



STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

PO Box 47600, Olympia, WA 98504-7600 • 360-407-6000

Water Supply Availability Committee (WSAC)

Friday, January 10, 2024, 10 a.m. – 11:30 a.m.

Zoom: [Click to join](#). (Call-in: 253.205.0468; Meeting ID: 816 5686 6078; Passcode: 038972)

Meeting Objectives – January:

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

Agenda

Time	Agenda item	Responsible
10:00 a.m.	Welcome and agenda review Recap: Drought Declaration and implications	Caroline Mellor, Ecology
10:10 a.m.	Regional Climate Setting/ ENSO	Karin Bumbaco, OWSC
10:25 a.m.	Mountain Conditions	Matt Warbritton, NRCS
10:35 a.m.	Streamflow and Groundwater	Nick Sutfin, USGS
10:50 a.m.	Yakima Project	Chris Lynch, BOR
11:00 a.m.	Water Supply Forecasts	Robin Fox, NWS
11:15 a.m.	Discussion: What concerns do folks have for drought recovery and Water Year 2025?	All participants Ecology facilitates
11:25 a.m.	Wrap-up	Caroline Mellor, Ecology

Committee Purpose

WSAC provides an important consultative and advisory role to Ecology related to current and forecasted water supply conditions and whether the hydrologic drought threshold has been met or is forecasted to be met: seventy-five percent of normal water supply within a geographic area ([RCW 43.83B.405](#) and [WAC 173-166-050](#)).

Resources

WSAC Website: [Water Supply Availability Committee - WA State Department of Ecology](#)

Ecology Drought homepage: [Drought response - WA State Department of Ecology](#)

Contact

Committee Chair: Caroline Mellor, Statewide Drought Lead, WA Department of Ecology
Caroline.Mellor@ecy.wa.gov | (c) 360.628.4666



Current Conditions and Seasonal Outlook

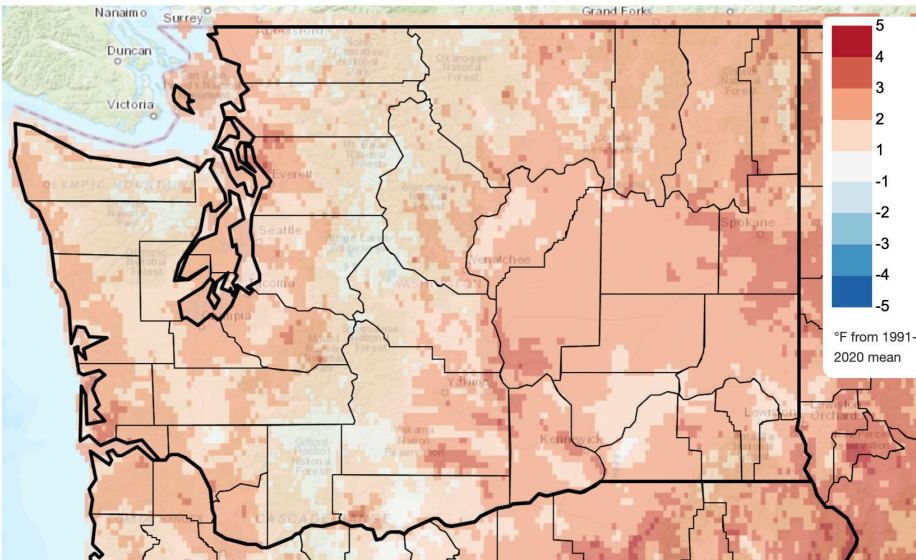
Karin Bumbaco
Washington State Climate Office
Climate Impacts Group
University of Washington
January 10, 2025

Water Year 2025

Temperature

Mean Daily Temperature Anomaly, Since Oct 1st

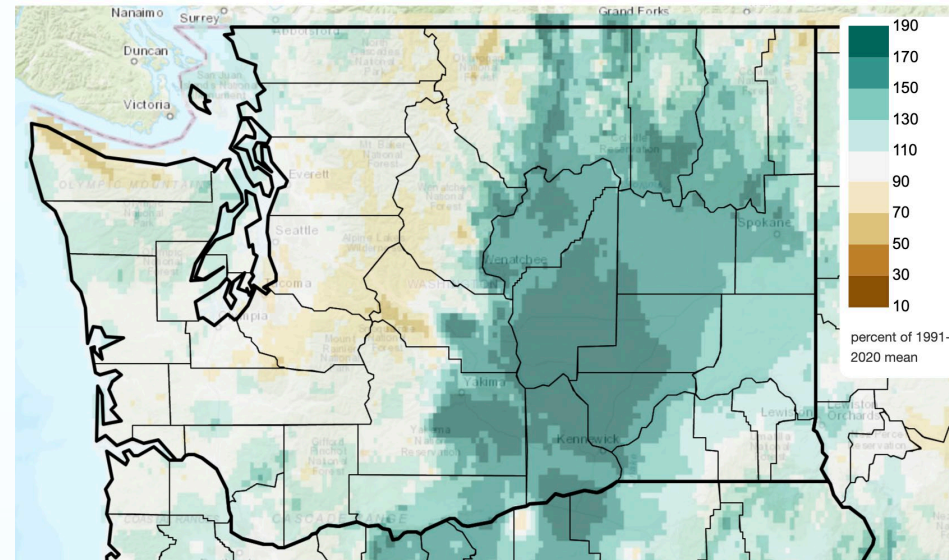
2024/10/01 - 2025/01/07



Precipitation

Total Precipitation Anomaly, Since Oct 1st

2024/10/01 - 2025/01/07



[Climate Toolbox](#)

