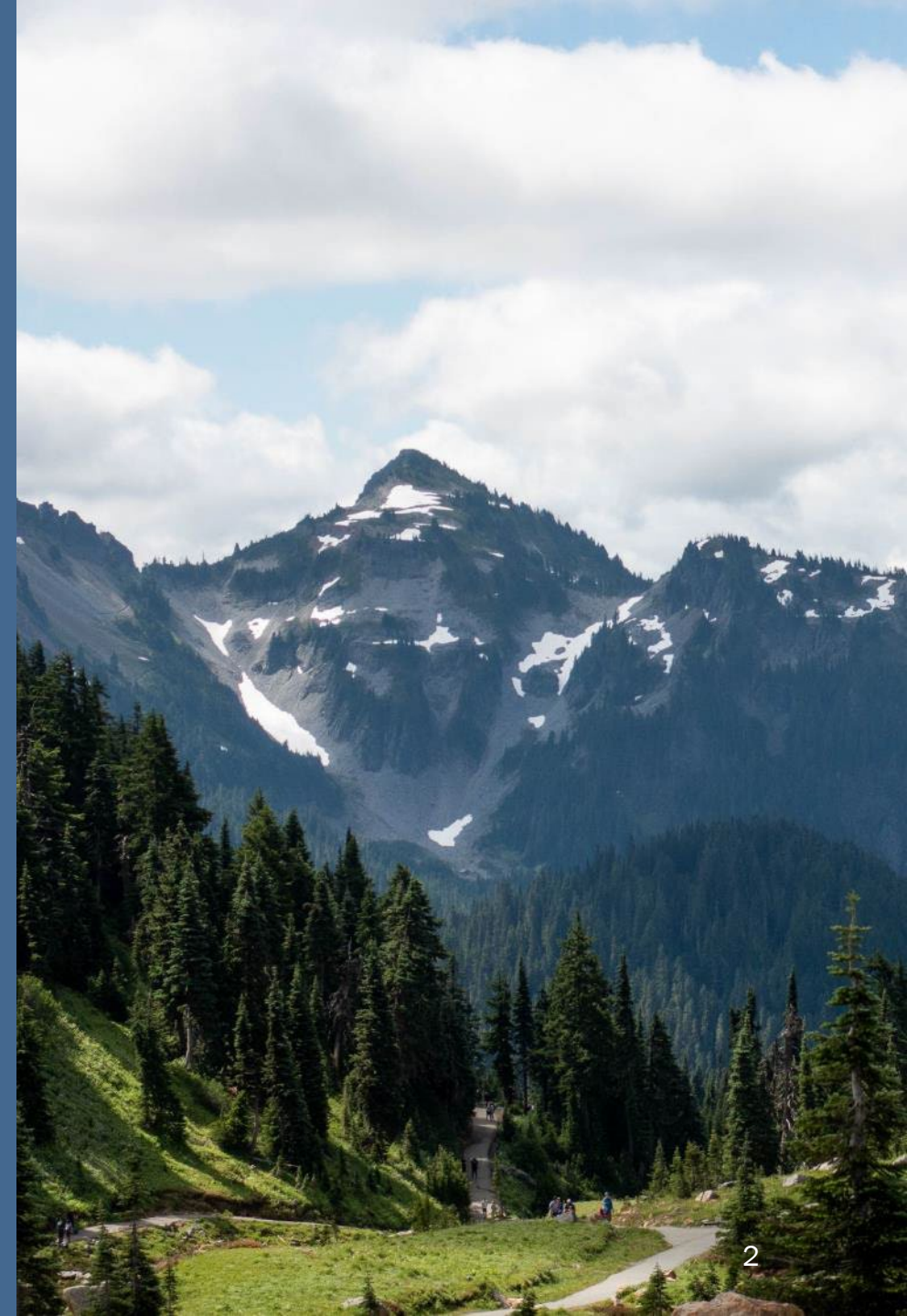


Water Supply Availability Committee

May 22, 2024



Recording!



Agenda

Time	Agenda item	Responsible
10:00a.m.	Welcome and agenda Drought processes and general conditions	Caroline Mellor, Ecology
10:10 a.m.	Regional Climate Setting / ENSO	Nick Bond, OWSC
10:25 a.m.	Mountain Conditions	Matt Warbritton, NRCS
10:40 a.m.	Streamflow and Groundwater	Nick Sutfin, USGS
10:50 a.m.	Water Supply Forecasts	Amy Burke, NWRFC
11:05 a.m.	Yakima Project	Chris Lynch, BOR
11:15 a.m.	Discussion: What conditions and concerns do folks see on the ground?	All participants
11:25 a.m.	Wrap-up and next steps	Caroline Mellor, Ecology

Committee Role

WSAC provides an important consultative and advisory role to Ecology related to:

- Current and forecasted water supply conditions;
- Whether the hydrologic drought threshold has been met or is likely to be met.

Meeting Objectives

- Share pertinent info and assess water supply conditions in Washington.

Drought Emergency Declaration

On April 16, 2024,
Ecology declared a
Statewide drought due to
low snowpack and warm
and dry forecast.

Limited exceptions for
Puget Sound metro areas
with healthy water
storage.



Drought Conditions

Drought conditions - two requirements:

- 1. Hydrologic threshold** – An area is receiving, or is projected to receive, less than seventy-five percent of normal water supply.
- 2. Hardship threshold** – Water users and the environment are or are expected to experience undue hardship.

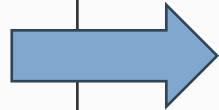
This Committee advises on the hydrologic threshold.

See: [RCW 43.83B.405](#) and [WAC 173-166-050](#).

Drought Conditions: Water Supply Factors

Factors for water supply:

- Water Year to Date:
 - Snowpack
 - Precipitation
 - Temperature
 - Soil moisture
- Forecasts
 - Streamflow
 - Precipitation
 - Temperature
 - Soil moisture



With all factors combined, the hydrologic threshold for drought is met.



Hurricane Ridge Webcam, National Park Service
Olympic National Park

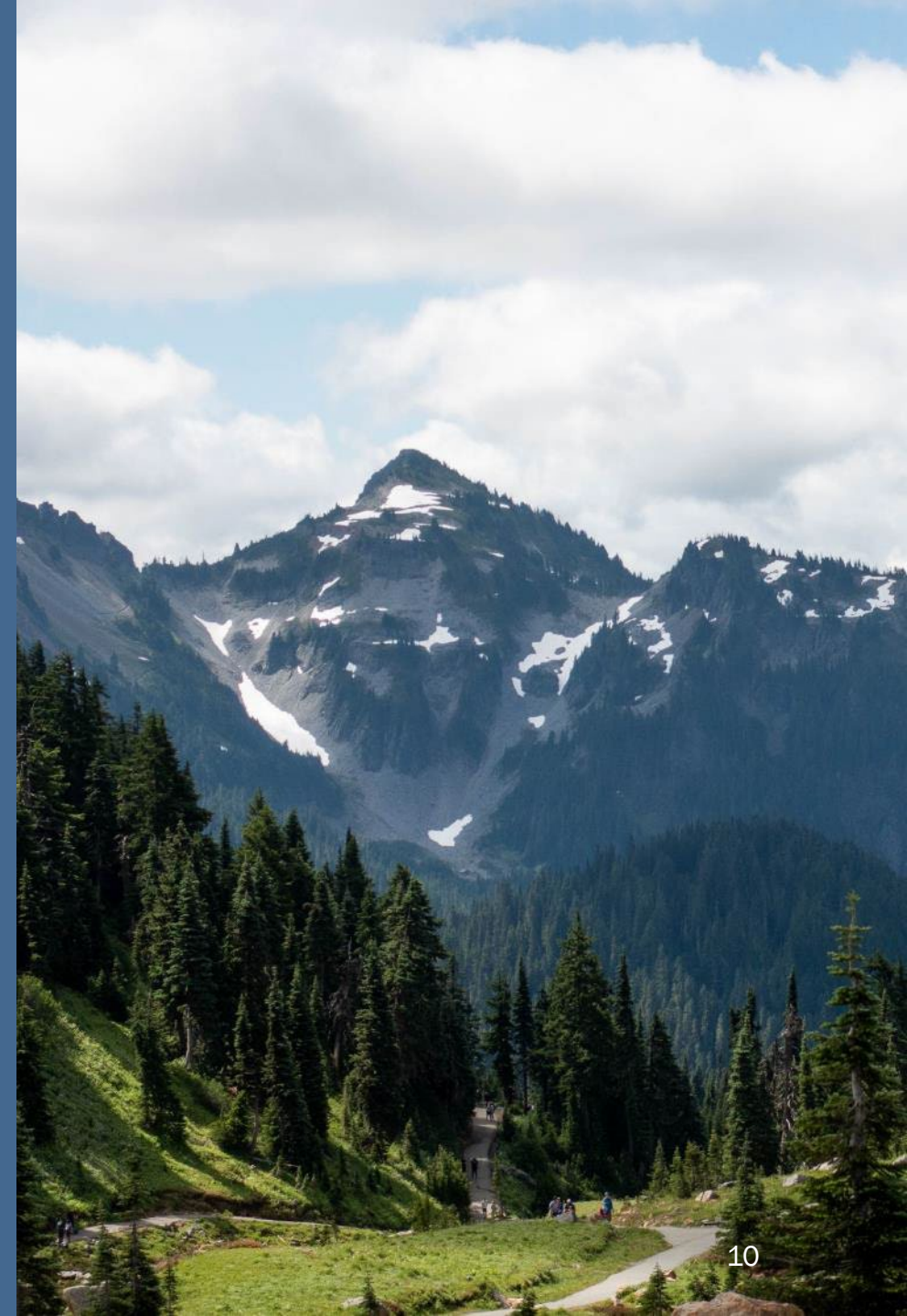
Anticipated Hardships

- Instream flows, fish and wildlife
- Agricultural and livestock
- Public water systems and domestic uses





Implications of a Drought Declaration



What Does a Declaration Do?

Provides Ecology with the authority to:

1. Expedite emergency water transfer applications.
2. Establish a grant program to mitigate hardships to water users and the environment.



Emergency response funding

Grants to governmental entities:

- Federally recognized tribes.
- Counties, cities, and towns.
- Water and sewer districts formed under chapter 57.02 RCW.
- Public utility districts formed under chapter 54.04 RCW.
- Port districts formed under chapter 53.04 RCW.
- Conservation districts formed under chapter 89.08 RCW.
- Irrigation districts formed under chapter 87.03 RCW.
- Watershed management partnerships formed under RCW 39.34.200.

Interagency agreements to state agencies

Drought response grants - Washington State Department of Ecology

Water resources drought response grants

This funding opportunity opens April 17, 2024.

We issued a [Drought Emergency Declaration](#) on April 16, 2024. On April 10, 2024, the state Executive Water Emergency Committee determined that specific areas in Washington meet the statutory criteria for drought conditions described in [Chapter 43.83B RCW](#), "water supply is less than 75 percent of normal, resulting in undue hardships to water users and the environment." Under [SHB 1138, Emergency Drought Response](#), funding became available to alleviate immediate conditions from this drought. The adopted [emergency drought funding rule](#), Chapter 173-167 WAC, remains effective until Aug. 14, 2024.

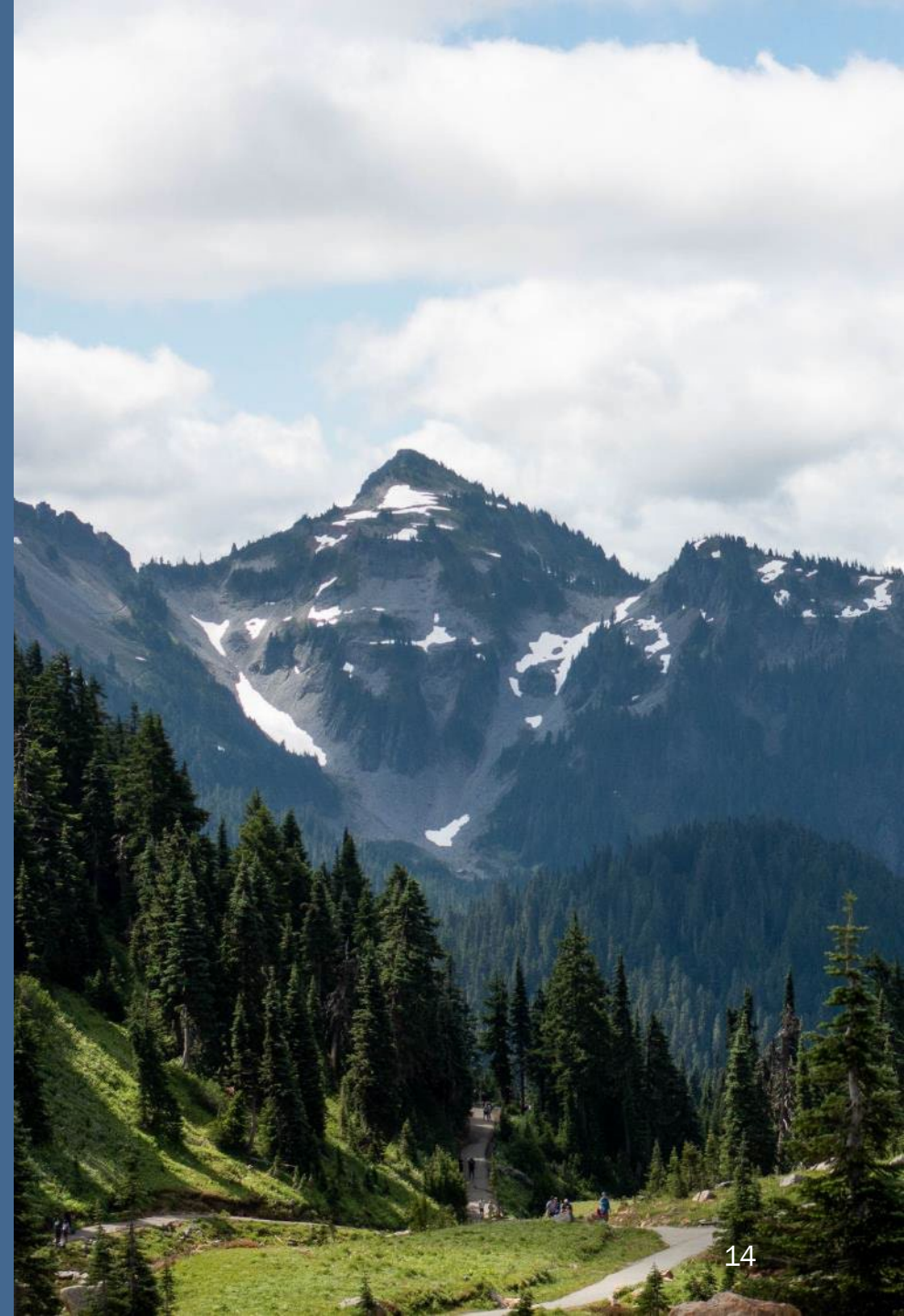
Ecology may extend the emergency rule based on evolving drought conditions. If the emergency rule is extended, these guidelines will be updated to reflect the extended date to which applications may be submitted.

I want to...

- [Apply for or manage a grant or loan](#)
- [Get guidance for managing a grant or loan](#)
- [Learn more about the 2024 drought](#)



Presenters



Discussion Question

For all meeting attendees:

What conditions and water supply concerns are folks seeing on the ground?

Example Drought Response Grant Projects

Agriculture or livestock

- Purchasing or leasing water or water rights to be used during the drought period for instream or out-of-stream beneficial uses.
- Developing alternate source(s) of water supply, or mitigating use of existing emergency sources, to supplement an insufficient source.
- Replacing intakes, pumps, and related accessories.

See: [2024 Drought Response Grant Funding Guidance \(wa.gov\)](https://www.wa.gov/2024-drought-response-grant-funding-guidance)

Example Drought Response Grant Projects

Public water supply

- Developing alternate source(s) of water supply, or mitigating use of existing emergency sources, to supplement an insufficient source.
- Transportation of emergency water supplies for public health and sanitation.
- Implementing water conservation strategies.

See: [2024 Drought Response Grant Funding Guidance \(wa.gov\)](https://www.wa.gov/2024-Drought-Response-Grant-Funding-Guidance)

Example Drought Response Grant Projects

Fisheries and wildlife

- Projects that eliminate migration barriers, such as temporary structures to increase flow velocity or depth.
- Modifying stream channels adjacent to a hatchery to ensure passage to the facility.
- Stream channel modification such as trenching, sandbagging, or creating berms to protect spawning gravels or to provide migratory channels for fish passage.

See: [2024 Drought Response Grant Funding Guidance \(wa.gov\)](https://www.wa.gov/2024-Drought-Response-Grant-Funding-Guidance)

Communications

- [WSAC website](#) updated with meeting materials and presentation recording.
 - Will be updated within a week of this meeting.
 - Next meeting tentatively June 26.
- April 16, 2024, Press release: [Apr. 16 - Drought Declaration - Washington State Department of Ecology](#)
- Updated drought website: [Drought Response - Washington State Department of Ecology](#)



Thank you

Contact: Committee Chair
Caroline Mellor
Statewide Drought Lead
Caroline.Mellor@ecy.wa.gov



Office of the Washington State Climatologist



Current Conditions and Seasonal Outlook

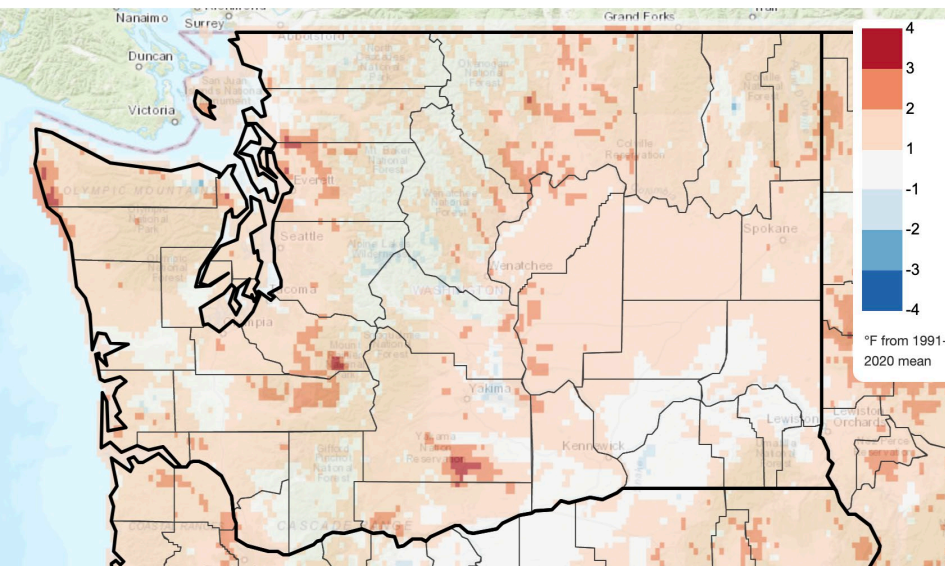
Nick Bond & Karin Bumbaco
Office of the Washington State Climatologist
Climate Impacts Group
University of Washington
22 May 2024

Water Year to Date

Temperature

Mean Daily Temperature Anomaly, Since Oct 1st

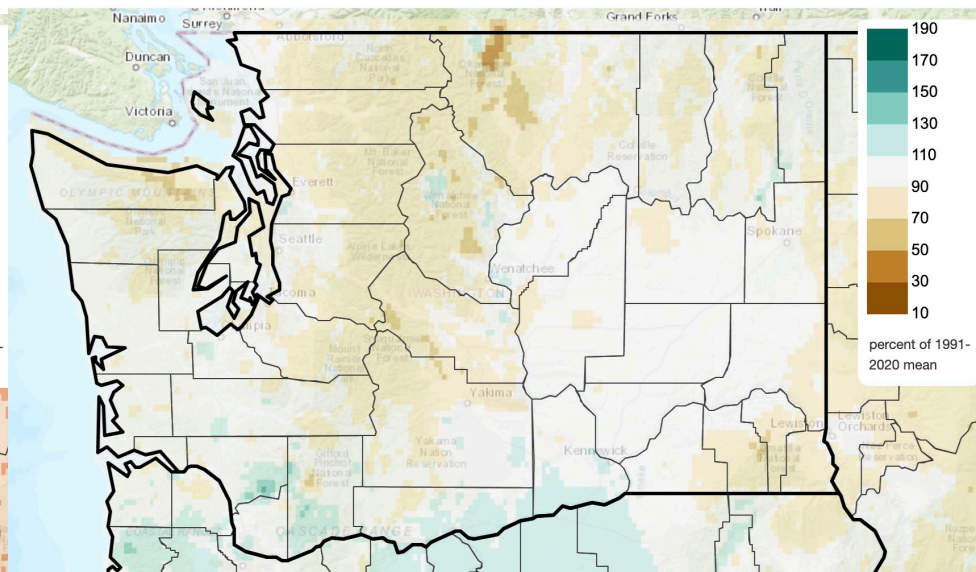
2023/10/01 - 2024/05/18



Precipitation

Total Precipitation Anomaly, Since Oct 1st

2023/10/01 - 2024/05/18



[Climate Toolbox](#)

- Averaged statewide, Oct-Apr has tied as the 11th warmest on record (+1.4°F above normal)*
- Averaged statewide, Oct-Apr is the 44th driest (90% of normal)

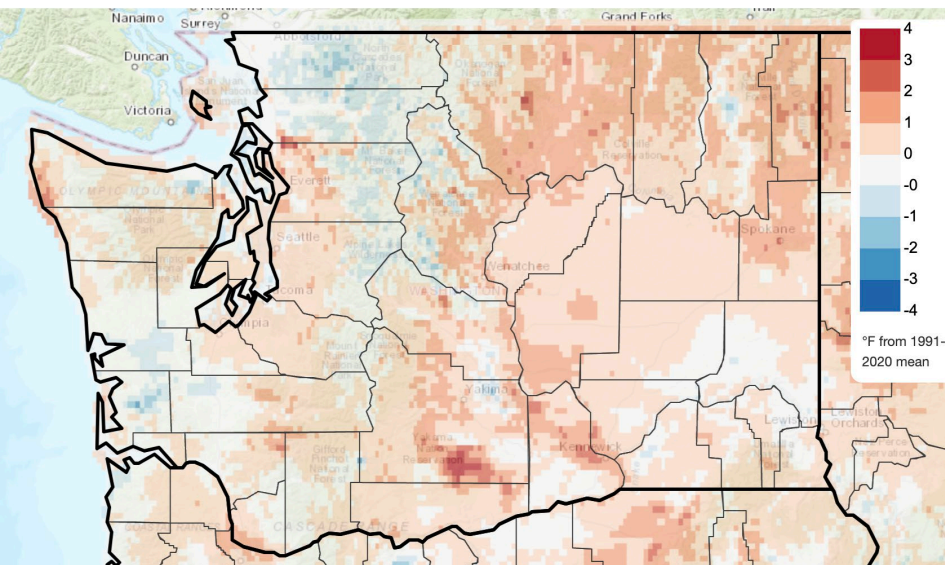
*Records since 1895; Normal is 1991-2020

Last 90 Days

Temperature

Mean Daily Temperature Anomaly, Last 90 Days

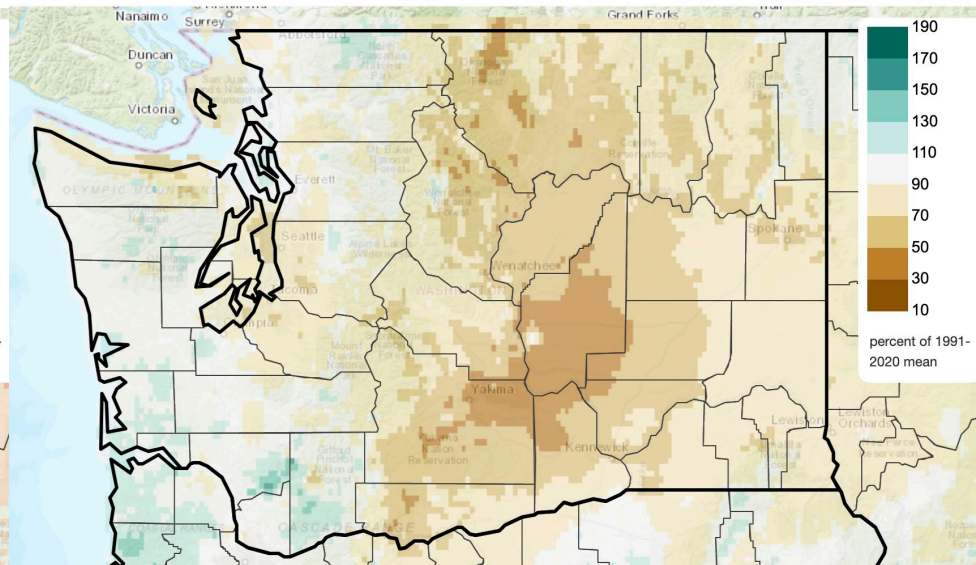
2024/02/19 - 2024/05/18



Precipitation

Total Precipitation Anomaly, Last 90 Days

2024/02/19 - 2024/05/18



Climate Toolbox

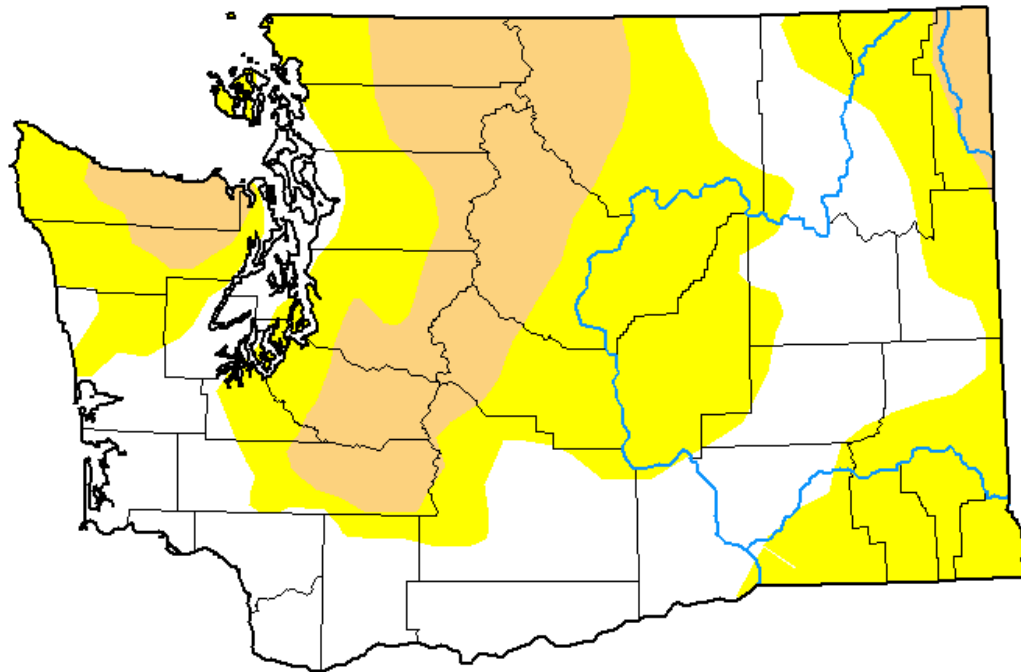
- Averaged statewide, Mar-Apr tied as the 29th warmest on record (+0.6°F)
- Averaged statewide, Mar-Apr was 30th driest on record (71% of normal; -2.28")

*Records since 1895; Normal is 1991-2020

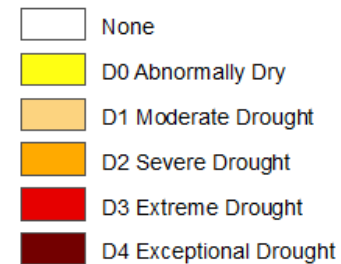
U.S. Drought Monitor

U.S. Drought Monitor Washington

May 14, 2024
(Released Thursday, May. 16, 2024)
Valid 8 a.m. EDT



Intensity:



The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to <https://droughtmonitor.unl.edu/About.aspx>

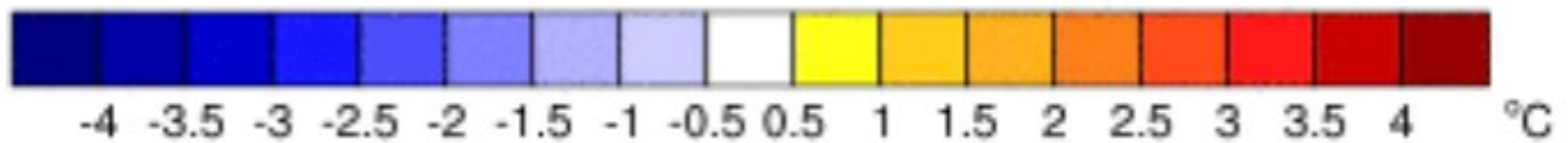
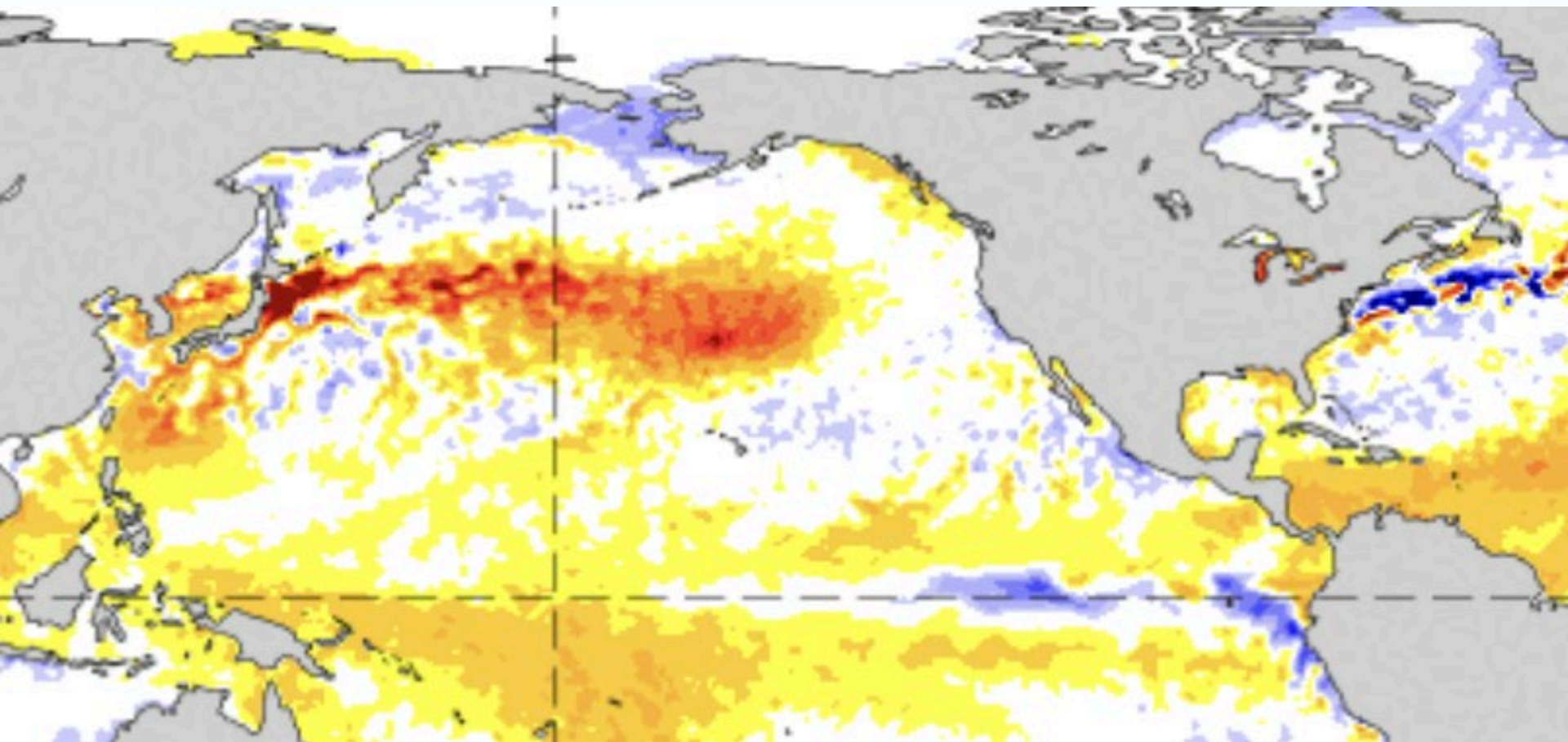
Author:

Lindsay Johnson
National Drought Mitigation Center



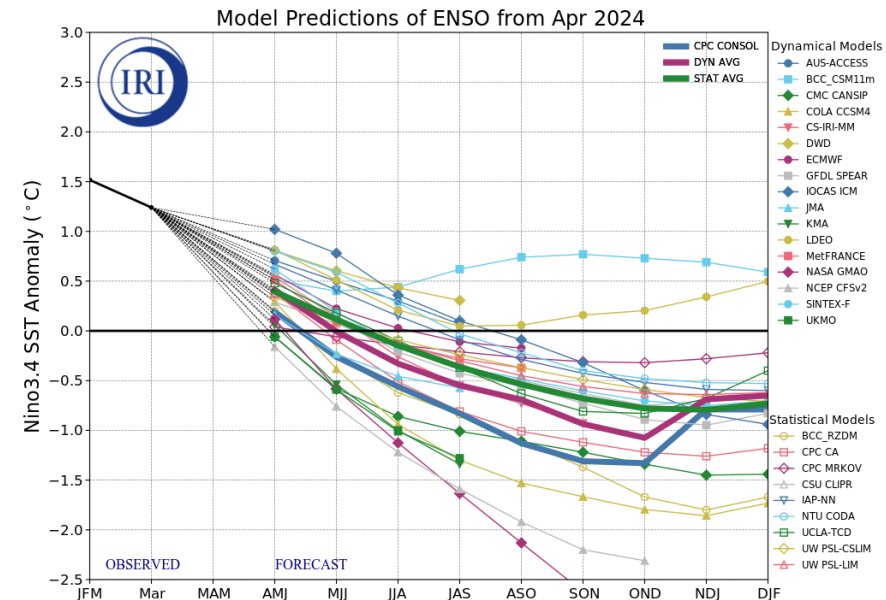
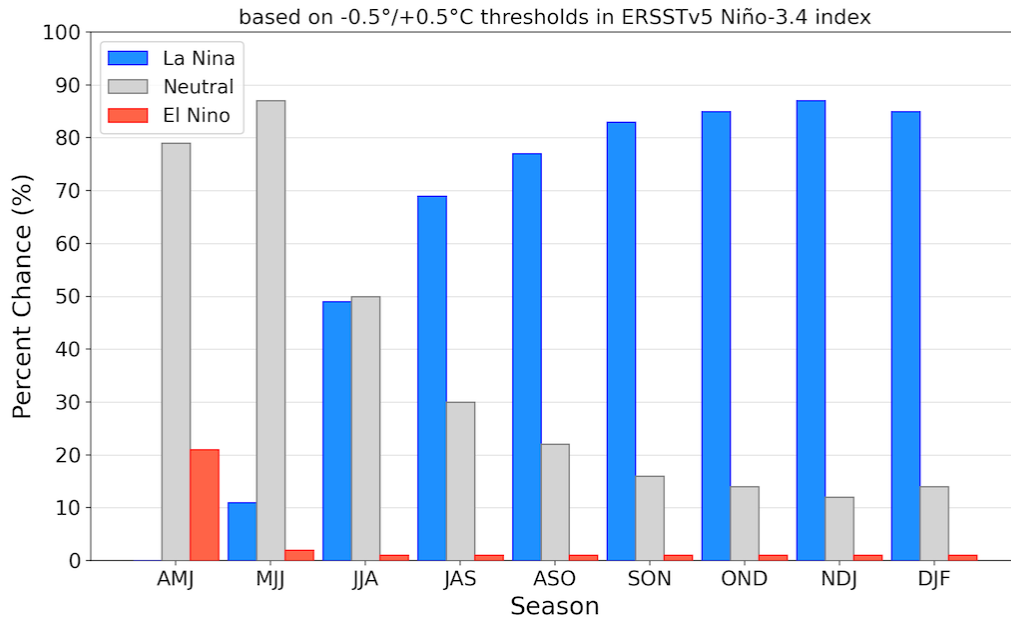
droughtmonitor.unl.edu

Sea Surface Temperature Anomalies: 12-18 May 2024

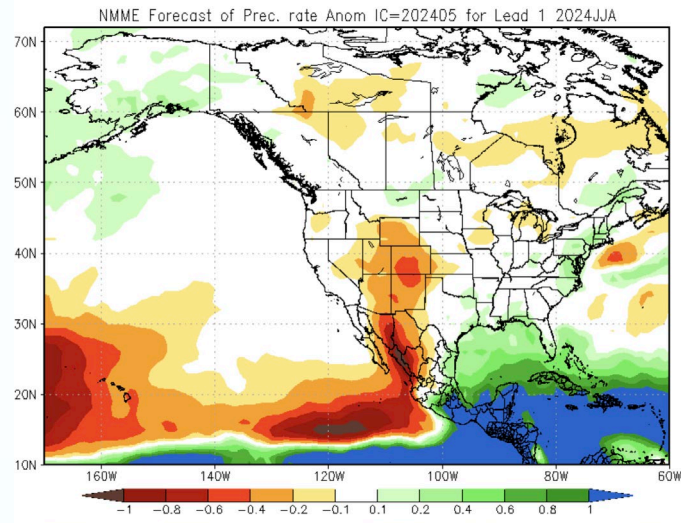


La Niña is highly likely during the upcoming fall and winter

Official NOAA CPC ENSO Probabilities (issued May 2024)

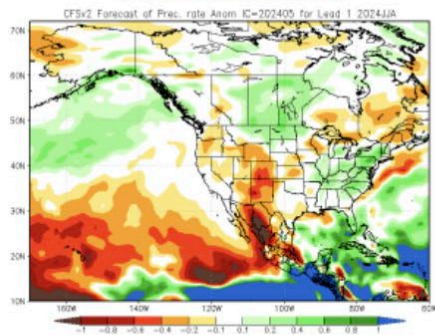


Climate models projecting a warm summer, but precipitation totals are uncertain

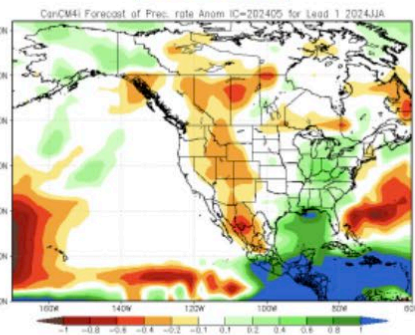


North American
Model Mean
Precipitation
Anomalies (Jun-Aug)

