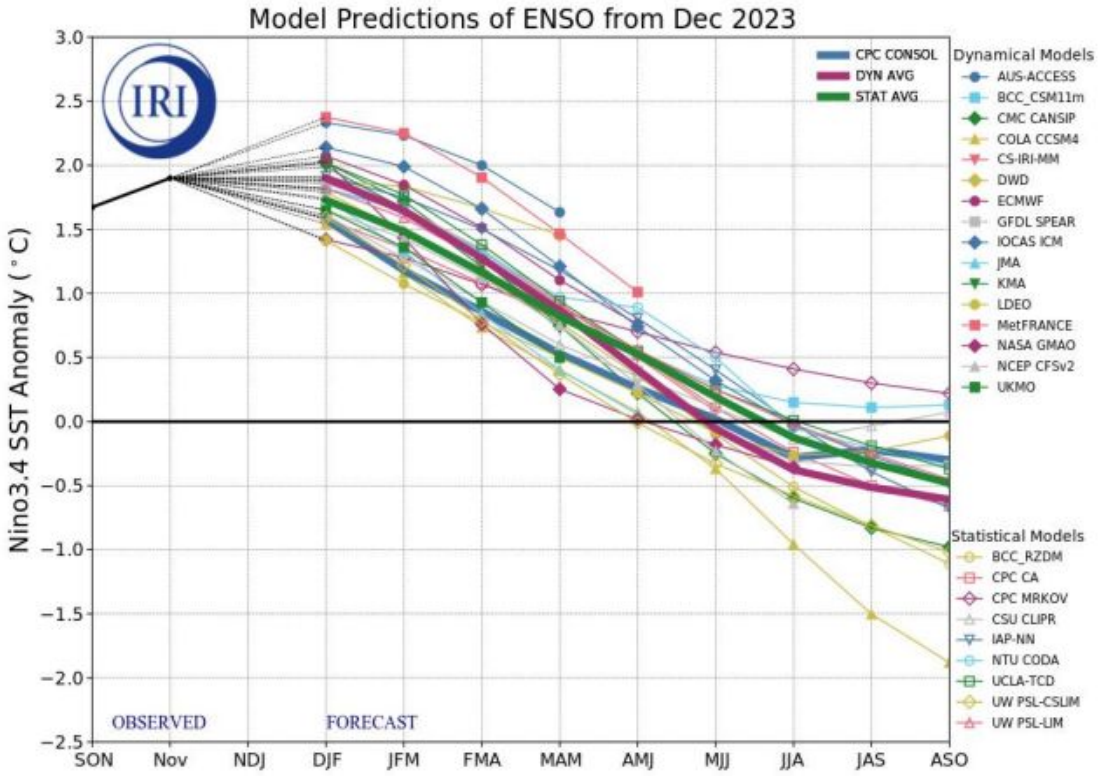
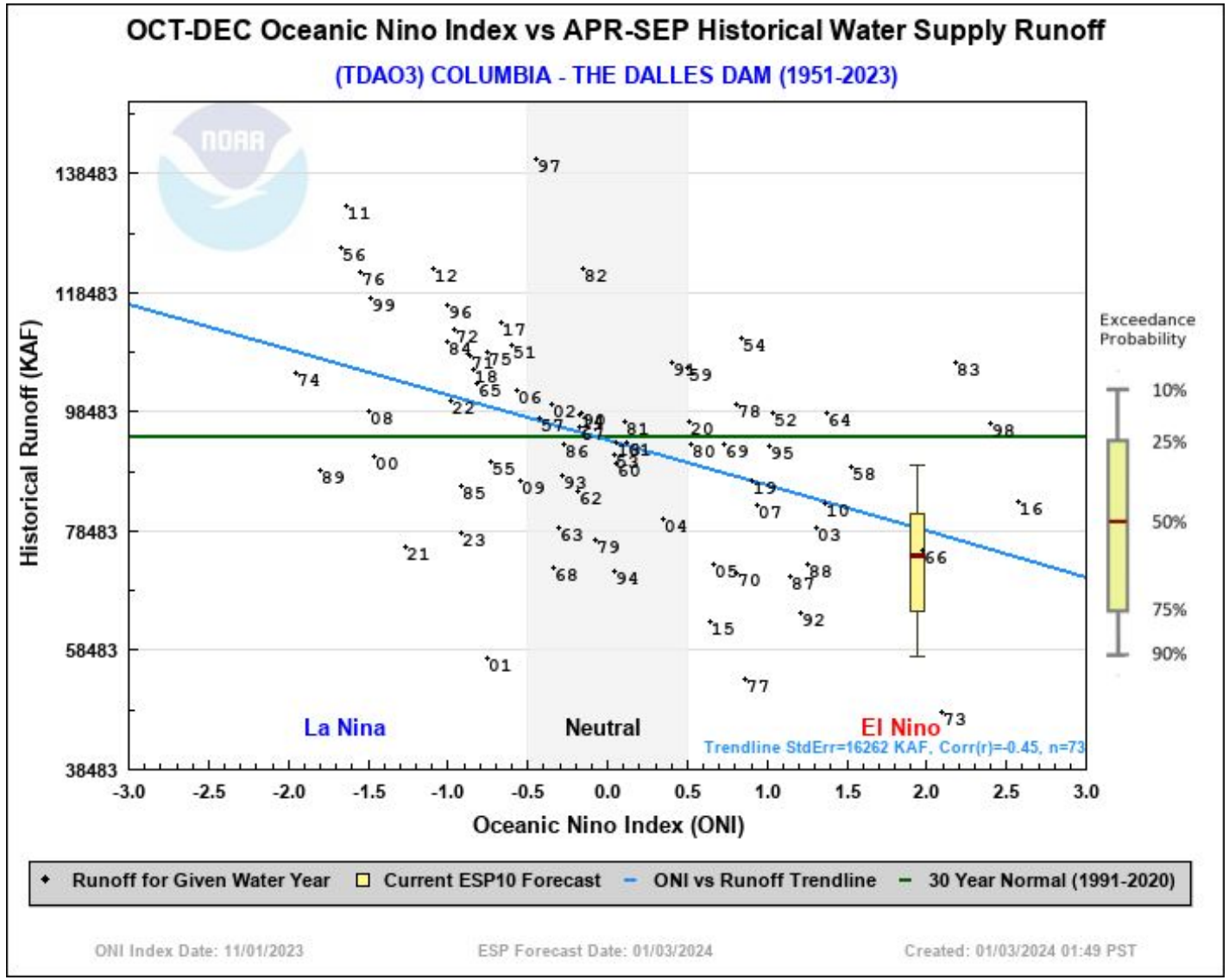


