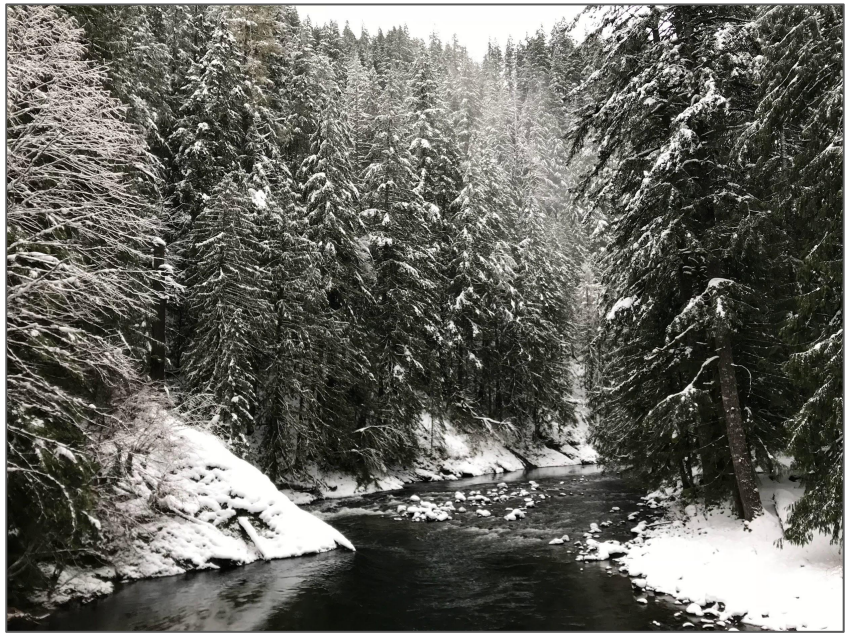
NWRFC Water Supply Forecasts

April 12th, 2024

Brad Gillies, senior hydrologist

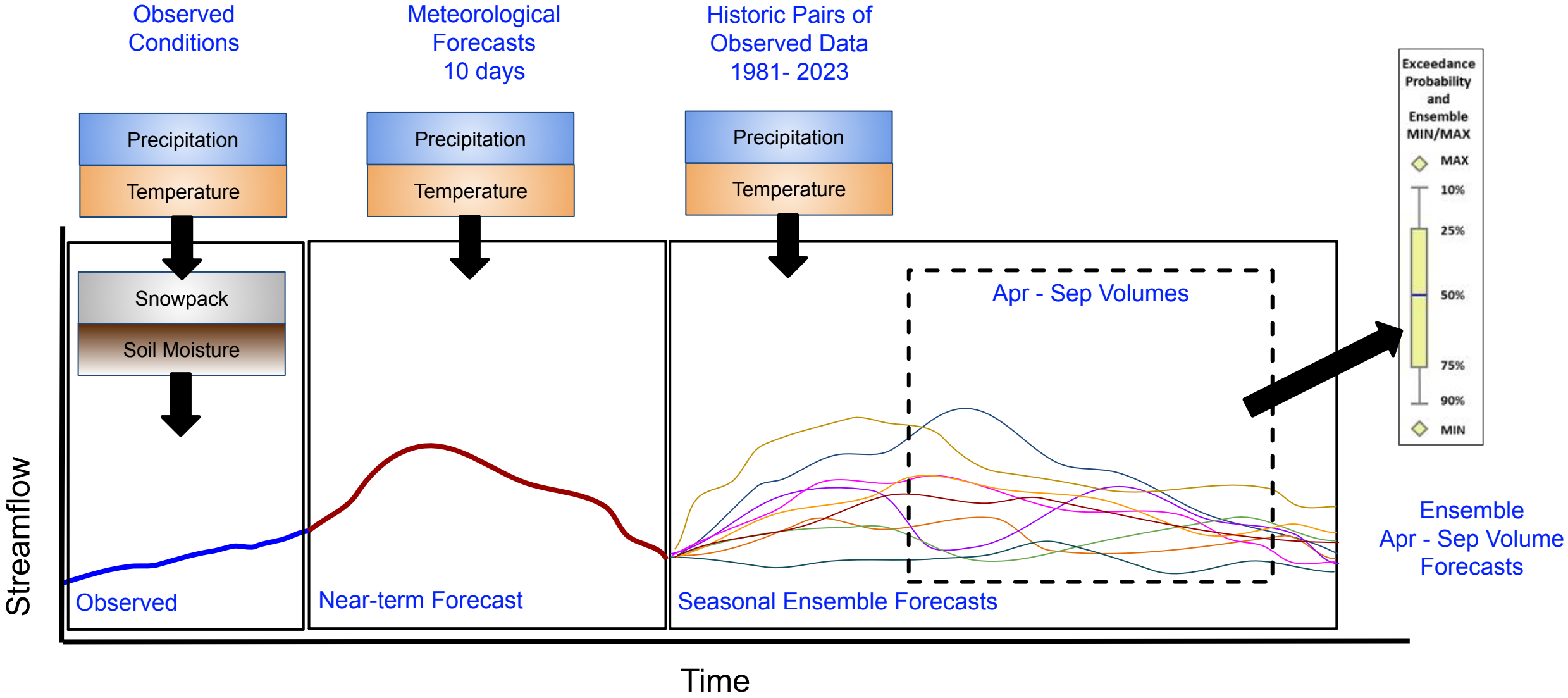
NWRFC.watersupply@noaa.gov



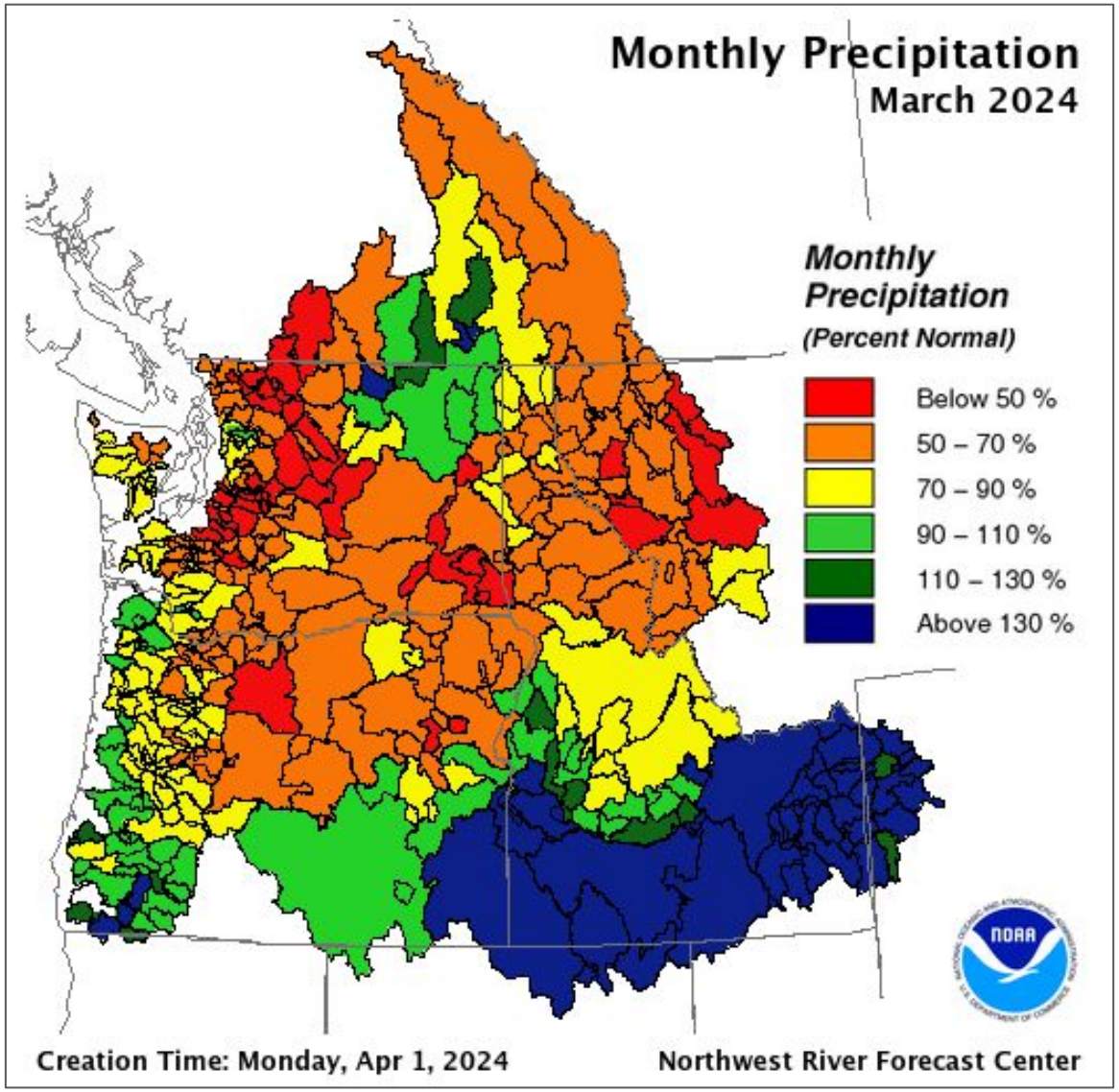
Takeaways

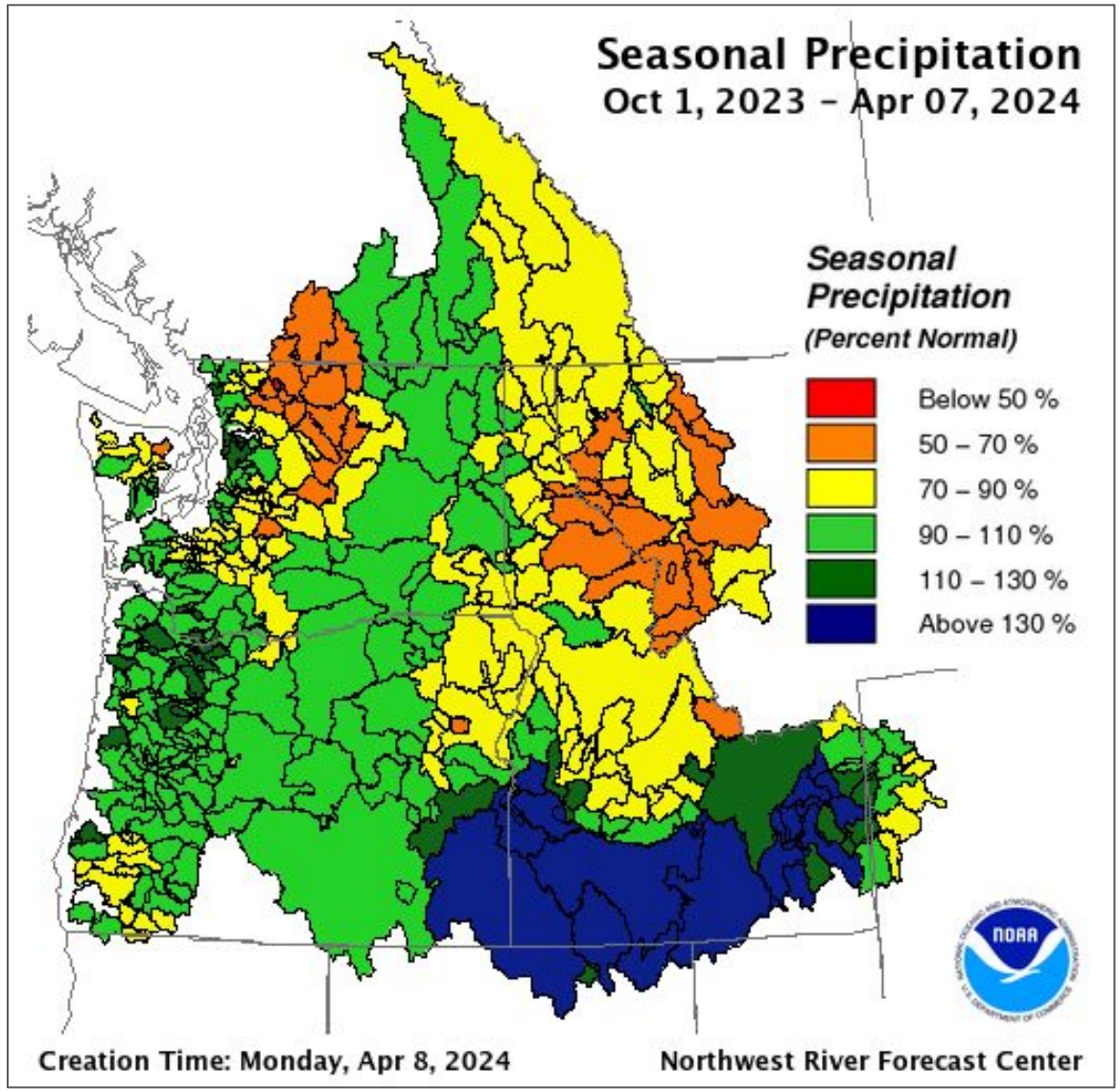
- Apr-Sep water supply forecasts similar to last month, with near normal in the Upper Snake and Boise, and below normal for most of the rest of ID
- Water year to date precipitation is above normal in southern ID, and below normal for central and northern ID