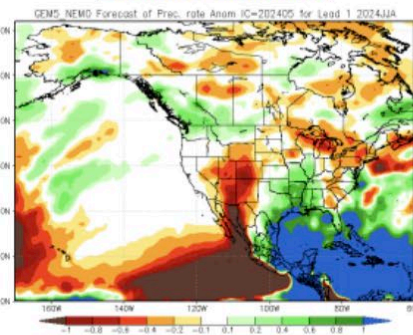
NCEP CFSv2



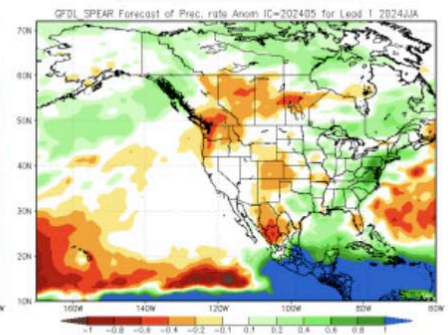
CanCM4i



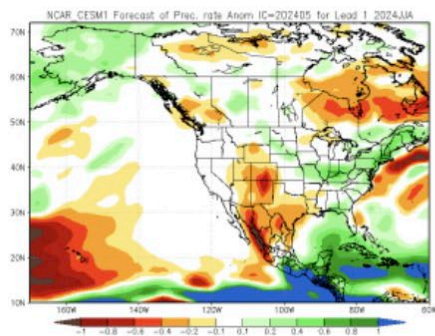
GEM5 NEMO



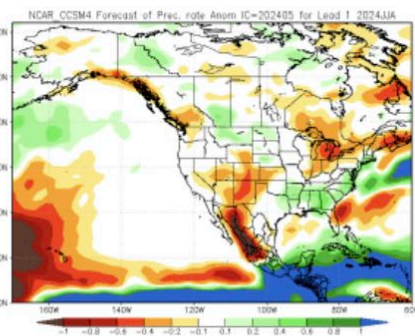
GFDL SPEAR



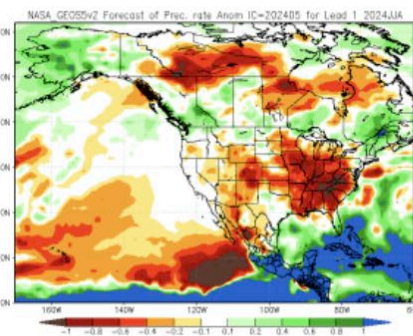
NCAR CESM1



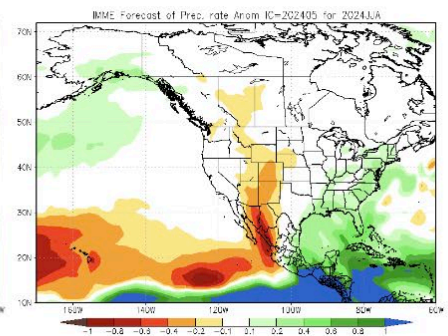
NCAR CCSM4



NASA GEOS5v2



IMME

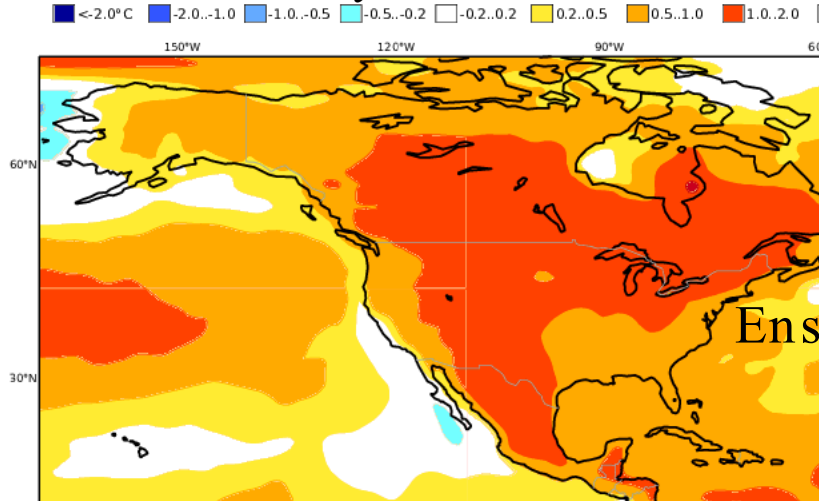


Temperature Anomaly Projections for Summer from the IMME

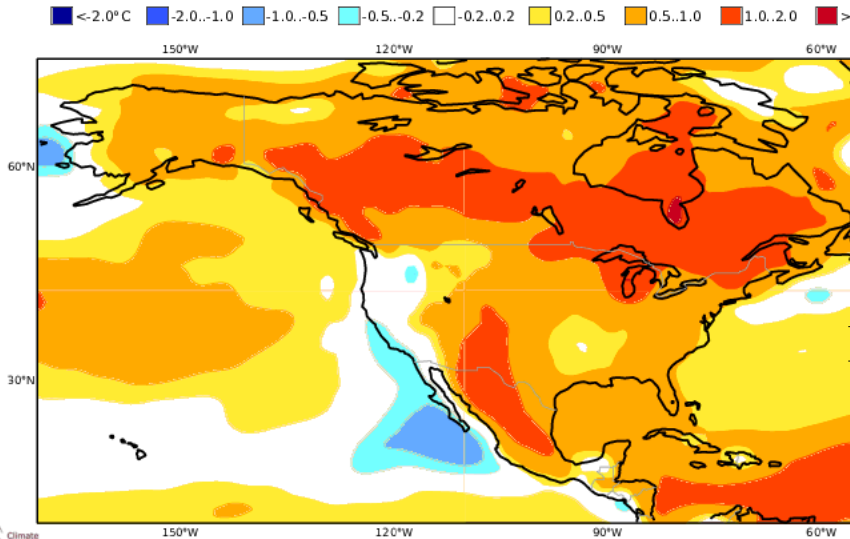
C3S multi-system seasonal forecast
Mean 2m temperature anomaly
Nominal forecast start: 01/05/24
Variance-standardized mean

ECMWF/Met Office/Météo-France/CMCC/DWD/NC

May Forecast



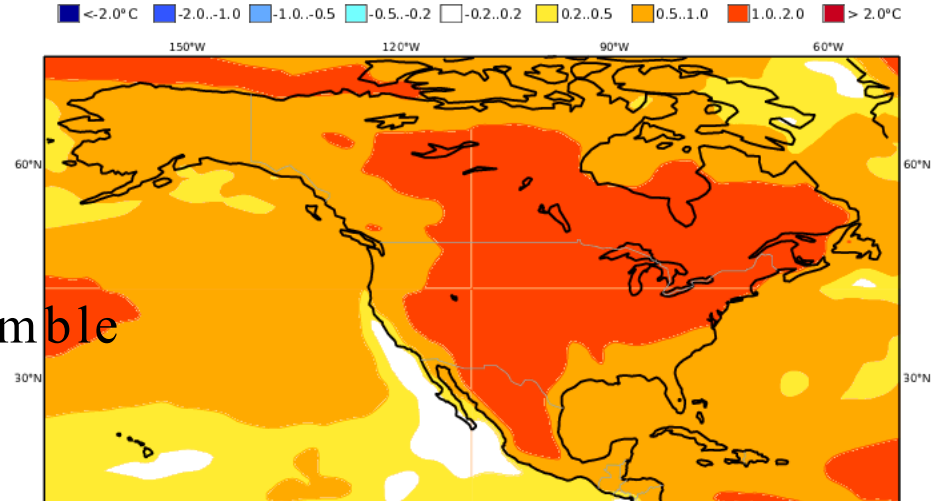
C3S: ECCO contribution
Mean 2m temperature anomaly
Nominal forecast start: 01/05/24
Variance-standardized mean



C3S multi-system seasonal forecast
Mean 2m temperature anomaly
Nominal forecast start: 01/03/24
Variance-standardized mean

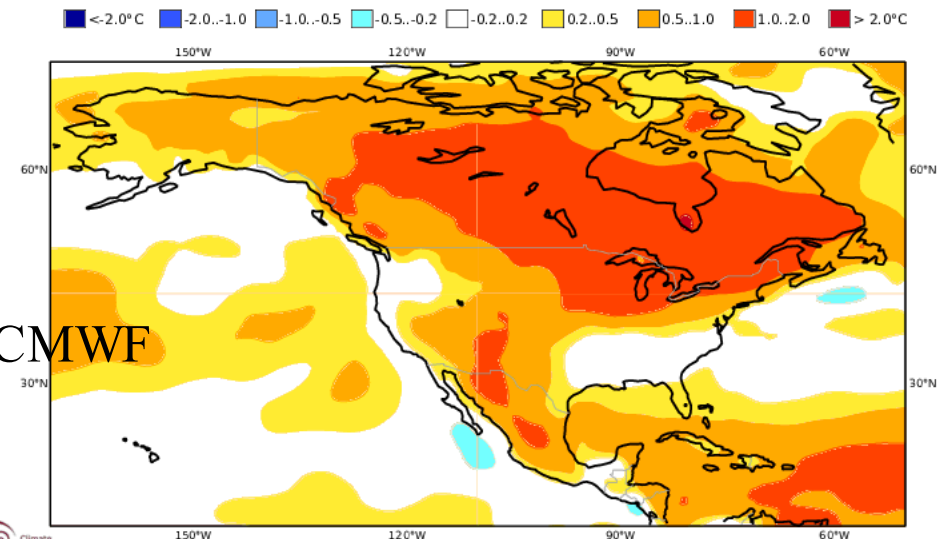
ECMWF/Met Office/Météo-France/CMCC/DWD/NCEP/JMA/ECCC
JJA 2024

March Forecast



C3S: ECCO contribution
Mean 2m temperature anomaly
Nominal forecast start: 01/03/24
Variance-standardized mean

ECMWF

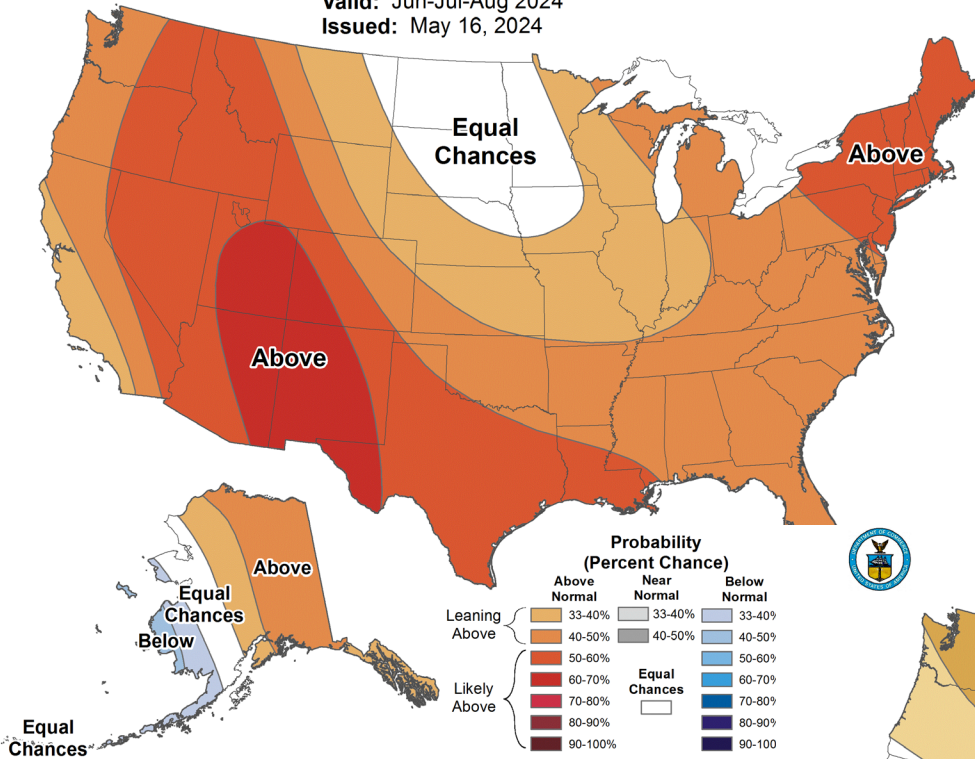


JJA 2024



Seasonal Temperature Outlook

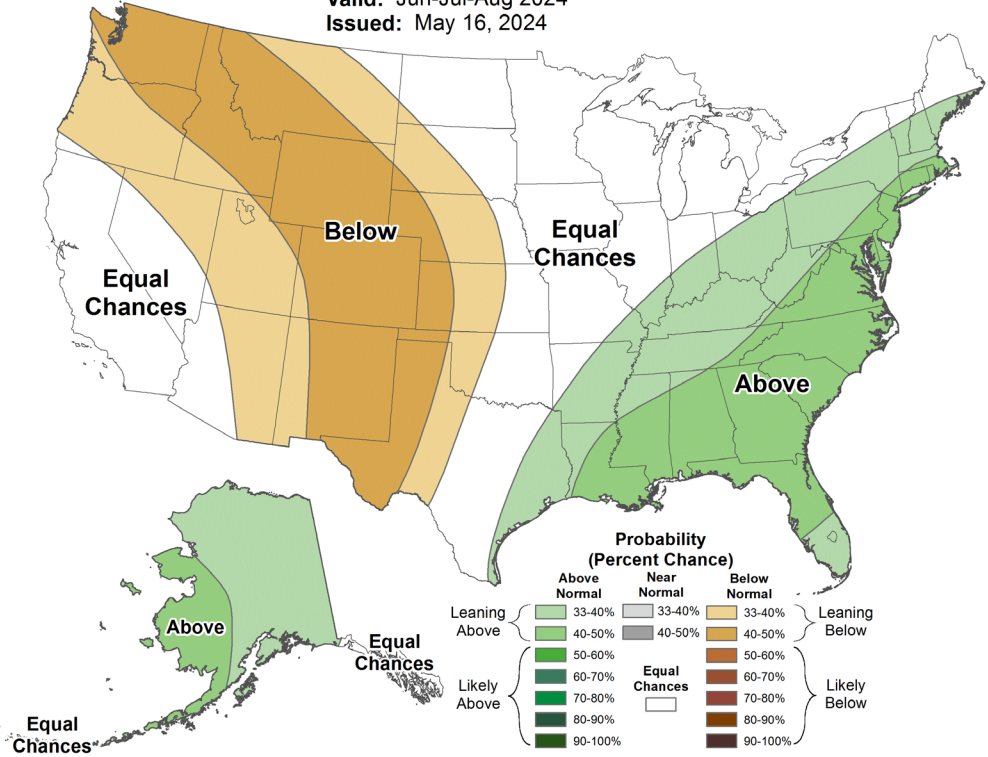
Valid: Jun-Jul-Aug 2024
Issued: May 16, 2024



NOAA/ CPC Outlooks for JJA

Seasonal Precipitation Outlook

Valid: Jun-Jul-Aug 2024
Issued: May 16, 2024



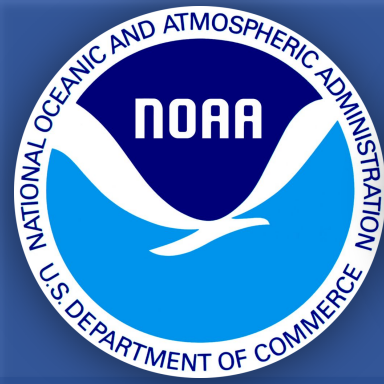
Temperature Anomaly Forecasts from NOAA/ CPC

Climate Division	Jun-Aug	Aug-Oct
Coastal WA	0.4 °F	0.2 °F
Puget Sound	0.6	0.2
Central WA	0.8	0.3
NE WA	0.8	0.4

Upper 62-68 Percentile Upper 56-61 Percentile

Summary

- Water year to date temperatures have been 1.4°F above normal for WA state as a whole; precipitation through April has been 90% of normal
- May temperatures have been near-normal to slightly above with much below normal precipitation thus far
- The remainder of spring through summer of 2024 is apt to be on the warm side, but probably not to an extreme
- No clear signal(s) regarding precipitation from spring through summer; recent summers have tended to be drier than 20th century averages



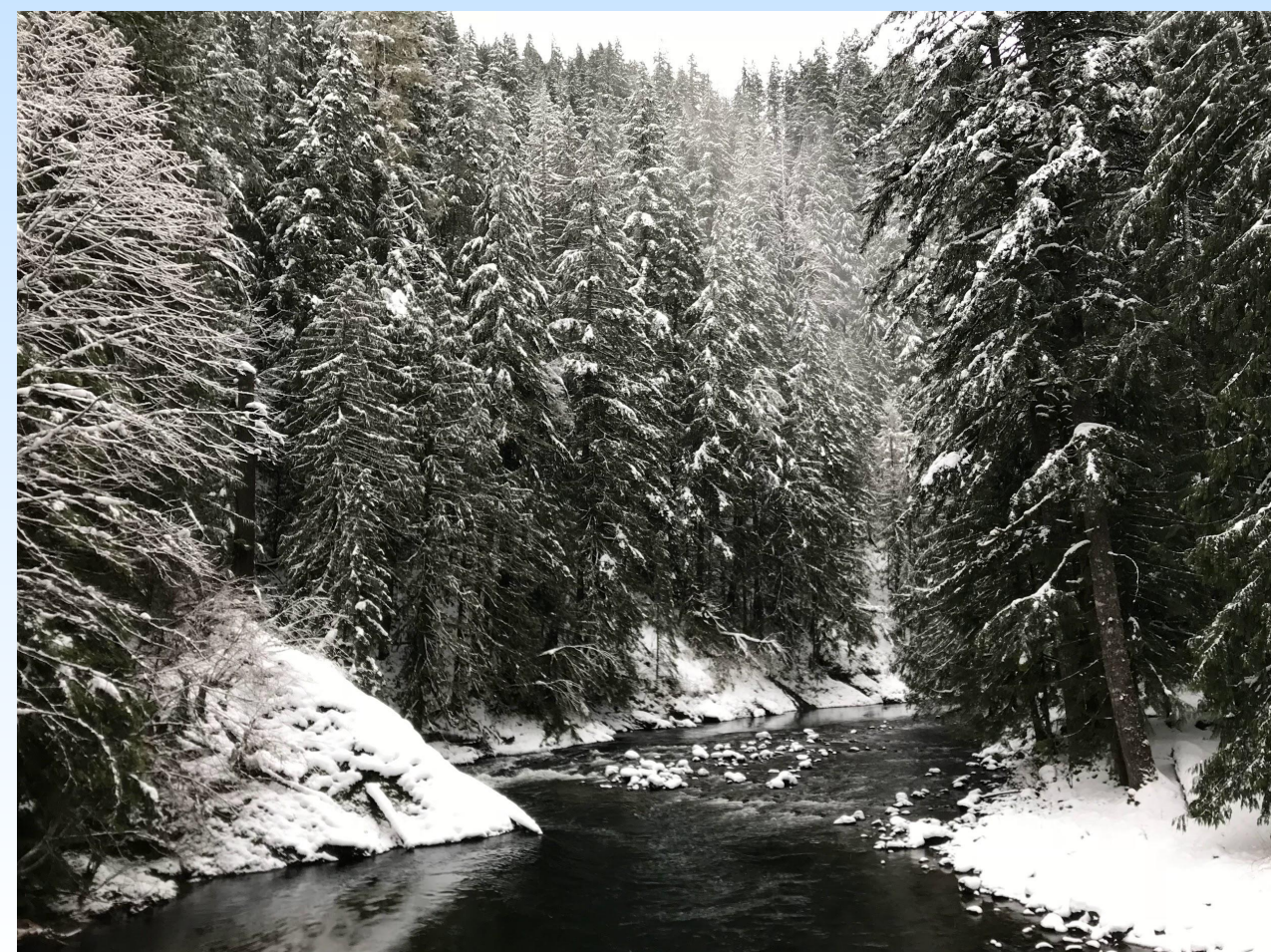
NWS

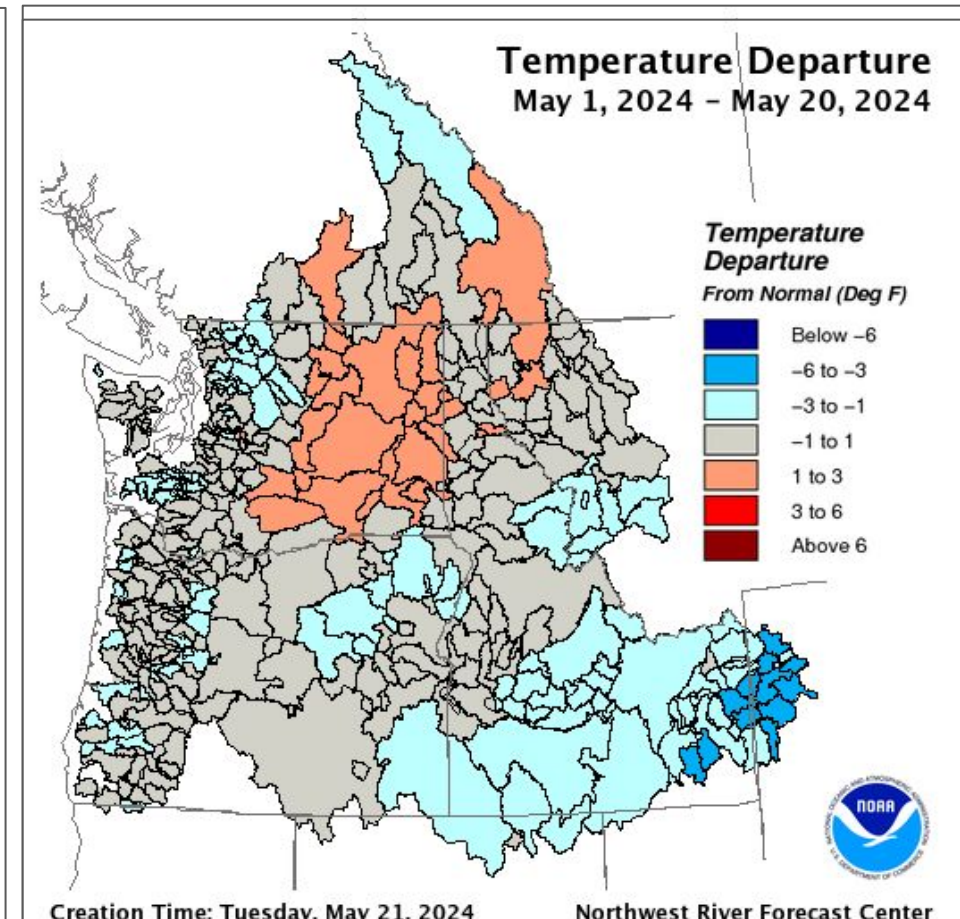
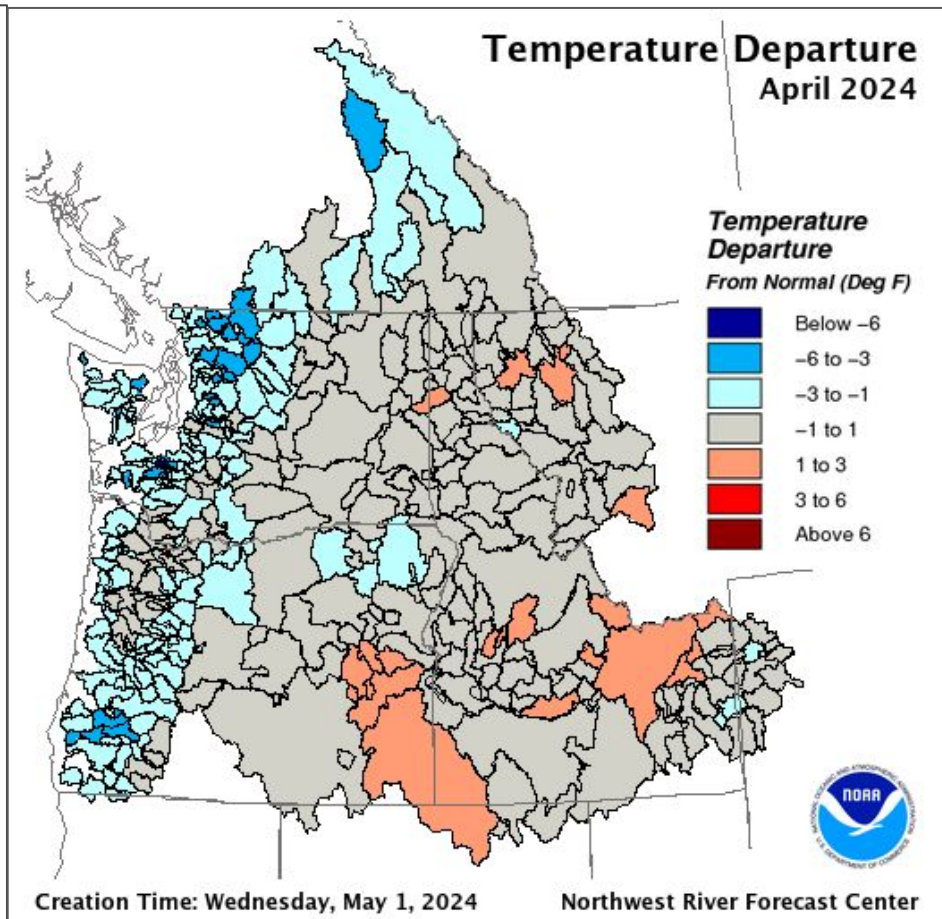
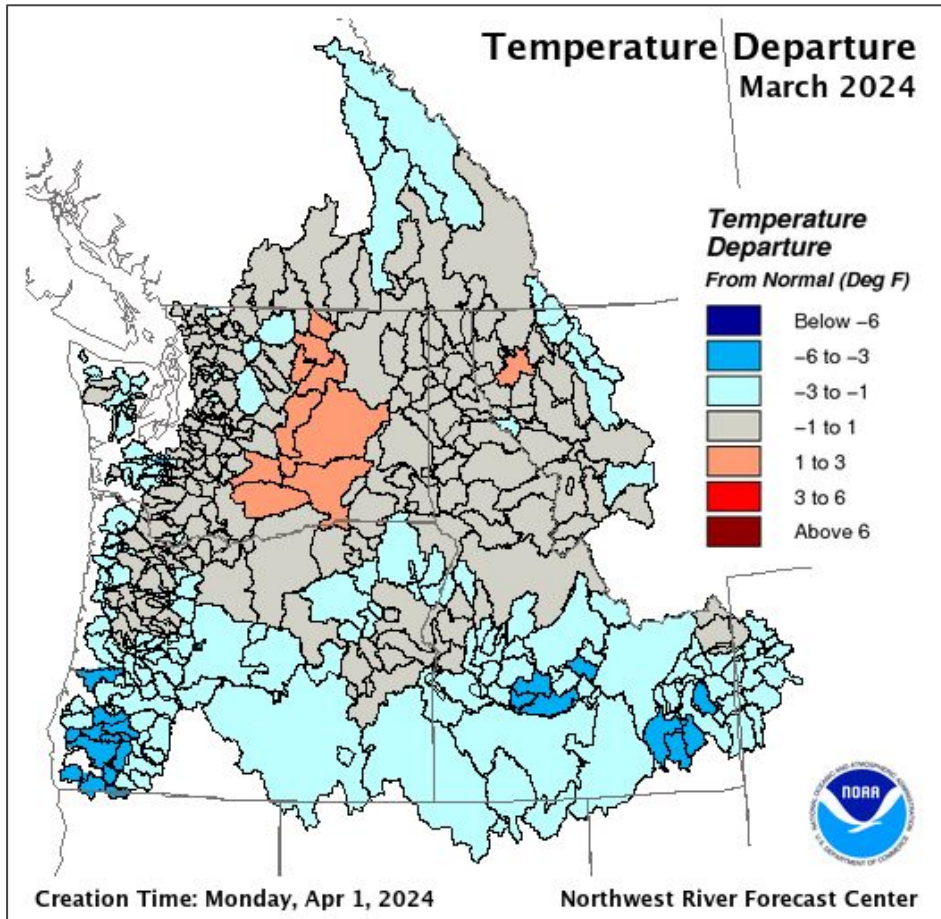
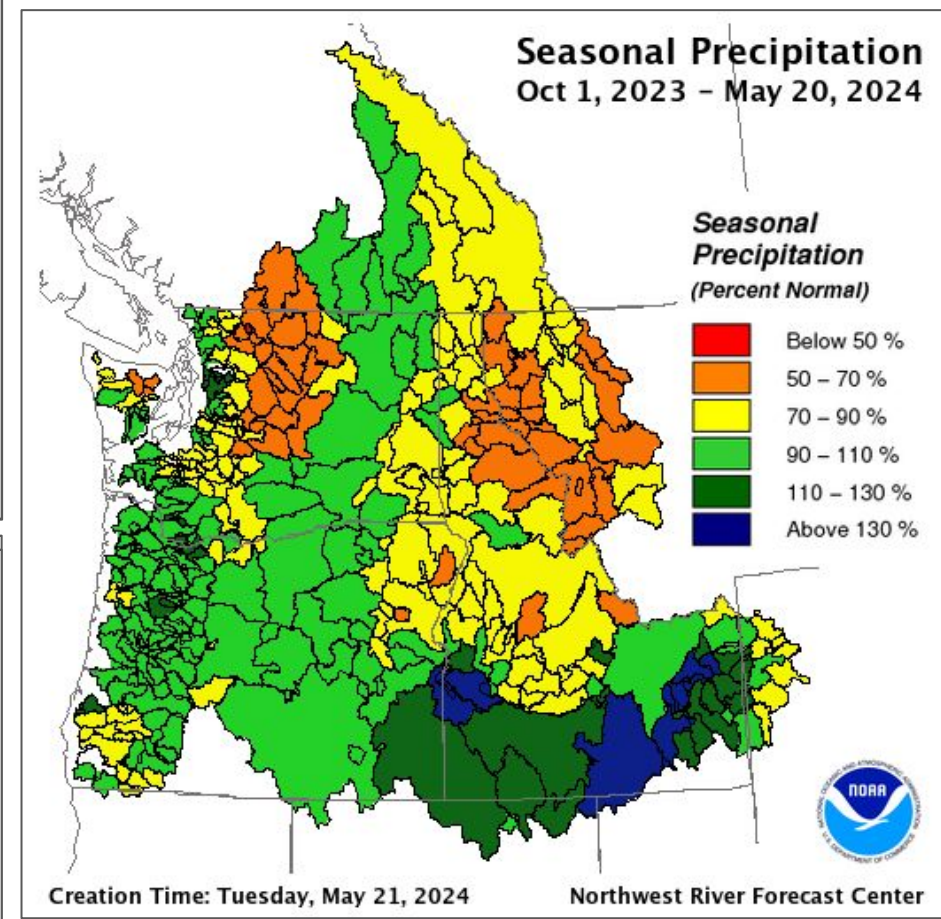
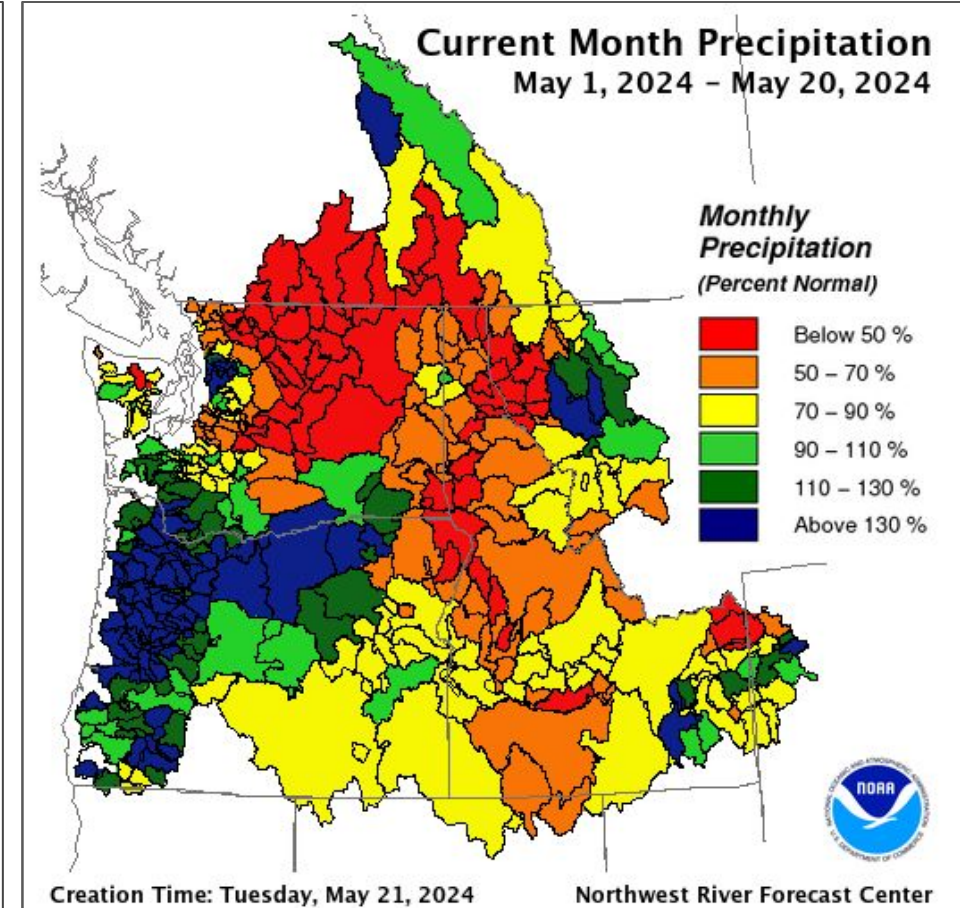
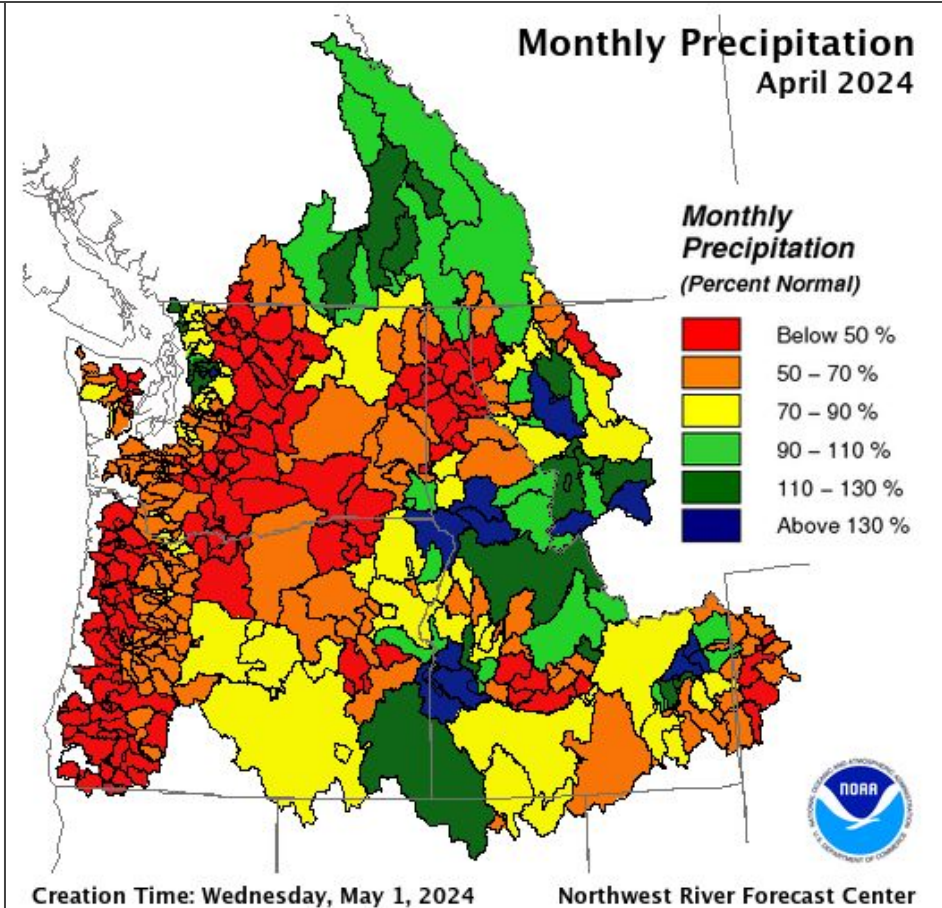
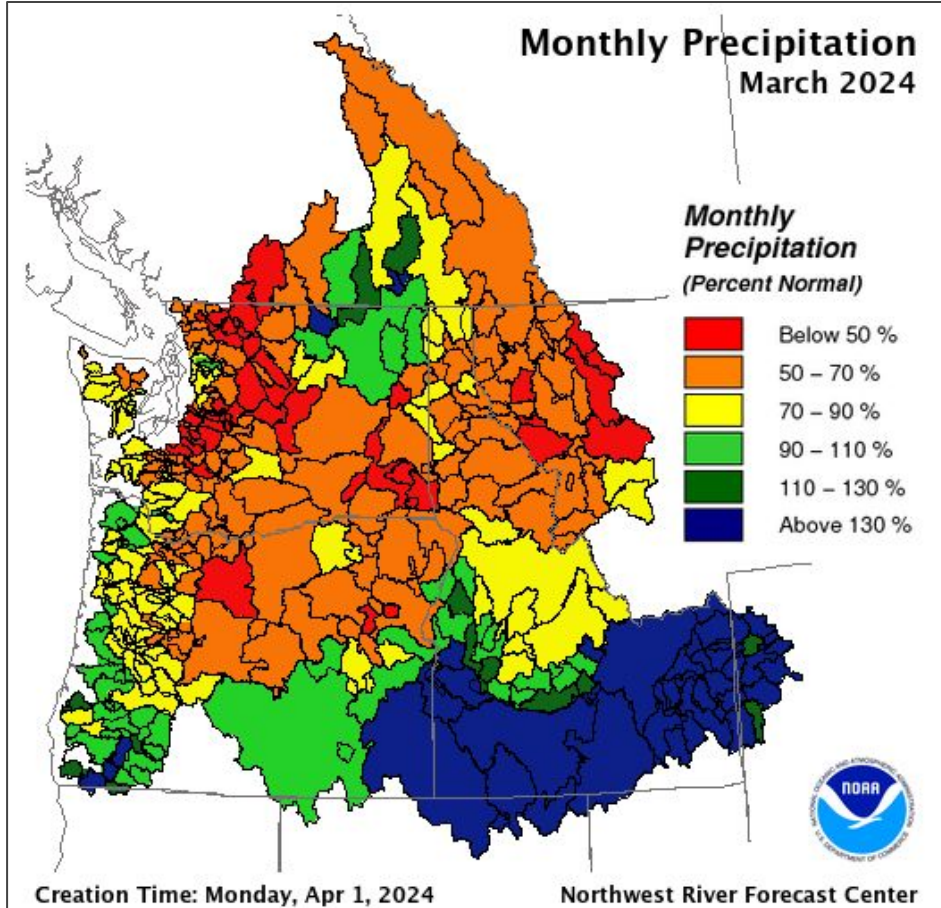
May 2024 Washington Water Supply