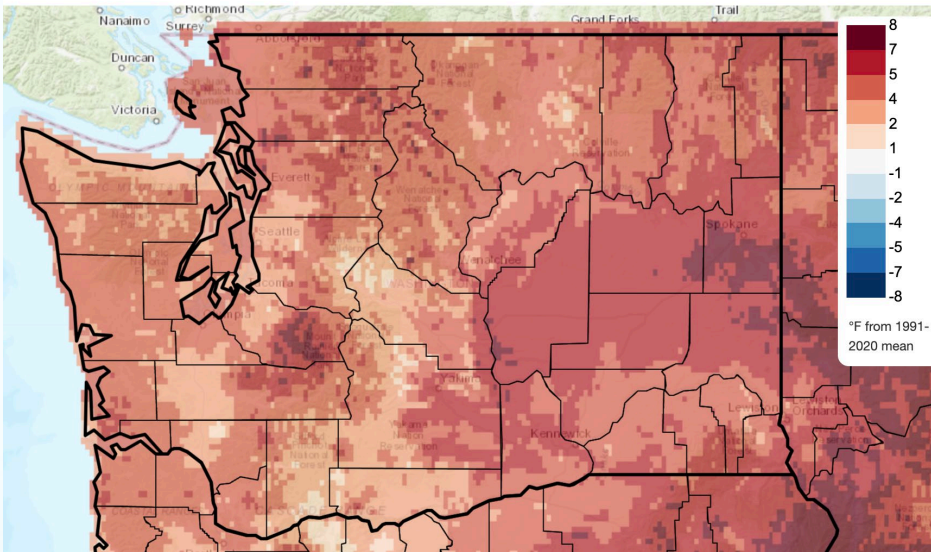
- Averaged statewide, Oct-Dec temperatures were above normal ($+1.9^{\circ}\text{F}$), tying as the 13th warmest*
- Averaged statewide, Oct-Dec precipitation was near-normal (108% of normal)

*Records since 1895; Normal is 1991-2020

December 2024

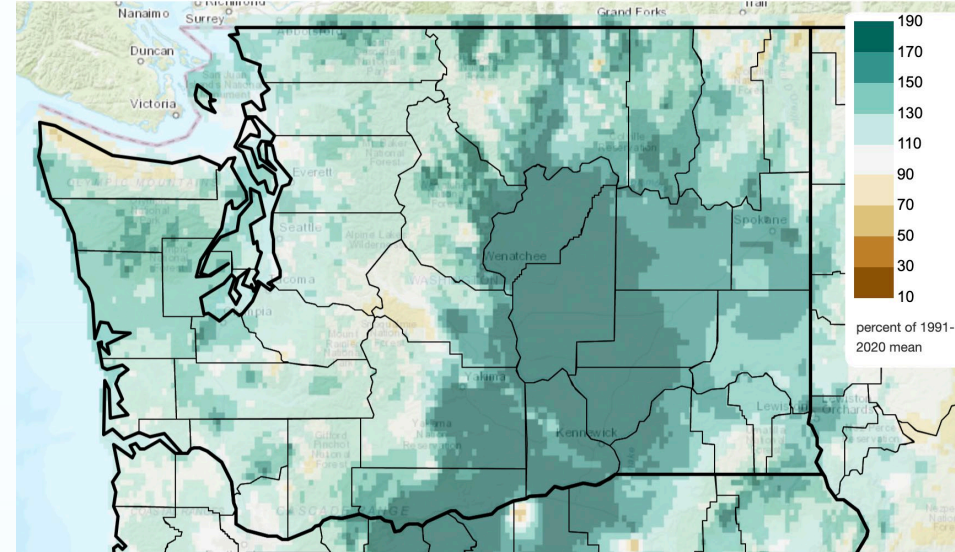
Temperature

Mean Daily Temperature Anomaly, Last Full Month
2024/12/01 - 2024/12/31



Precipitation

Total Precipitation Anomaly, Last Full Month
2024/12/01 - 2024/12/31



[Climate Toolbox](#)

- Averaged statewide, Dec temperatures were above normal (+4.0°F), ranking as the 10th warmest*
- Averaged statewide, Dec precipitation was above normal (118% of normal), ranking as the 41st wettest

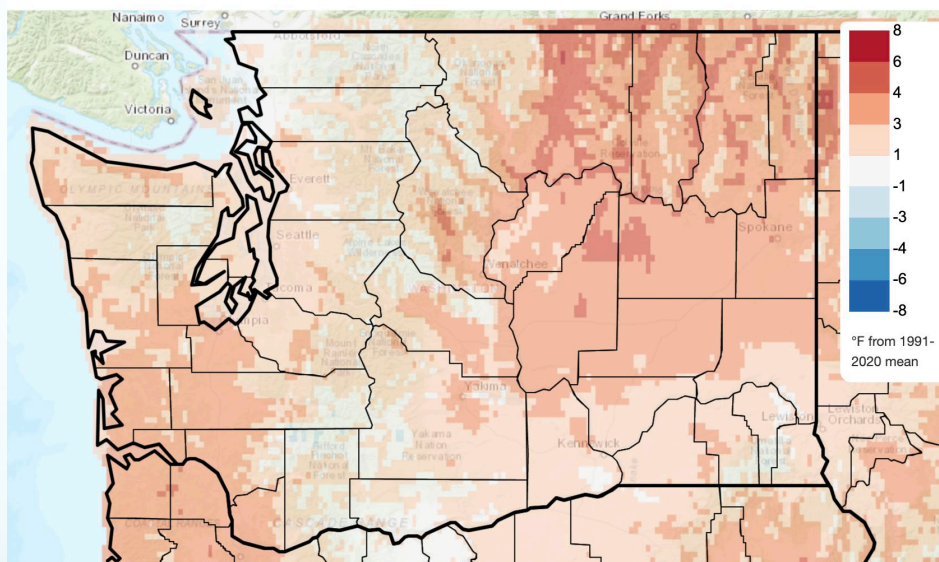
*Records since 1895; Normal is 1991-2020

January 2025 so far...