- Water year to date temperatures are warmer than normal
- Snowpack is above normal in southern ID, normal to below normal in central ID, and well below normal in northern ID
- Water year to date runoff is normal to above normal in southern and central ID, and below normal in northern ID
- 10-day weather forecast calls for below normal precipitation

NWRFC Forecast Technique



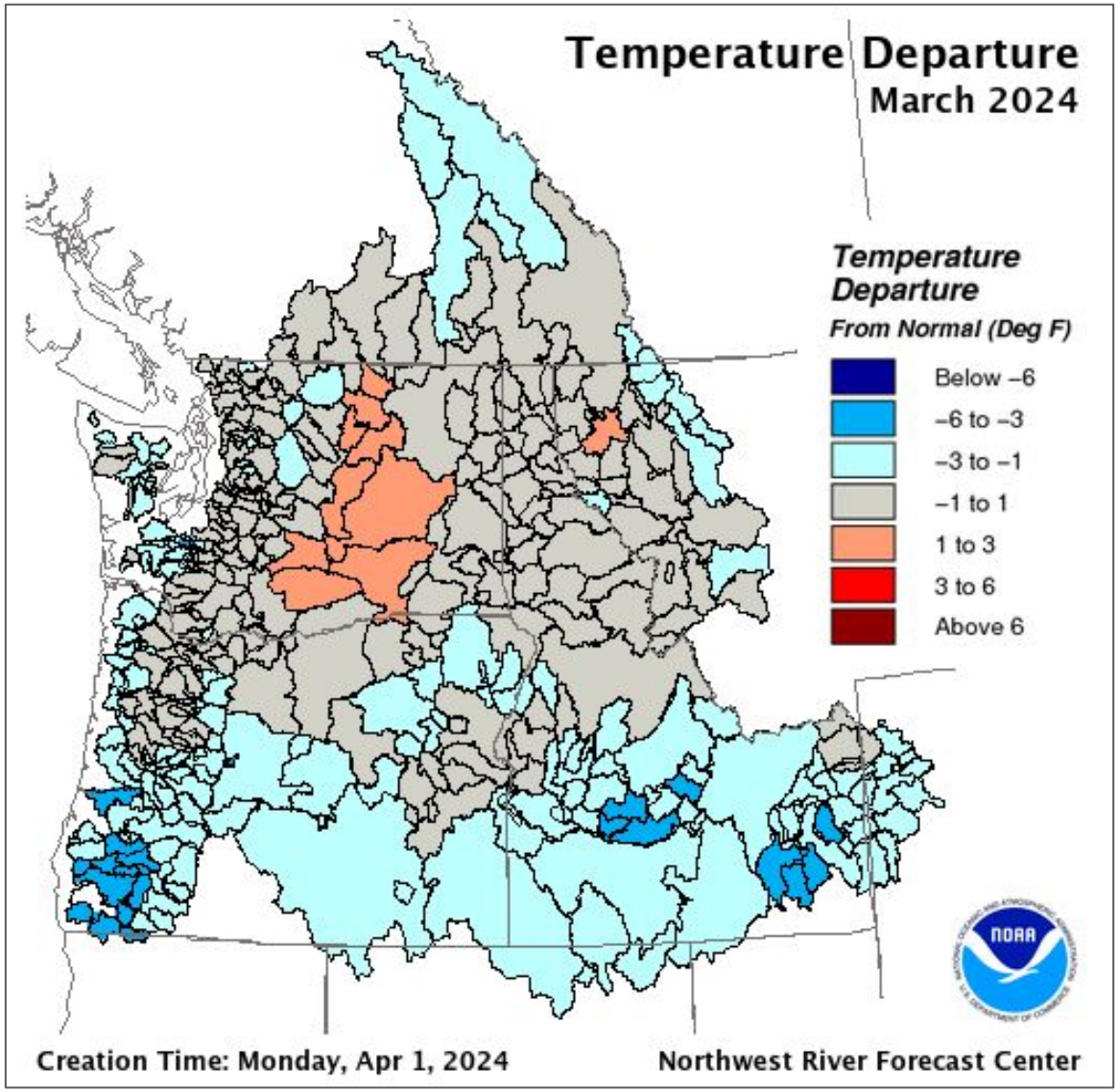
March and Water Year to Date Precipitation