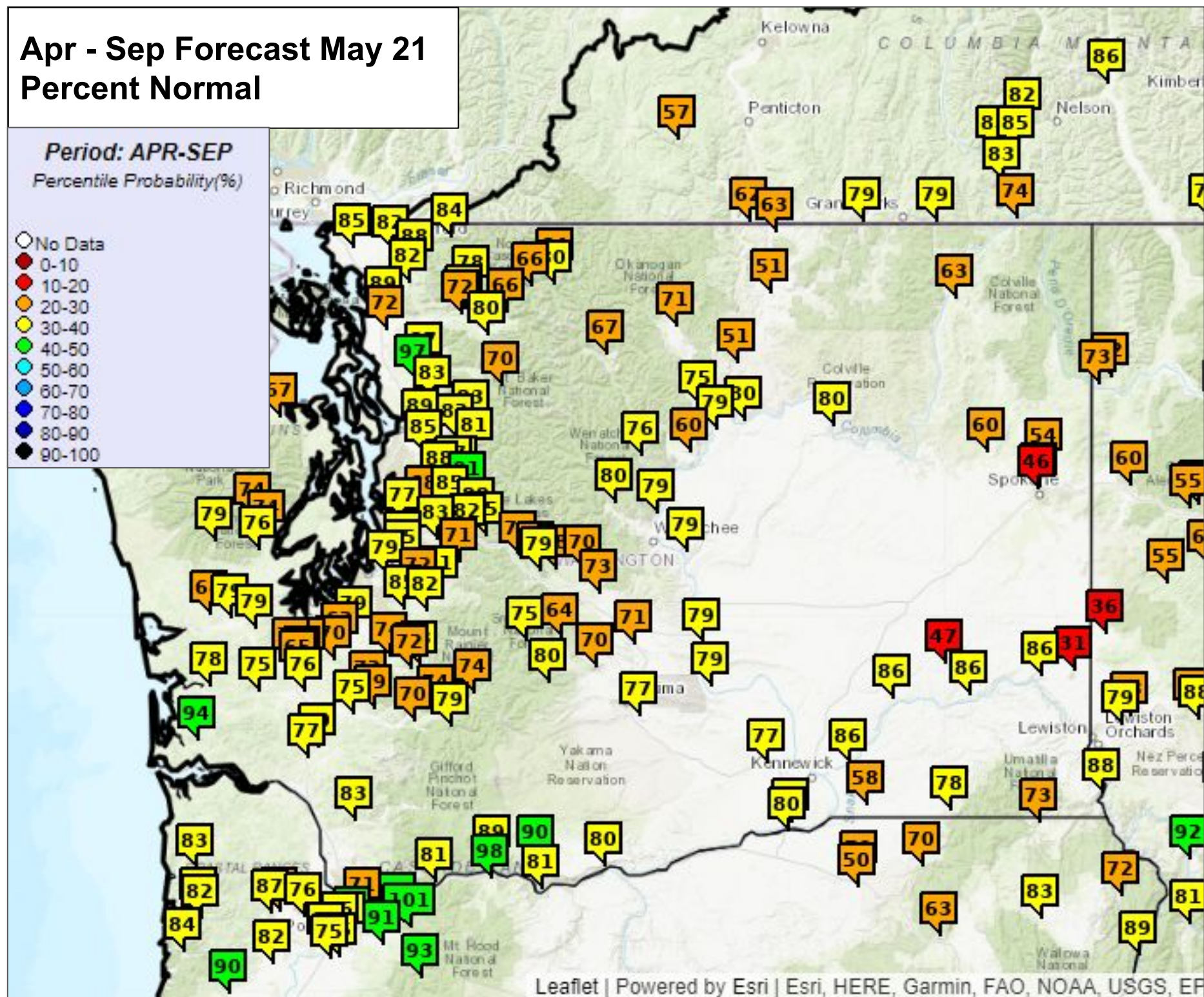
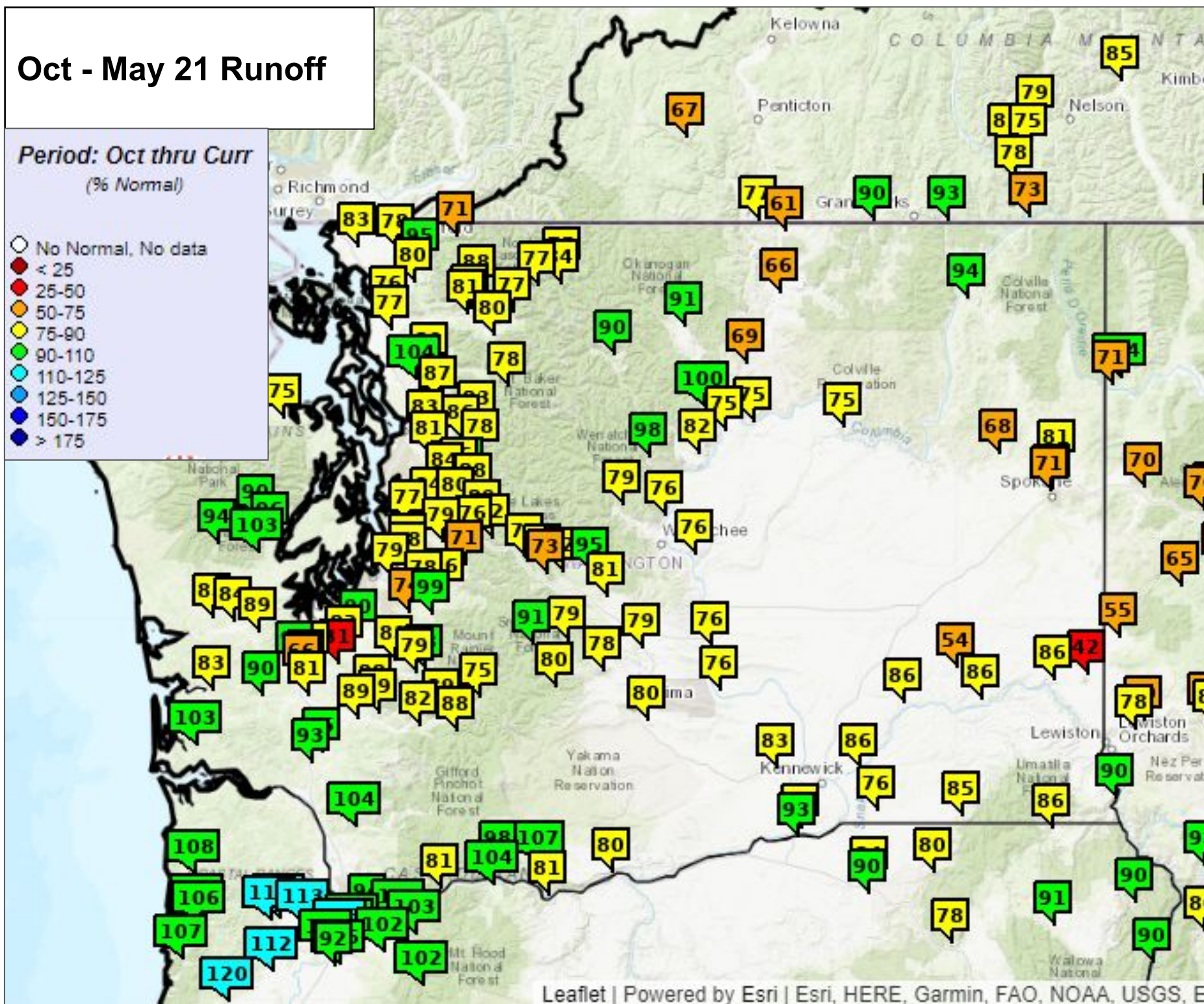
Amy Burke, Senior Hydrologist - NWRFC - NWRFC.watersupply@noaa.gov

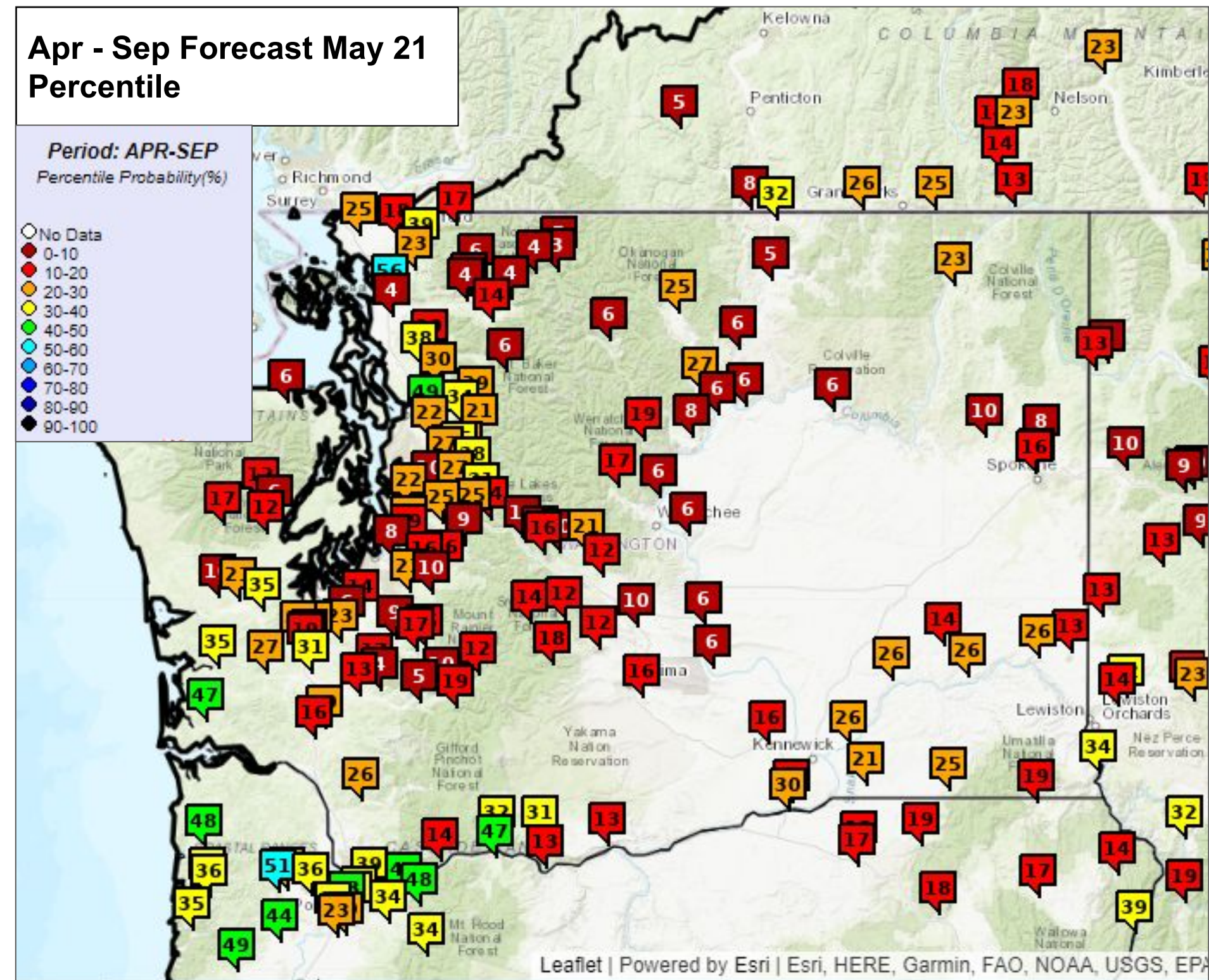
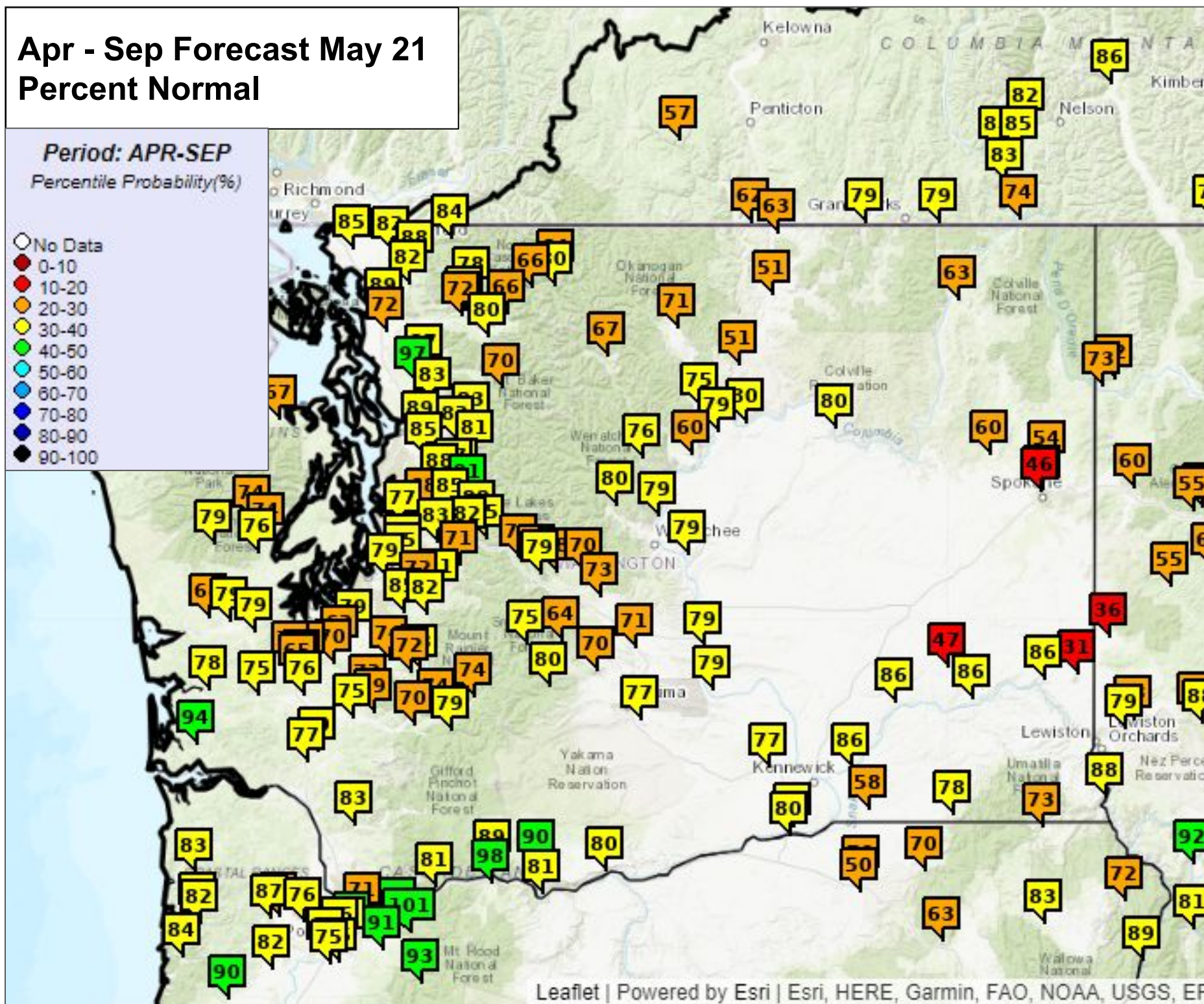
Brent Bower, Service Hydrologist - NWS Seattle

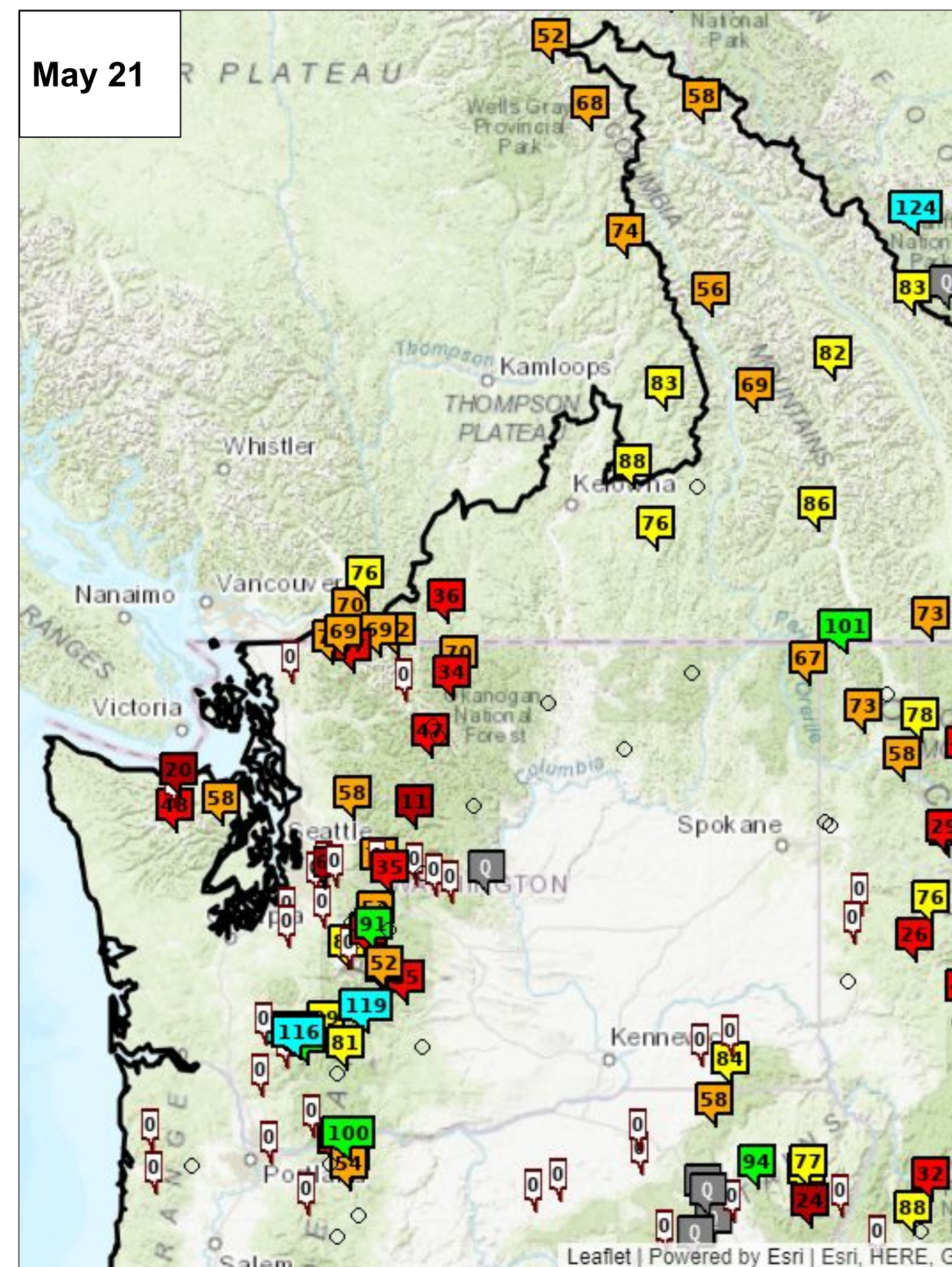
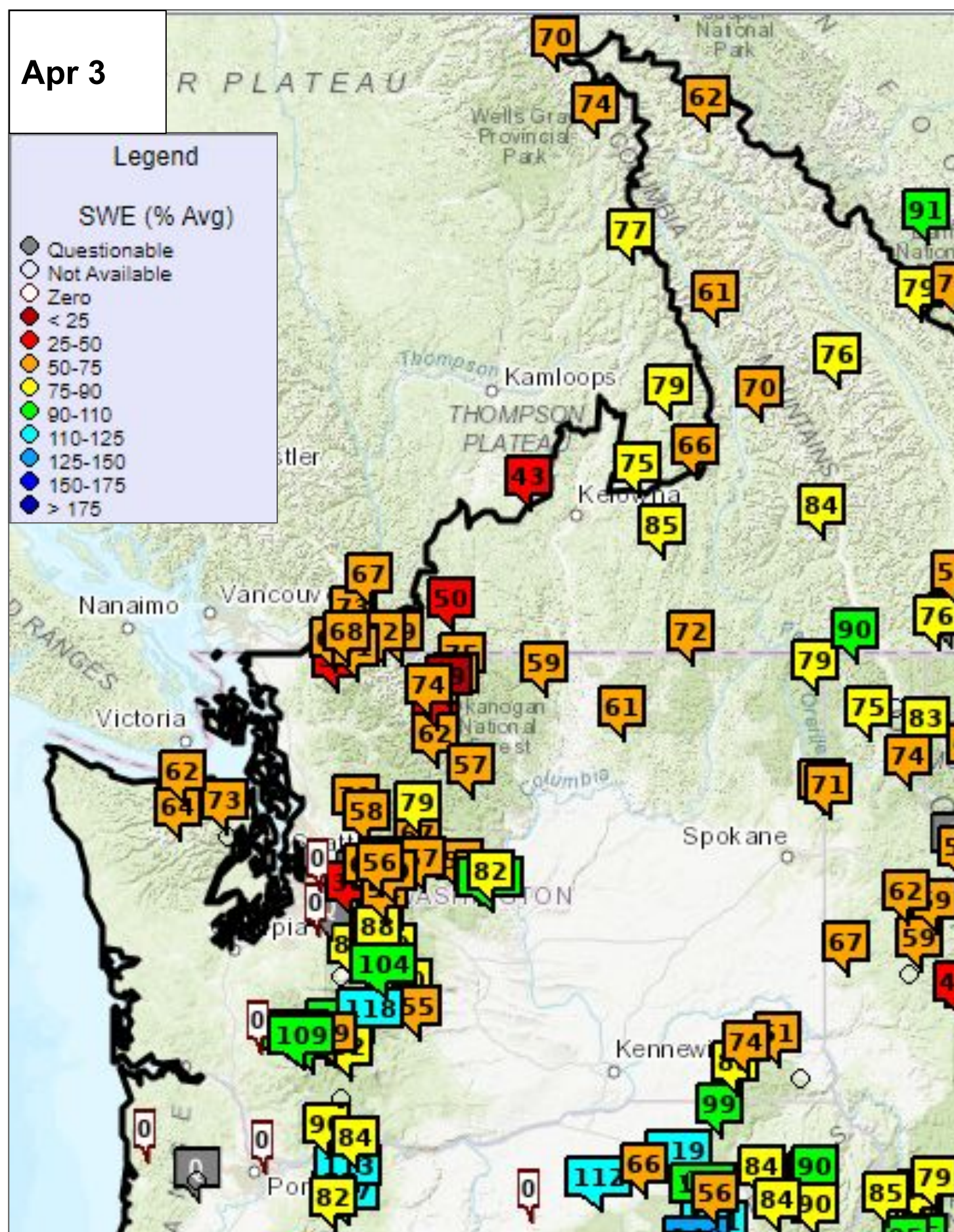
Robin Fox, Service Hydrologist - NWS Spokane











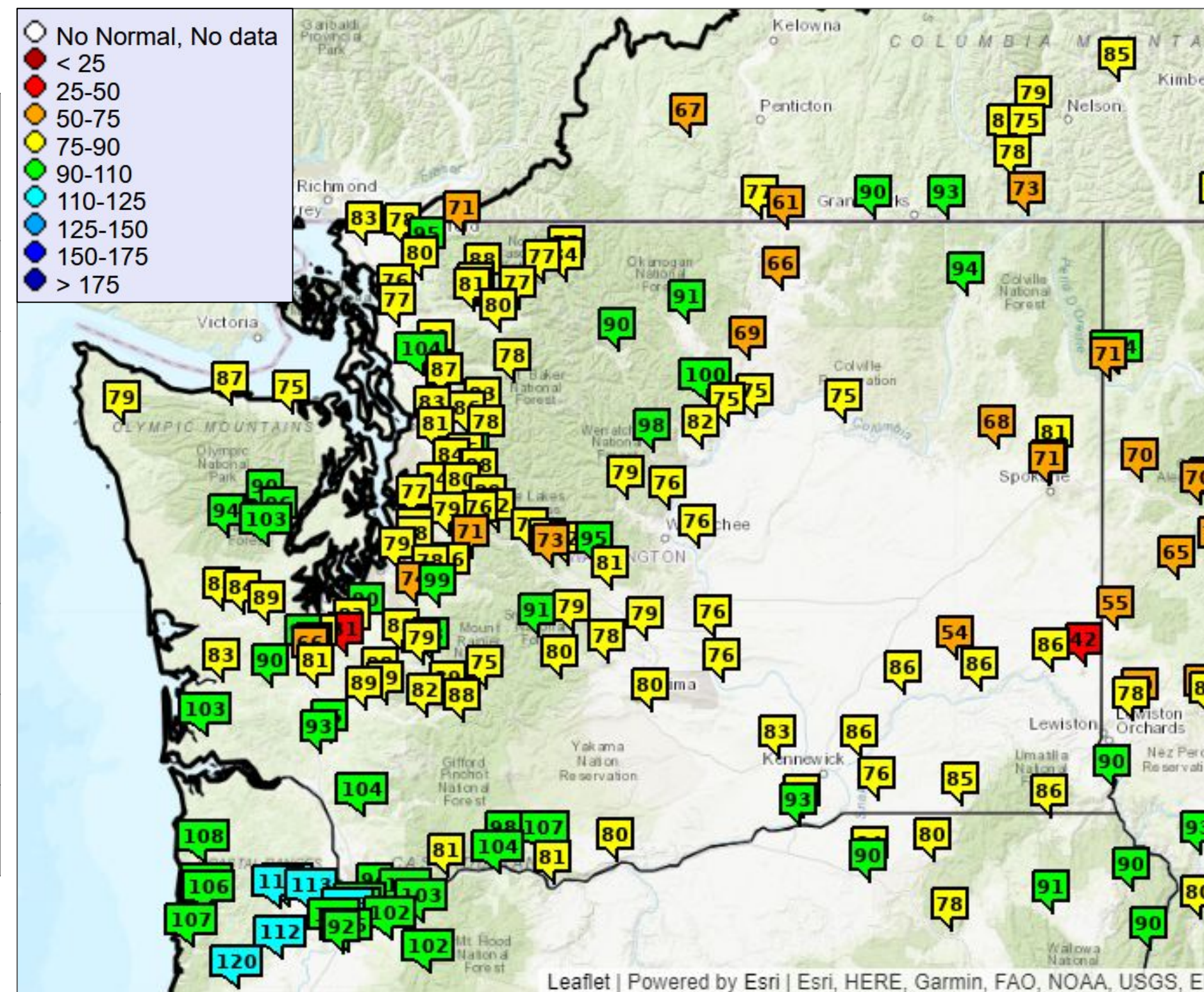


Water Year to Date Natural Runoff

NWRFC

May, 2024

Forecast Point	% Normal Runoff Oct 1 - May 21	<u>Δ Since Mar 27</u>
Skagit nr Mt Vernon	77	-5
Dungeness nr Sequim	75	-3
Chehalis at Porter	89	-1
Okanogan at Malott	69	-10
Methow nr Pateros	100	-23
Yakima at Parker	80	-3
Walla Walla nr Touchet	76	-9

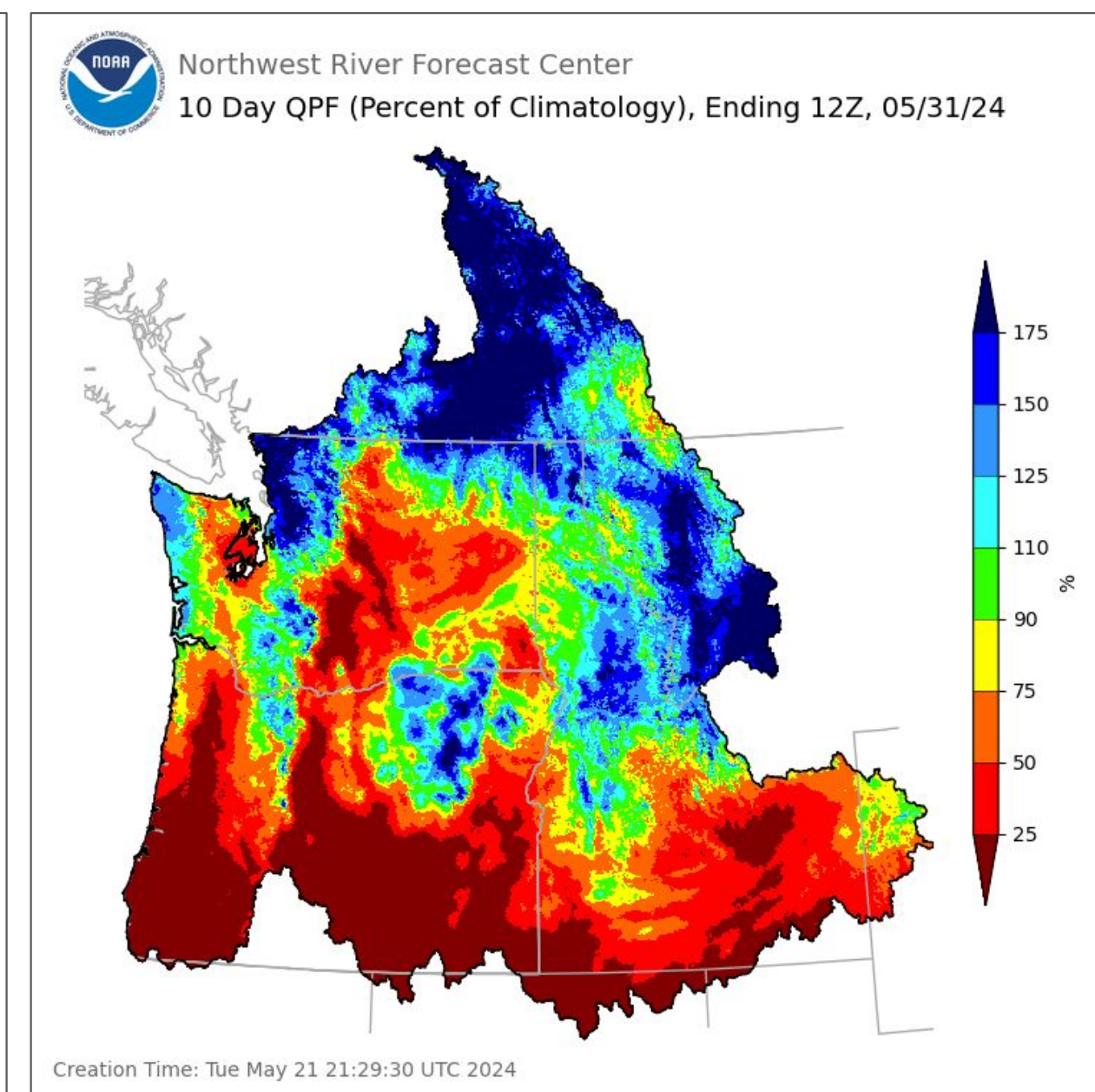
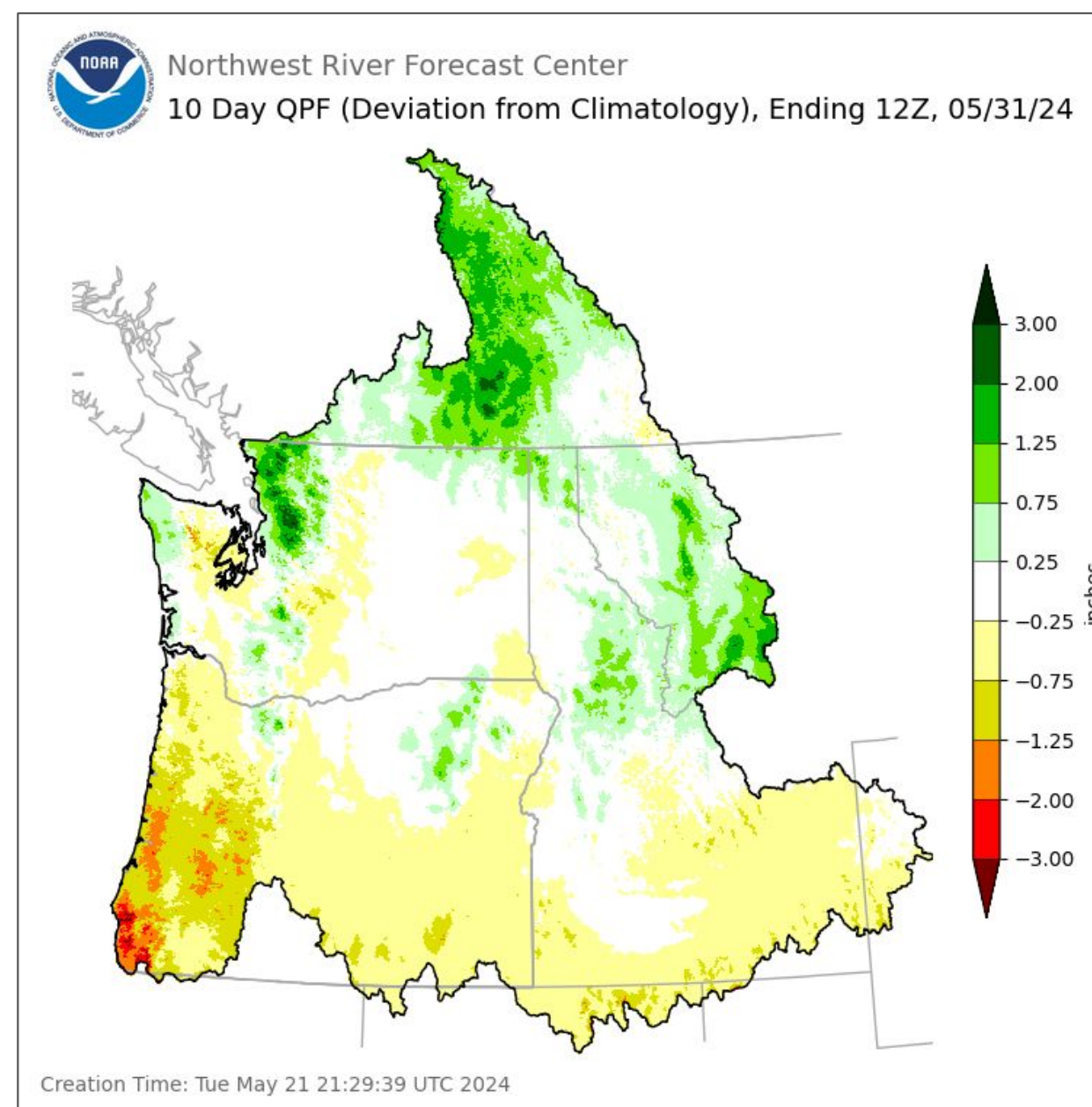
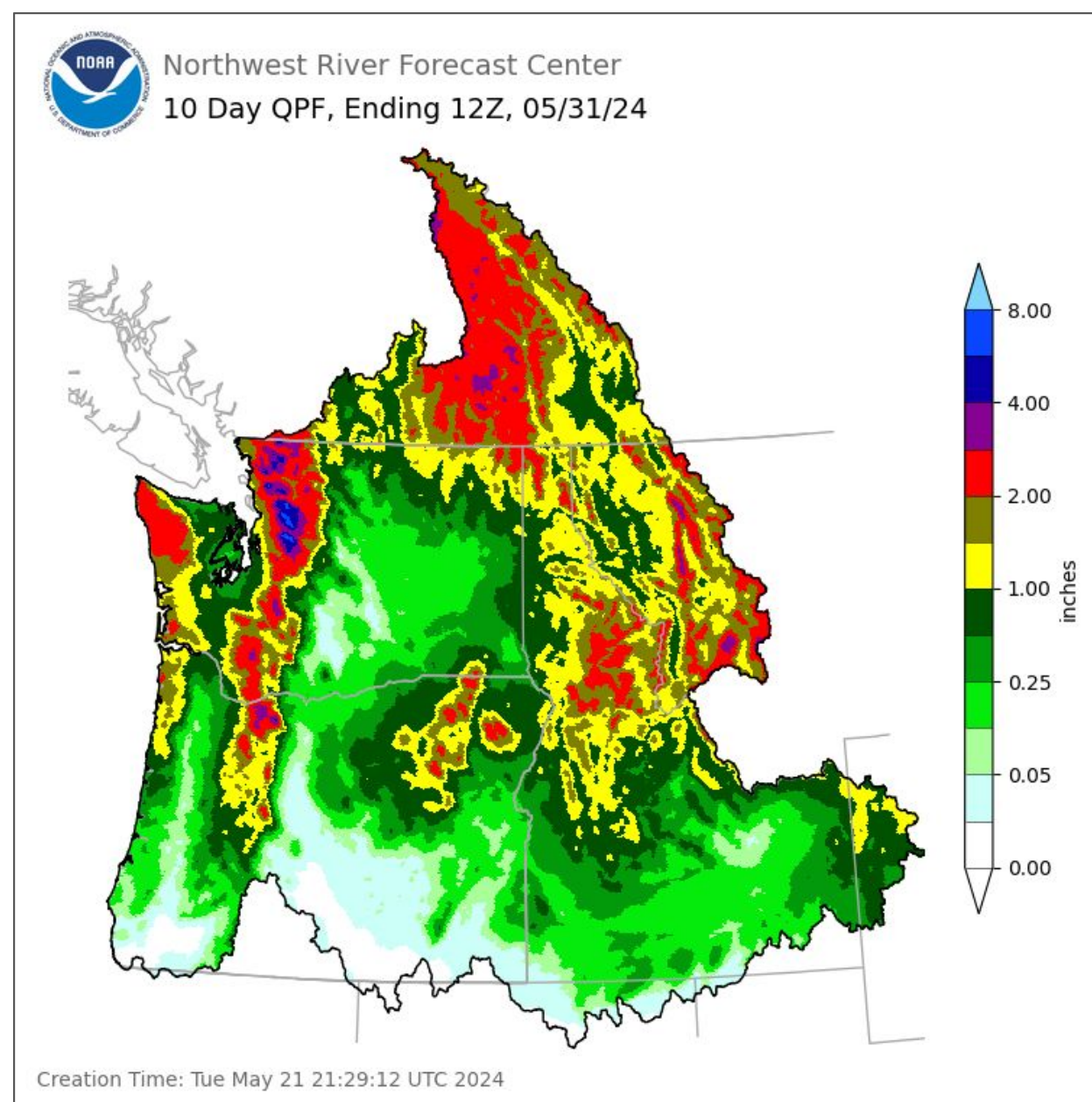