Temperature

Mean Daily Temperature Anomaly, Last 7 Days

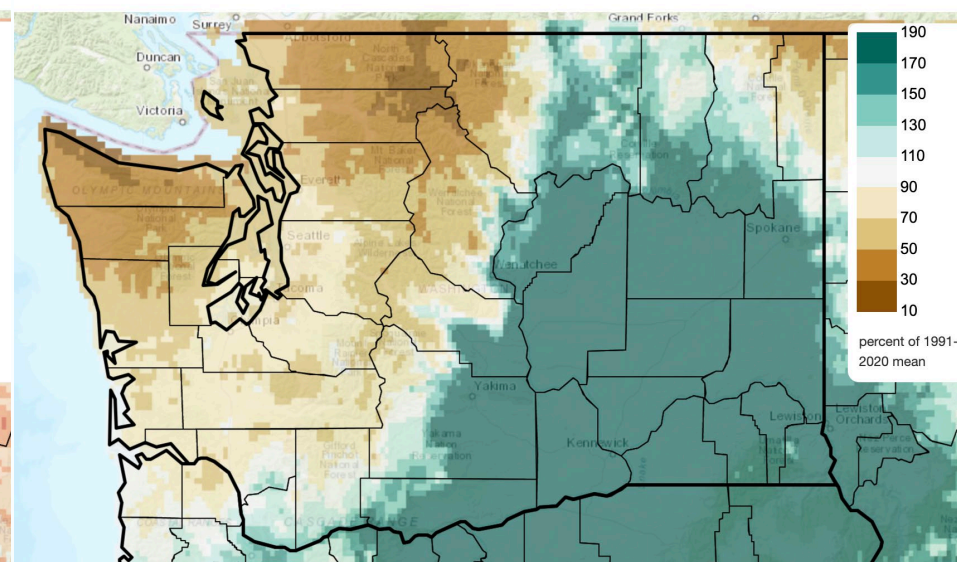
2025/01/01 - 2025/01/07



Precipitation

Total Precipitation Anomaly, Last 7 Days

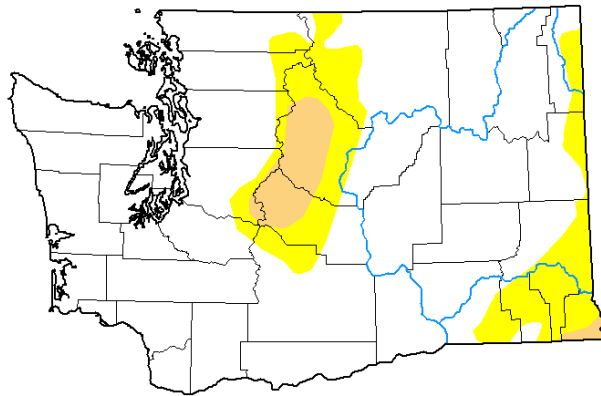
2025/01/01 - 2025/01/07



[Climate Toolbox](#)

U.S. Drought Monitor

U.S. Drought Monitor Washington

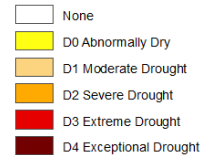


January 7, 2025

(Released Thursday, Jan. 9, 2025)

Valid 7 a.m. EST

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>

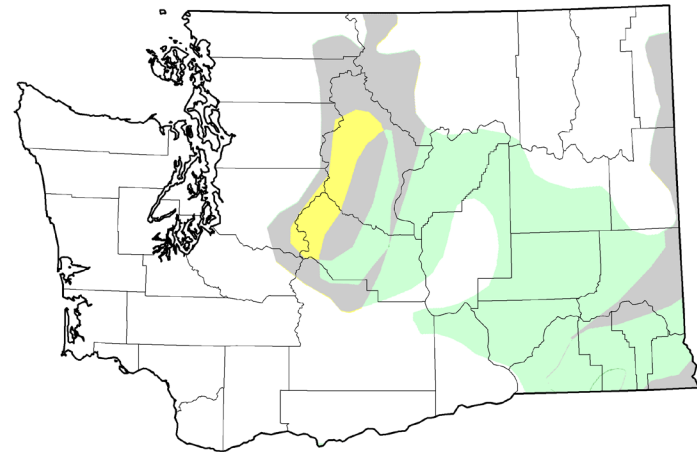
Author:

Brad Pugh
CPC/NOAA



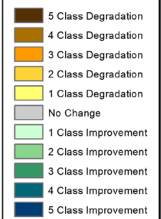
droughtmonitor.unl.edu

U.S. Drought Monitor Class Change - Washington 4 Week

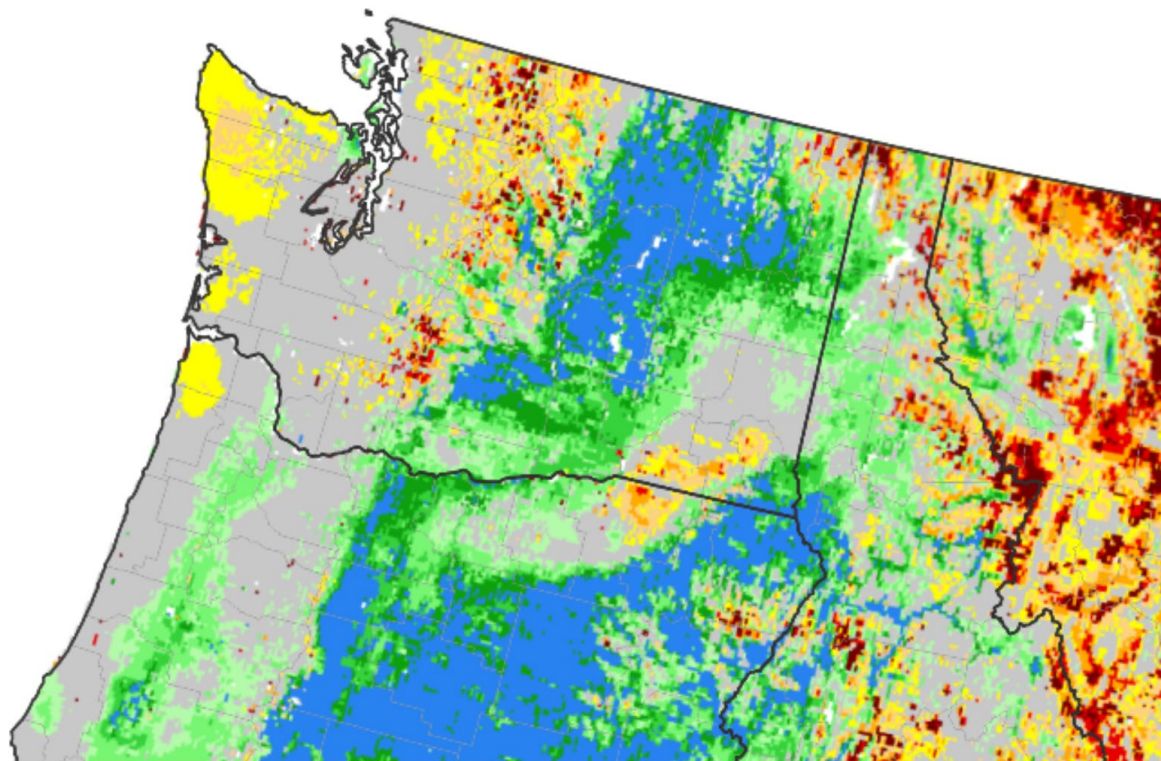


January 7, 2025
compared to
December 10, 2024

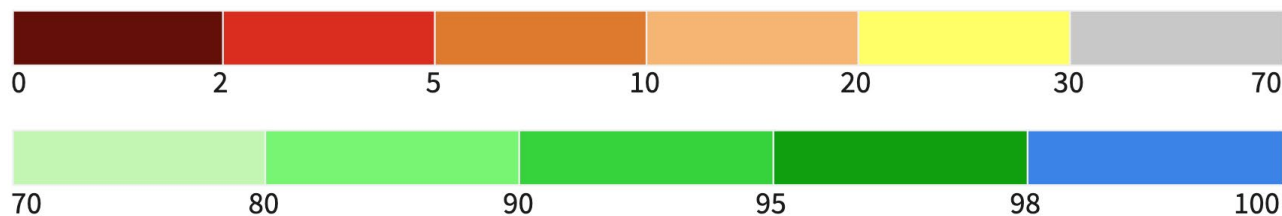
droughtmonitor.unl.edu



0-100 cm Soil Moisture Percentile



0-100 cm Soil Moisture Percentile



Source(s): NASA

Data Valid: 01/09/25

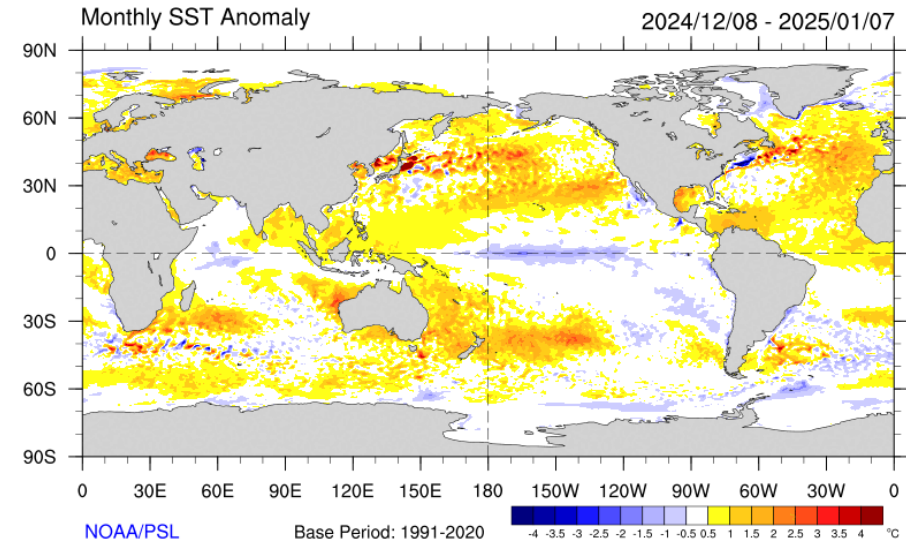
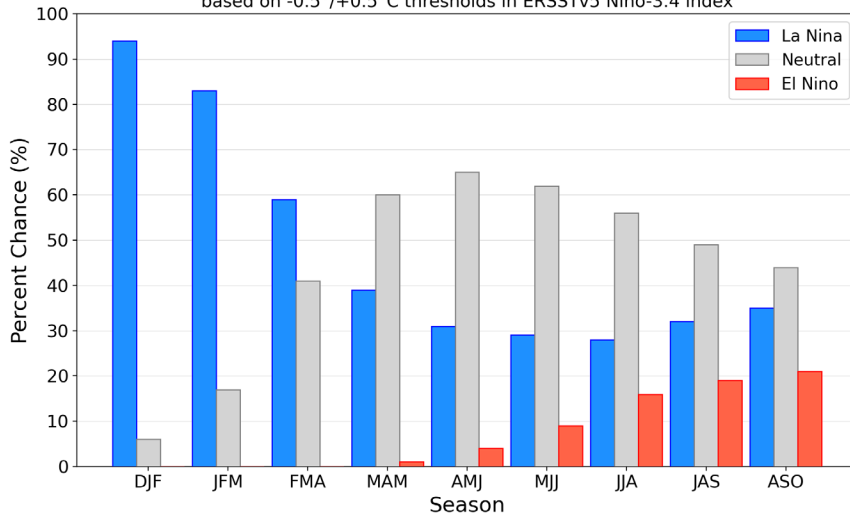
Drought.gov

Current Status: La Niña

La Niña Advisory

Official NOAA CPC ENSO Probabilities (issued January 2025)

based on $-0.5^{\circ}/+0.5^{\circ}\text{C}$ thresholds in ERSSTv5 Niño-3.4 index



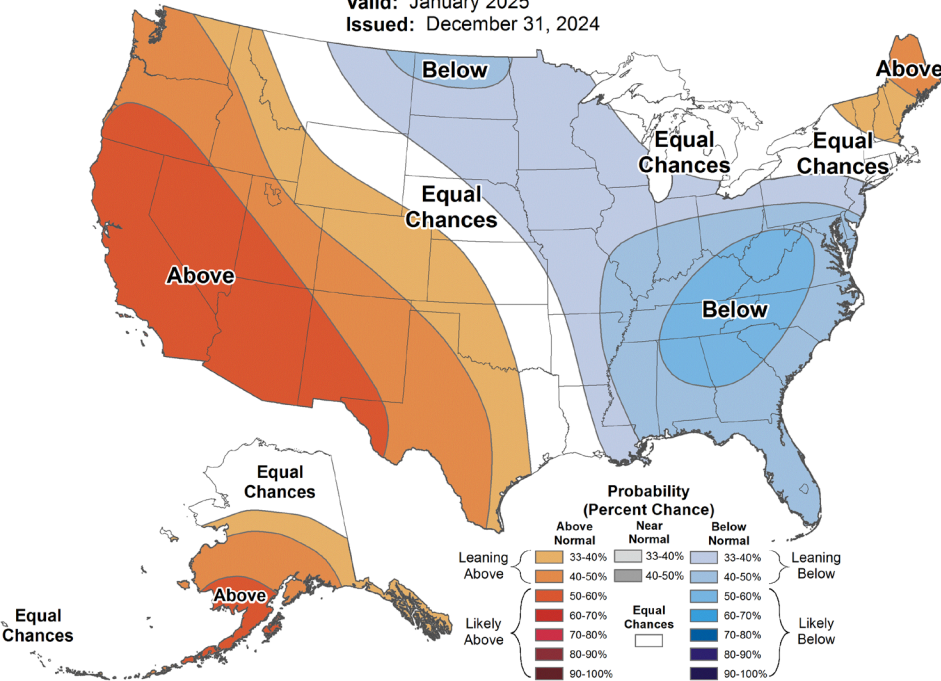
- Weak La Niña is expected to persist through the spring
- Neutral conditions more likely March-May (60%)