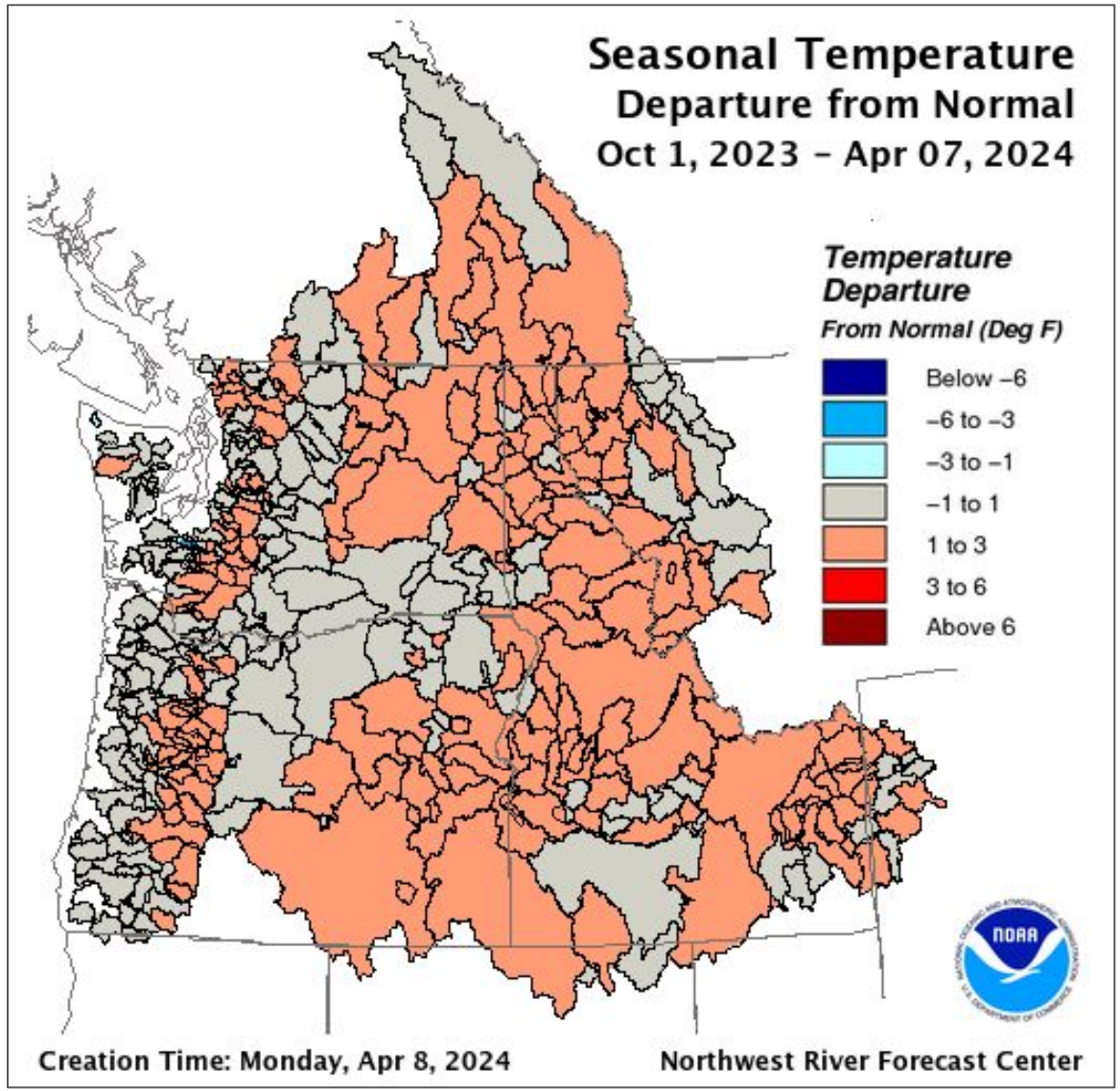




nwrfc.noaa.gov/water_supply/wy_summary/wy_summary.php?tab=2

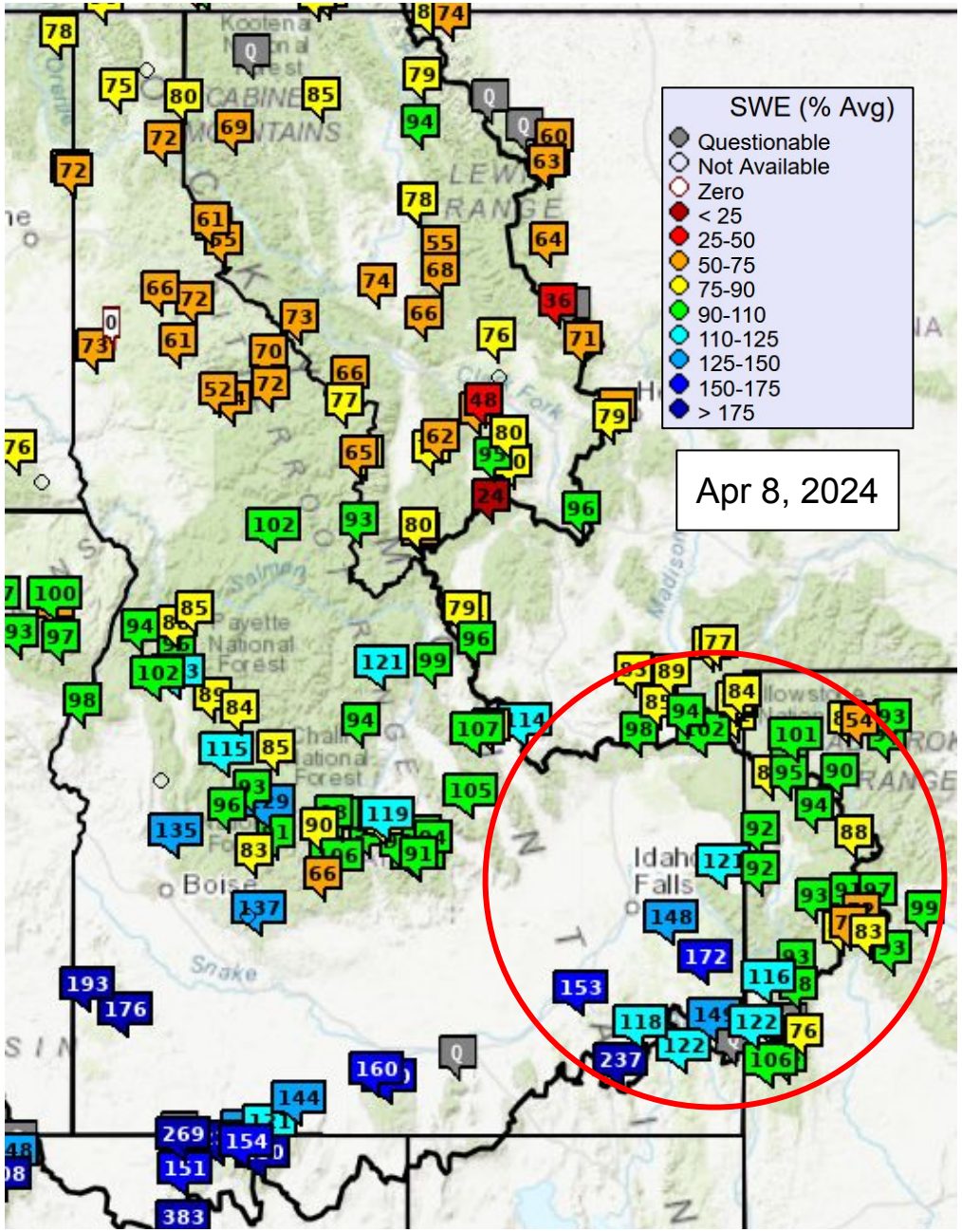
March and Water Year to Date Temperature