10 Day Precipitation Forecast used in ESP10

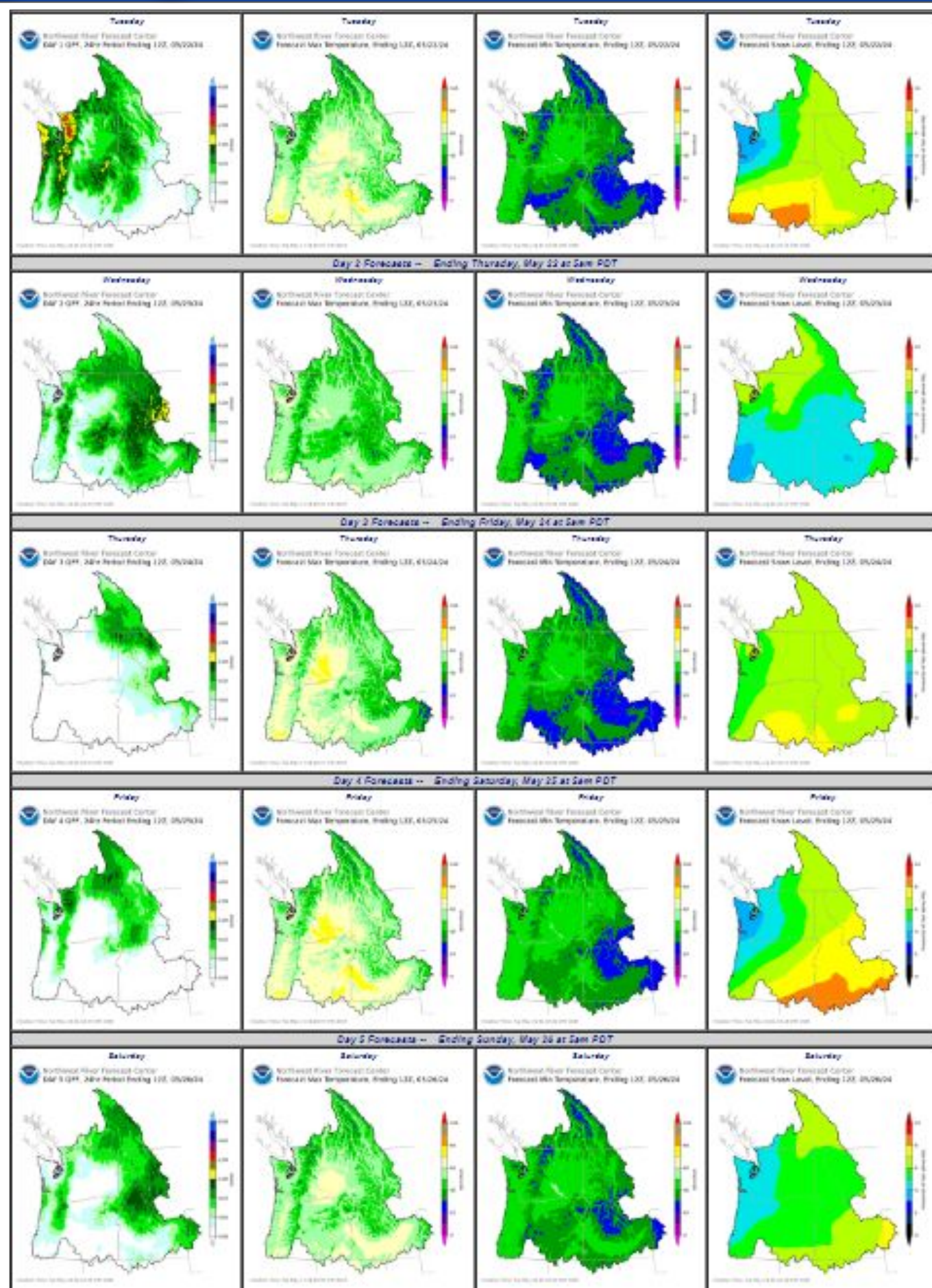
NWRFC

May, 2024



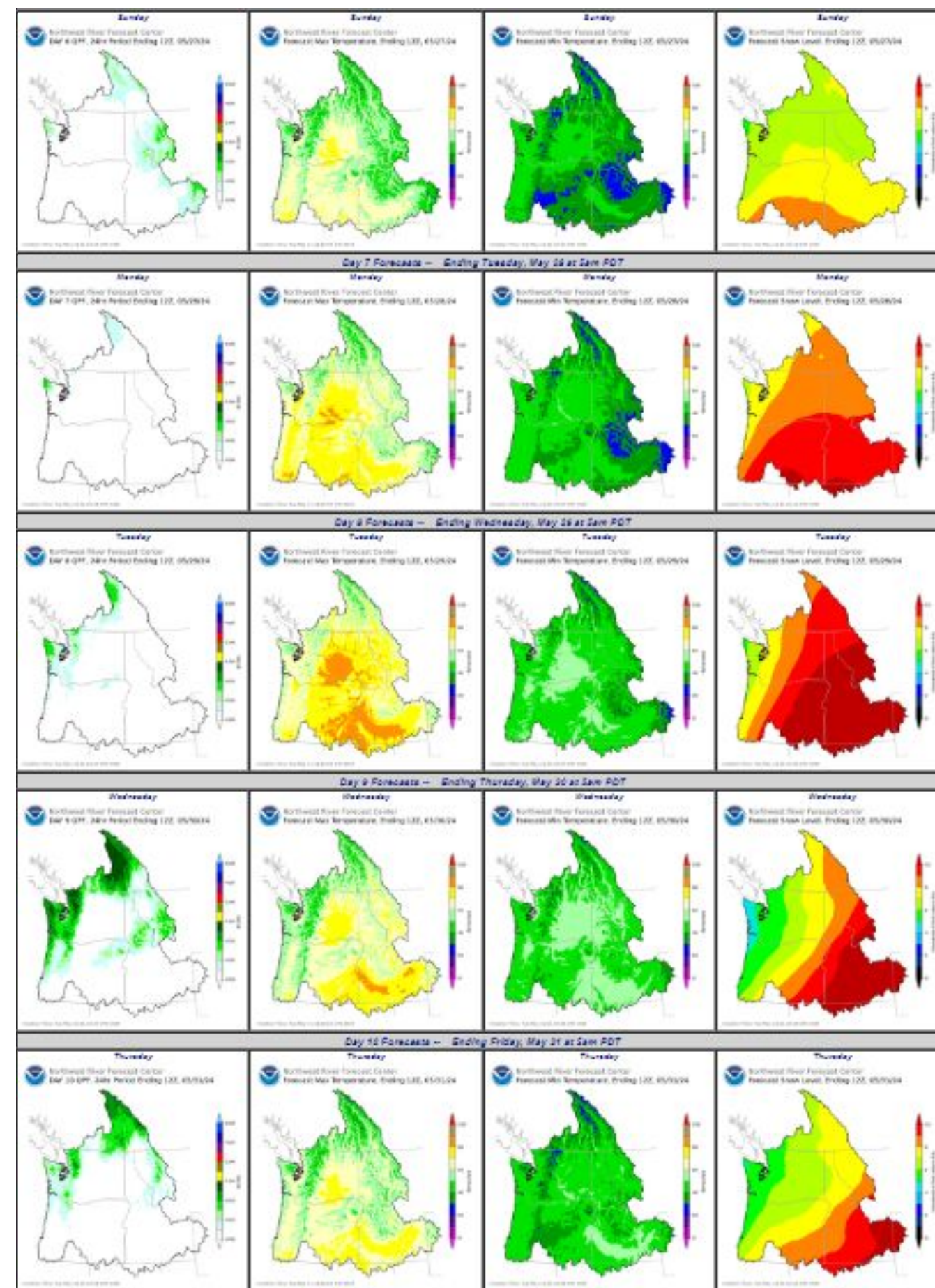
Quantitative Precipitation Forecast (QPF) Sources
Days 1 - 2 NWS Weather Forecast Offices (WFO) in the US, WPC in BC
Days 3 - 7 NWS Weather Prediction Center (WPC)
Days 8 - 10 NWS National Blend of Models (NBM)

10 Day Precipitation and Temperature Forecast

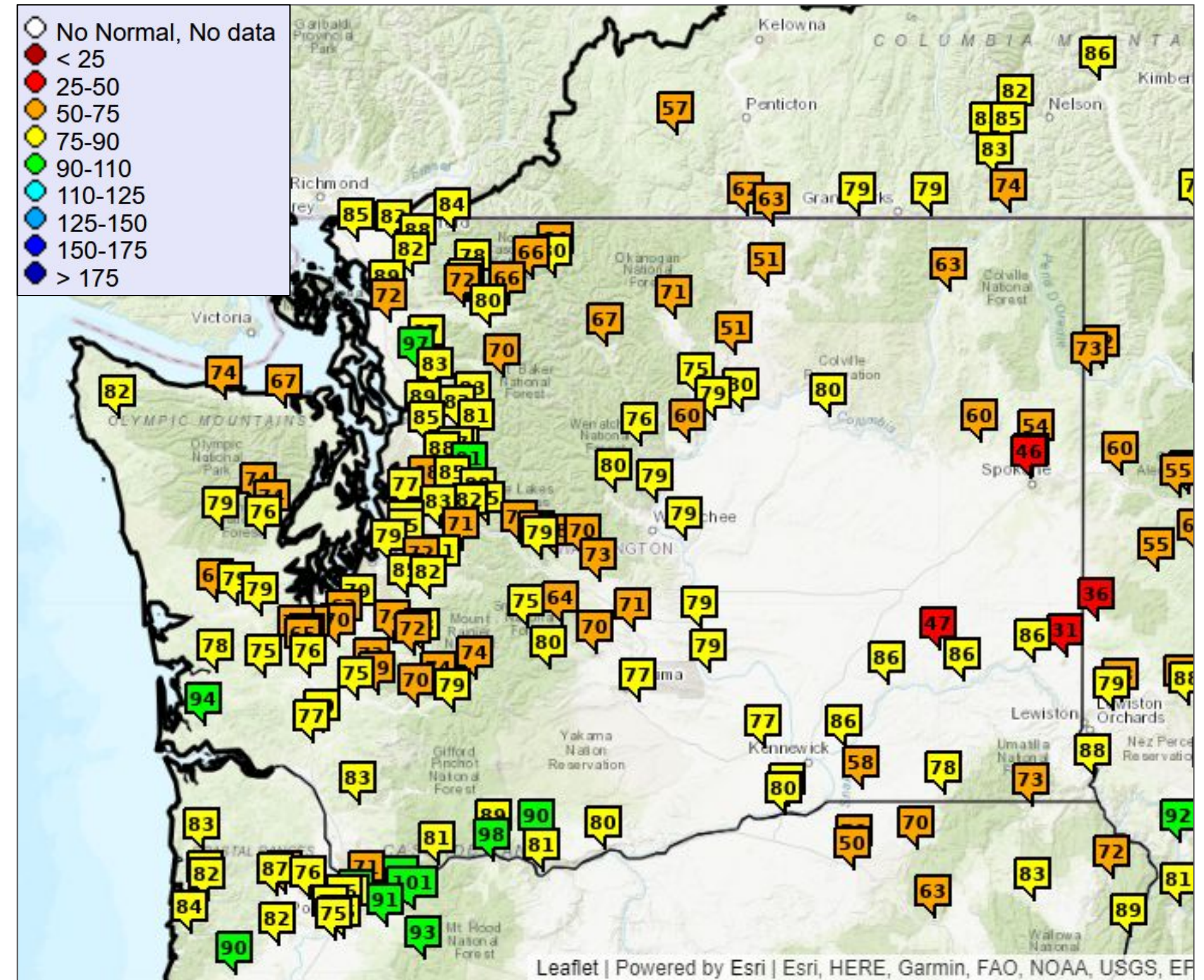


Days 1-5

Days 6-10



Forecast Point	% Normal Apr - Sep Vol	<u>Δ Since Mar 27</u>
Skagit nr Mt Vernon	72	-1
Dungeness nr Sequim	67	-7
Chehalis at Porter	79	-3
Okanogan at Malott	51	-5
Methow nr Pateros	75	12
Yakima at Parker	77	-8
Walla Walla nr Touchet	58	-12

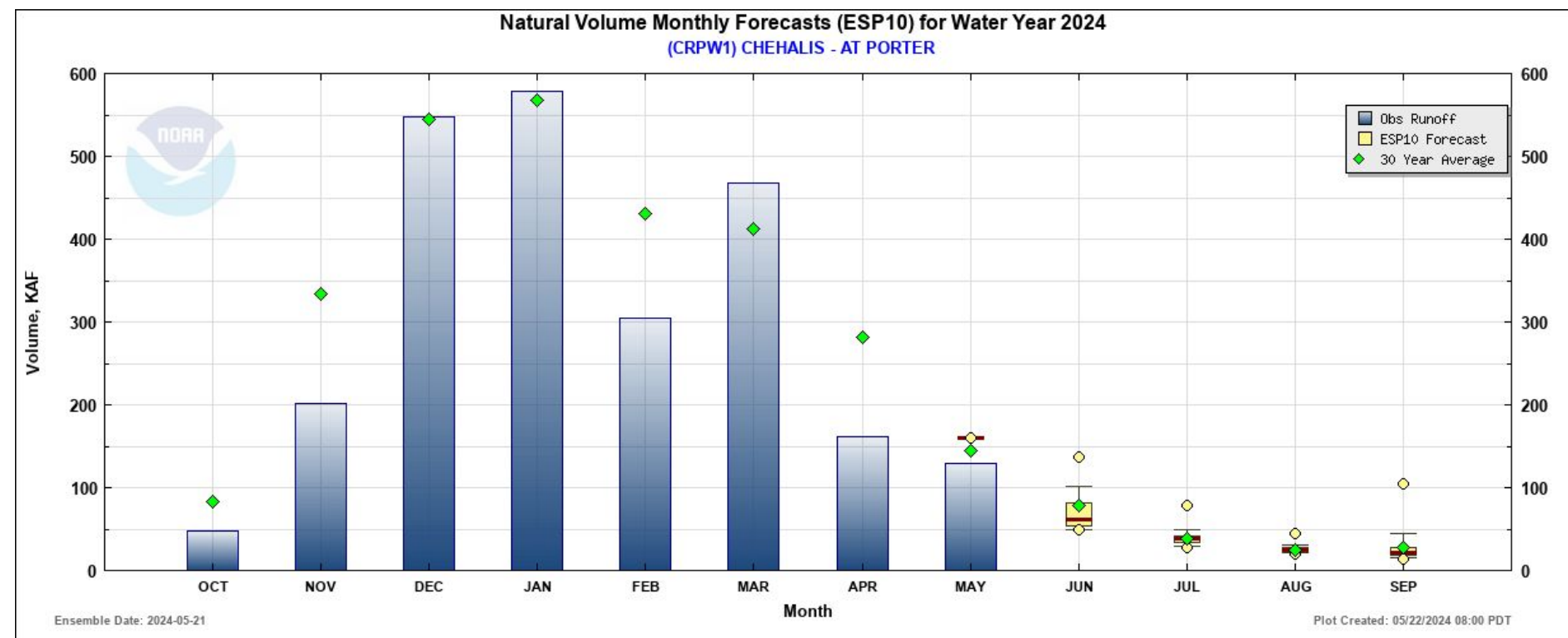
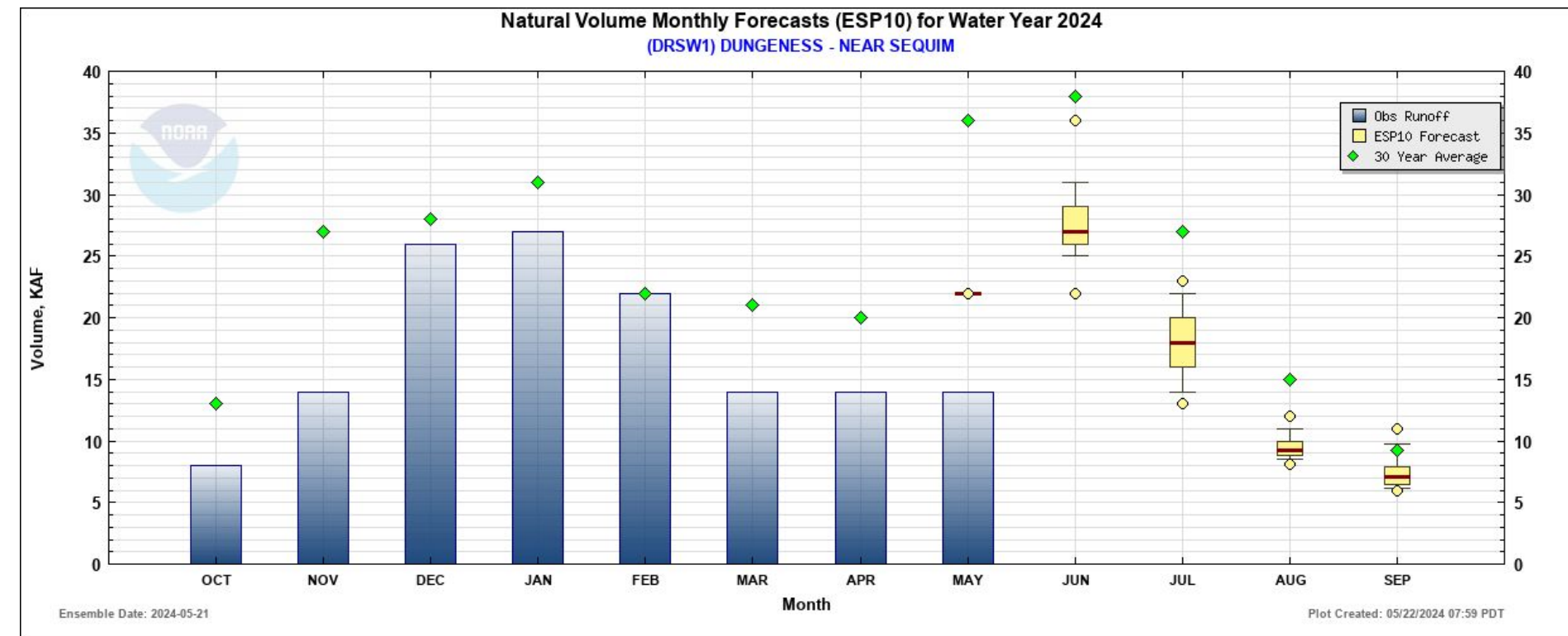
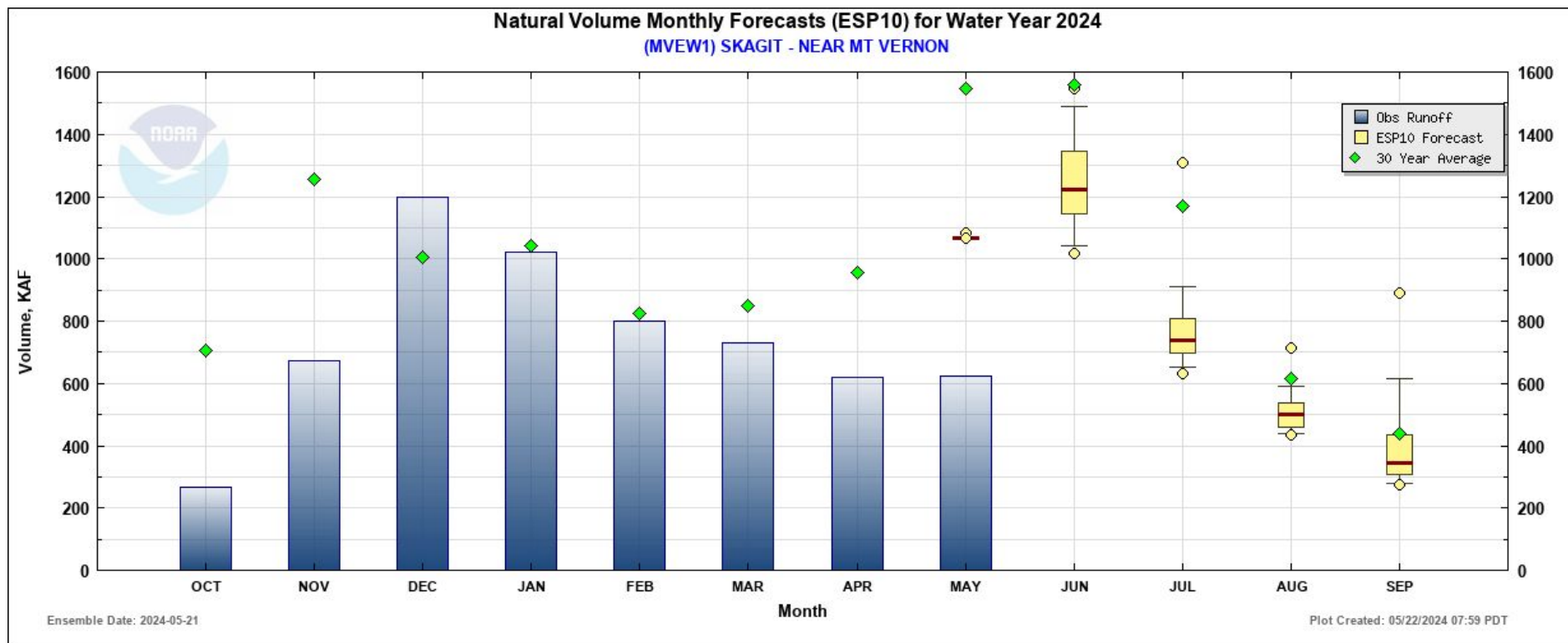




Natural Water Supply Forecasts

NWRFC

May, 2024



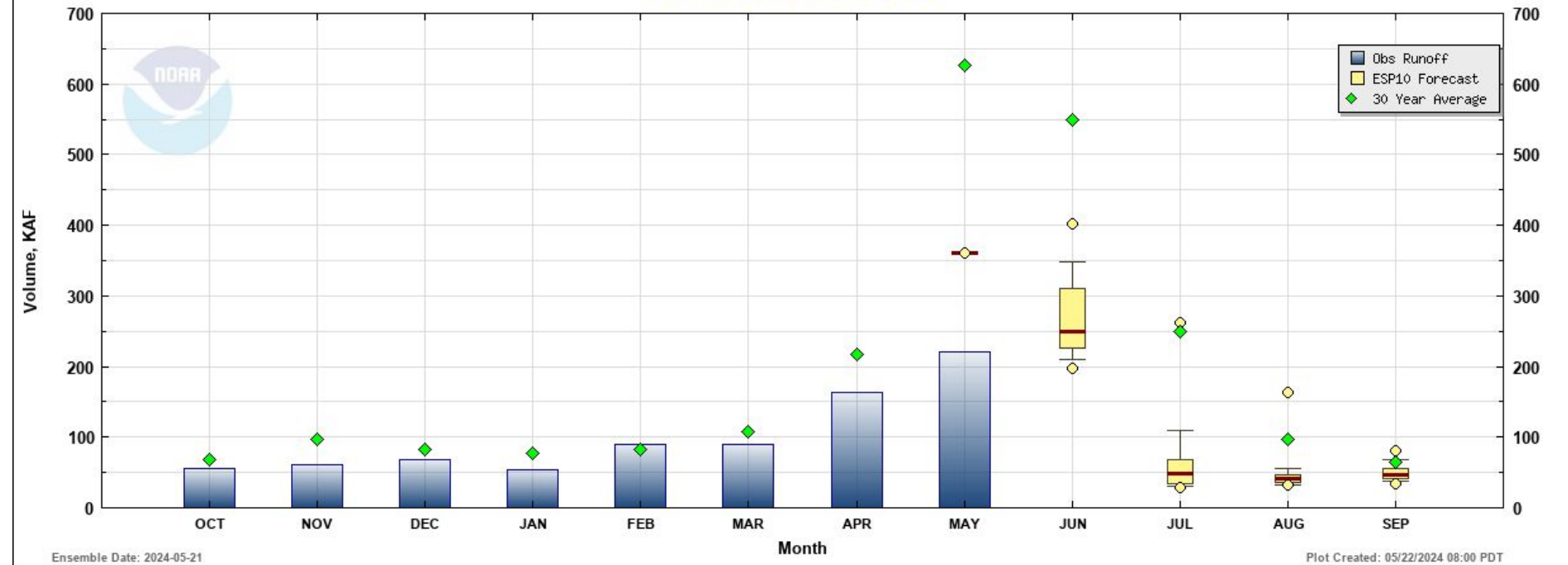


Natural Water Supply Forecasts

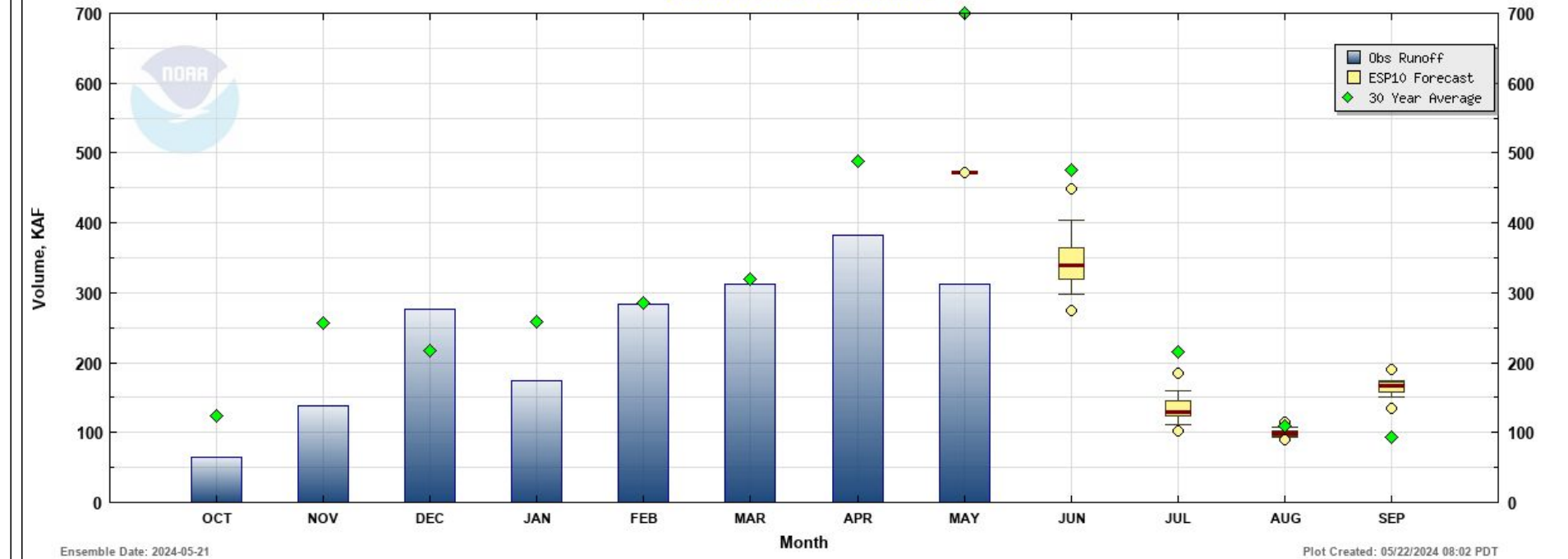
NWRFC

May, 2024

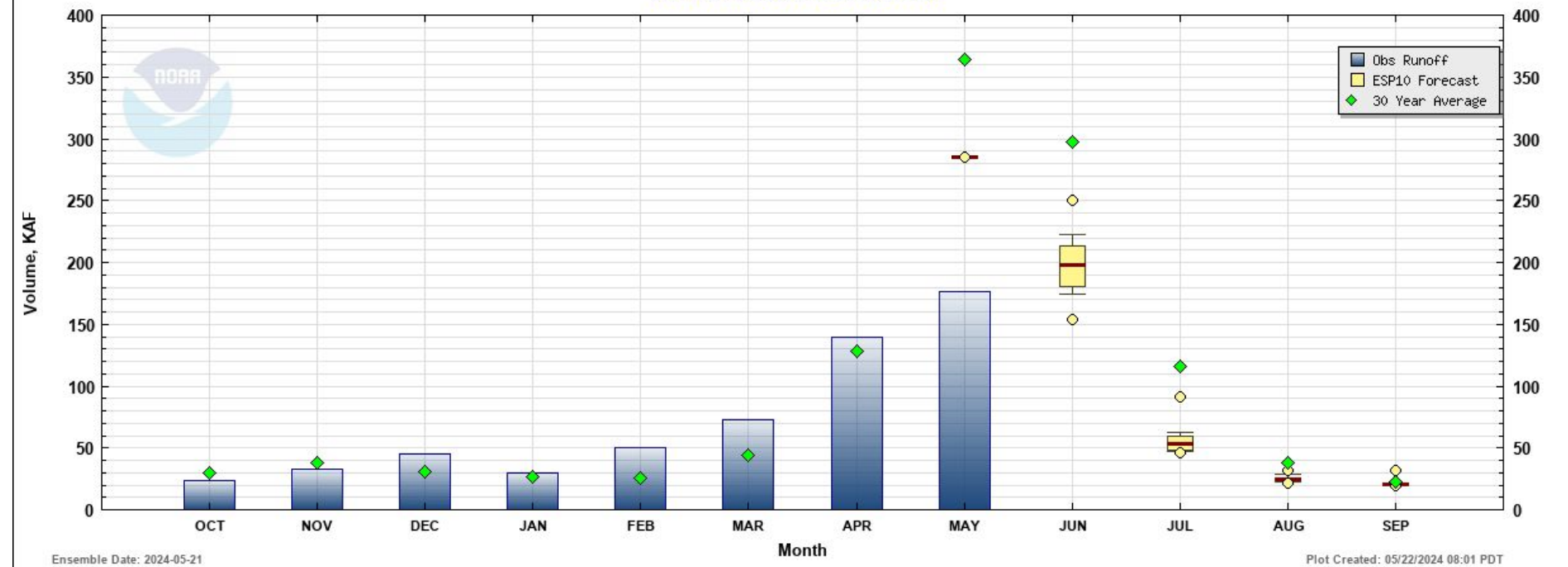
Natural Volume Monthly Forecasts (ESP10) for Water Year 2024
(OKMW1) OKANOGAN - AT MALOTT



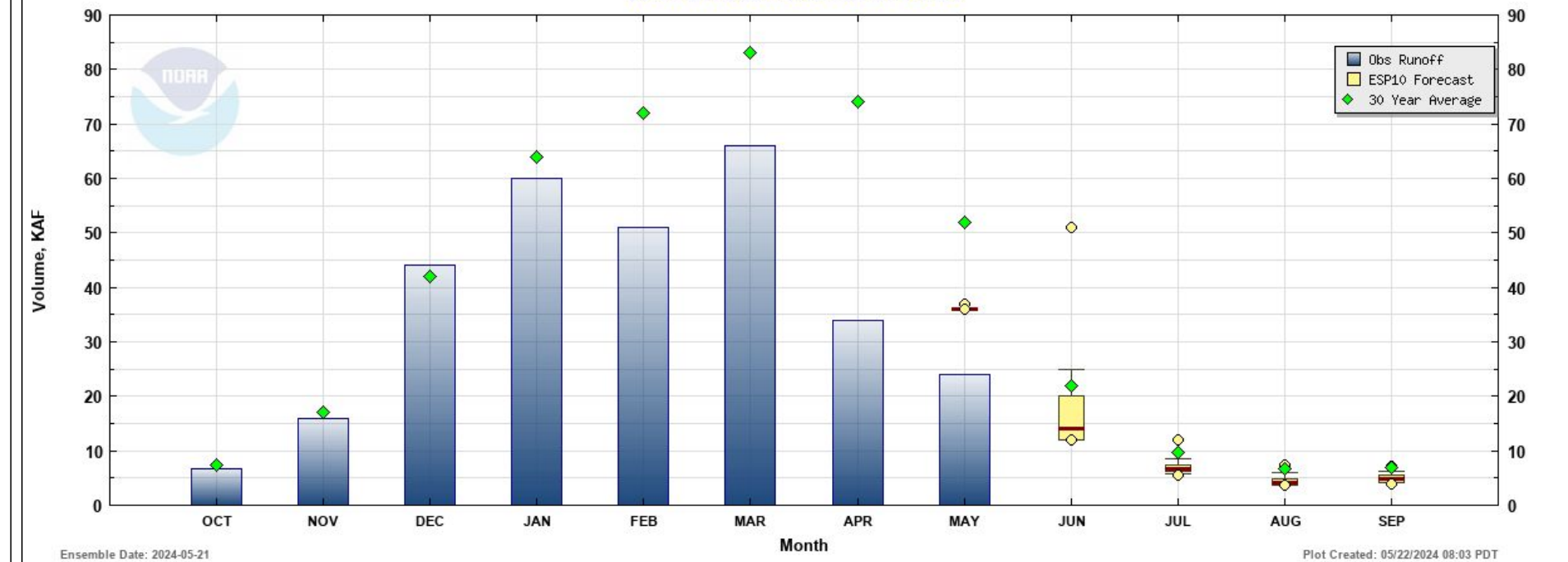
Natural Volume Monthly Forecasts (ESP10) for Water Year 2024
(PARW1) YAKIMA - NEAR PARKER



Natural Volume Monthly Forecasts (ESP10) for Water Year 2024
(PATW1) METHOW - NEAR PATEROS



Natural Volume Monthly Forecasts (ESP10) for Water Year 2024
(TCHW1) WALLA WALLA - NEAR TOUCHET



- **Snowpack remains below normal in most areas**
- **Precipitation has been below normal this spring**
- **Next 10 days expected to bring precipitation to Washington**
- **Runoff and water supply forecasts have decreased in the last couple months**
- **Water Supply Forecasts are low**



USDA Natural Resources Conservation Service
Snow Survey and Water Supply Forecasting Program

Washington
Water Supply Availability Committee
May 22, 2024

Matt Warbritton
Supervisory Hydrologist
USDA NRCS SSWSF
Portland Data Collection Office
matt.warbritton@usda.gov
503-307-2829

Snowpack Conditions

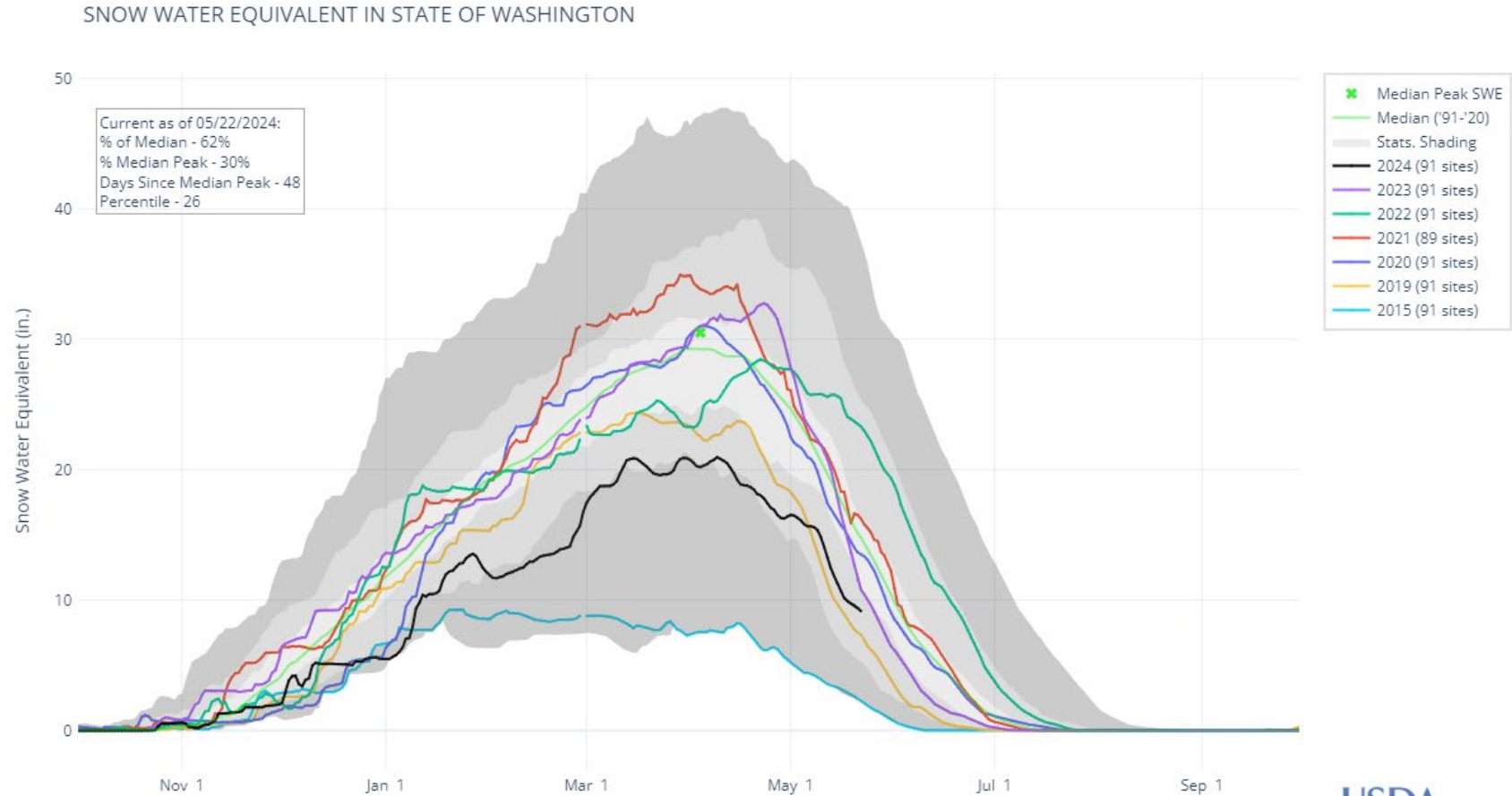
Statewide Snowpack

Profile for Snow Water Equivalent

Statewide Snowpack:
62% of normal

Last meeting: 68% of normal

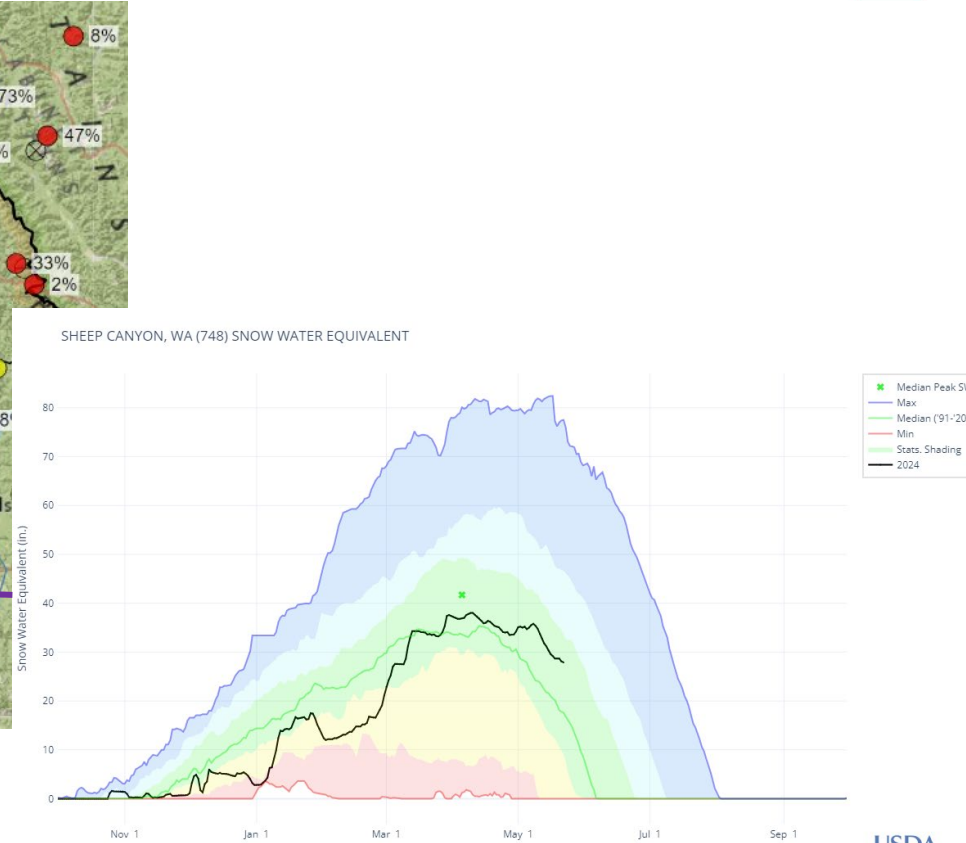
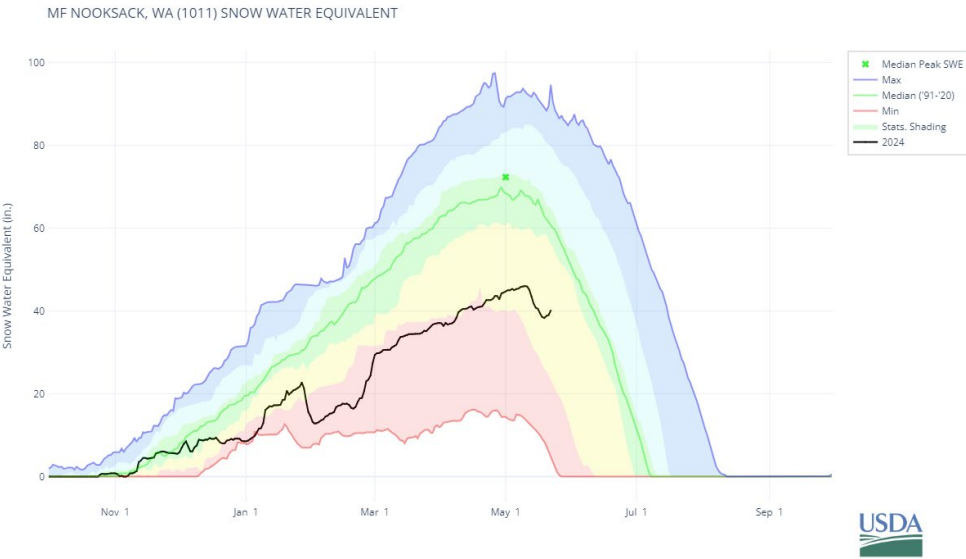
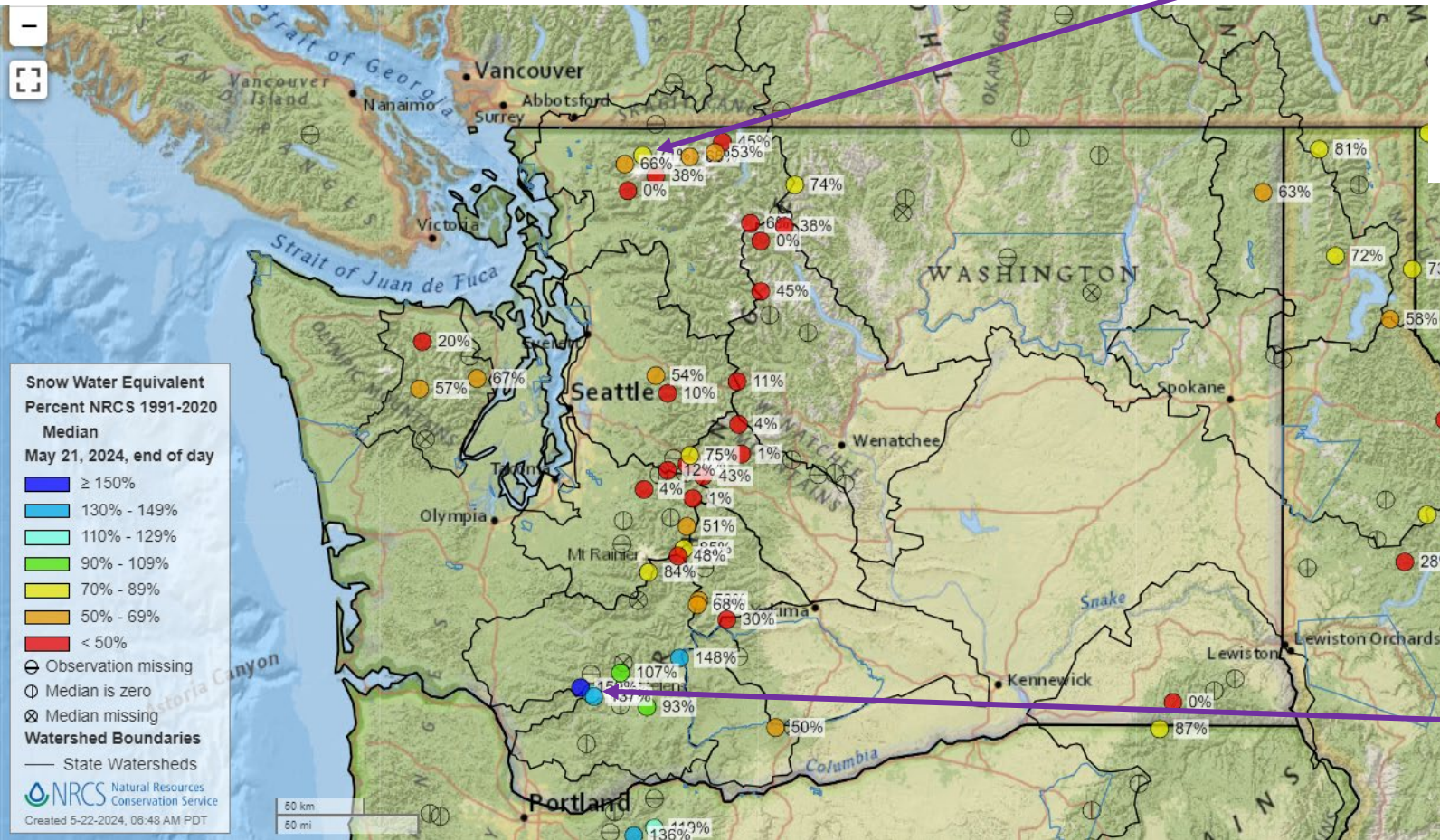
Snowpack Percentile: 26