Climate Prediction Center Outlook: Jan



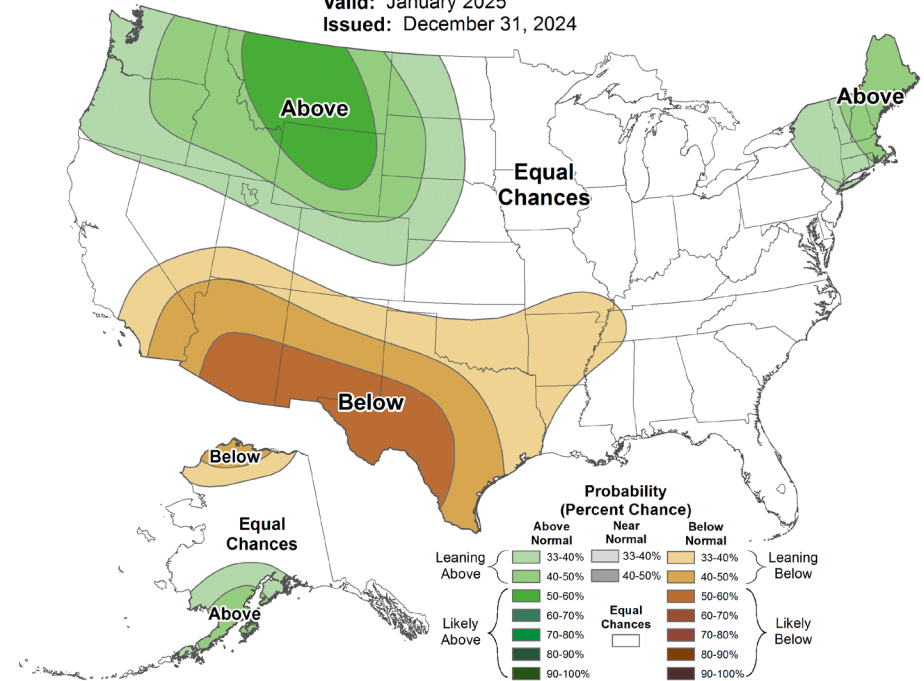
Monthly Temperature Outlook

Valid: January 2025
Issued: December 31, 2024



Monthly Precipitation Outlook

Valid: January 2025
Issued: December 31, 2024





valid: Feb-Mar-Apr 2025
Issued: December 19, 2024

Above

Equal Chances

Above

Below

Above

Equal Chances

Below

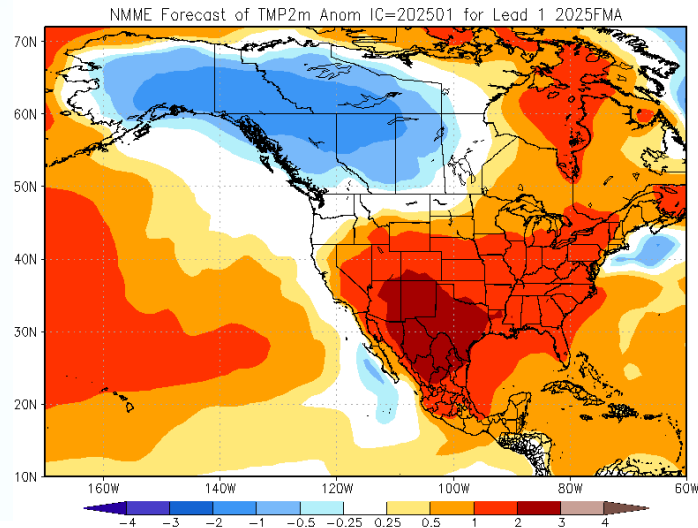
Below

Probability (Percent Chance)

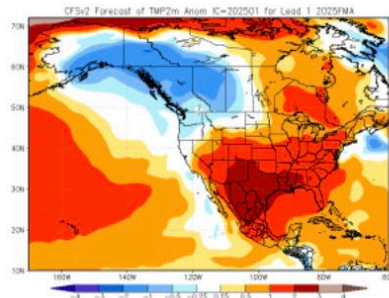
Above Normal		Near Normal	Below Normal	
Leaning Above	33-40%	33-40%	33-40%	Leaning Below
	40-50%	40-50%	40-50%	
	50-60%		50-60%	
	60-70%		60-70%	
Likely Above	70-80%		70-80%	Likely Below
	80-90%		80-90%	
	90-100%		90-100%	
		Equal Chances		