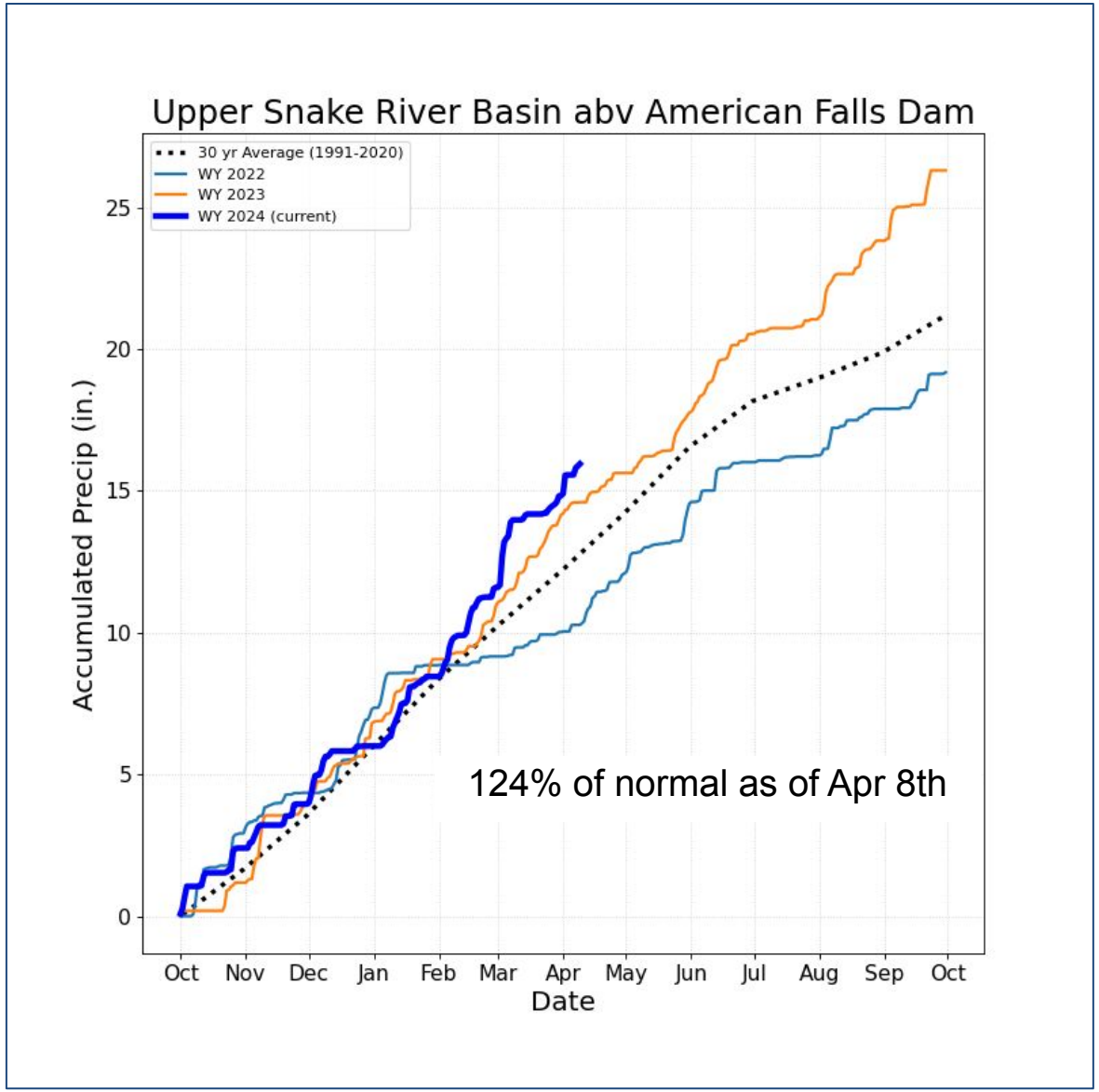




nwrfc.noaa.gov/water_supply/wy_summary/wy_summary.php?tab=2

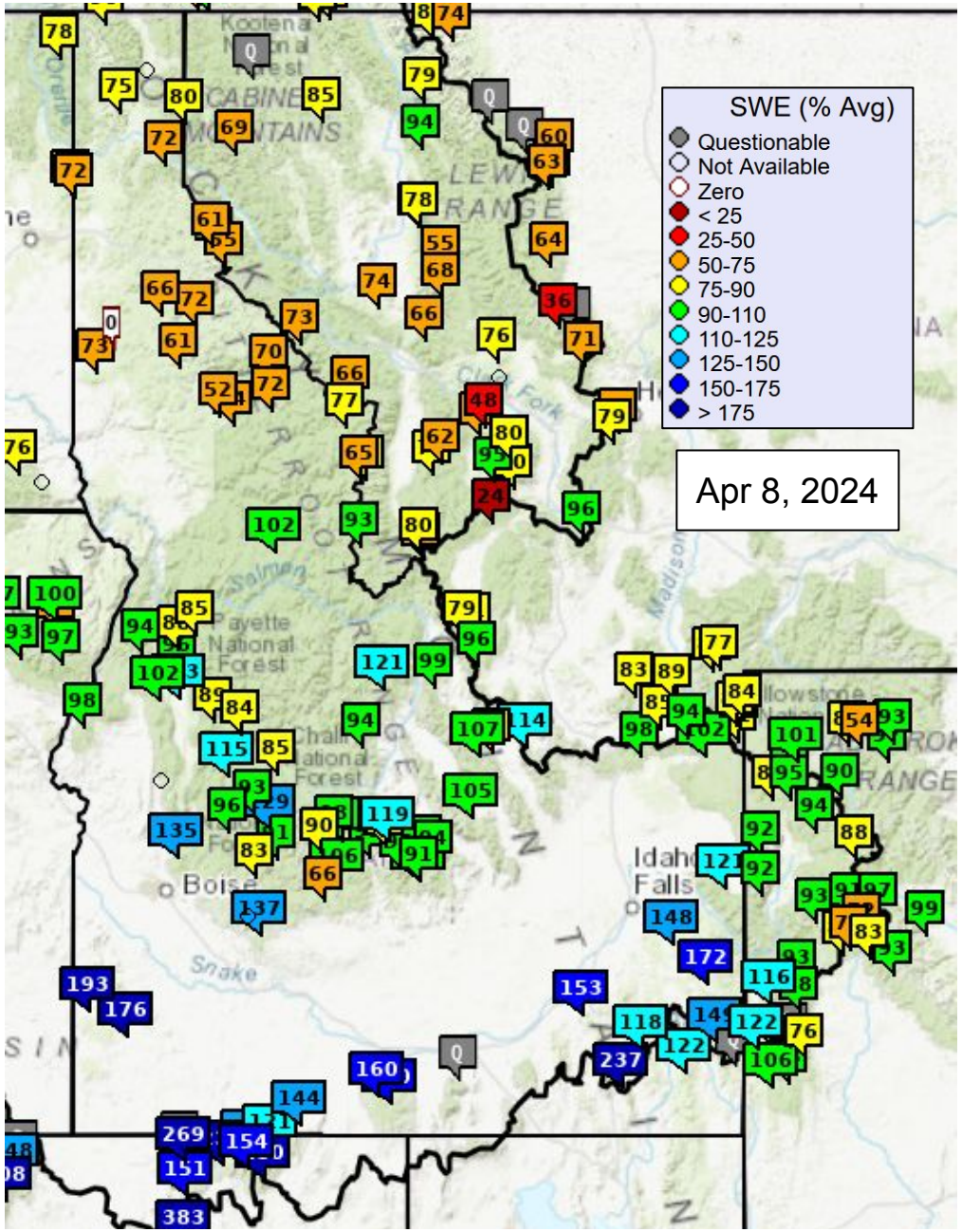
Snowpack and Precipitation

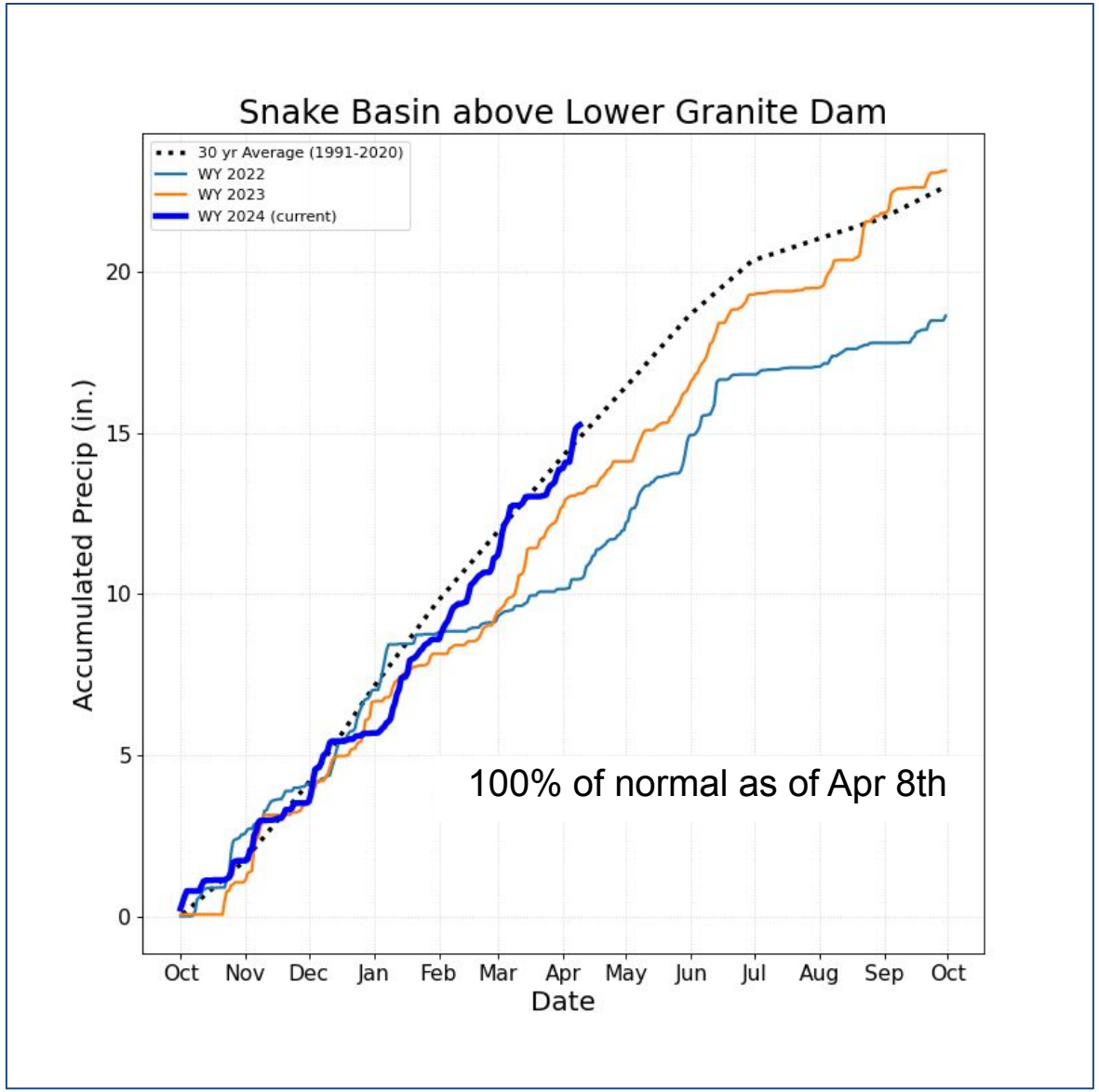




Snow data from NRCS, BC Hydro, and Alberta Environment and Parks.
Precip averages from PRISM OSU and PCIC.