Date of Water-Year Melt Out



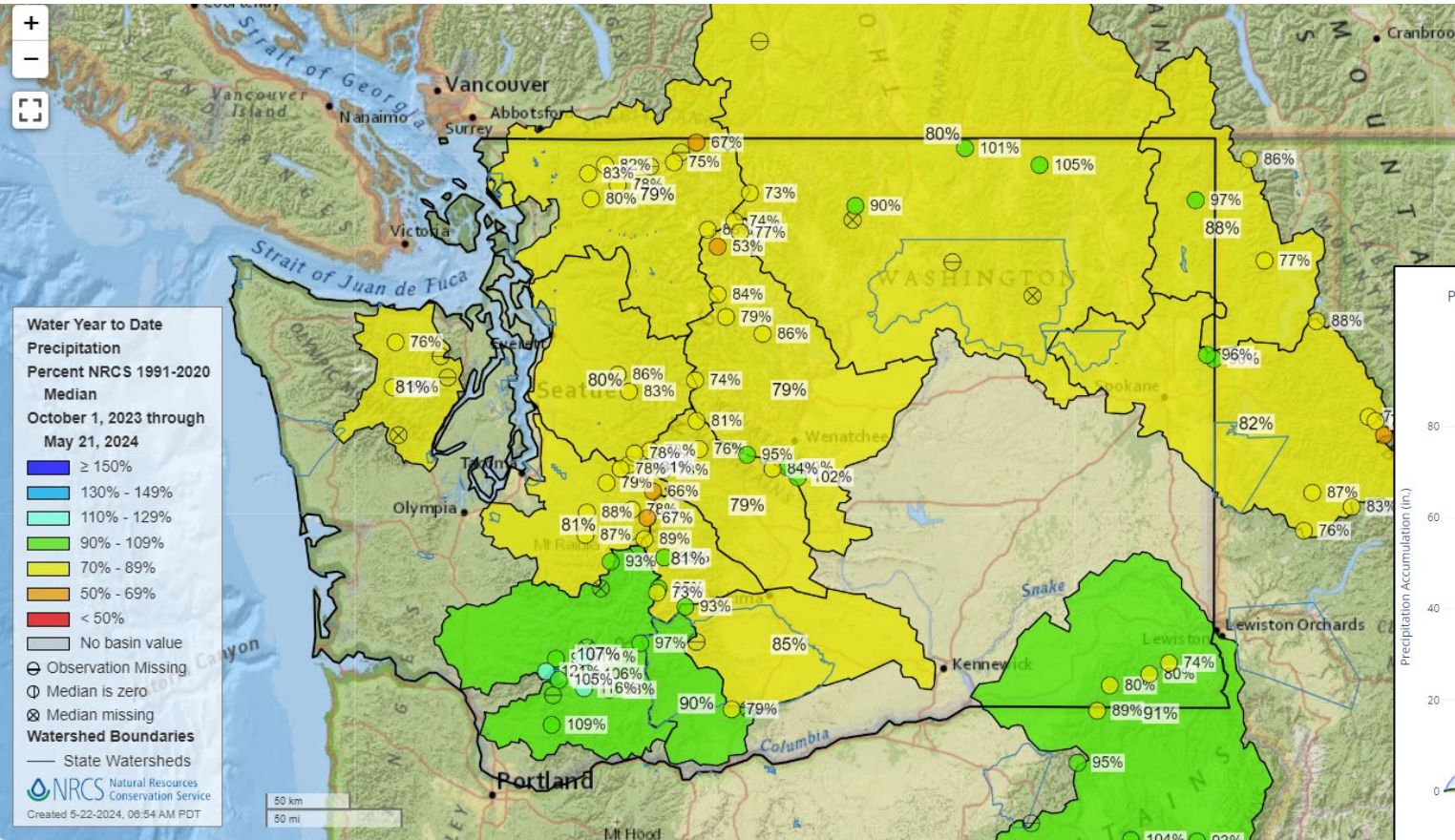
Snowpack





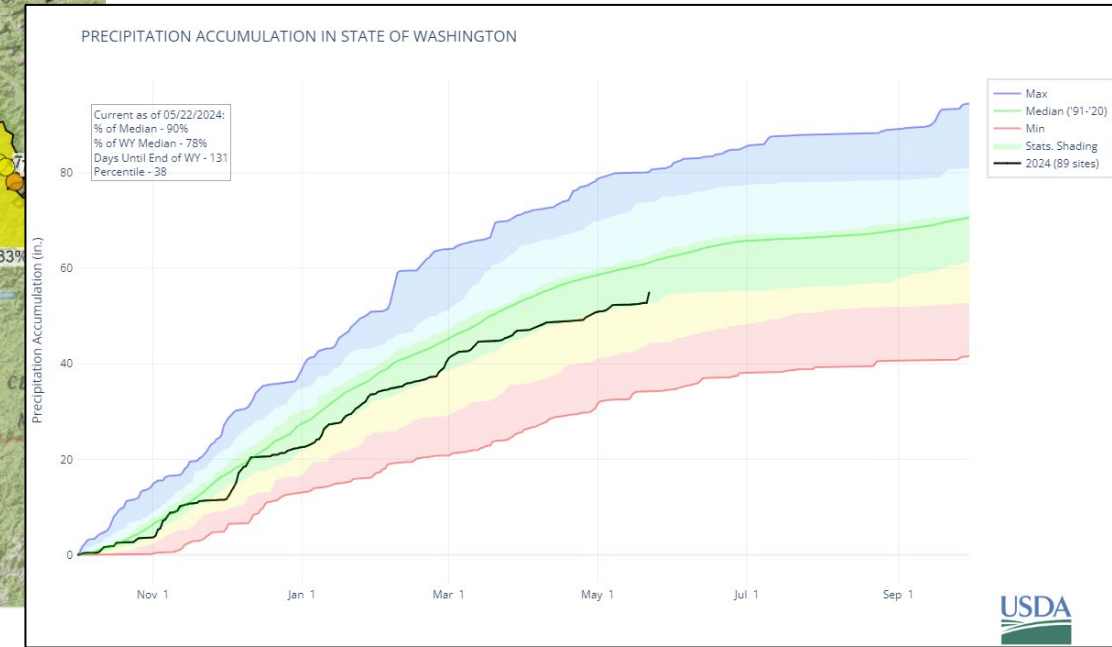
Precipitation Conditions

WYTD Precipitation – Basin Map

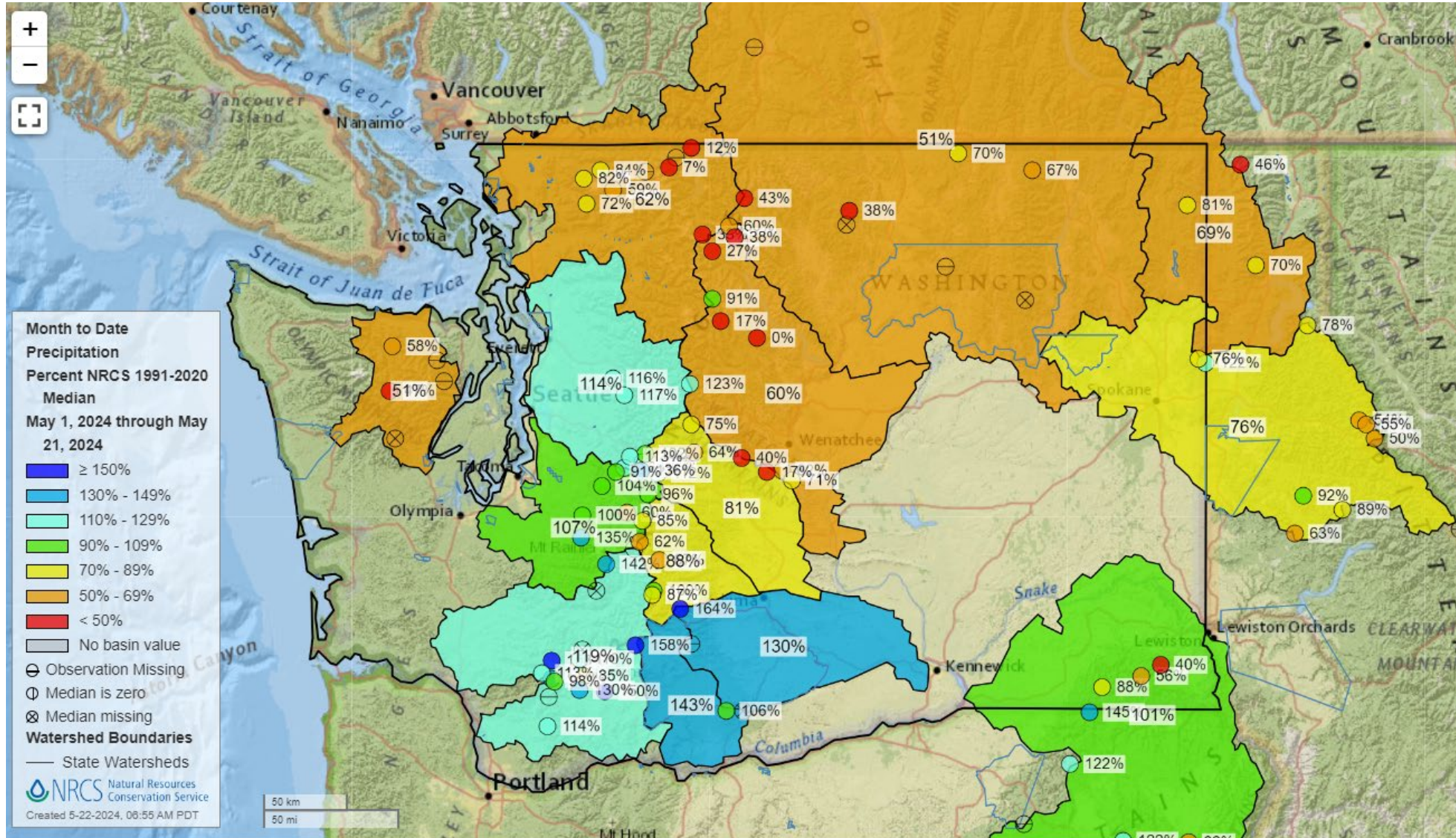


Statewide WYTD Precipitation:
90% of normal
38 – percentile (normal period)

Last meeting: 88%



Month-to-Date Precipitation



Precipitation: Compounding Deficits

24-month Precipitation – Records



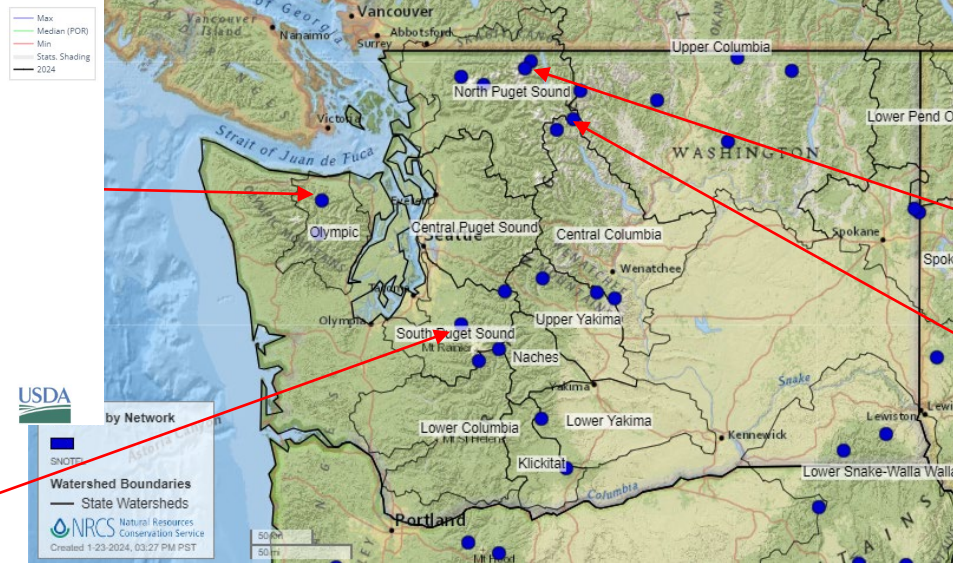
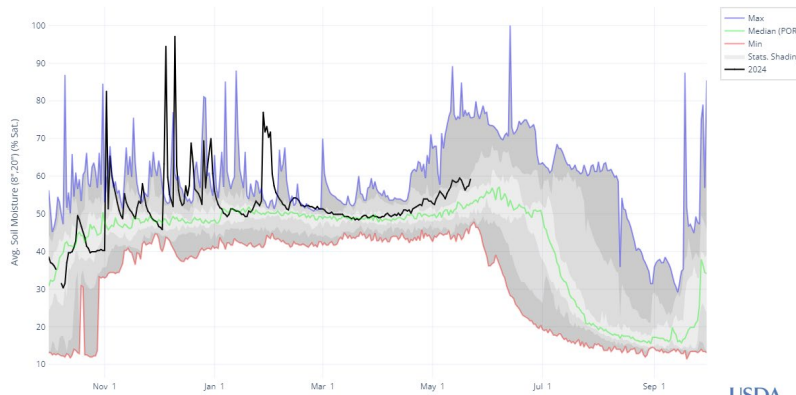


Soil Moisture

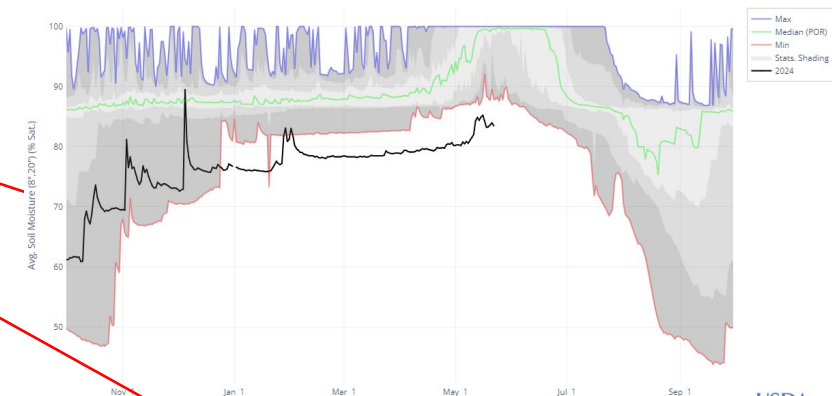
Soil Moisture

WY 2024 – Select Site Charts

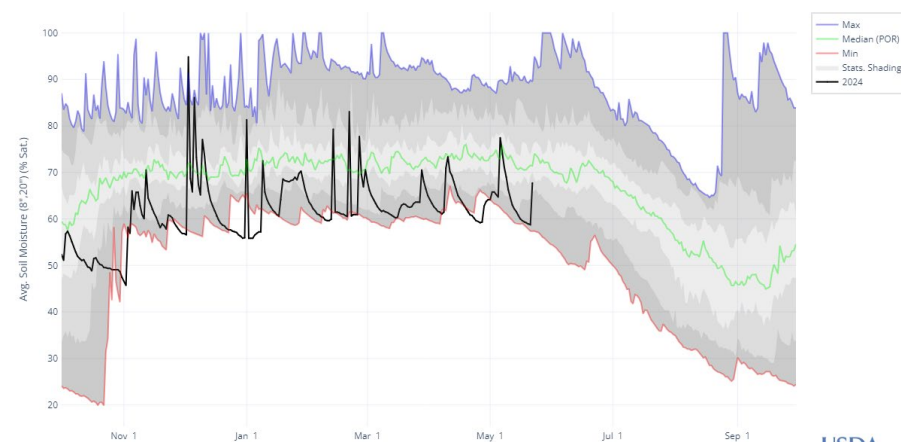
BUCKINGHORSE, WA (1107) AVG. SOIL MOISTURE (8",20")



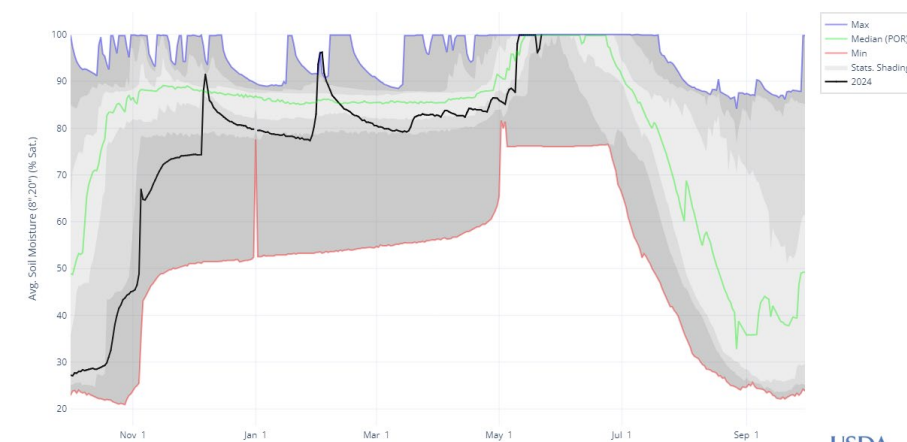
BEAVER PASS, WA (990) AVG. SOIL MOISTURE (8",20")



BURNT MOUNTAIN, WA (942) AVG. SOIL MOISTURE (8",20")



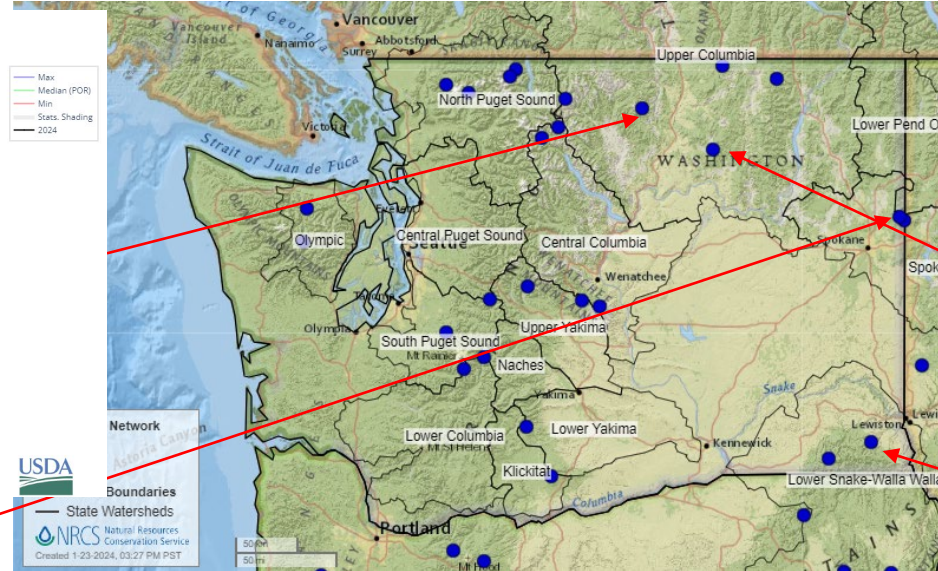
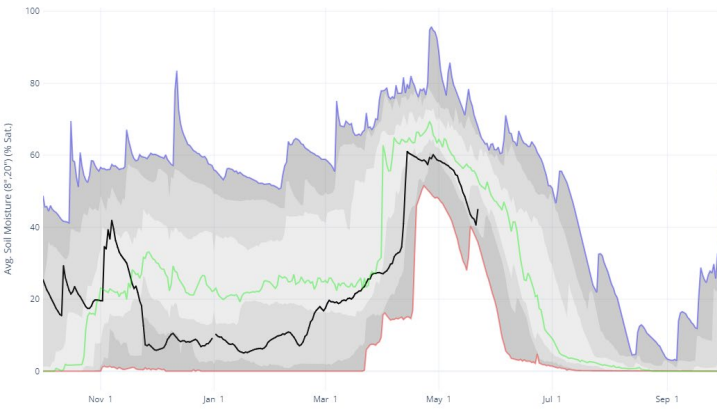
RAINY PASS, WA (711) AVG. SOIL MOISTURE (8",20")



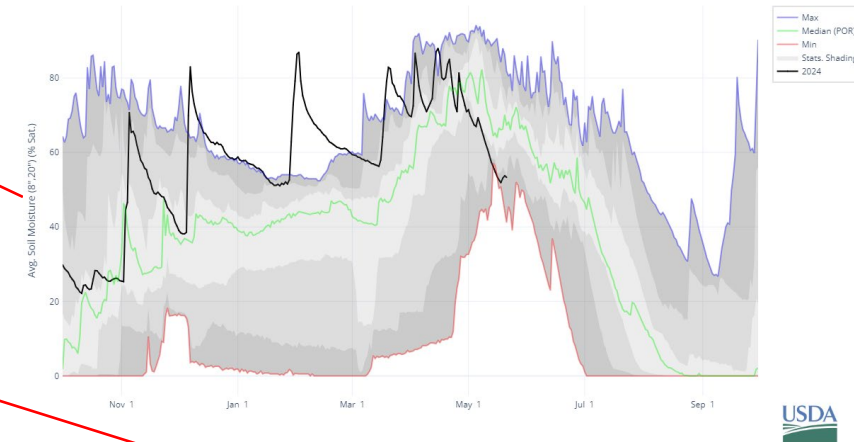
Soil Moisture

WY 2024 – Select Site Charts

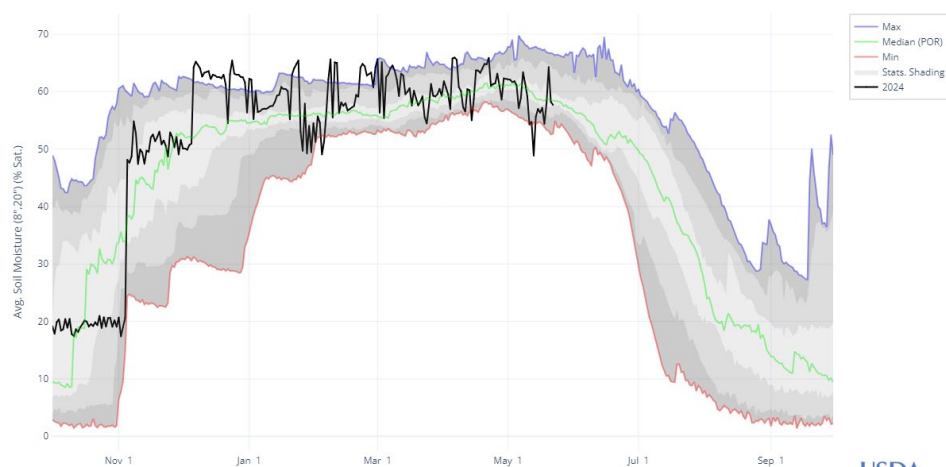
SALMON MEADOWS, WA (728) AVG. SOIL MOISTURE (8",20")



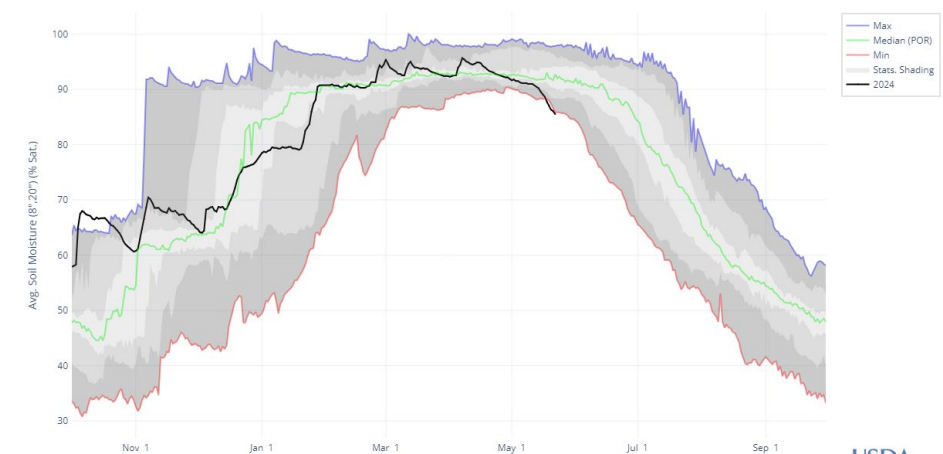
MOSES MTN, WA (644) AVG. SOIL MOISTURE (8",20")



RAGGED MOUNTAIN, ID (1081) AVG. SOIL MOISTURE (8",20")



SOURDOUGH GULCH, WA (985) AVG. SOIL MOISTURE (8",20")



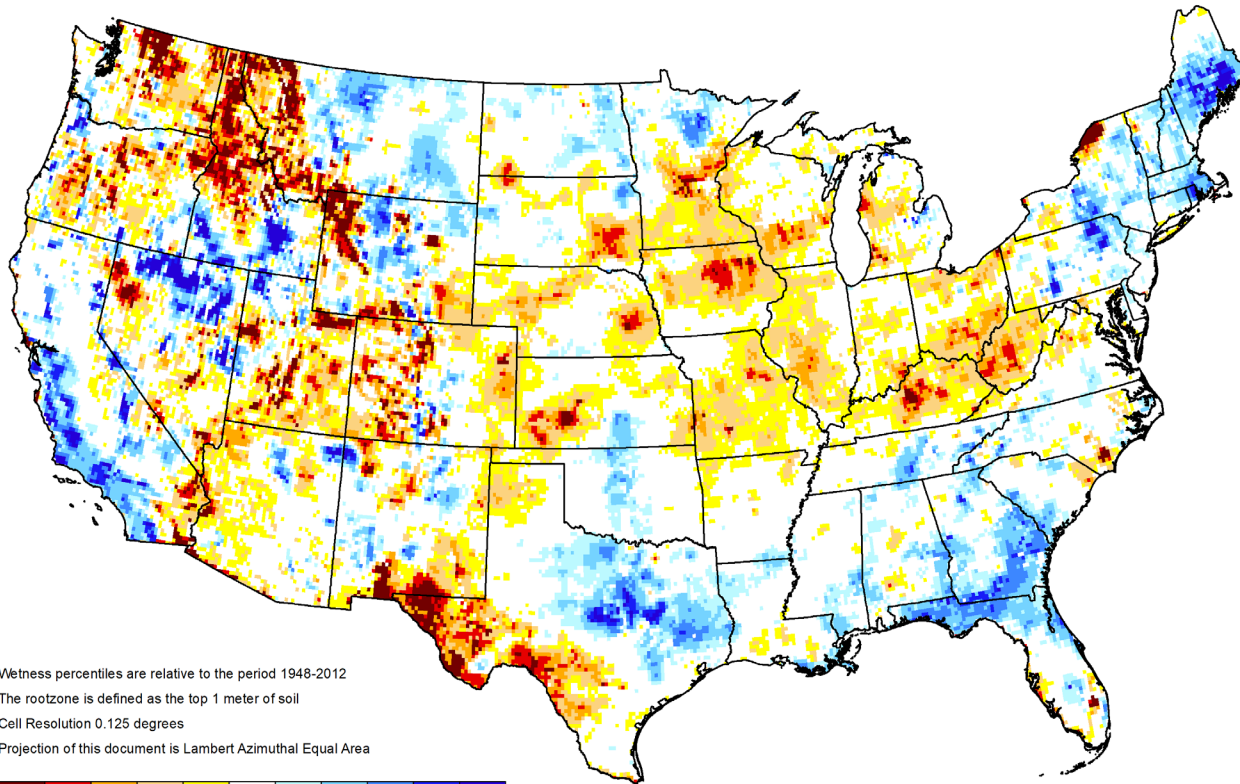
Soil Moisture

NASA GRACE and SPoRT-LiS



GRACE-Based Root Zone Soil Moisture Drought Indicator

May 20, 2024

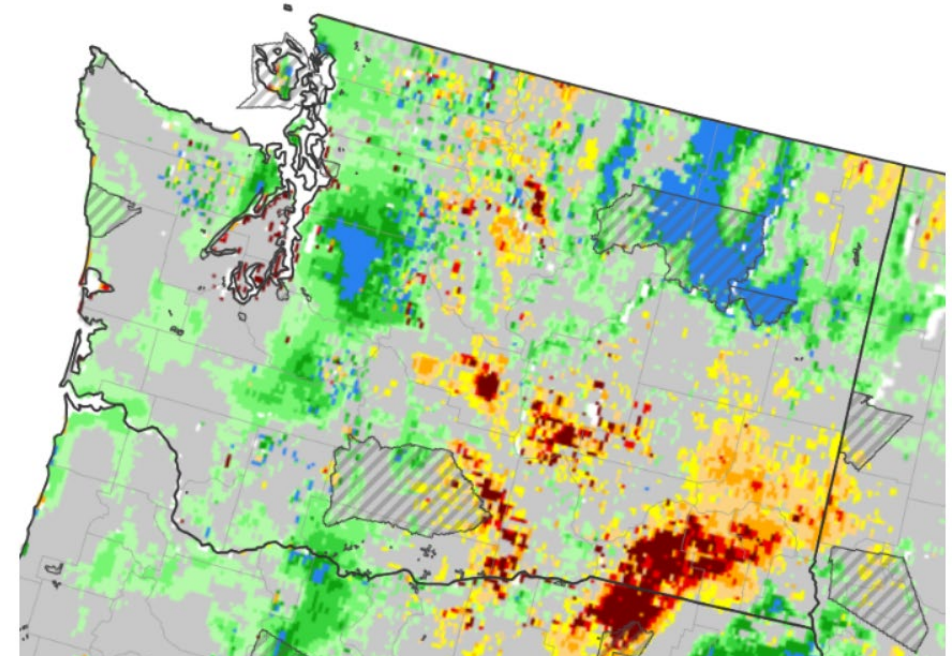


Wetness percentiles are relative to the period 1948-2012
The rootzone is defined as the top 1 meter of soil
Cell Resolution 0.125 degrees
Projection of this document is Lambert Azimuthal Equal Area

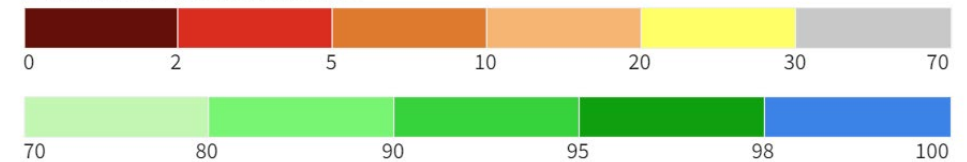


<https://nasagrace.unl.edu>

0-100 cm Soil Moisture Percentile



0-100 cm Soil Moisture Percentile



Tribal Nations

Tribal Nation Boundaries

Source(s): NASA
Data Valid: 05/22/24

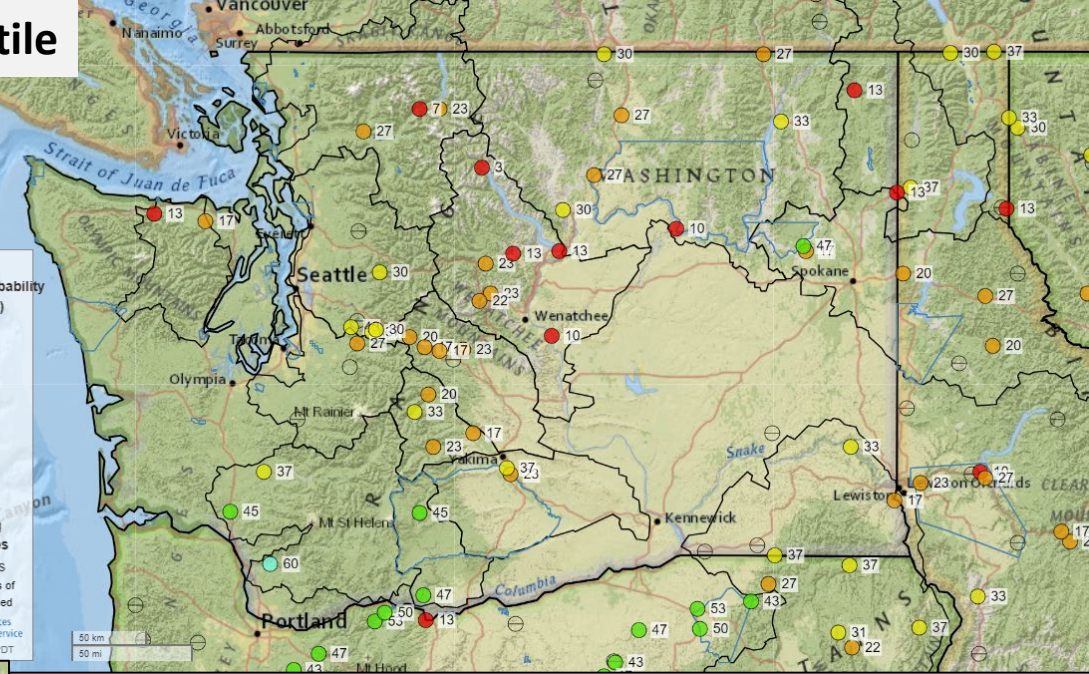
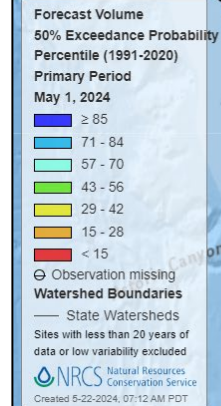


Water Supply Outlook

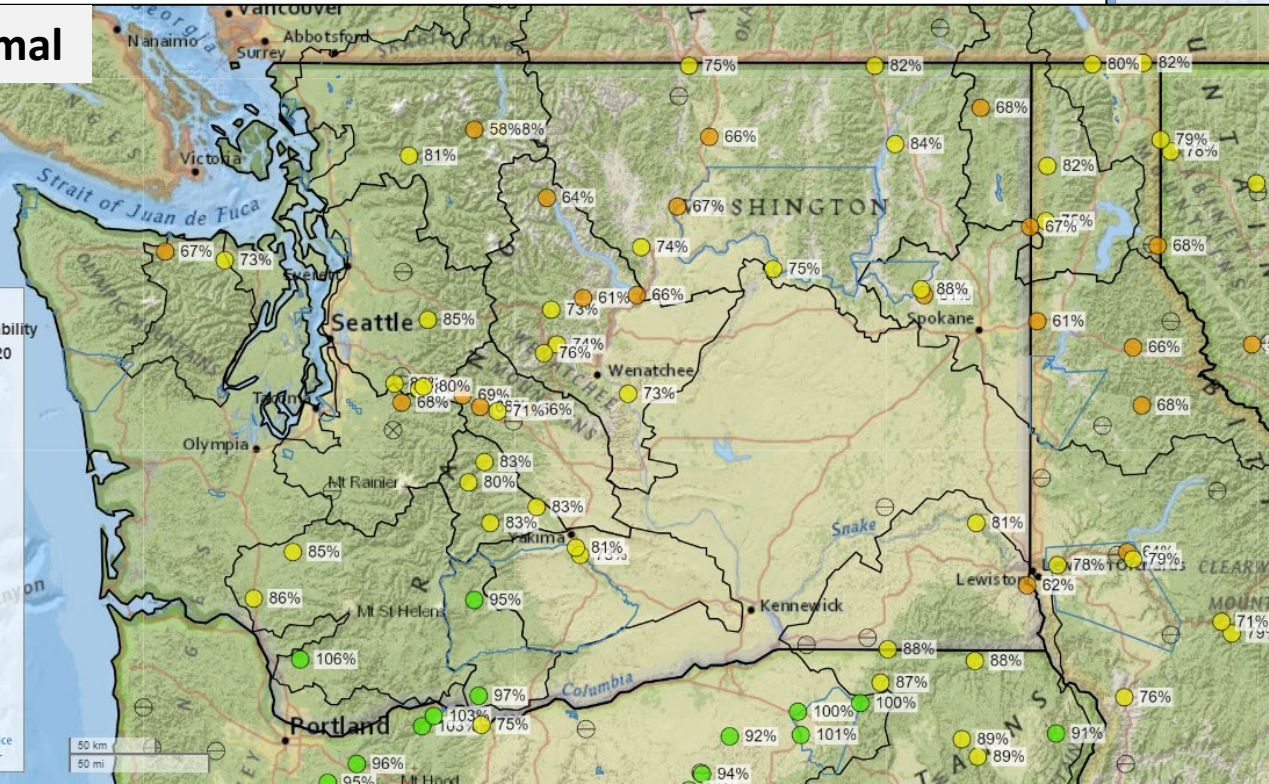
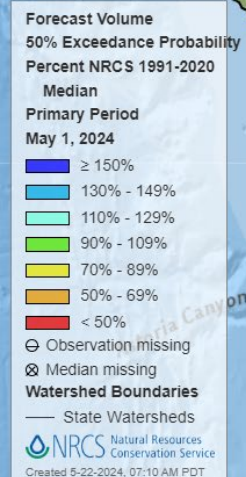
May 1: Water Supply Forecasts

April-September Volumetric Streamflow

Percentile



% of Normal



Next distribution: week of June 1.
Reports available [here](#)

Thank you!