Figure provided by the International Research Institute (IRI) for Climate and Society (updated 19 December 2023).

The majority of models indicate El Niño will persist through March-May 2024 and then transition to ENSO-neutral.

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

Oceanic Niño Index vs. Apr - Sep Runoff Volumes



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

Updated Temperature and Precipitation Normals

- New 30 year normals for 1991 - 2020 calculated with PRISM- Parameter-elevation Regression on Independent Slopes Model.
- US area produced by the PRISM Climate Group at Oregon State University prism.oregonstate.edu/
- Canadian area produced by the Pacific Climate Consortium (PCIC) at the University of Victoria pacificclimate.org/data/prism-climatology-and-monthly-timeseries
- Monthly normals were calculated, daily normals are interpolated from monthly normals.

Schedule for Live Water Supply Briefings

Jan	Feb	Mar	Apr	May	Jun
4	1	7	4	2	TBD

All presentations held at 10:00 am Pacific Time unless noted otherwise

Click here for Registration

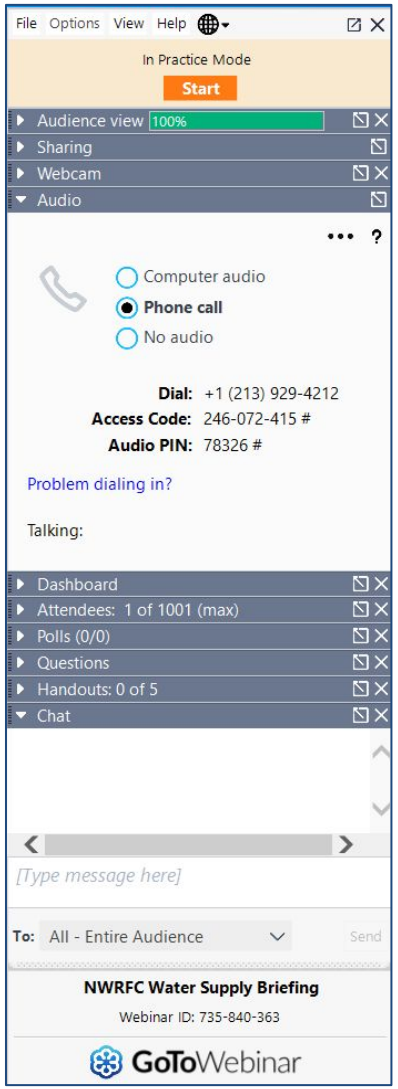
NWRFC Hydrologist Job Opening

(Posted: Friday, December 29, 2023 to Friday, January 12, 2024)

The Northwest River Forecast Center is advertising a job opening for a Hydrologist.
Hydrologist, GS-1315-07/09/11/12 (current and former federal employees)
Hydrologist, GS-1315-07/09/11/12 (general public)
Applications close January 12, 2024

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

Questions?



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To ask a question using your phone, enter the AUDIO PIN followed by the # sign.

The AUDIO PIN was provided when you logged into the webinar. If you need to enter the PIN after you are connected, try #PIN#.