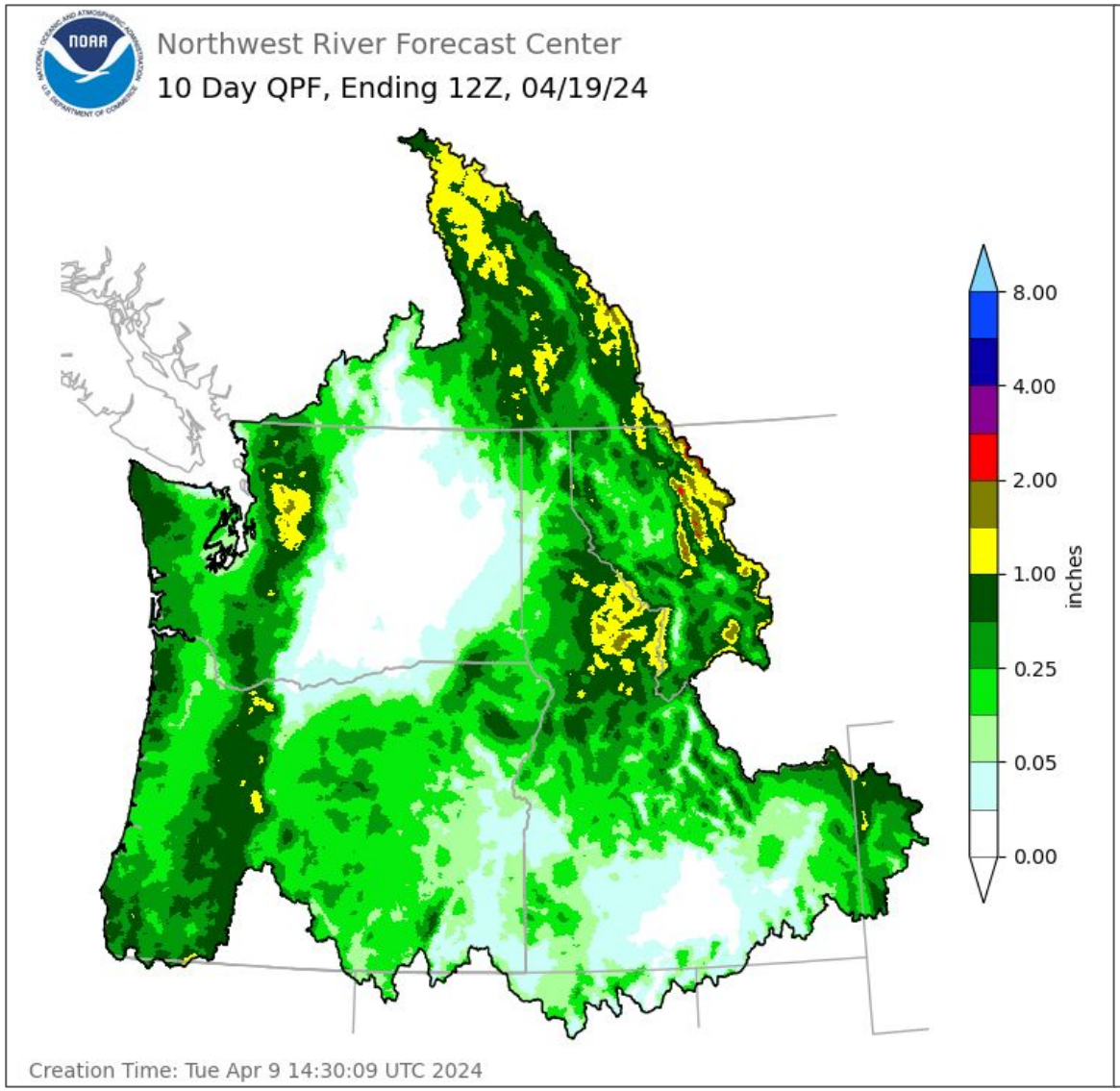
Snowpack and Precipitation

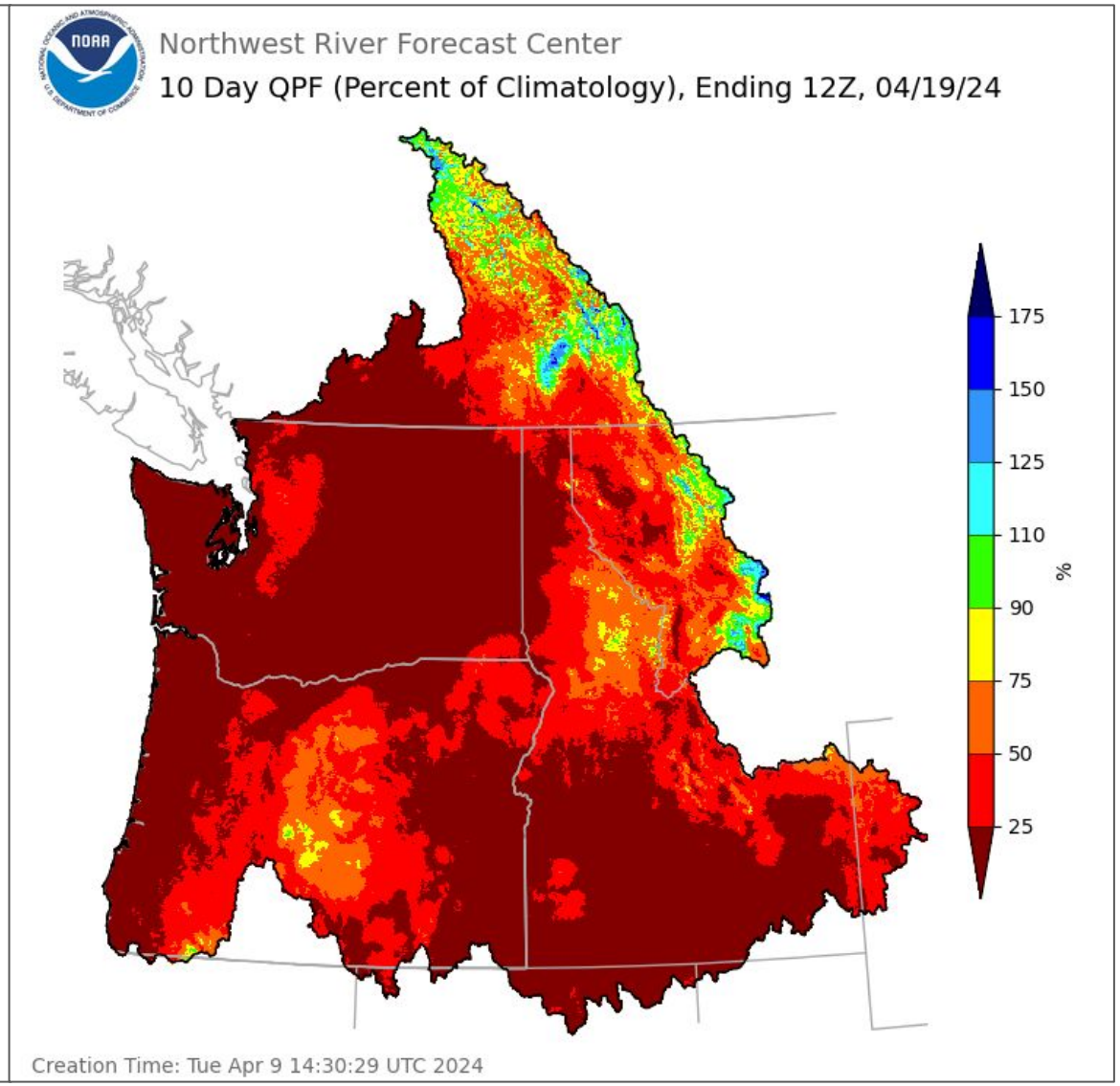




Snow data from NRCS, BC Hydro, and Alberta Environment and Parks.
Precip averages from PRISM OSU and PCIC.

10 Day Precipitation Forecast used in ESP10





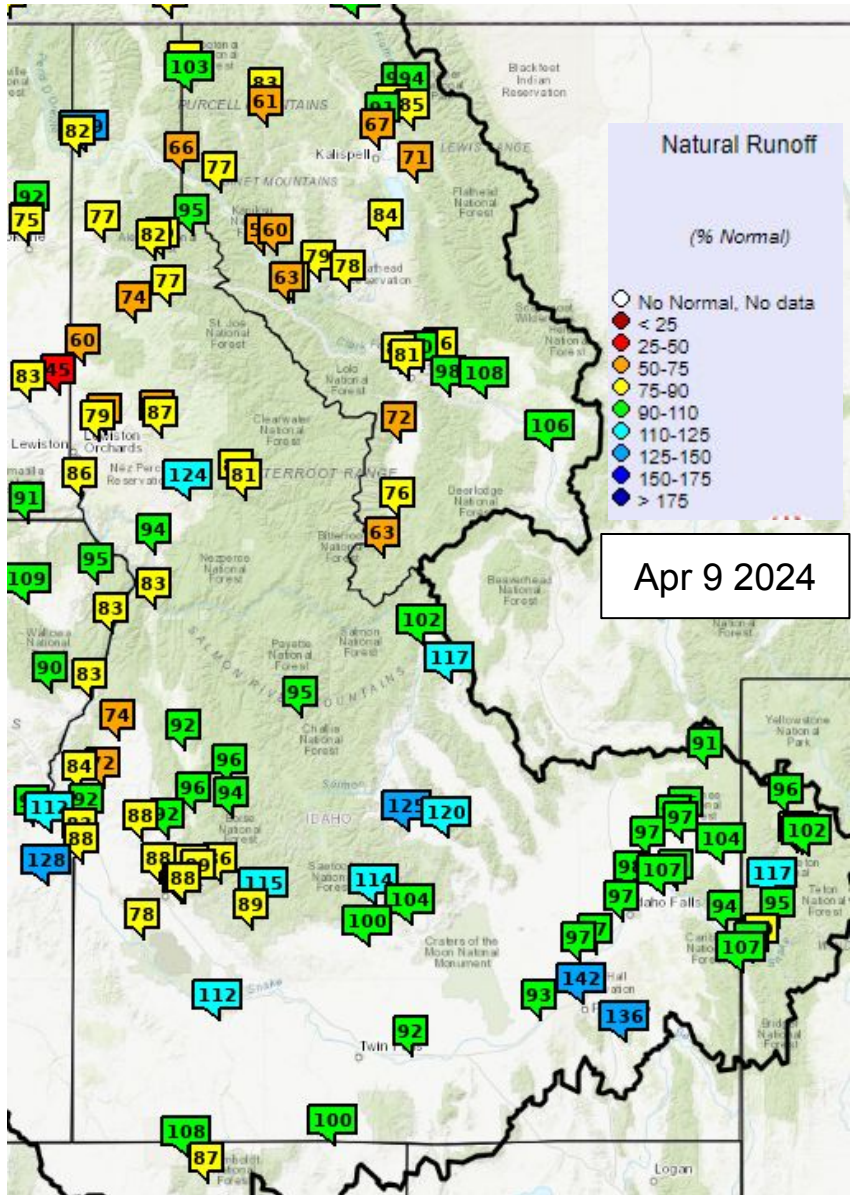
Quantitative Precipitation Forecast (QPF) Sources
Days 1 - 2 NWS Weather Forecast Offices (WFO) in the US, WPC in BC
Days 3 - 7 NWS Weather Prediction Center (WPC)
Days 8 - 10 NWS National Blend of Models (NBM)

Water Year to Date Adjusted Runoff

% Normal Runoff Oct 1 - Apr 9

Snake River Basin	Current	(chng*)
Island Park	91	(-3)
Snake near Heise	94	(-6)
American Falls	93	(-5)
Lucky Peak	88	(-2)
Payette nr Horseshoe Bend	92	(-1)
Dworshak	74	(+2)
Palouse near Potlatch	60	(+1)
Lower Granite	83	(-1)
North Idaho Basins	**Current**	**(chng*)**
Coeur D'Alene at Cataldo	82	(+4)
St. Joe at Calder	77	(+4)