Matt Warbritton
Supervisory Hydrologist
USDA NRCS SSWSF
Portland Data Collection Office
matt.warbritton@usda.gov
503-307-2829

[Washington Snow Survey and Water
Supply Program Website](#)

In accordance with Federal civil rights law and U.S. Department of Agriculture (USDA) civil rights regulations and policies, the USDA, its Agencies, offices, and employees, and institutions participating in or administering USDA programs are prohibited from discriminating based on race, color, national origin, religion, sex, gender identity (including gender expression), sexual orientation, disability, age, marital status, family/parental status, income derived from a public assistance program, political beliefs, or reprisal or retaliation for prior civil rights activity, in any program or activity conducted or funded by USDA (not all bases apply to all programs). Remedies and complaint filing deadlines vary by program or incident.

Persons with disabilities who require alternative means of communication for program information (e.g., Braille, large print, audiotope, American Sign Language, etc.) should contact the responsible Agency or USDA's TARGET Center at (202) 720-2600 (voice and TTY) or contact USDA through the Federal Relay Service at (800) 877-8339. Additionally, program information may be made available in languages other than English.

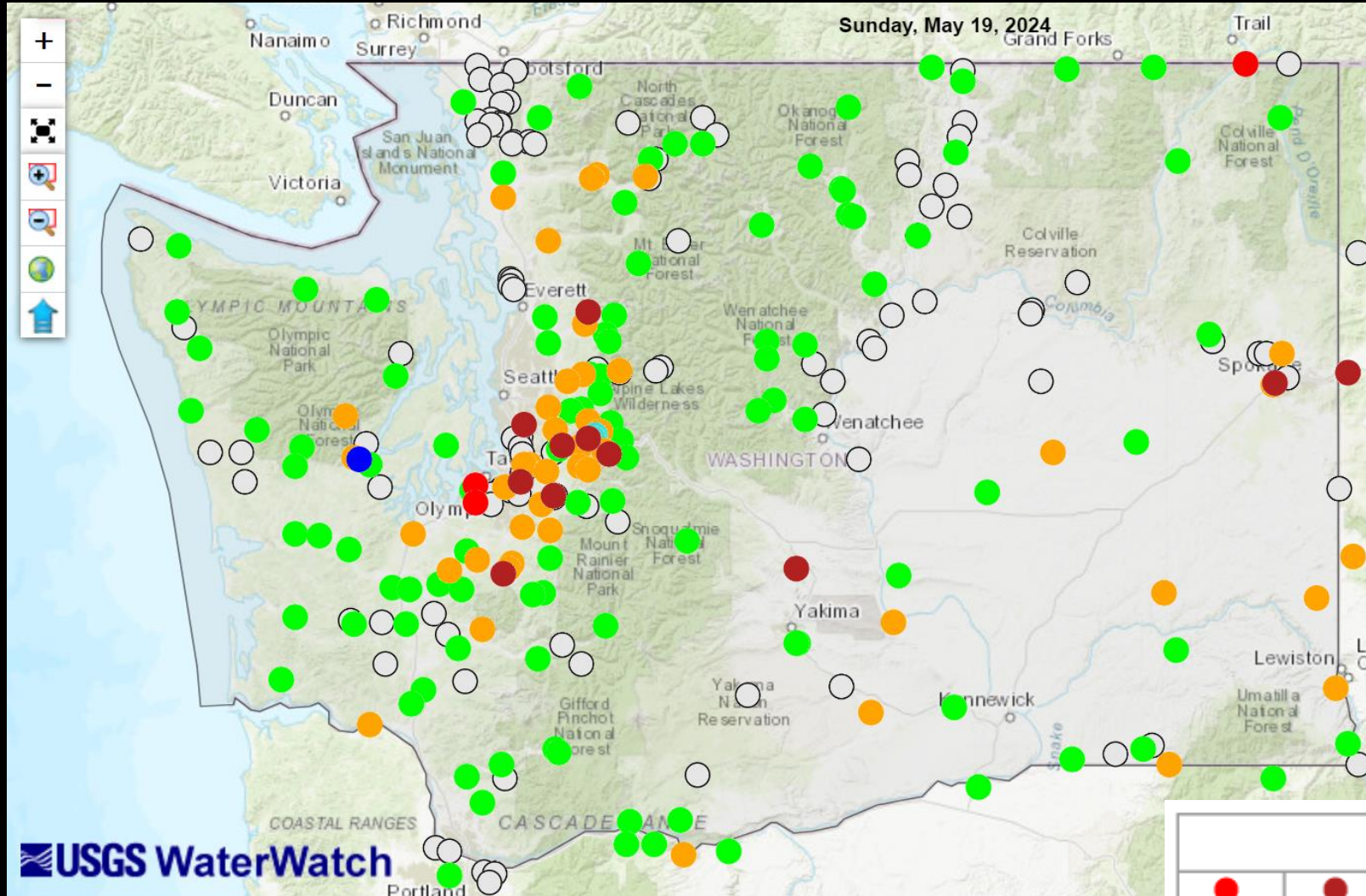
To file a program discrimination complaint, complete the USDA Program Discrimination Complaint Form, AD-3027, found online at [How to File a Program Discrimination Complaint](#) and at any USDA office or write a letter addressed to USDA and provide in the letter all of the information requested in the form. To request a copy of the complaint form, call (866) 632-9992. Submit your completed form or letter to USDA by: (1) mail: U.S. Department of Agriculture, Office of the Assistant Secretary for Civil Rights, 1400 Independence Avenue, SW, Washington, D.C. 20250-9410; (2) fax: (202) 690-7442; or (3) email: program.intake@usda.gov.

Streamflow & Groundwater Conditions in Washington State as of 20 May 2024

Presented on 22 May 2024
to the Washington Water Supply Availability Committee
by Nicholas Sutfin, nsutfin@usgs.gov
USGS Washington Water Science Center

7-day Average Streamflow

Conditions as of 19 May 2024

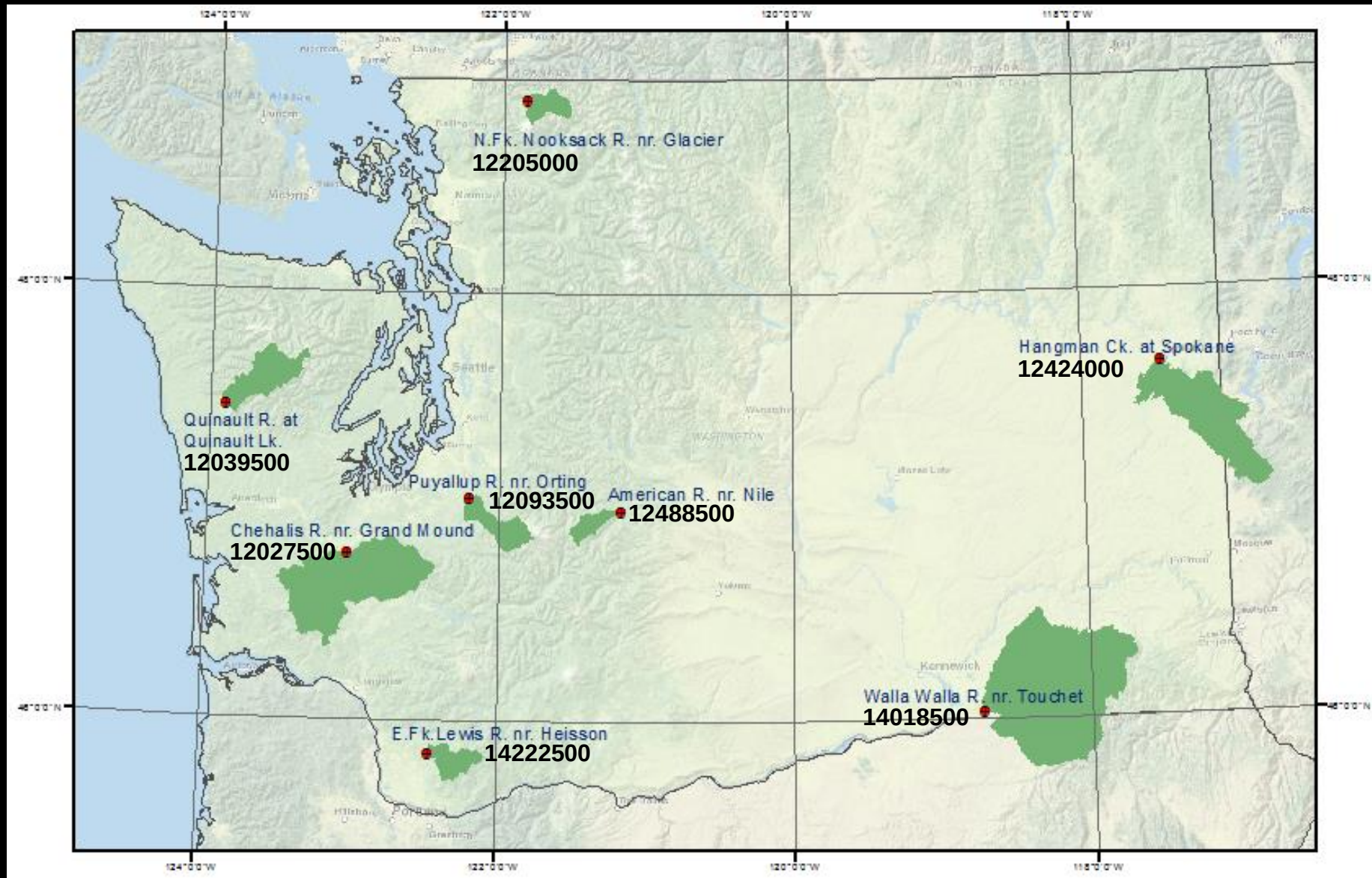


**Preliminary Information-
Subject to Revision. Not for
Citation or Distribution.**

Explanation - Percentile classes							
							
Record Low	<10	10-24	25-75	76-90	>90	Record High	Not-ranked
	Much below normal	Below normal	Normal	Above normal	Much above normal		

Index Gaging Stations

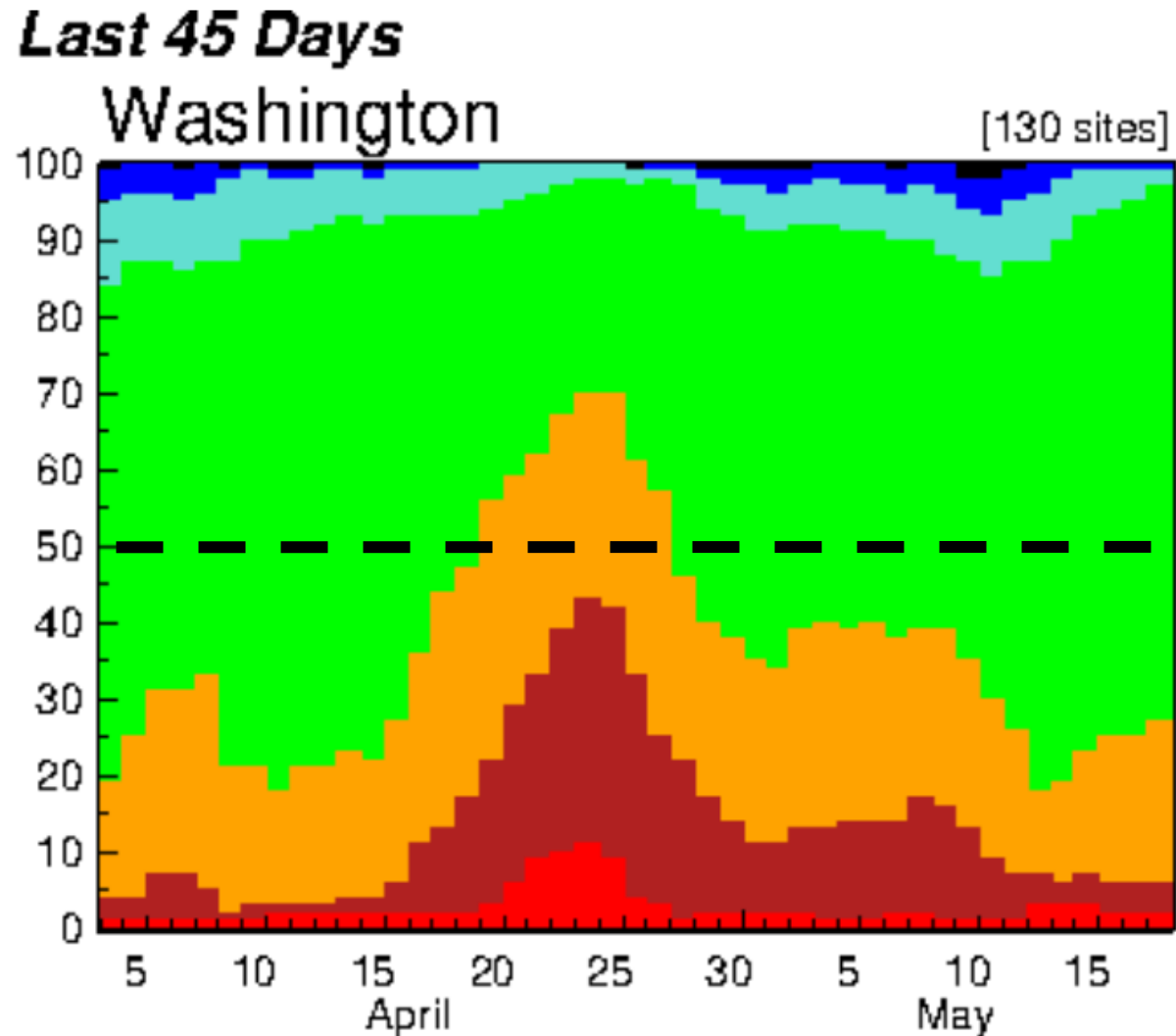
(Stations that measure natural or near-natural streamflow)



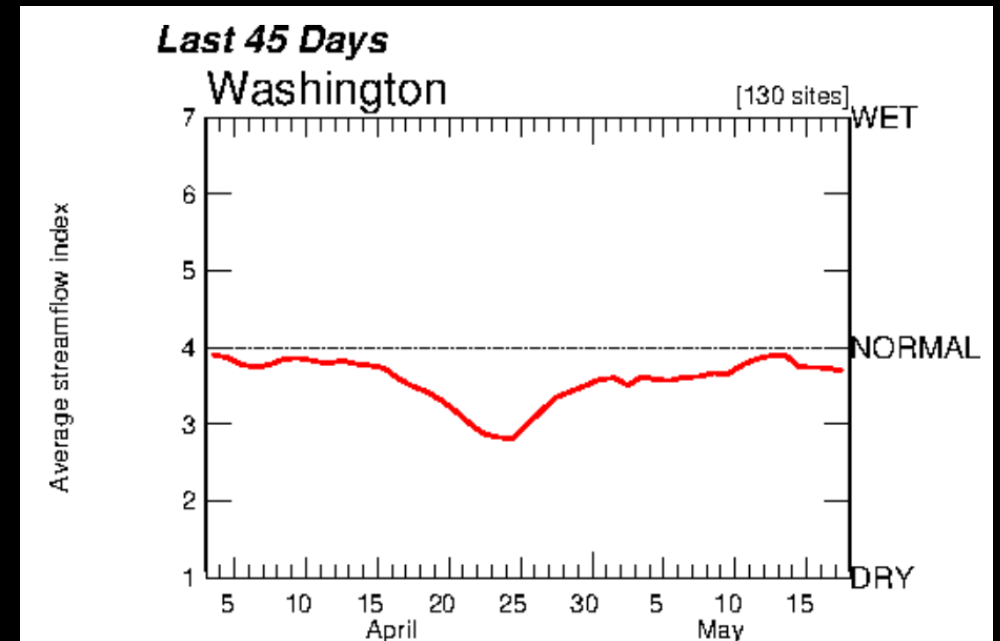


7-day average streamflow

7-day average streamflow as of 19 May 2024 is normal



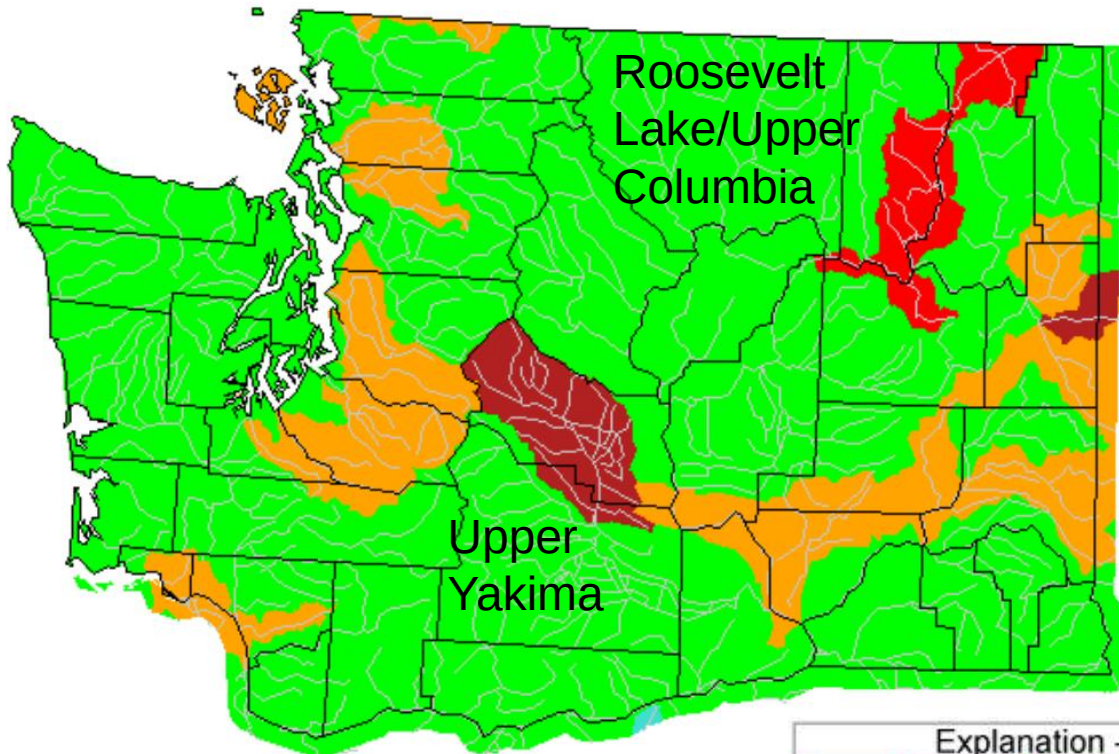
Preliminary Information-Subject to Revision.
Not for Citation or Distribution.



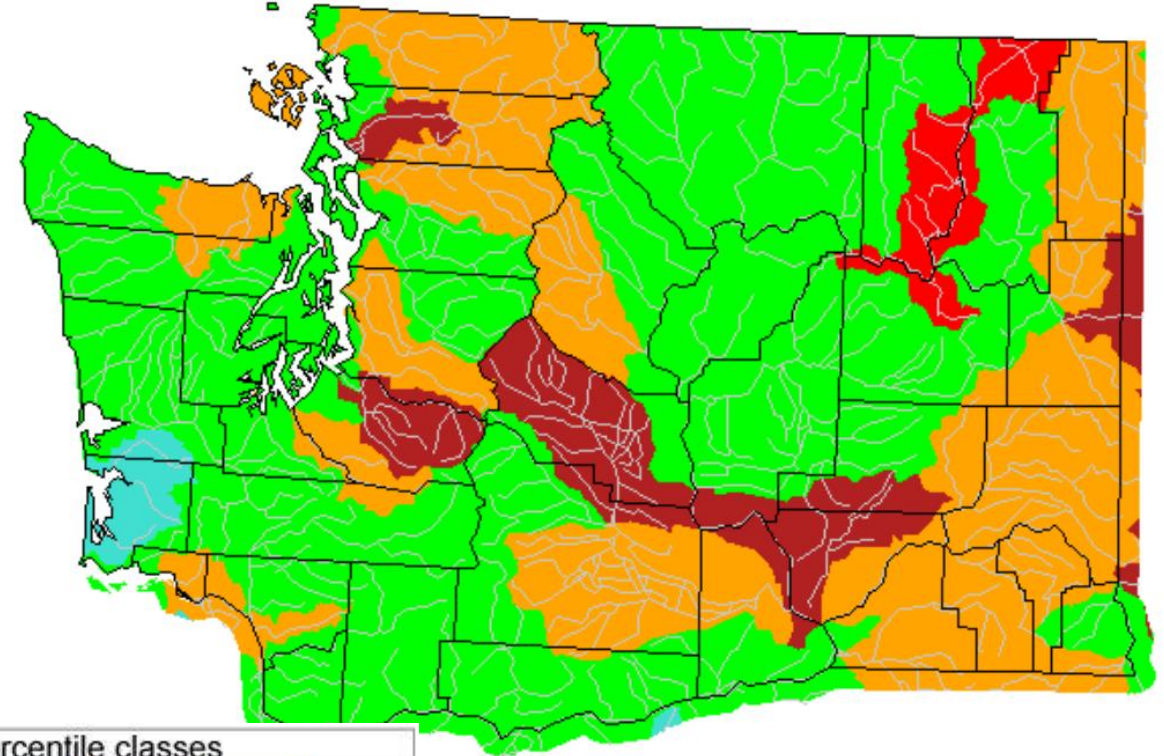
Explanation - Percentile classes						
Record Low	<10	10-24	25-75	76-90	>90	Record High
	Much below normal	Below normal	Normal	Above normal	Much above normal	

Monthly average streamflow compared to historical streamflow

7-day average as of 19 May 2024



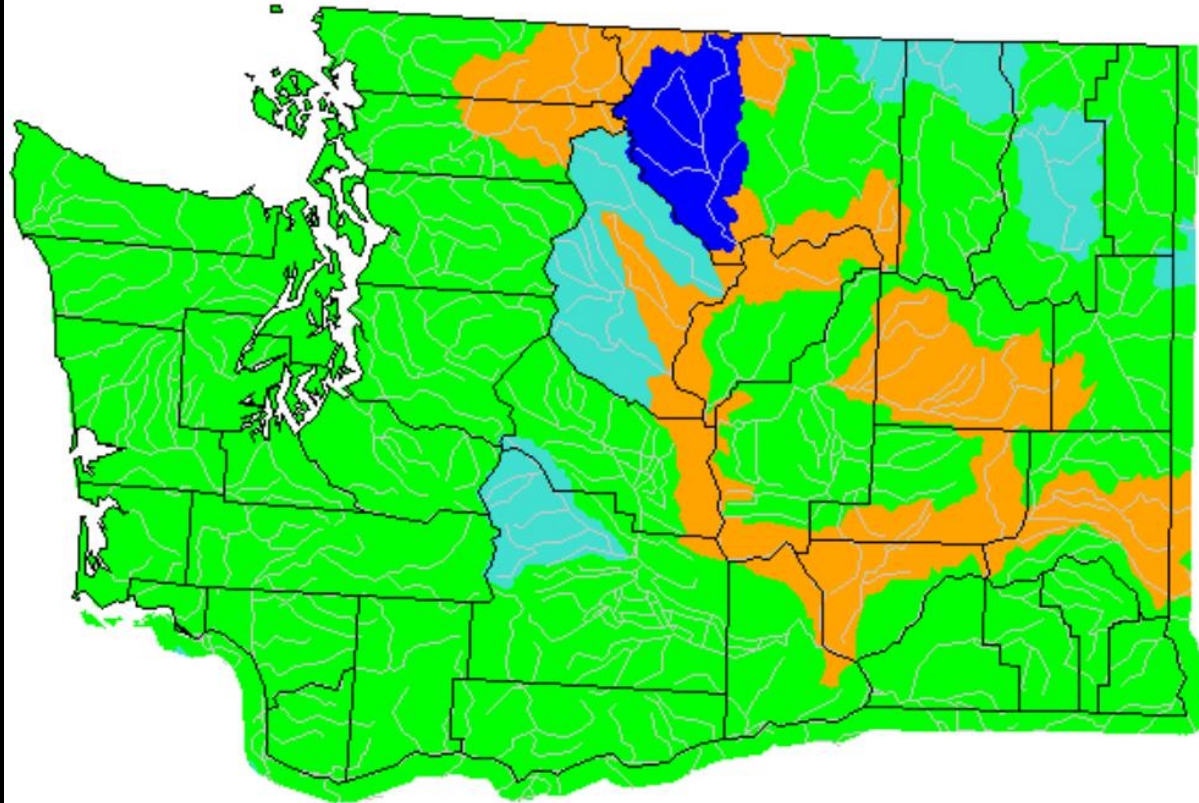
28-day average as of 19 May 2024



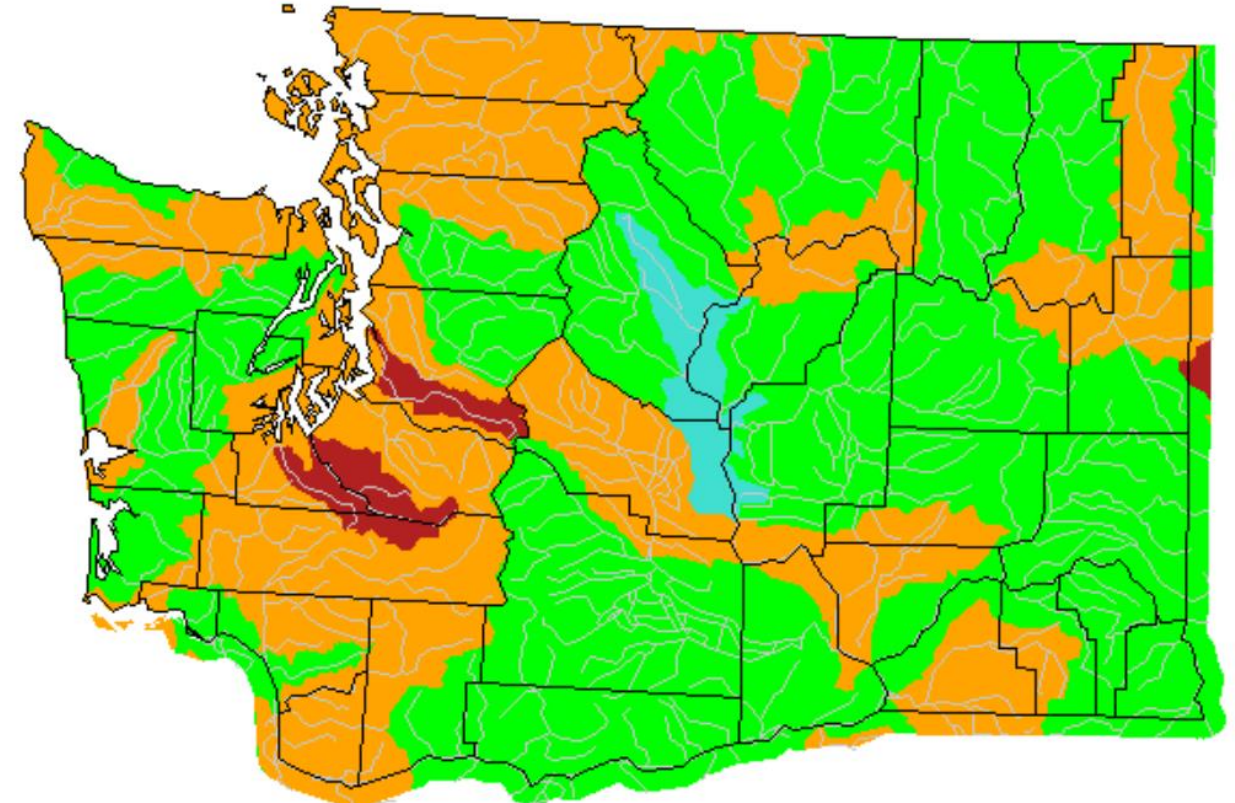
Explanation - Percentile classes						
Record Low	<10	10-24	25-75	76-90	>90	Record High
	Much below normal	Below normal	Normal	Above normal	Much above normal	

Monthly average streamflow compared to historical streamflow

March 2024



April 2024

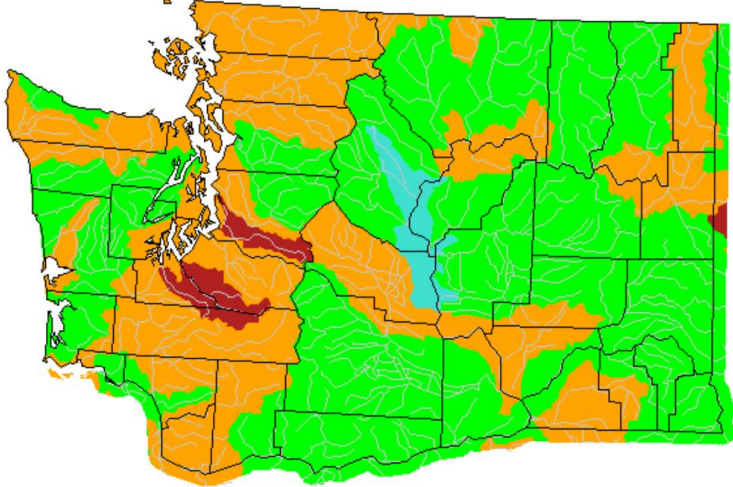


Explanation - Percentile classes						
Record Low	<10	10-24	25-75	76-90	>90	Record High
	Much below normal	Below normal	Normal	Above normal	Much above normal	

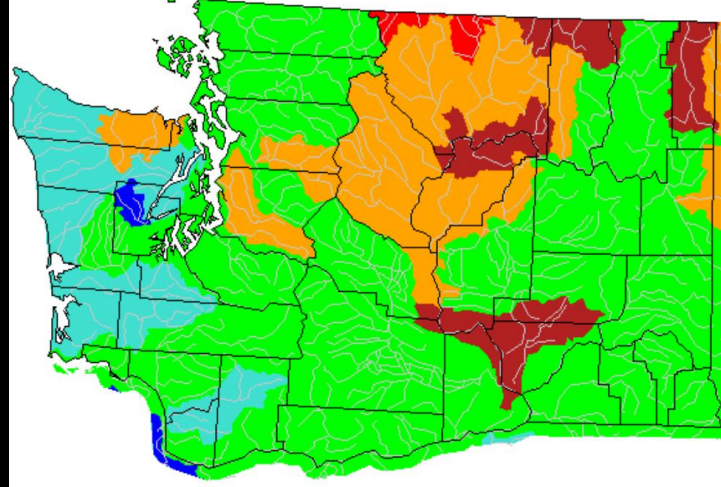
Preliminary Information-Subject to Revision. Not for Citation or Distribution.

April monthly average streamflow compared to historical streamflow

April 2024



April 2023

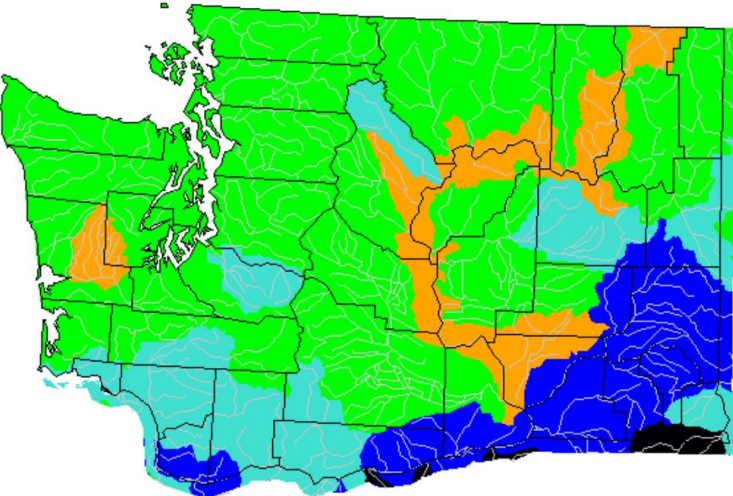


Explanation - Percentile classes						
Record Low	<10	10-24	25-75	76-90	>90	Record High
	Much below normal	Below normal	Normal	Above normal	Much above normal	

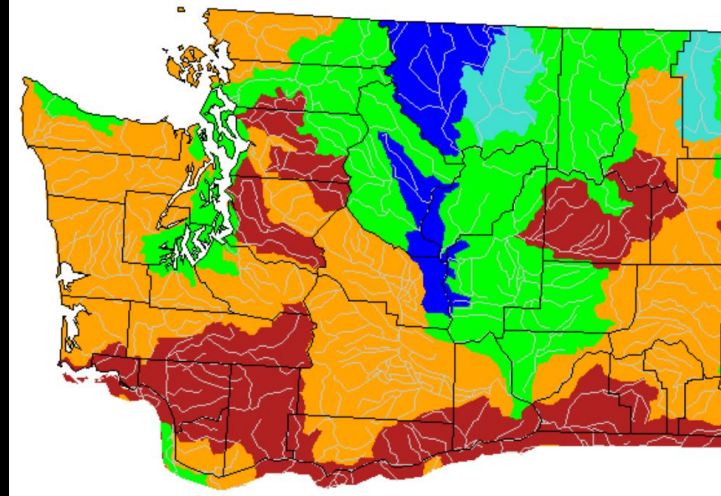
<https://waterwatch.usgs.gov/>

**Preliminary Information-
Subject to Revision. Not
for Citation or
Distribution.**

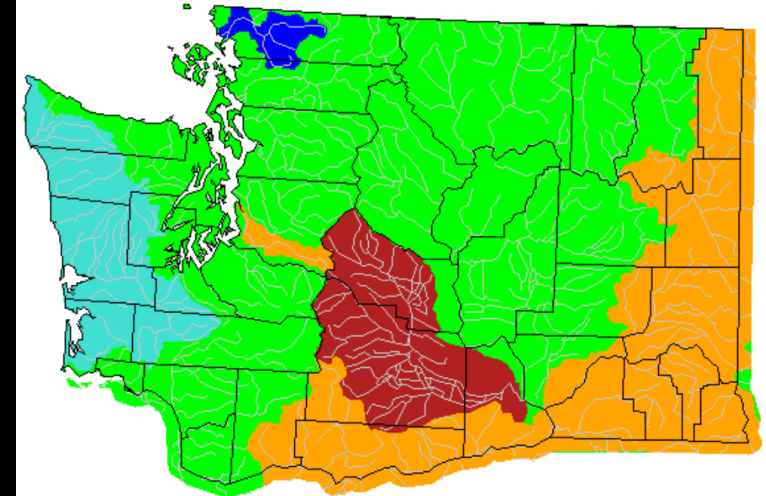
April 2019



April 2015

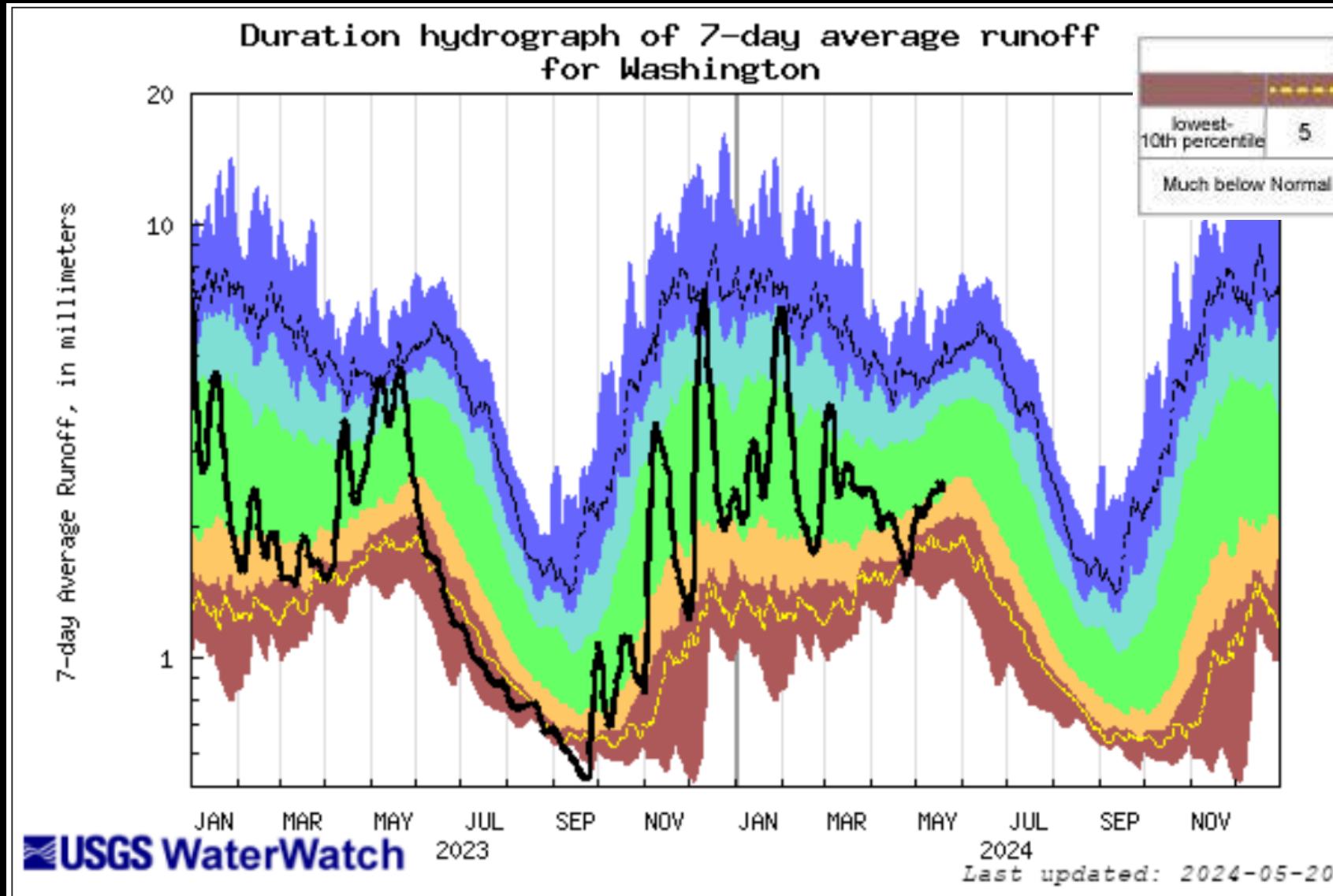


April 2005



Area-Based Runoff Duration Hydrograph

7-day average streamflow as of 20 May 2024 is ~normal



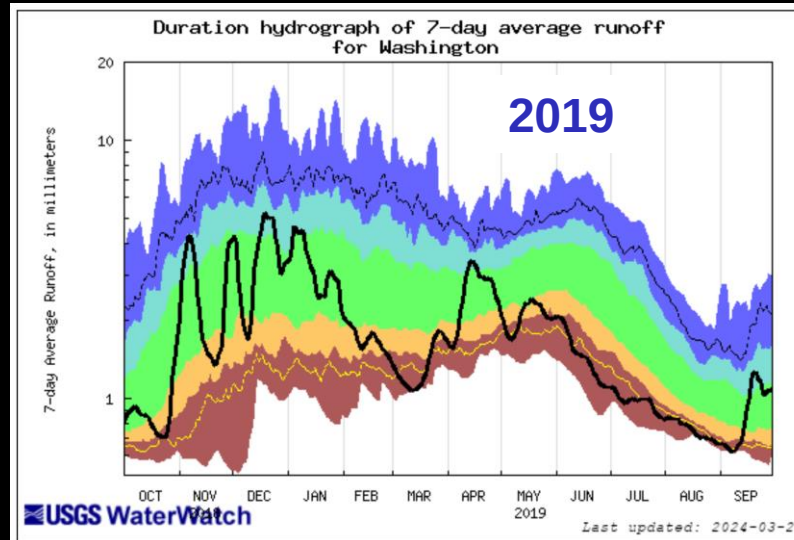
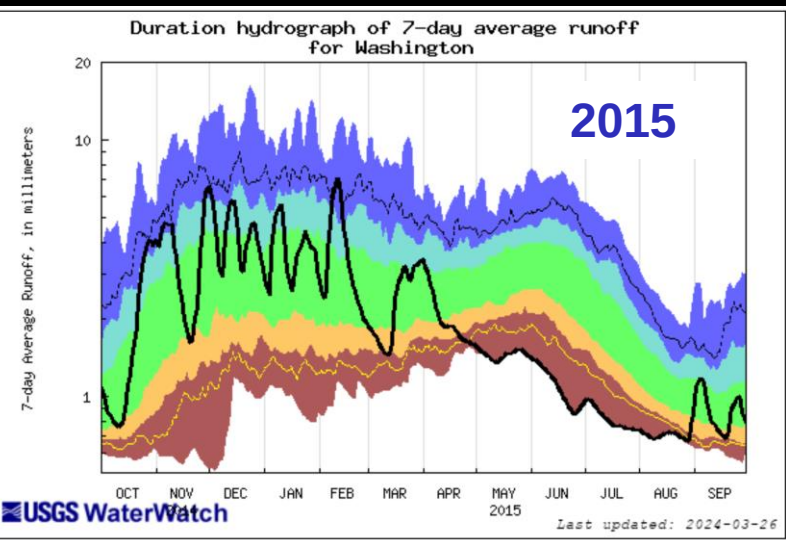
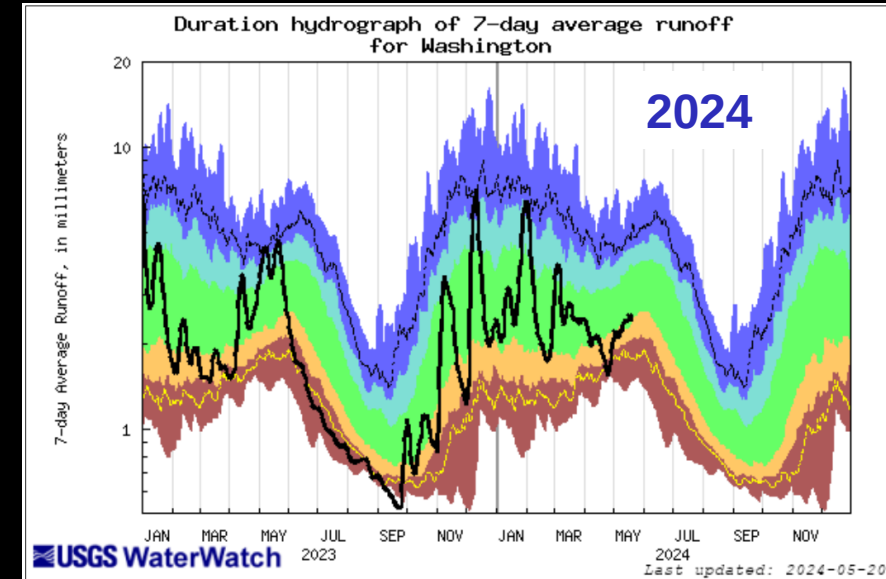
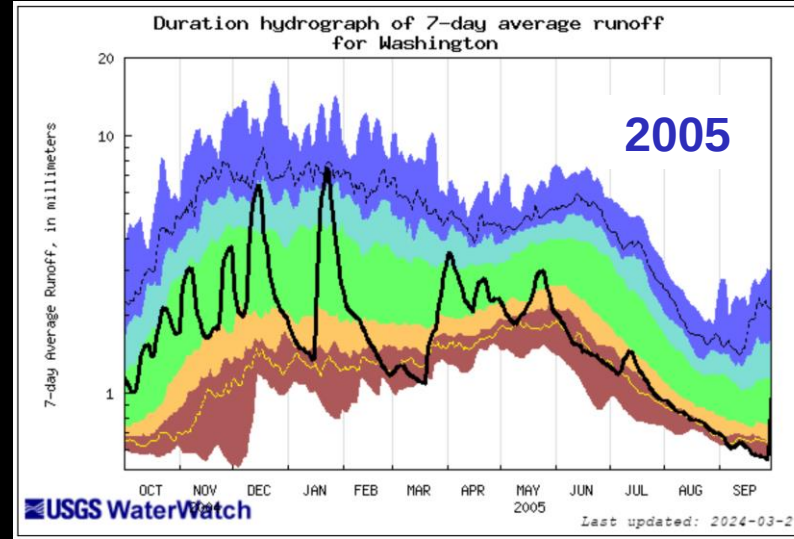
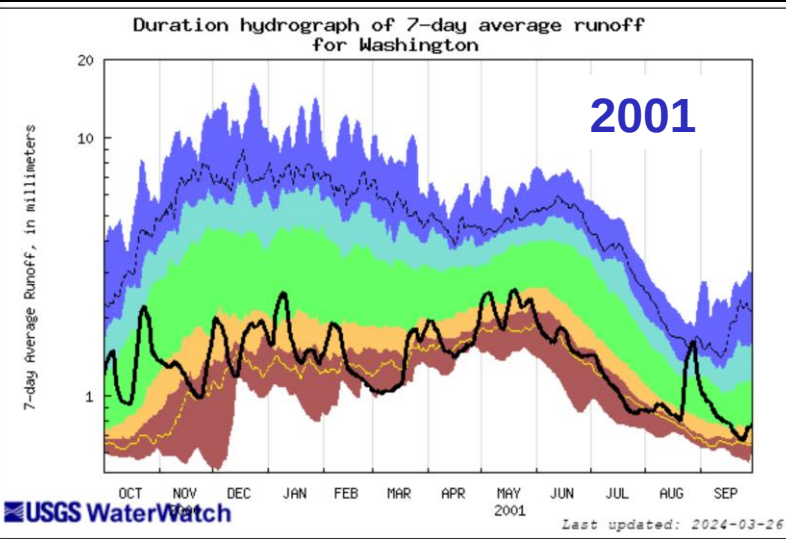
Preliminary Information-
Subject to Revision. Not for
Citation or Distribution.