Jan-Mar: Similar odds of below normal temps and above normal precip

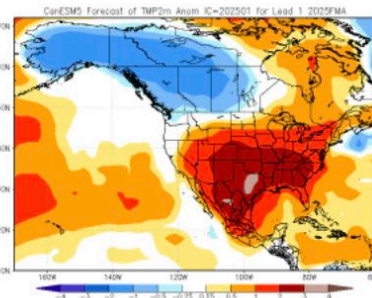
NMME: Feb-Apr Temperatures



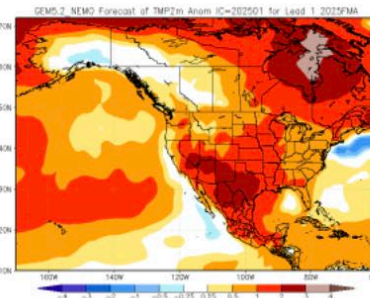
NCEP_CFSv2



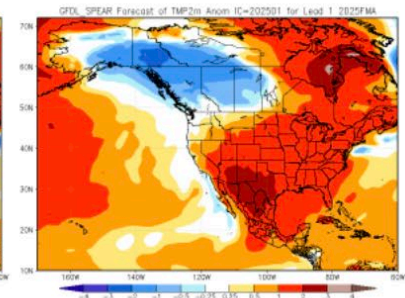
CanESM5



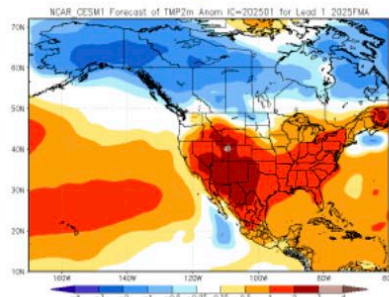
GEM5.2_NEMO



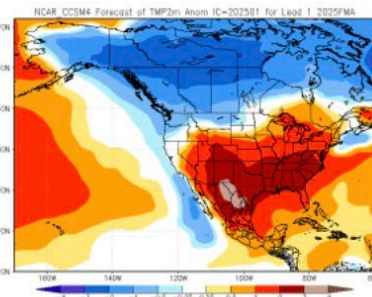
GFDL_SPEAR



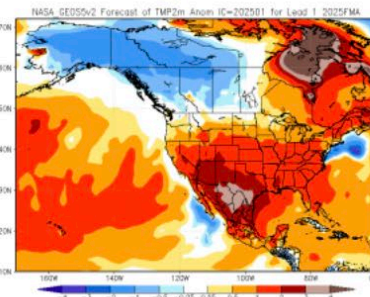
NCAR_CESM1



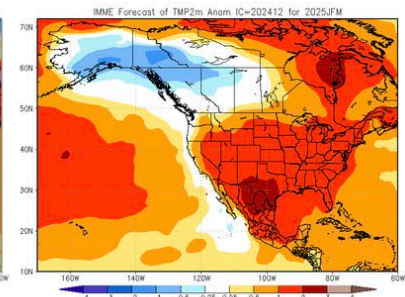
NCAR_CCSM4



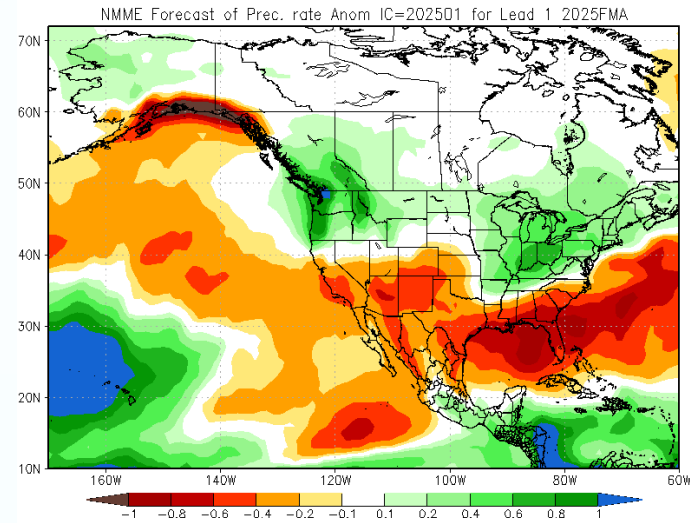
NASA_GEOS5v2



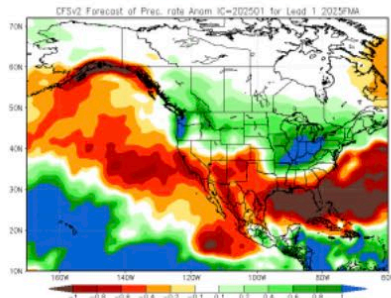
IMME



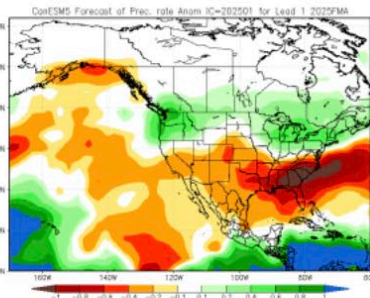
NMME: Feb-Apr Precipitation



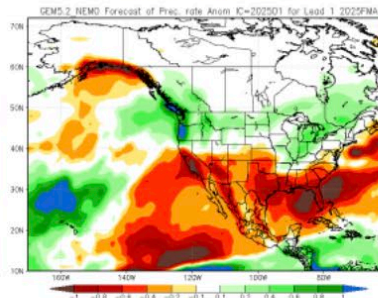
NCEP_CFSv2



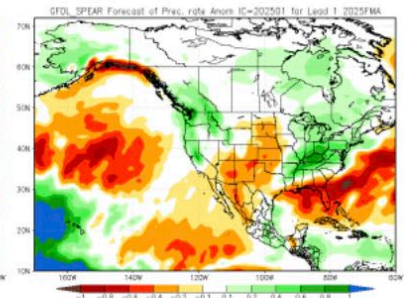
CanESM5



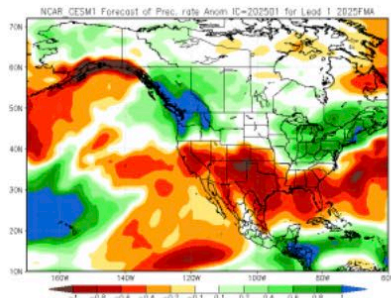
GEM5.2_NEMO



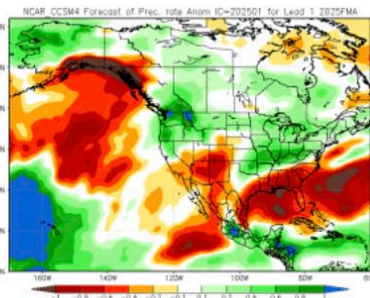
GFDL_SPEAR



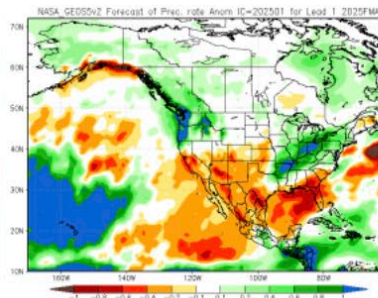
NCAR_CESM1



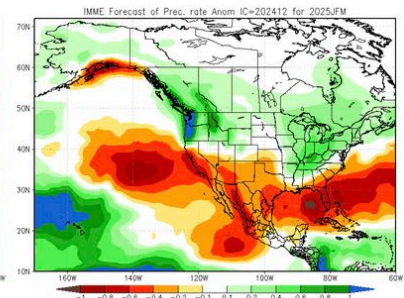
NCAR_CCSM4



NASA_GEOS5v2



IMME



Summary

- Water year 2025 temperatures have been above normal with December temperatures especially warm (10th warmest on record)
- Precipitation has been wetter than normal across eastern WA and near-normal to slightly below normal in western WA so far
- Weak La Niña is finally here!
- Below normal winter temperature forecast hasn't panned out so far and there is more uncertainty in the temperature forecast in the upcoming months
- There is more confidence in the forecast for above normal winter and spring precipitation



Natural Resources Conservation Service

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

Washington
Water Supply Availability Committee
Jan. 10, 2025



Washington Water Supply Outlook Report

January 1, 2025



Clouds roll over Mt. Shuksan 10 miles northeast of Mt. Baker. Wells Creek, a nearby SNOTEL site, reported snowpack at 116% of median on January 1st.