* Change since Mar. 7



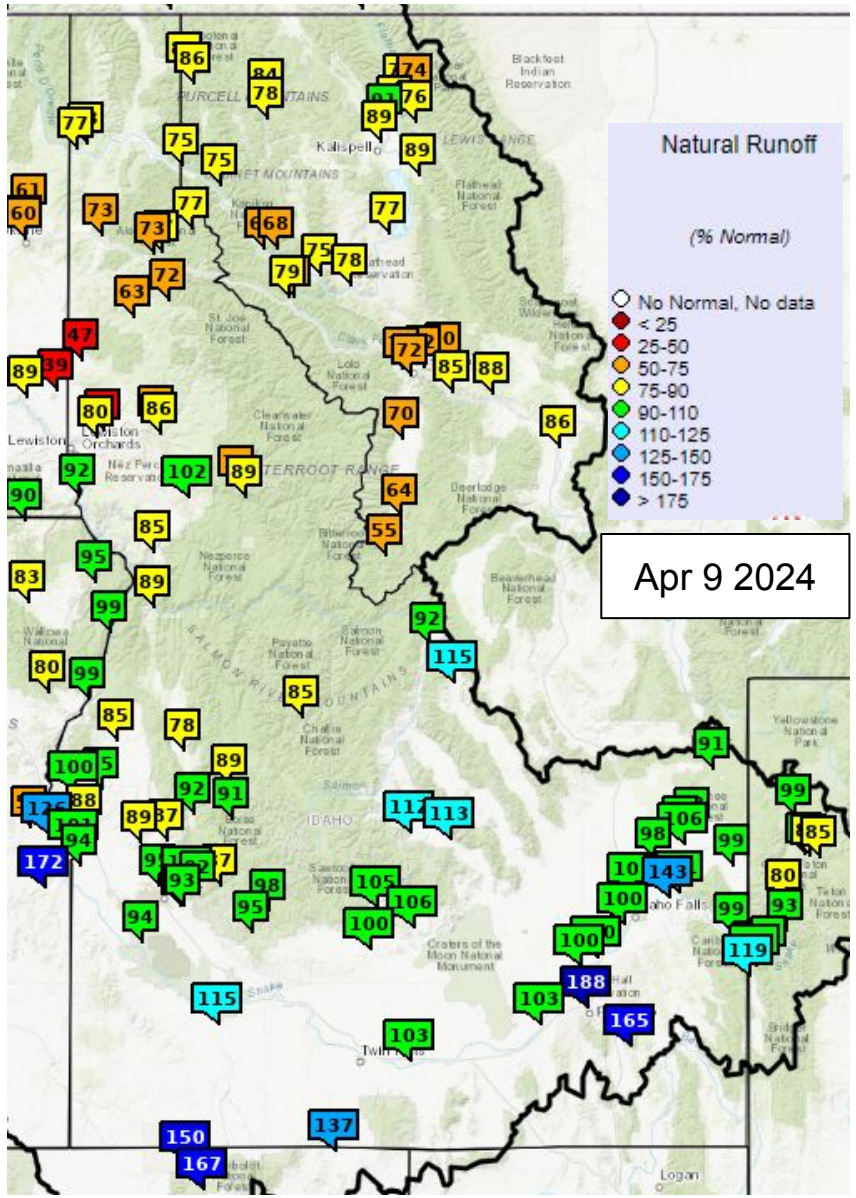
https://www.nwrfc.noaa.gov/natural/index.html?version=20190313v1

Water Supply Forecasts

% Normal Apr - Sep

Snake River Basin	Current	(chng*)
Island Park	91	(0)
Snake near Heise	101	(0)
American Falls	103	(-1)
Lucky Peak	93	(-7)
Payette nr Horseshoe Bend	87	(-1)
Dworshak	74	(0)
Palouse near Potlatch	47	(-41)
Lower Granite	89	(+2)
North Idaho Basins	**Current**	**(chng*)**
Coeur D'Alene at Cataldo	73	(-12)
St. Joe at Calder	72	(-2)

* Change since Mar. 7



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

ESP10 Water Supply Forecast

SNAKE - AT AMERICAN FALLS DAM (AMFI1)
Forecasts for Water Year 2024

Natural Forecast

ESP with 10 Days QPF **Ensemble:** 2024-04-09 **Issued:** 2024-04-09

Forecast Period	Forecasts Are in KAF				30 Year Average (1991-2020)
	90 %	50 %	% Average	10 %	
APR-SEP	5606	6369	103	7135	6167
APR-JUL	4773	5340	101	6075	5266
JAN-SEP	6543	7306	102	8073	7190
JAN-JUL	5710	6277	100	7012	6289
OCT-SEP	7643	8407	102	9173	8275

Experimental

HEFS with 15 days EQPF **Ensemble:** 2024-04-09 **Issued:** 2024-04-09

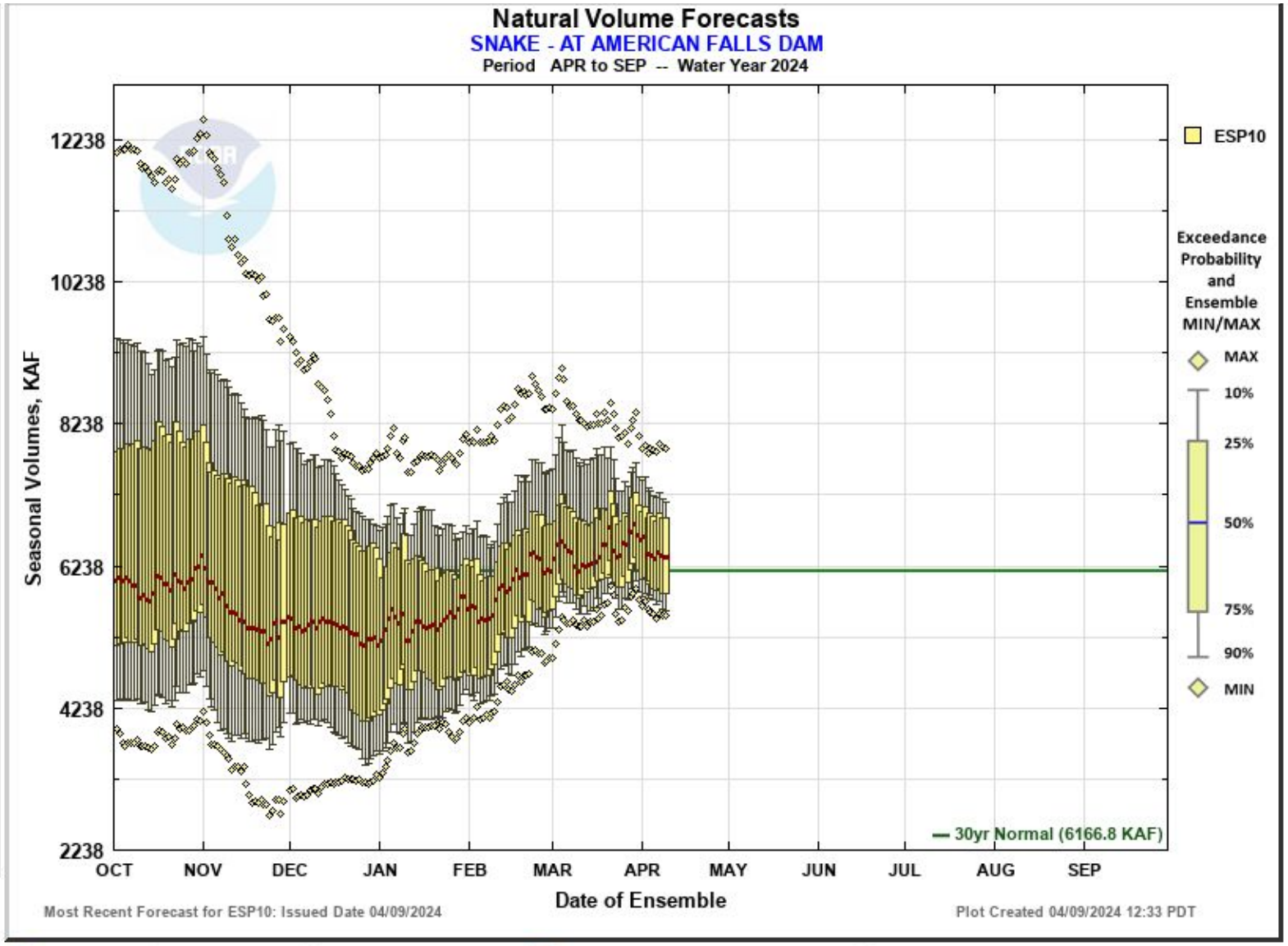
APR-SEP	5769	6408	104	7278	6167
APR-JUL	4875	5391	102	6246	5266
JAN-SEP	6706	7345	102	8216	7190
JAN-JUL	5812	6329	101	7183	6289
OCT-SEP	7806	8445	102	9316	8275

Reference

ESP with 0 Days QPF **Ensemble:** 2024-04-09 **Issued:** 2024-04-09

APR-SEP	5763	6553	106	7406	6167
APR-JUL	4899	5484	104	6354	5266
JAN-SEP	6700	7490	104	8343	7190
JAN-JUL	5836	6421	102	7292	6289
OCT-SEP	7800	8590	104	9443	8275