For some streams, flow
statistics may have been
computed from mixed
regulated
and unregulated flows; this
can affect depictions of flow
conditions.

Area-Based Runoff Duration Hydrograph

7-day average streamflow as of 20 May 2024 is ~normal

Duration hydrograph for the year compared to recent years and years of drought



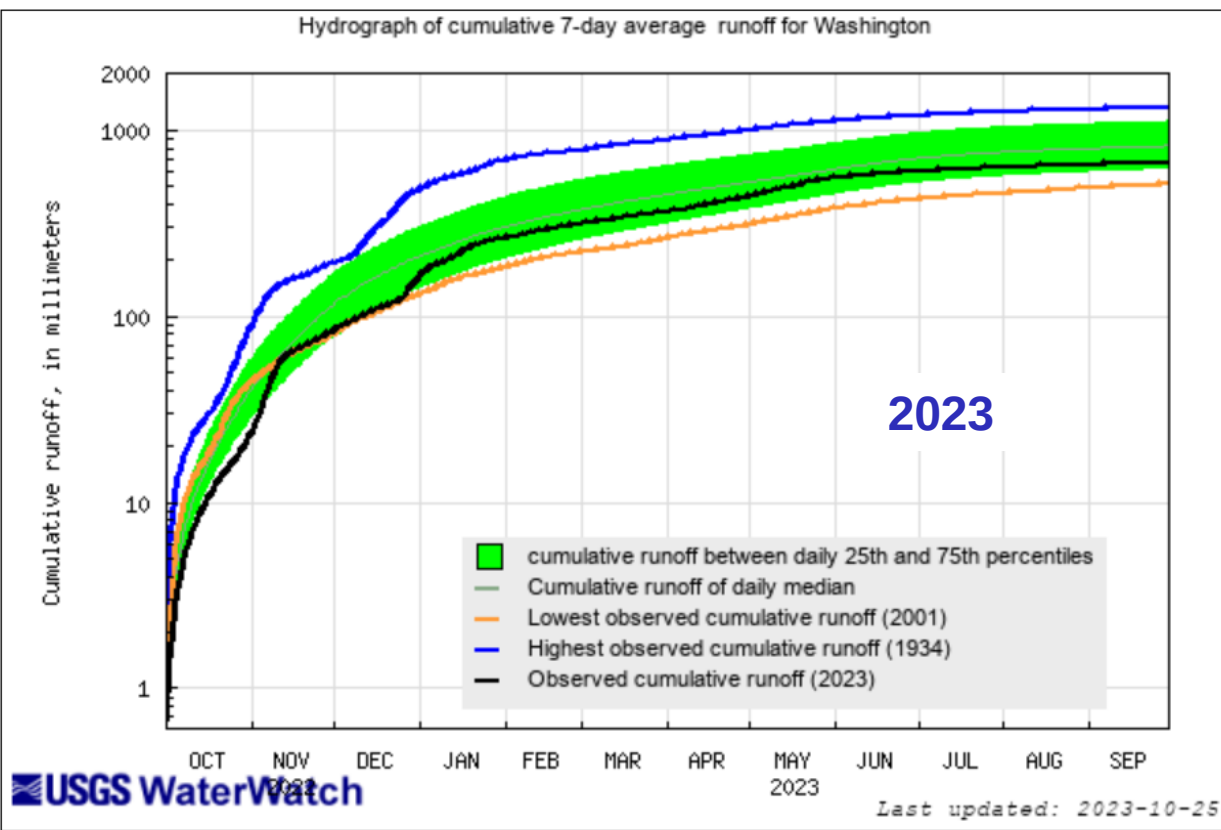
Explanation - Percentile classes						
lowest-10th percentile	5	10-24	25-75	76-90	95	90th percentile - highest
Much below Normal	Below normal	Normal	Above normal	Much above normal		Flow

Preliminary Information-Subject to Revision. Not for Citation or Distribution.

Cumulative runoff hydrograph

Area-based runoff based on 7-day average

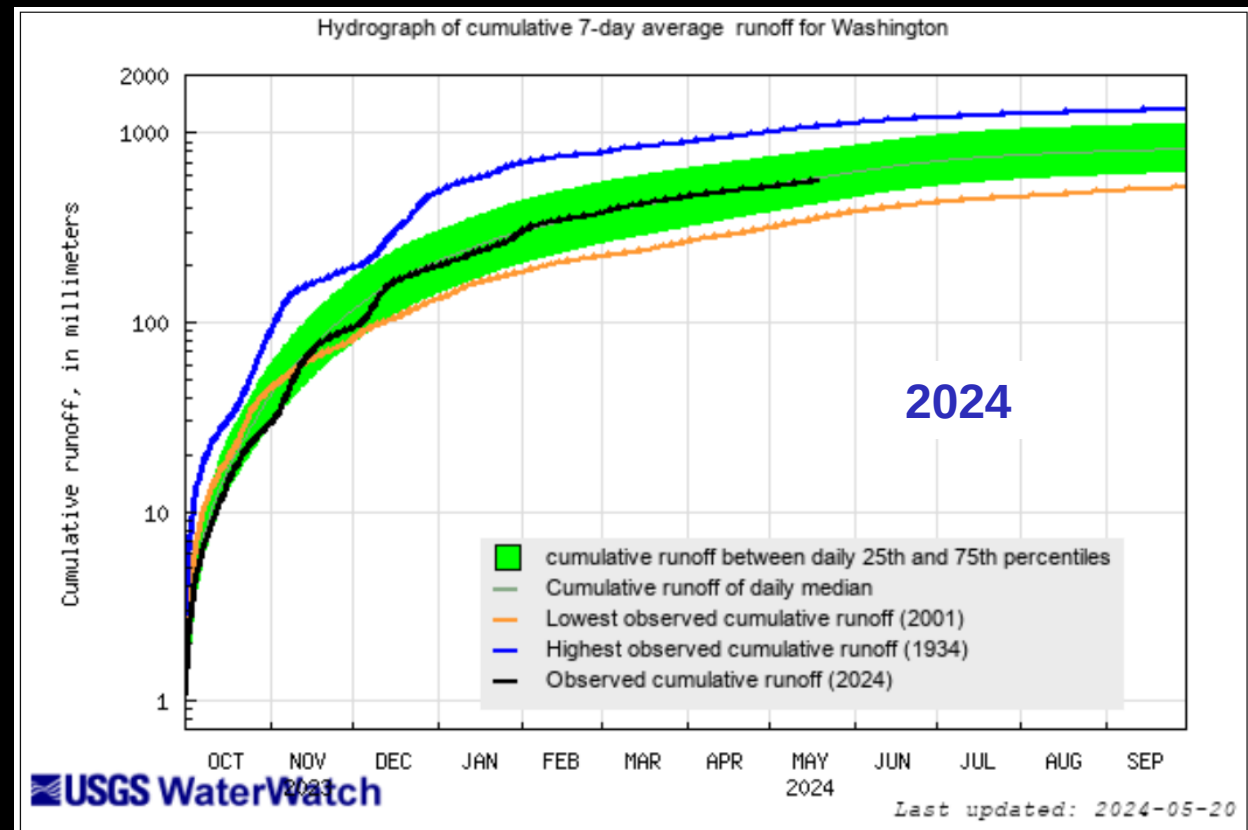
Normal in 2024 as of 20 May



2023 water year

Area-based runoff may have been computed from mixed regulated and unregulated streamflows

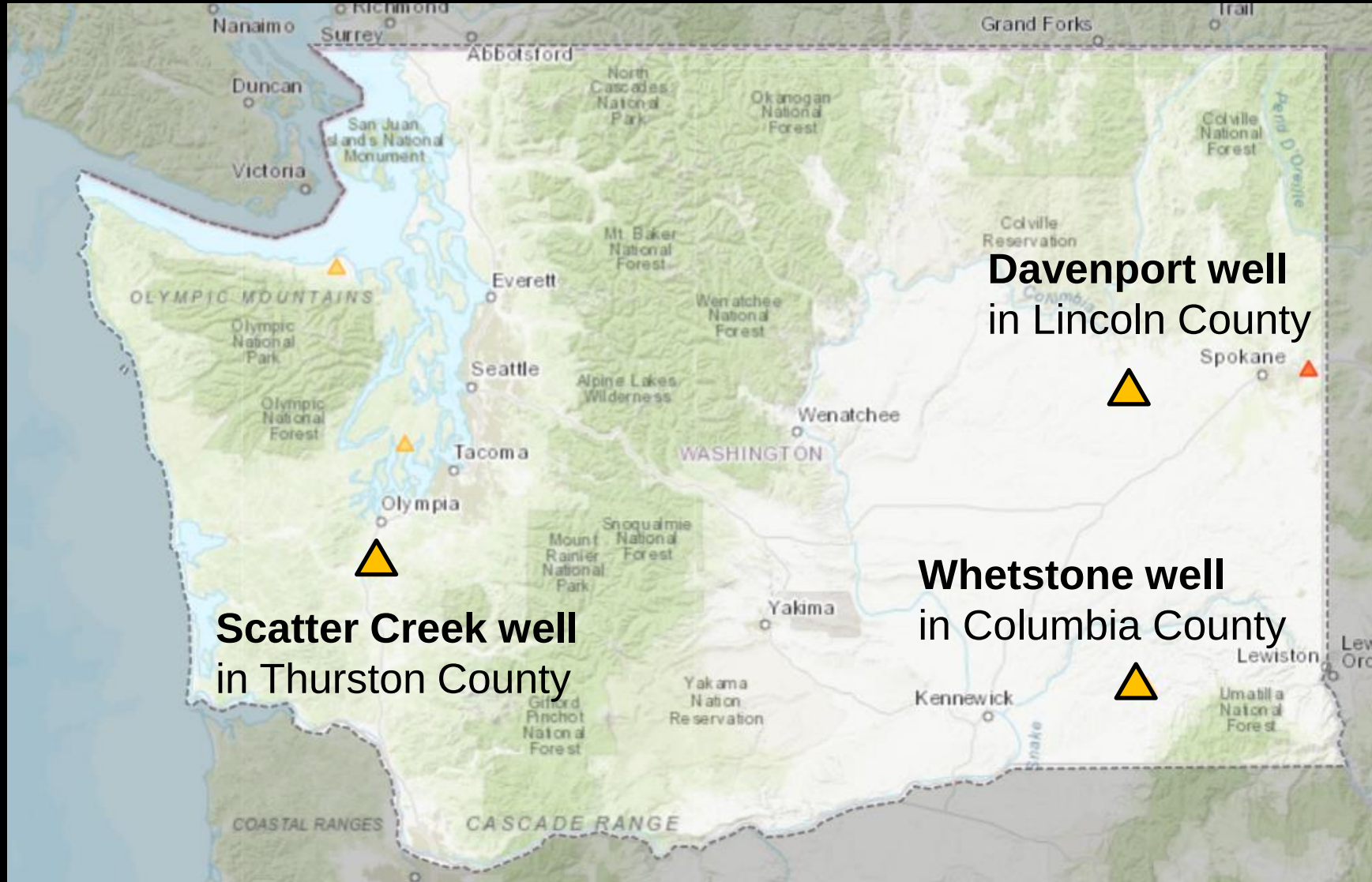
<https://waterwatch.usgs.gov/>



2024 water year

Preliminary Information-Subject to Revision.
Not for Citation or Distribution.

Three reference groundwater wells

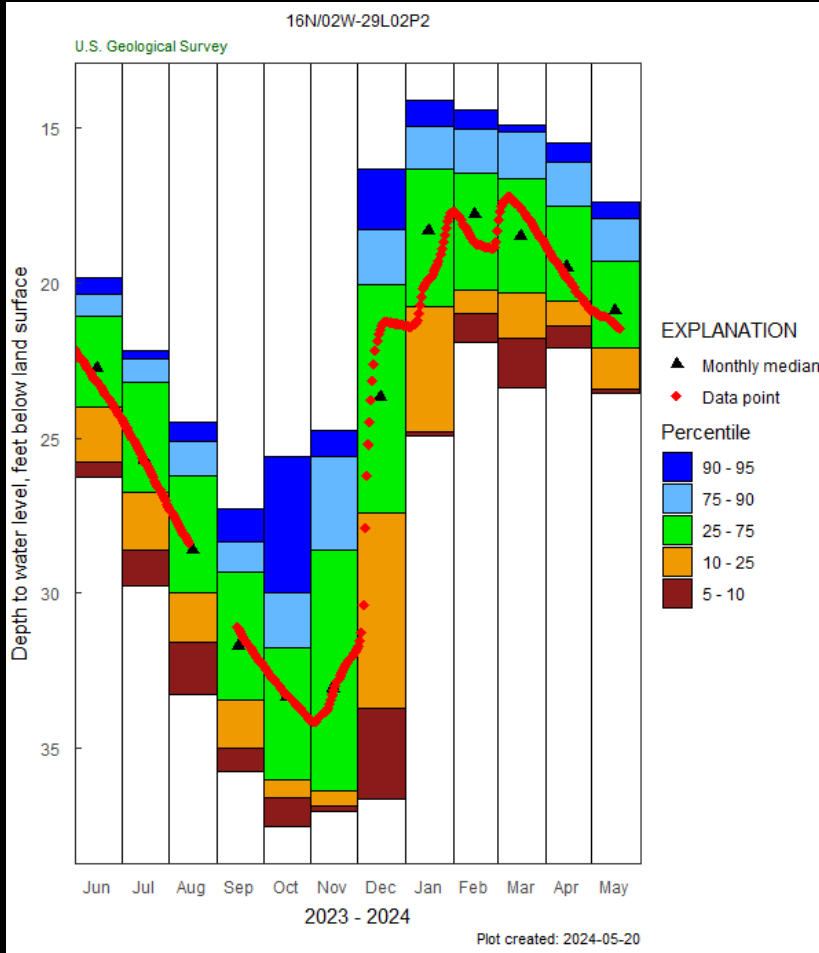


**Preliminary Information-
Subject to Revision. Not
for Citation or
Distribution.**

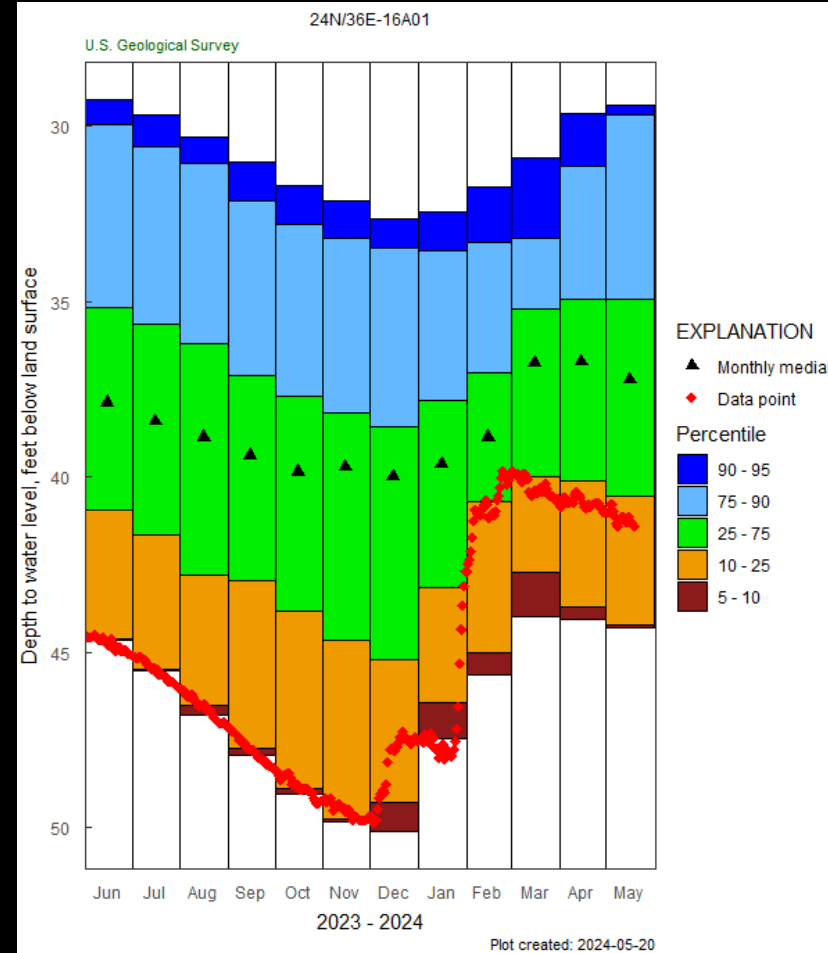
Groundwater Conditions

Monthly average groundwater levels as of 20 May 2024

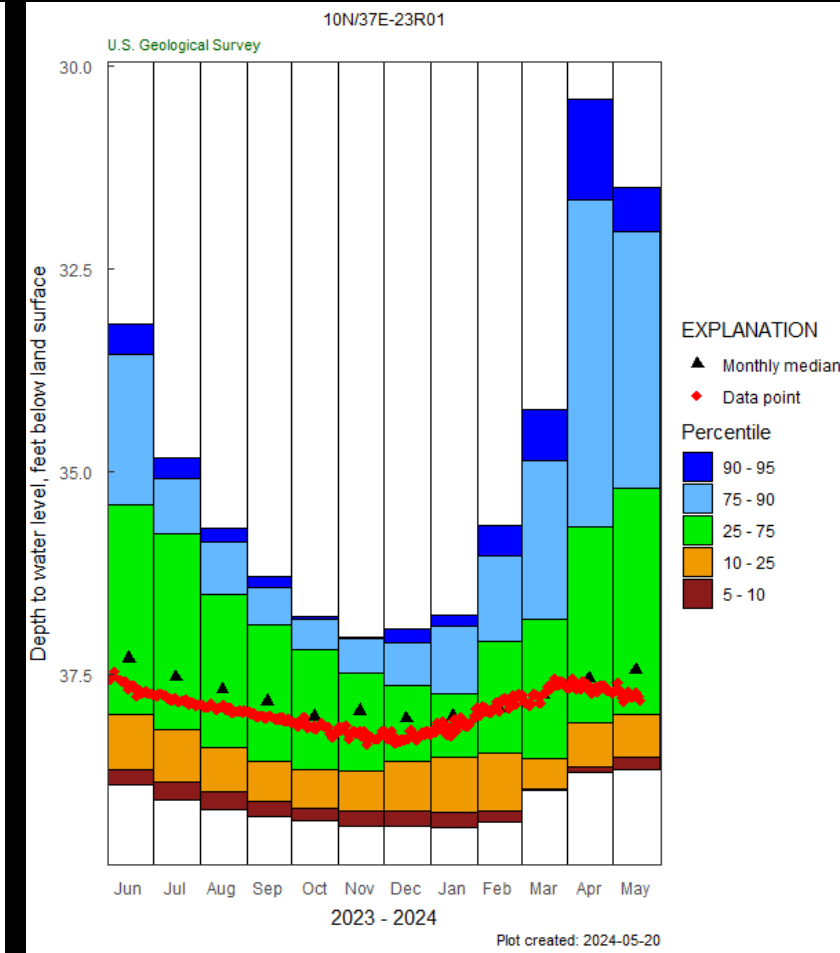
Scatter Creek well



Davenport well



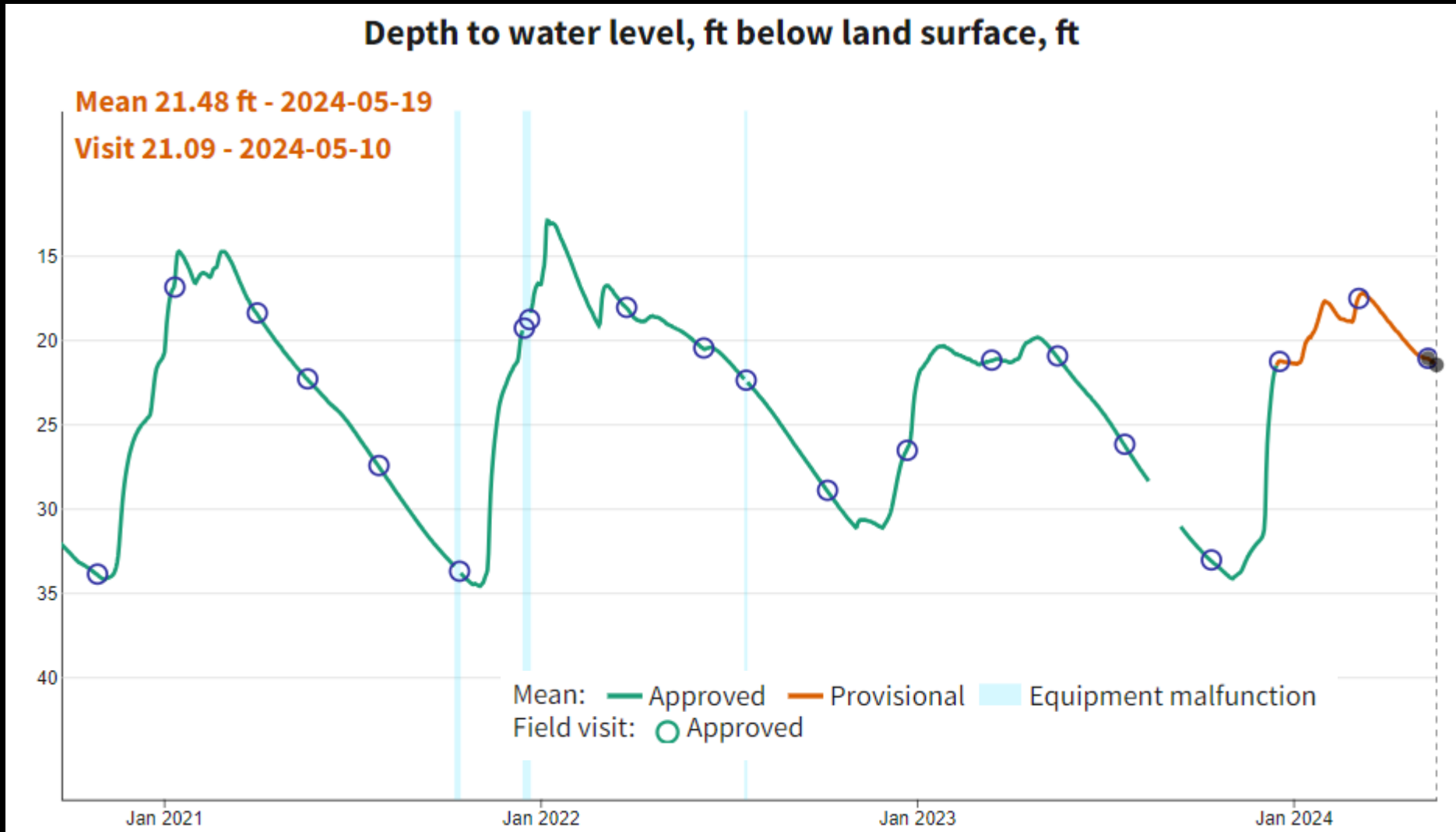
Whetstone well



Preliminary Information-Subject to Revision. Not for Citation or Distribution.

Scatter Creek Well Groundwater Conditions

Well ID: 16N/02W-29L02P2 - 465033122570202

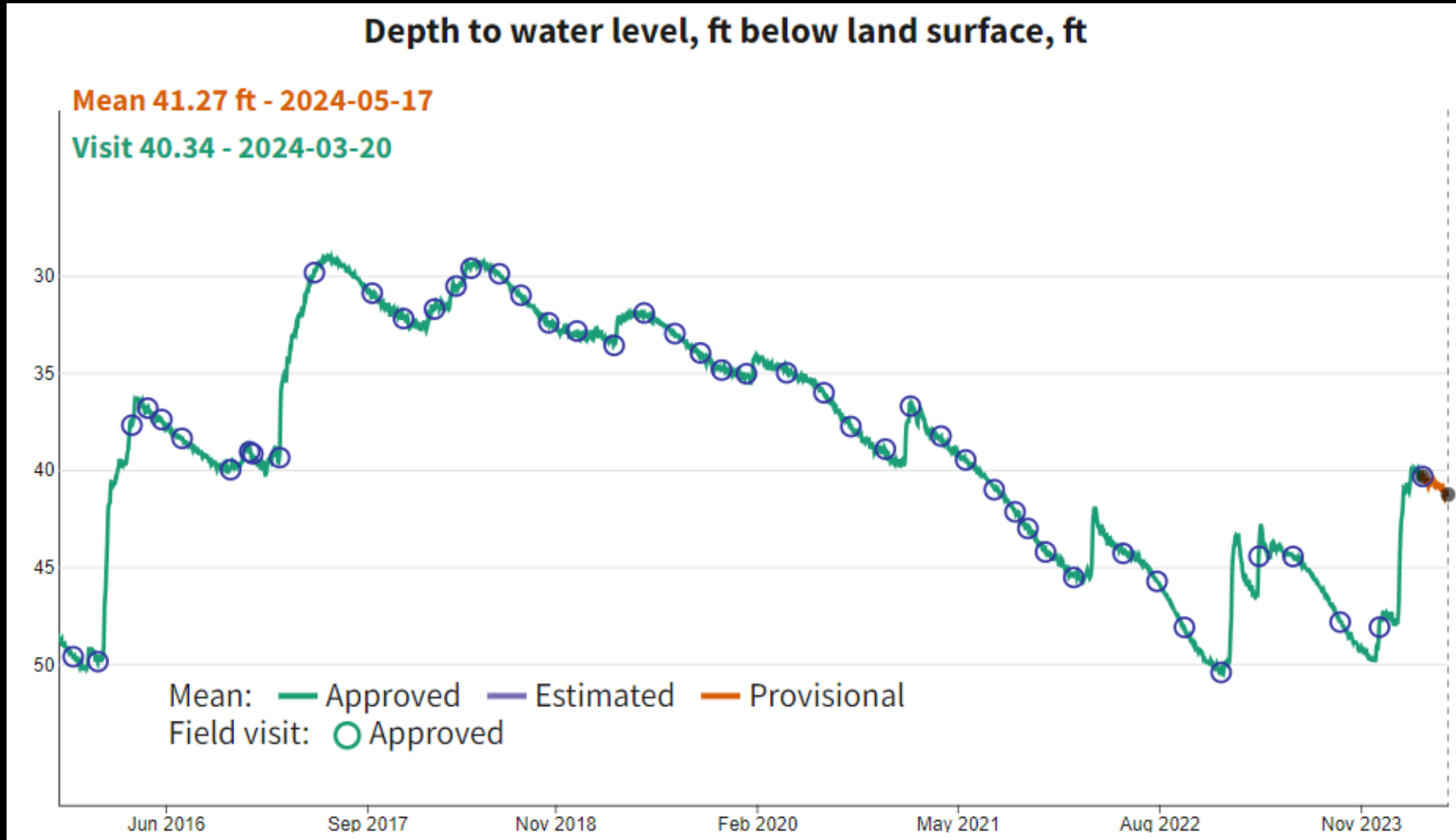


- Well Details:
- in Thurston Co.
 - 82-ft deep
 - Sand and gravel

Preliminary
Information-
Subject to
Revision. Not for
Citation or
Distribution.

Davenport Well Groundwater Conditions

Well ID: 24N/36E-16A01 - 473442118162201



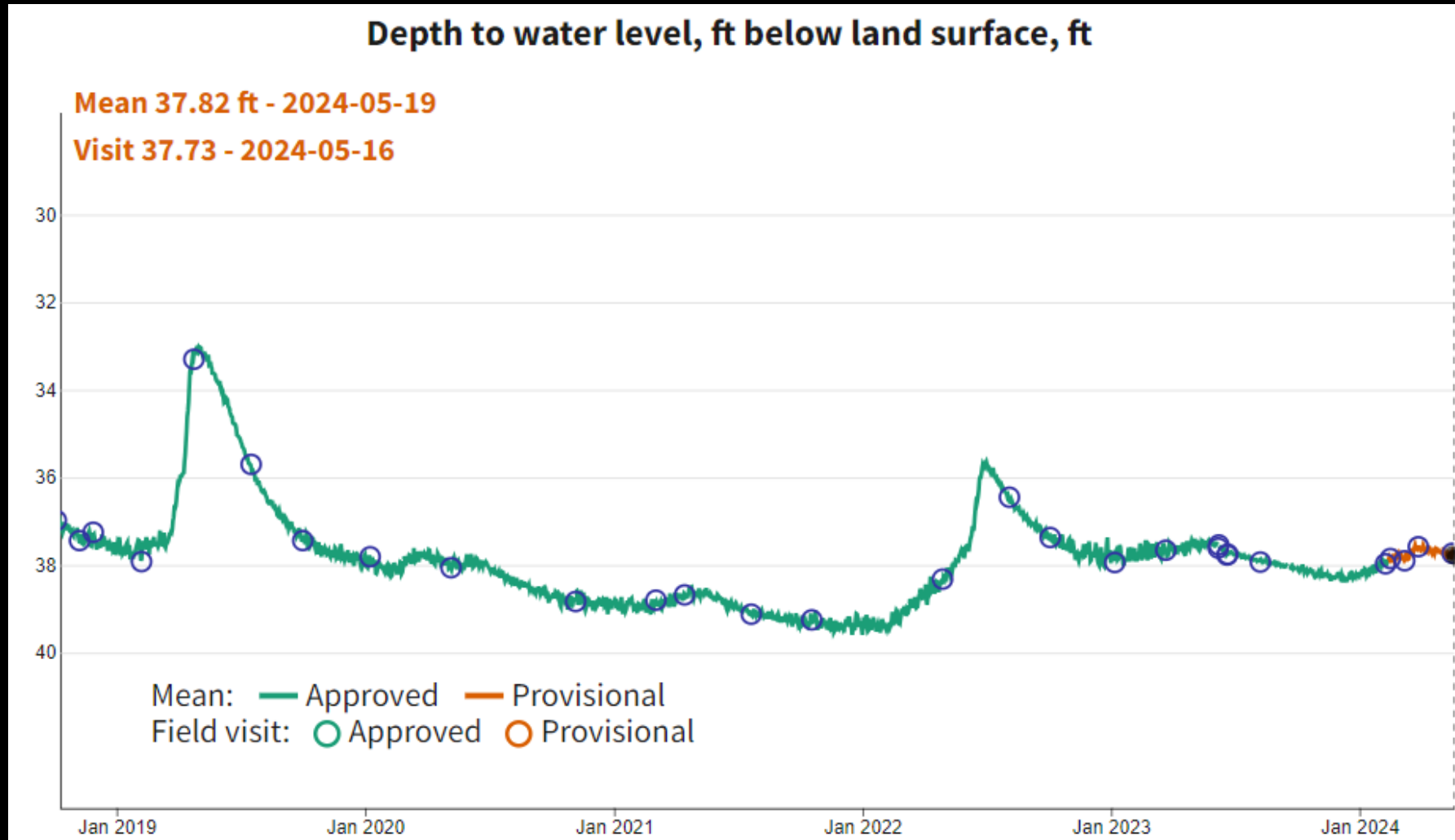
Well Details

- Lincoln County
- 117-ft deep
- Wanapum Basalt

Preliminary
Information-
Subject to
Revision. Not for
Citation or
Distribution.

Whetstone Well Groundwater Conditions

Well ID: 10N/37E-23R01 - 461935118081501



Well Details:

- Columbia County near Waitsburg
- 172.5-ft deep
- Grande Ronde Basalt Formation

Preliminary
Information-
Subject to
Revision. Not for
Citation or
Distribution.

Summary of Washington Streamflow and Groundwater Conditions as of 20 May 2024

7-day average streamflow at eight index gaging stations:

Normal

- NF Nooksack River
- Chehalis River nr. Grand Mound
- Walla Walla River
- EF Lewis River
- Quinault River
- American River

Below Normal

- Puyallup River nr. Orting
- Hangman Creek

Cumulative Runoff Hydrograph **Normal**

Monthly average groundwater conditions:

Normal

- Scatter Creek well
- Whetstone well

Below Normal

- Davenport well

**Preliminary Information-
Subject to Revision. Not for
Citation or Distribution.**



Yakima River Operations

Water Supply Update For WaWSAC, May 21, 2024

Picture compliments of WaDOT, looking at Chinook Pass being cleared of snow, Apr 23, 2024



— BUREAU OF —
RECLAMATION

NEWS RELEASE

For Release: May 3, 2024

Media Contact: Marc Ayalin, 208-378-6203, mayalin@usbr.gov

Reclamation announces Yakima basin May water supply forecast

YAKIMA, Wash. — The Bureau of Reclamation's May 2024 total water supply available forecast for the Yakima basin indicates the water supply will not fully meet irrigation demands this season. The early estimate of the Total Water Supply Available for the May-September period indicates Senior water rights will receive 100% full entitlements, but junior water rights will receive 54% of their full entitlements.

Storage in the Yakima Basin Reservoirs on May 1 was 54% full with 580 KAF, which is 72 of average. Precipitation for April was 57% of average and for October-April was 82% of average. On May 1, the amount of water in the snowpack, known as snow water equivalent, was 65% of average.

Reclamation manages the water in the five Yakima Project storage reservoirs, along with the basin's unregulated inflows to fulfill water rights, water contracts and instream flow obligations. Water shortages in the basin are shared equally by the junior water rights, which represent over half of the water rights in the basin.

Reclamation will provide an updated water supply forecast monthly—at least through July—using the latest data each month to reflect changing conditions as they develop. In a water short year, Reclamation will add mid-month forecasts and forecasts after July as necessary to adjust for prevailing conditions.

The May forecast is based on flows, precipitation, snowpack, and reservoir storage as of May 1, along with estimates of future precipitation and river flows. Other future weather conditions that determine the timing of the runoff and the demand for water also are critical in determining stream flows, the extent to which the reservoirs fill, and the water supply for irrigation.

For more information, visit Reclamation's website at <https://www.usbr.gov/pn/hydromet/yakima/>.

###

The Bureau of Reclamation is a federal agency under the U.S. Department of the Interior and is the nation's largest wholesale water supplier and second largest producer of hydroelectric power. Its facilities also provide substantial flood control, recreation opportunities, and environmental benefits. Visit our website at www.usbr.gov and follow us on Twitter [@USBR](https://twitter.com/USBR).