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



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

https://www.nwrfc.noaa.gov/natural/plot/nat_forecasts.php?id=AMFI1

ESP10 Water Supply Forecast

SNAKE - LOWER GRANITE DAM (LGDW1)
Forecasts for Water Year 2024

Natural Forecast

ESP with 10 Days QPF **Ensemble:** 2024-04-09 **Issued:** 2024-04-09

Forecast Period	Forecasts Are in KAF				30 Year Average (1991-2020)
	90 %	50 %	% Average	10 %	
APR-SEP	18450	21252	89	24834	23929
APR-JUL	16147	18894	88	22234	21589
APR-AUG	17288	20057	88	23580	22827
JAN-SEP	24678	27480	87	31062	31446
JAN-JUL	22375	25122	86	28462	29106
OCT-SEP	28539	31341	87	34923	35973

Experimental

HEFS with 15 days EQPF **Ensemble:** 2024-04-09 **Issued:** 2024-04-09

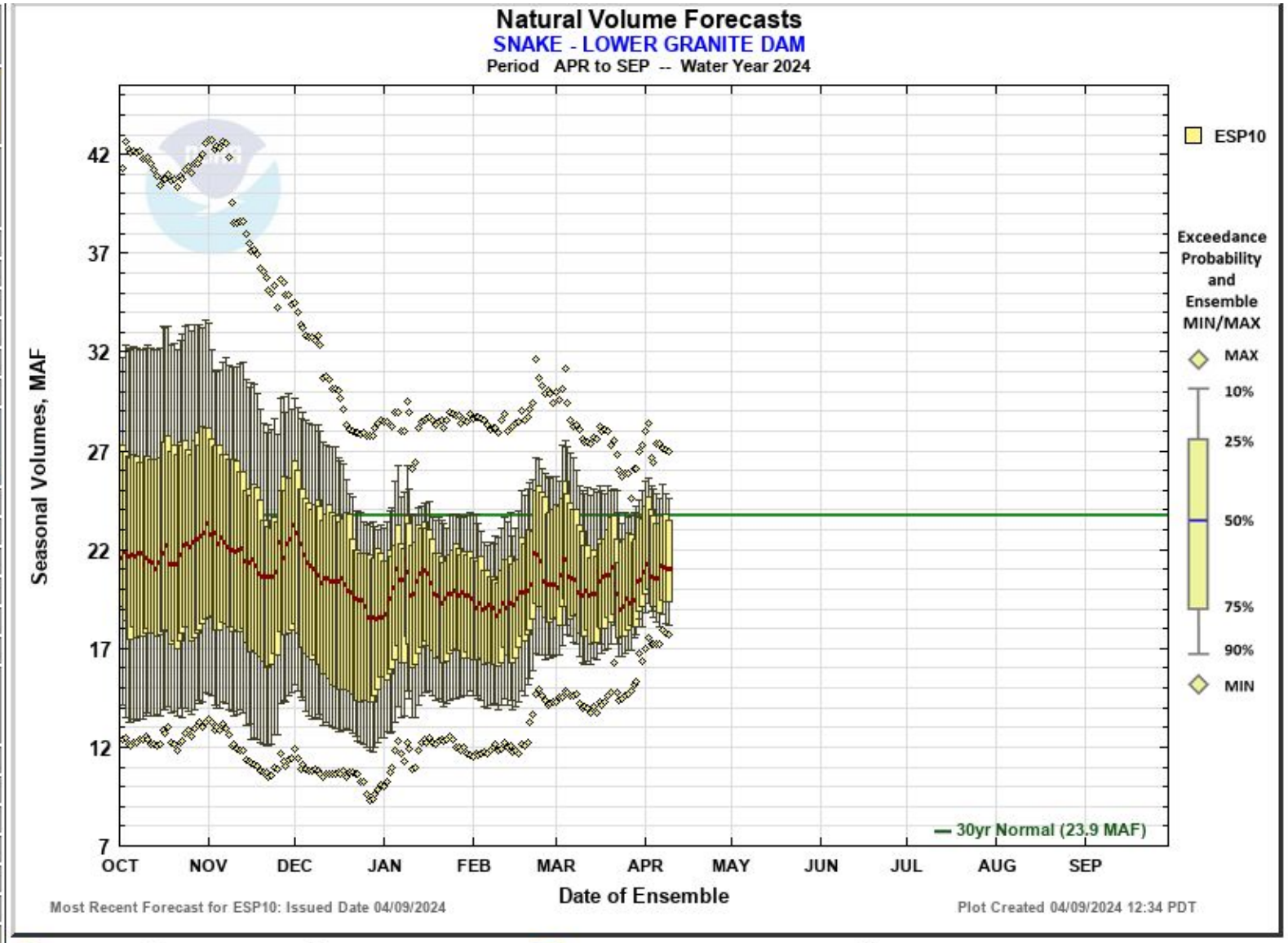
APR-SEP	19295	21100	88	25280	23929
APR-JUL	17129	18773	87	22834	21589
APR-AUG	18223	19990	88	24103	22827
JAN-SEP	25523	27328	87	31508	31446
JAN-JUL	23357	25001	86	29062	29106
OCT-SEP	29384	31189	87	35369	35973

Reference

ESP with 0 Days QPF **Ensemble:** 2024-04-09 **Issued:** 2024-04-09

APR-SEP	19573	21754	91	26152	23929
APR-JUL	17399	19514	90	23647	21589
APR-AUG	18486	20658	90	24912	22827
JAN-SEP	25801	27982	89	32380	31446
JAN-JUL	23627	25742	88	29875	29106
OCT-SEP	29661	31843	89	36241	35973

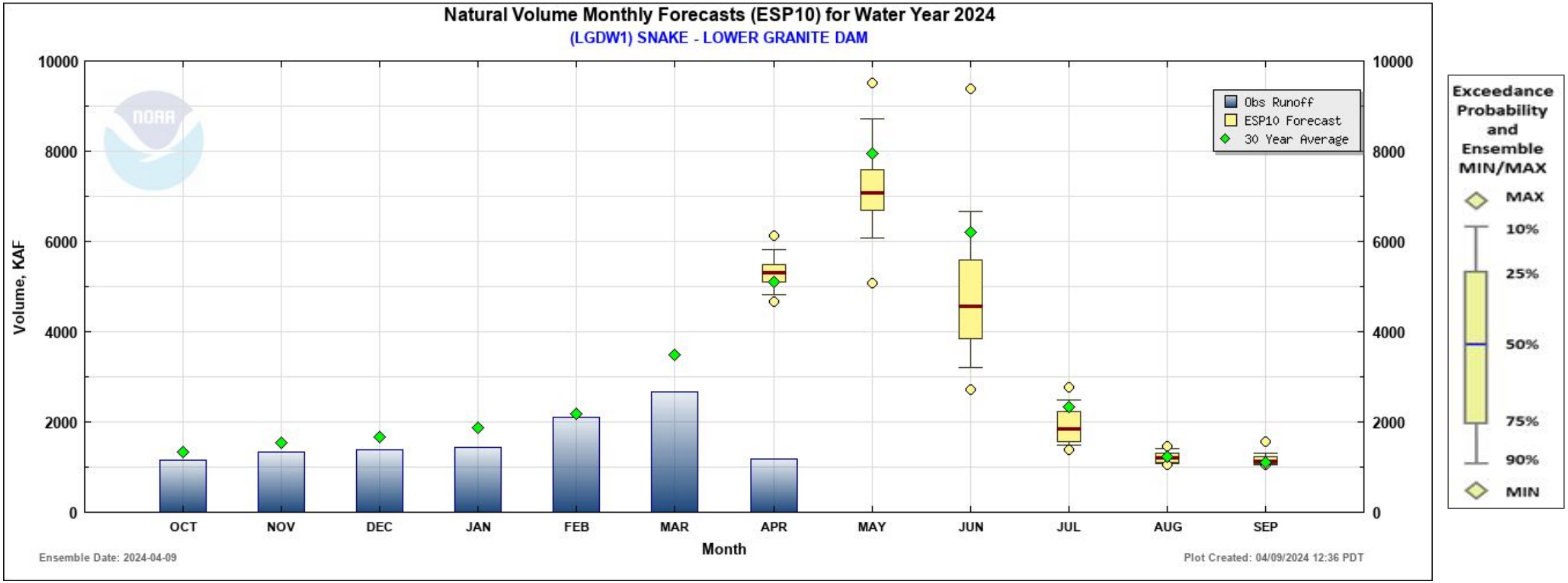
Move the mouse over the desired "Forecast Period" to display a graph.



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

https://www.nwrfc.noaa.gov/natural/plot/nat_forecasts.php?id=LGDW1

ESP10 Water Supply Forecast



https://www.nwrfc.noaa.gov/natural/plot/monthly/monthly_natural_forecasts.php?id=LGDW1