Yakima Basin Natural Runoff Proportion

- **Objective of NRP is to delay release of storage and improve water supply**
- **NRP is voluntary**
- **Irrigation diversions are limited to available supply**
- **Available supply is incidental reservoir outflows plus unregulated tributary inflows**
- **Available supply is allocated proportionately**
- **Districts are informed semi-weekly of NRP %**
- **NRP ends when flows decline, demands increase**
- **When NRP ends Prorationing begins**



Yakima Basin

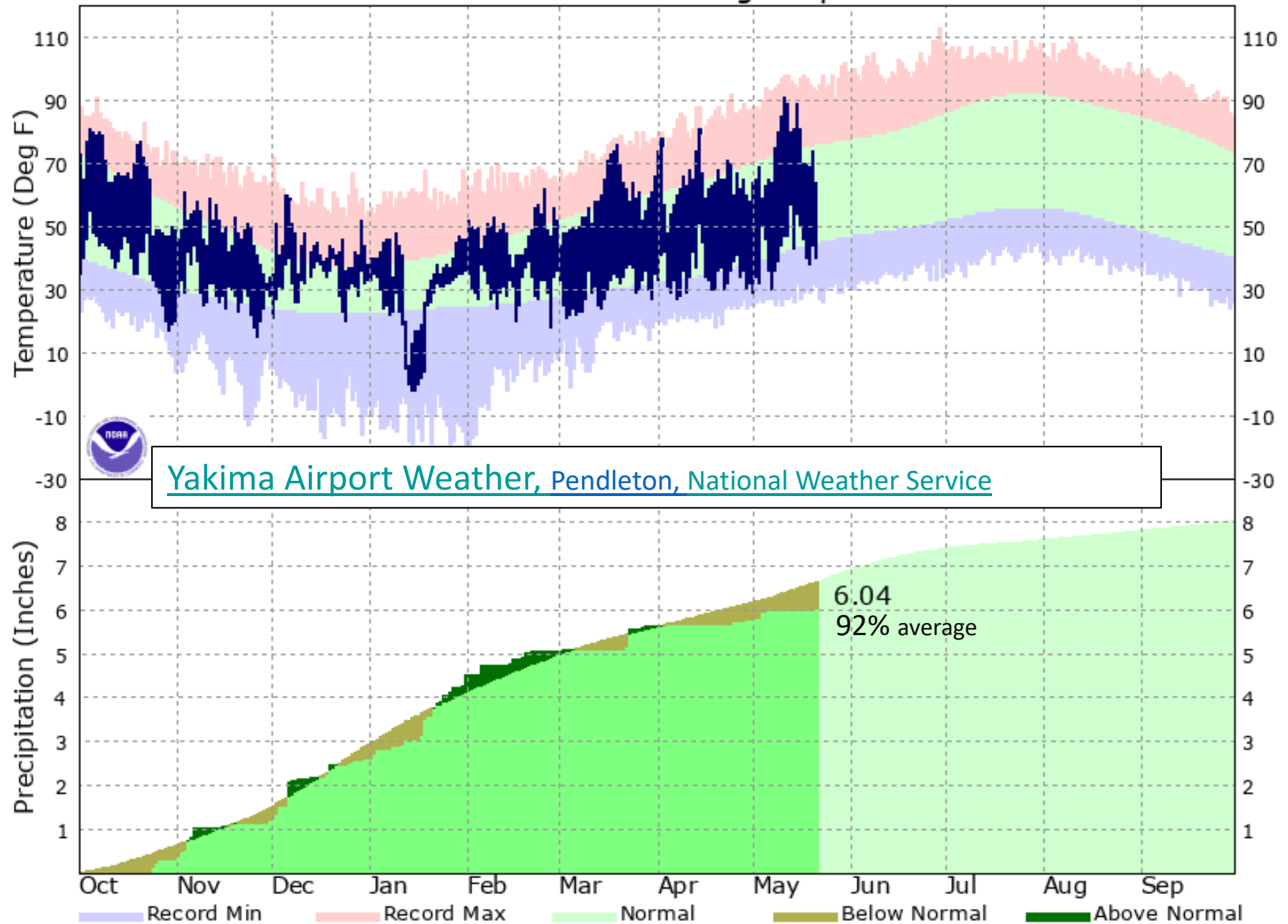
Storage Control Date

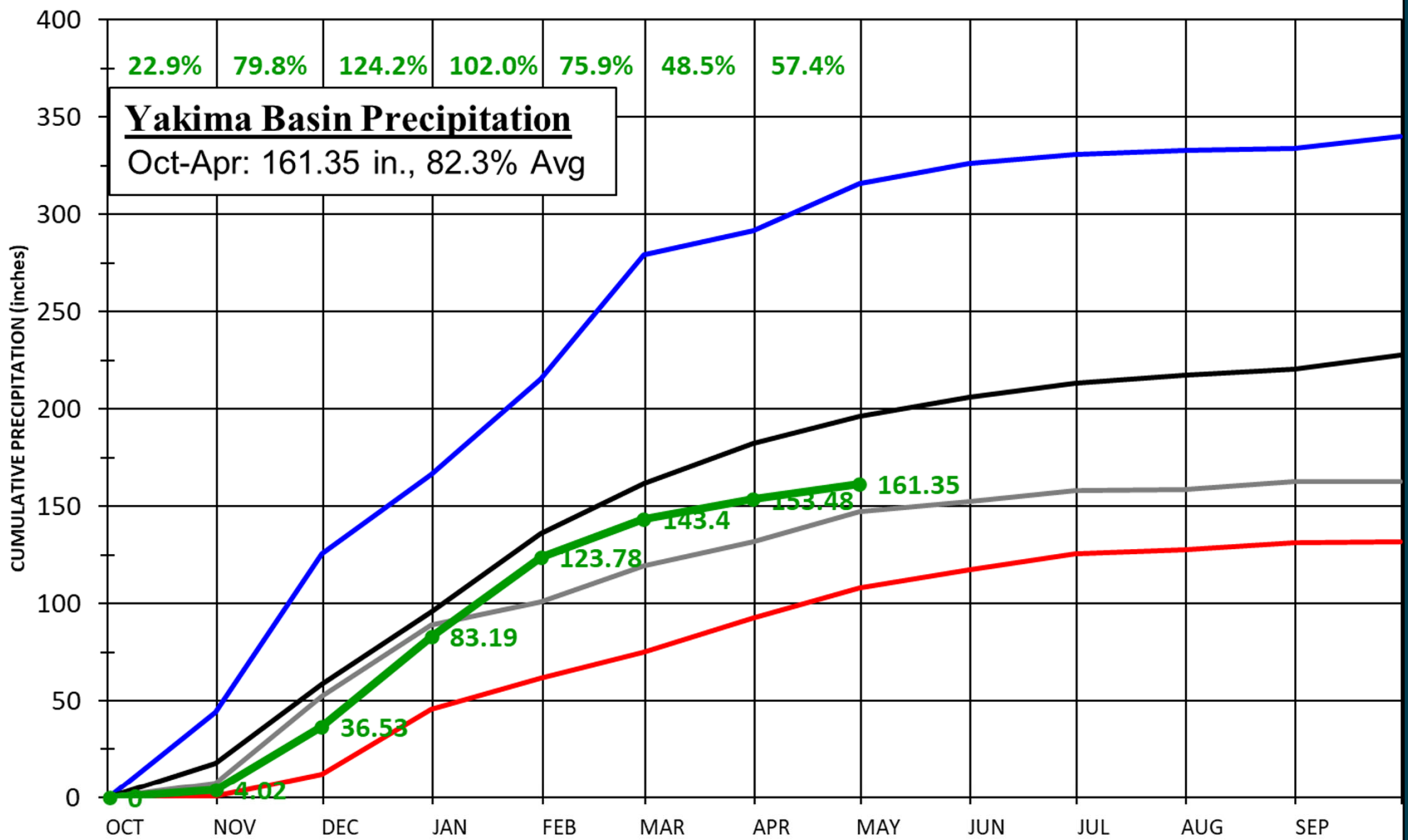
- Two conditions to start Storage Control Period
- Condition 1: Minimum flow at the Yakima River near Parker is sustained by reservoir releases
- Condition 2: Yakima reservoirs' outflows are greater than inflows

Note: these conditions could be met temporarily and might not set the SCD. An example is when snowmelt flows decline and then pick up again.



KYKM - Oct 2023 Through Sep 2024

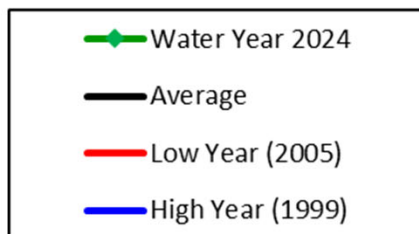
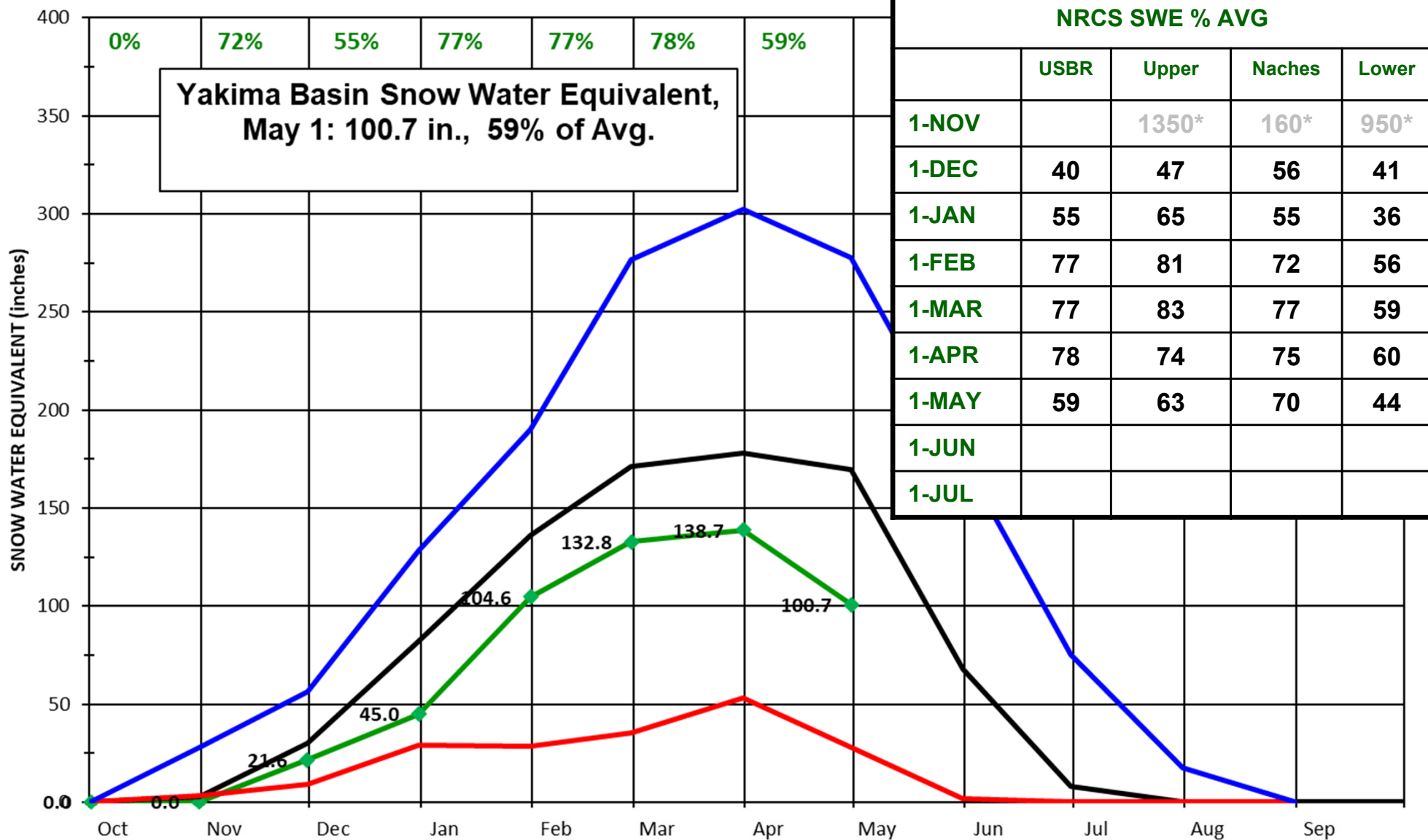




— Maximum — Average
— Minimum — WY2023
—●— WY 2024

YAKIMA BASIN
Combined Cumulative Precipitation
5 Reservoir Sites
WATER YEARS 1981-2010

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION
YAKIMA FIELD OFFICE
1917 MARSH ROAD
YAKIMA, WA 98901

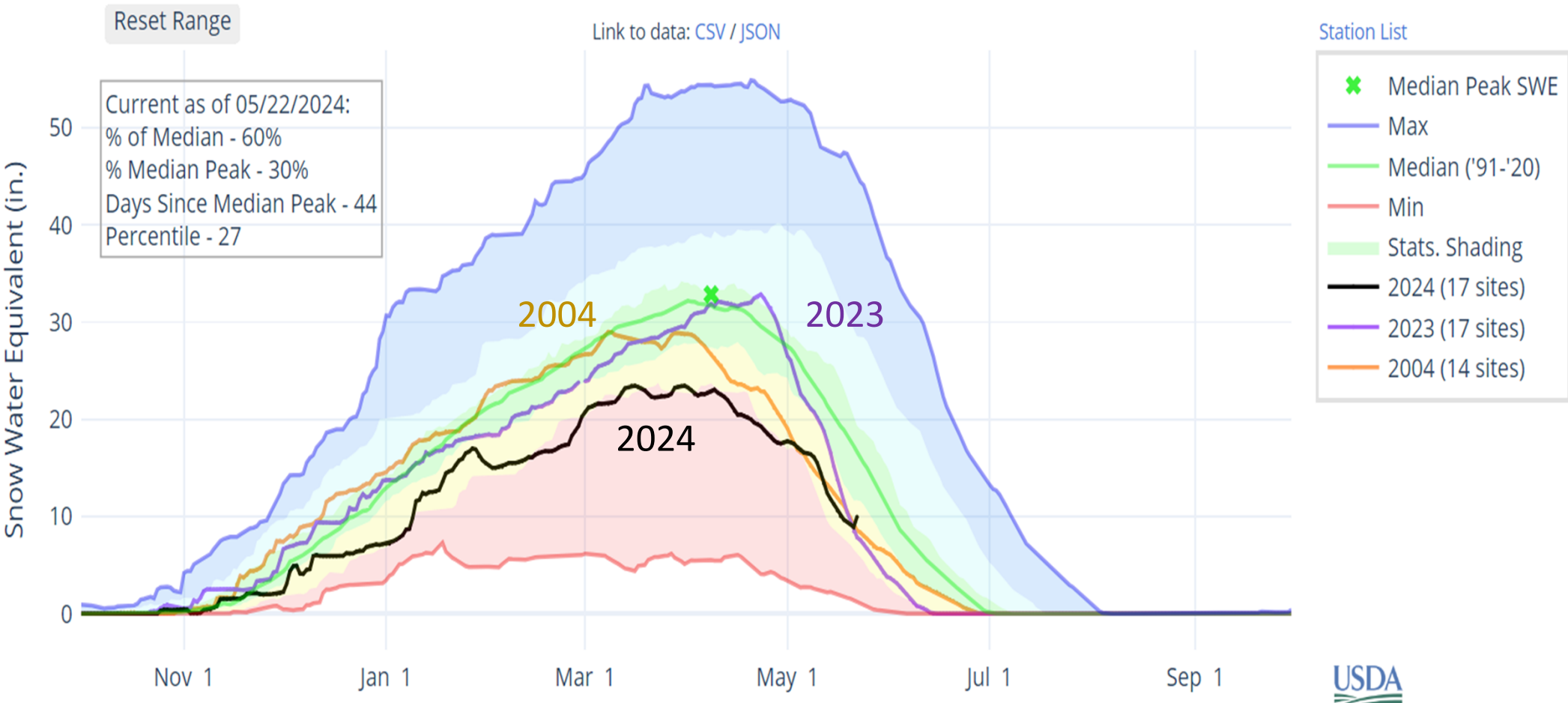


**YAKIMA BASIN WATER YEAR
SNOW WATER EQUIVALENT**
 Average based on greater of 1981-2010 or POR-1995
 Totals derived from 8 Yakima forecast sites
 Corral, Stampede, Olallie, Fish, Bumping, Domerie, & Tunnel Avenue

UNITED STATES
 DEPARTMENT OF THE INTERIOR
 BUREAU OF RECLAMATION
 YAKIMA FIELD OFFICE
 1917 MARSH ROAD
 YAKIMA, WA 98901

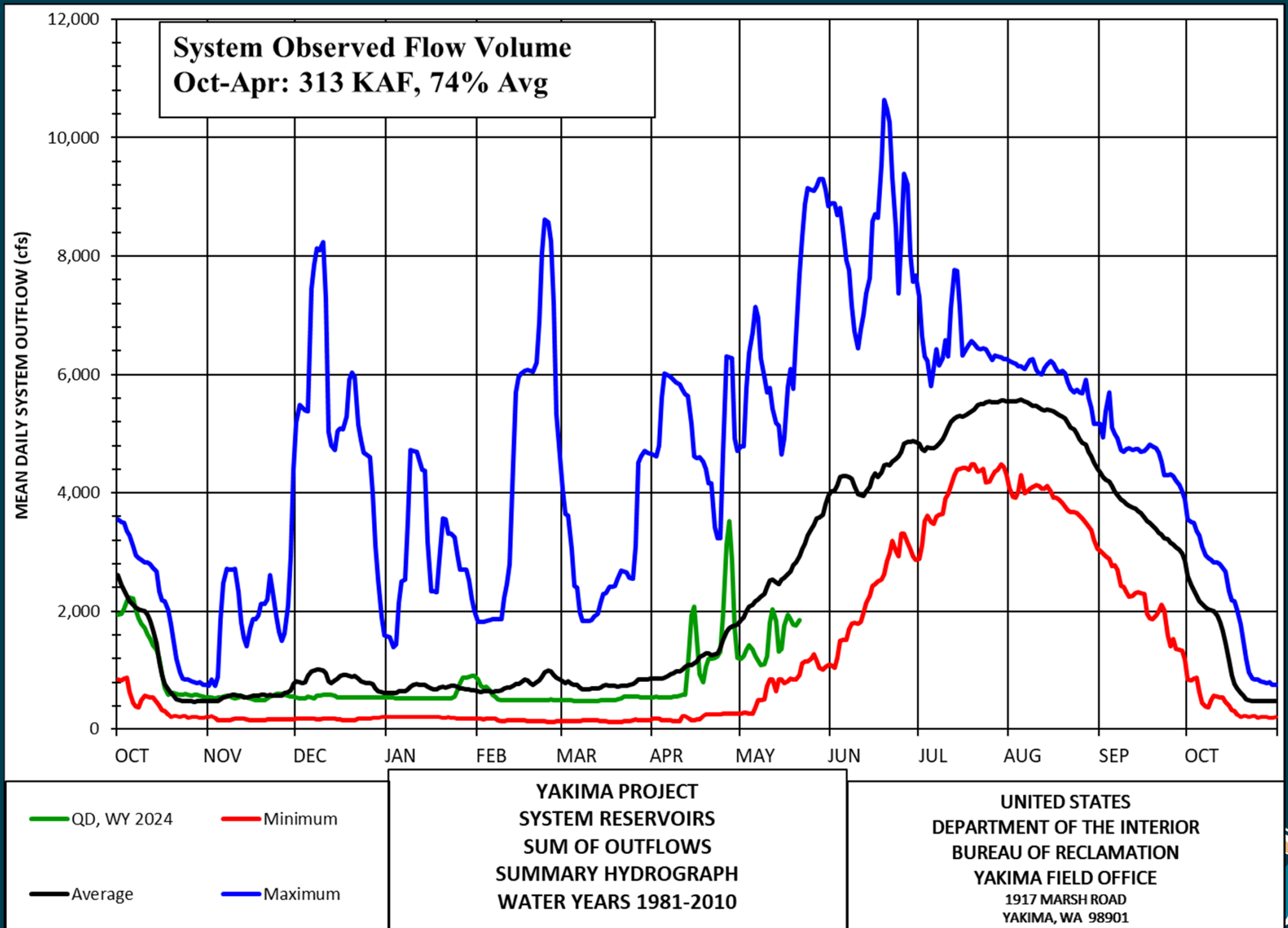
Yakima Basin SNOTEL, Comparison Years

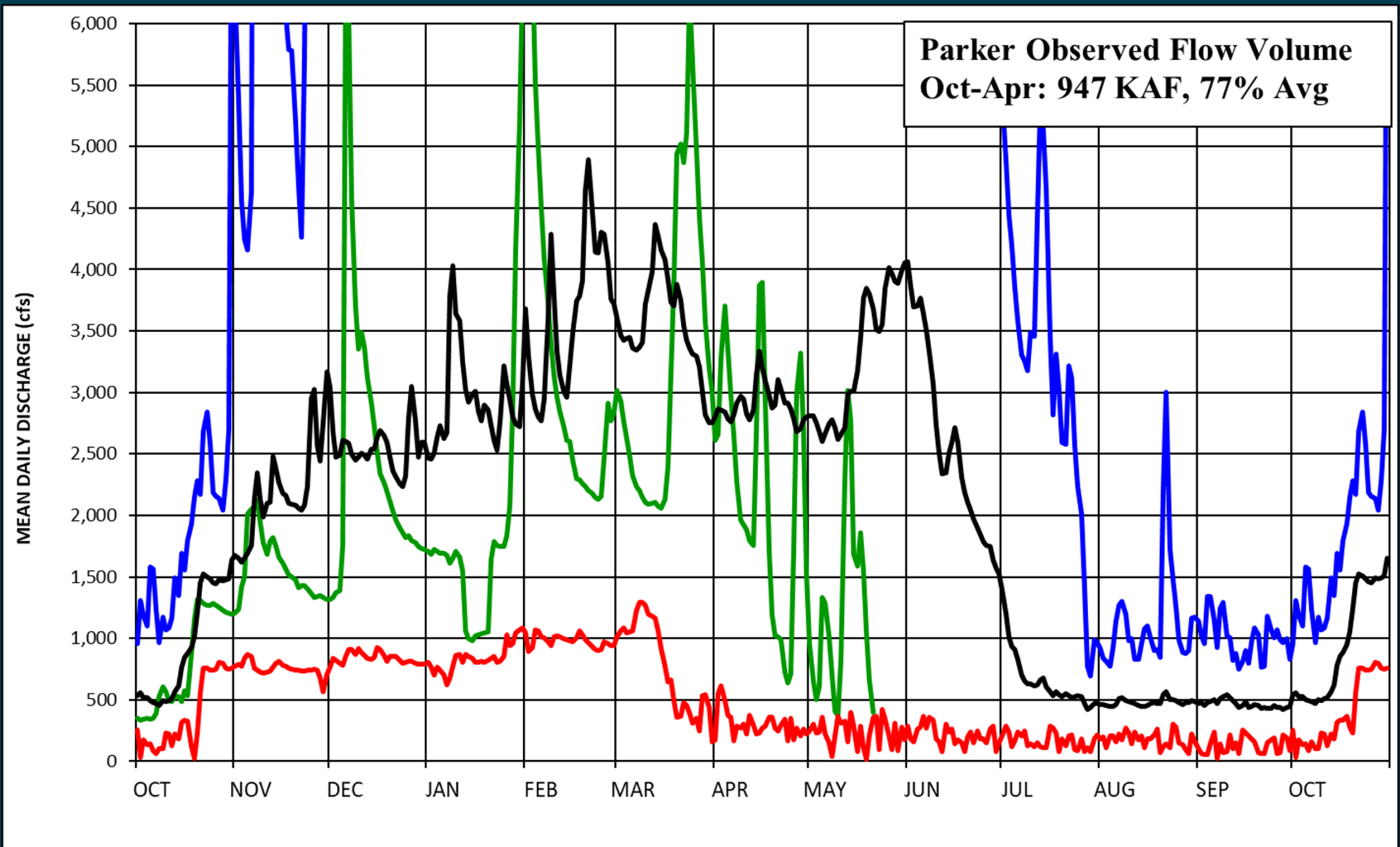
SNOW WATER EQUIVALENT IN YAKIMA



USDA



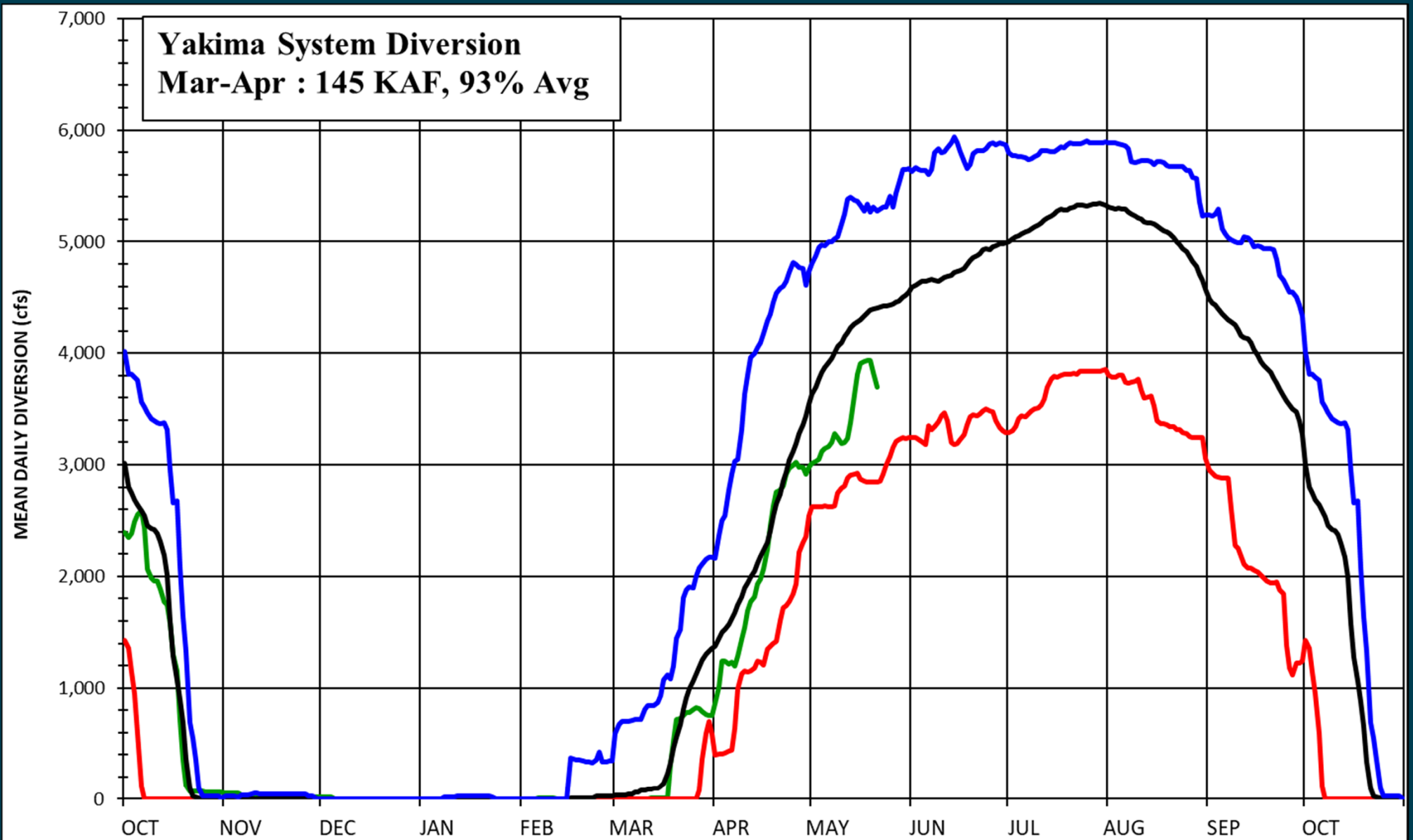




- Water Year 2024
- Minimum
- Average
- Maximum

**YAKIMA RIVER NEAR PARKER
MEAN DAILY REGULATED DISCHARGE
SUMMARY HYDROGRAPH
WATER YEARS 1981-2010**

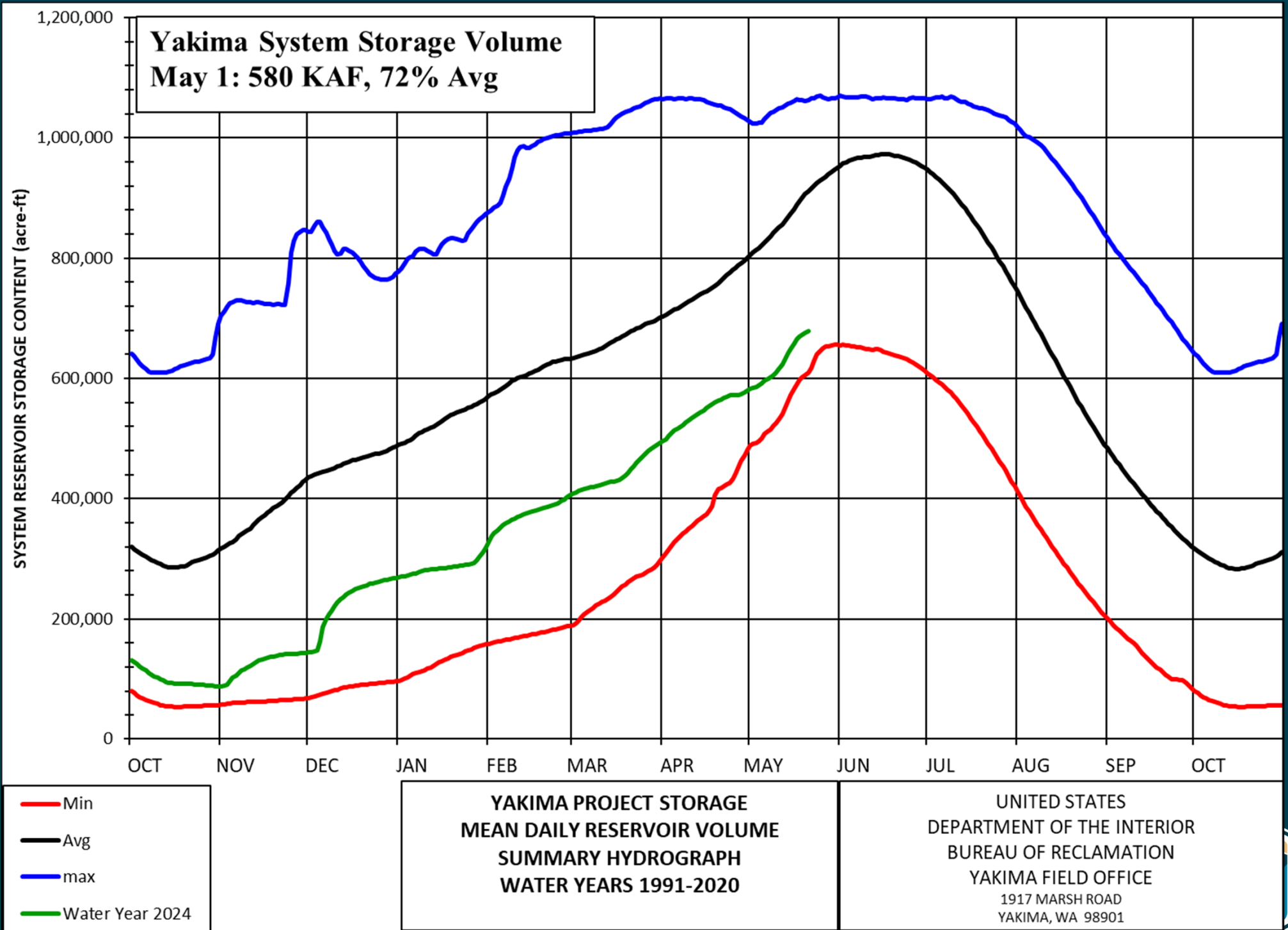
UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION
YAKIMA FIELD OFFICE
1917 MARSH ROAD
YAKIMA, WA 98901



— Water Year 2024 — Minimum
— Average — Maximum

**5 MAJOR IRRIGATION DIVERSIONS
YAKIMA R. ABOVE PARKER
SUMMARY HYDROGRAPH
WATER YEARS 1991-2020**

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION
YAKIMA FIELD OFFICE
1917 MARSH ROAD
YAKIMA, WA 98901



Yakima Subbasin Runoff Forecasts

MLR

Yakima Basin Forecasts, May-Jul, AF

May, 2024	Low	Adopted	High	Low	Adopted	High
Parw	723400	825200	926900	59%	67%	76%
kee	57800	65800	73800	68%	77%	87%
kac	46000	52900	59800	60%	70%	79%
cle	191100	208600	226000	62%	68%	74%
bum	66300	71100	75900	71%	76%	81%
rim	126500	133400	140300	84%	88%	93%
Yumw	317100	361500	405900	56%	63%	71%
Nacw	428500	472300	516000	79%	87%	95%



May 1, 2024 TWSA ESTIMATE

May 1 - September 30

Parameter*	+/-/=	Low	Adopted	High
May 1-Sep 30 Natural Flow at Parker est.	+	839	948	1058
Return Flow Estimate, est	+	285	285	285
May 1, Reservoir Content, est	+	580	580	580
TWSA	=	1703	1813	1922
SEP 30 EST RESERVOIR CONTENT	-	76	76	76
FLOW OVER SUNNYSIDE DAM	-	176	200	210
TWSA FOR IRRIGATION	=	1451	1537	1636
NONPRORATABLE ENTITLEMENT	-	909	909	909
REMAINING TWSA	=	542	628	727
YRPW-KID		15	15	15
PRORATABLE ENTITLEMENT		1145	1145	1145
% RATIO= REMAINING TWSA/PRORATABLE ENTITLEMENT		46%	54%	62%
TITLE XII FLOW TARGET, cfs	May	300	300	300
Added flow available, cfs ***		103	105	107
Non-storeable Portion of added flow, cfs		37	37	37
Storable portion of added flow, cfs		66	68	70
BA May Pulse Flow Volume		TBD	TBD	TBD

*Values are in 1,000 ac-ft unless otherwise specified.

*** State & YRBWEP Trust, Acquisition, & Conservation added to Title XII flows from 103 to 107 cfs. Subject to updates

May 1, 2024 TWSA ESTIMATE Comparison

May 1 - September 30

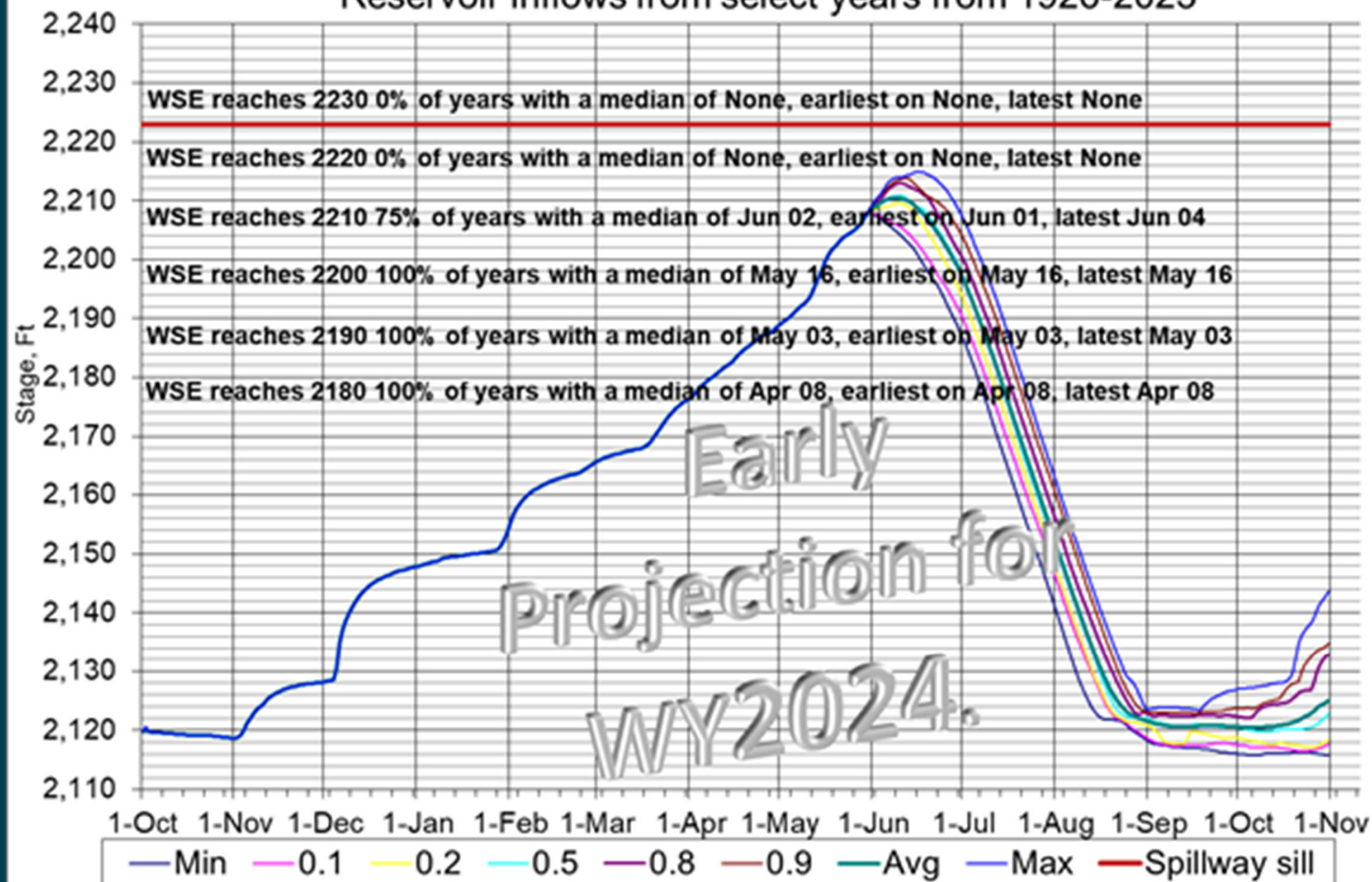
Parameter	"+/-/="	Mar's 2024	Apr 2024	May 2024
Apr 1-Sep 30 Natural Flow at Parker est.	+	1664	1502	948
Return Flow Estimate	+	320	320	285
April 1, Reservoir Content	+	476	493	580
TWSA	=	2460	2315	1813
SEP 30 EST RESERVOIR CONTENT*	-	76	76	76
FLOW OVER SUNNYSIDE DAM	-	420	380	200
TWSA FOR IRRIGATION	=	1964	1859	1537
NONPRORATABLE ENTITLEMENT	-	1070	1070	909
REMAINING TWSA	=	894	789	628
YRPW-KID		3	10	15
PRORATABLE ENTITLEMENT		1239	1239	1145
% RATIO= REMAINING TWSA/PRORATABLE ENTITLEMENT		72%	63%	54%
TITLE XII FLOW REQUIREMENTS, cfs	April	300	300	300
TOTAL FLOW AVAILABLE AT PARKER, cfs **		387	385	405

*Values are in 1,000 ac-ft unless otherwise specified.

** State & YRBWEP Trust, Acquisition, & Conservation additions to Title XII flow.

05/20/2024

Modeled Summary Hydrograph for Cle Helix Construction Yakima River, Cle Elum Reservoir Forebay Elevations Reservoir inflows from select years from 1926-2023



Hydrologic Summary

- Yakima Reservoir Storage 675 KAF, 64% full, 75% avg.
- April Precip was 57% average. May precip near 53%
- Prorationing is 54%
- Title XII flow is 300 cfs plus 105 cfs.
- Pulse flows released from storage using acquired waters
- Cle Elum Reservoir Helix is being commissioned