Source: Lee Lazzara, Northwest Avalanche Center Forecaster (December 31, 2024)

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

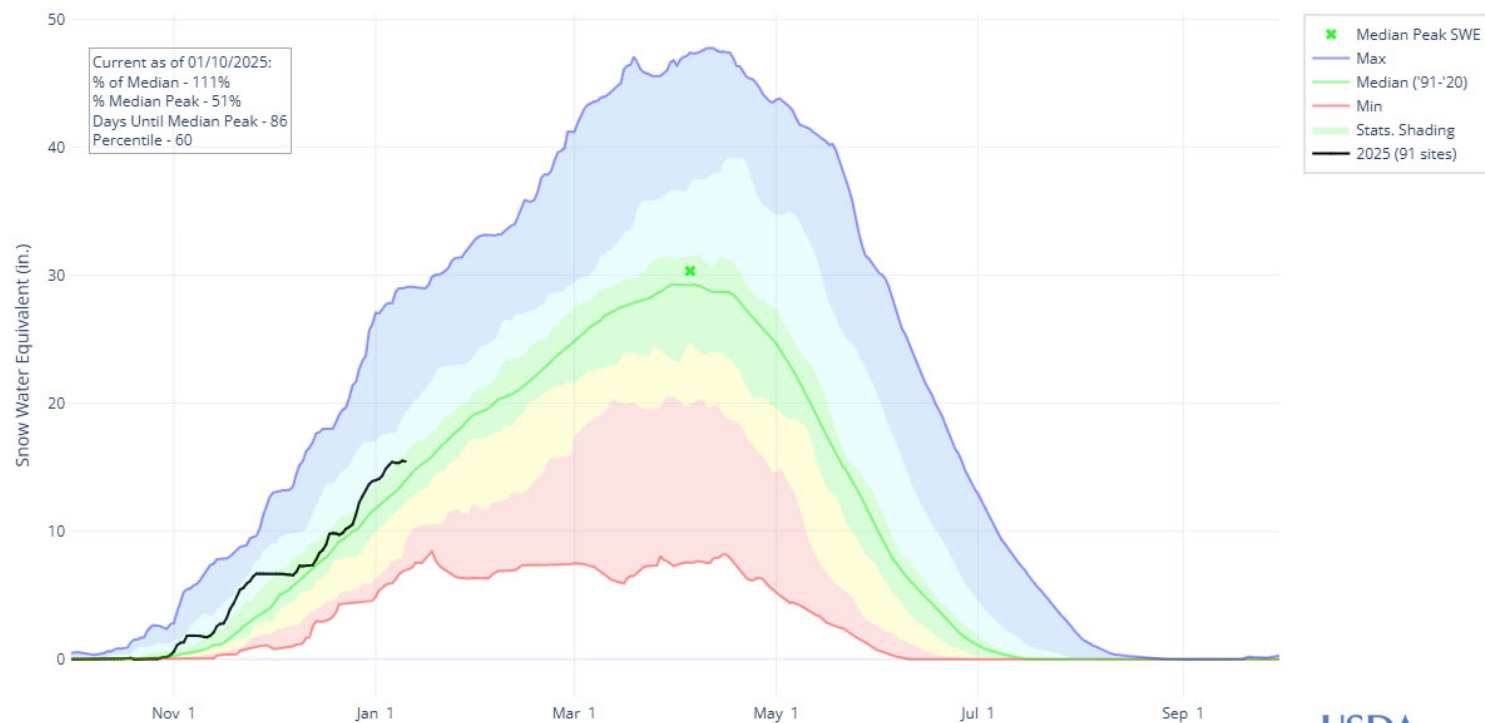


Snowpack Conditions

Statewide Snowpack

Profile for Snow Water Equivalent

SNOW WATER EQUIVALENT IN STATE OF WASHINGTON



Statewide Snowpack:

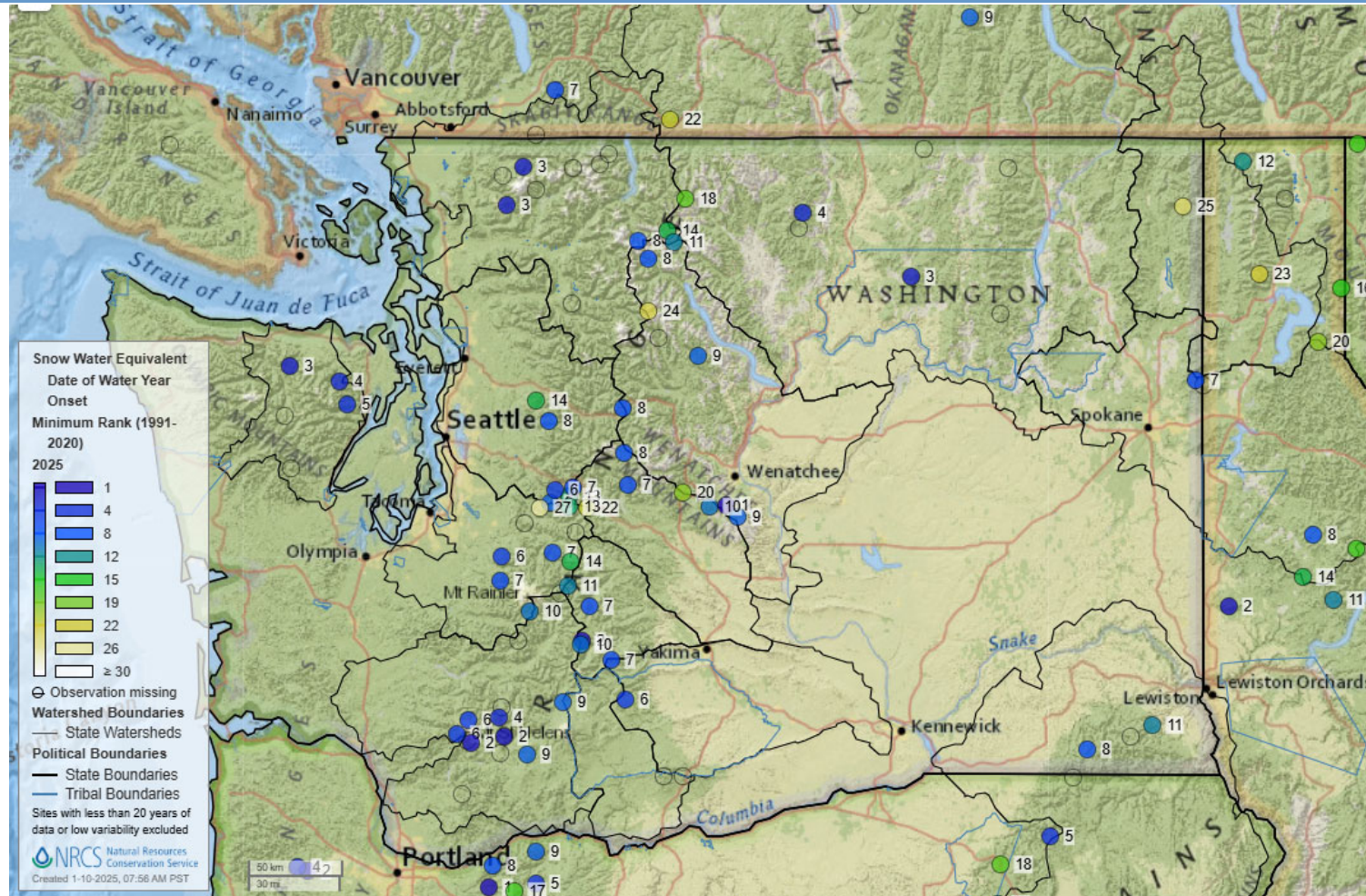
111% of Normal

51% of median peak

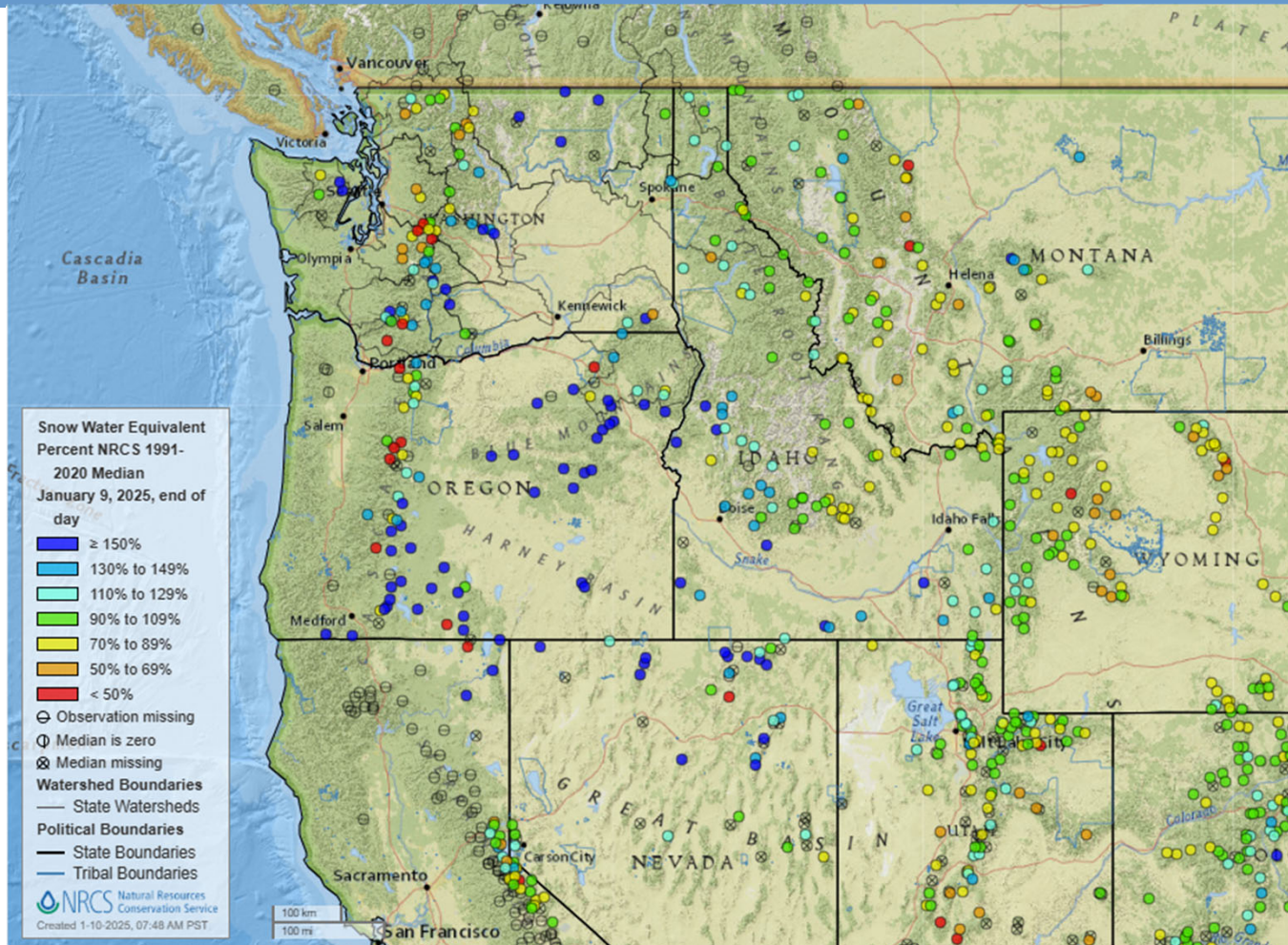
Snowpack Percentile: 60

Onset to snow-accumulation season

Minimum Ranking

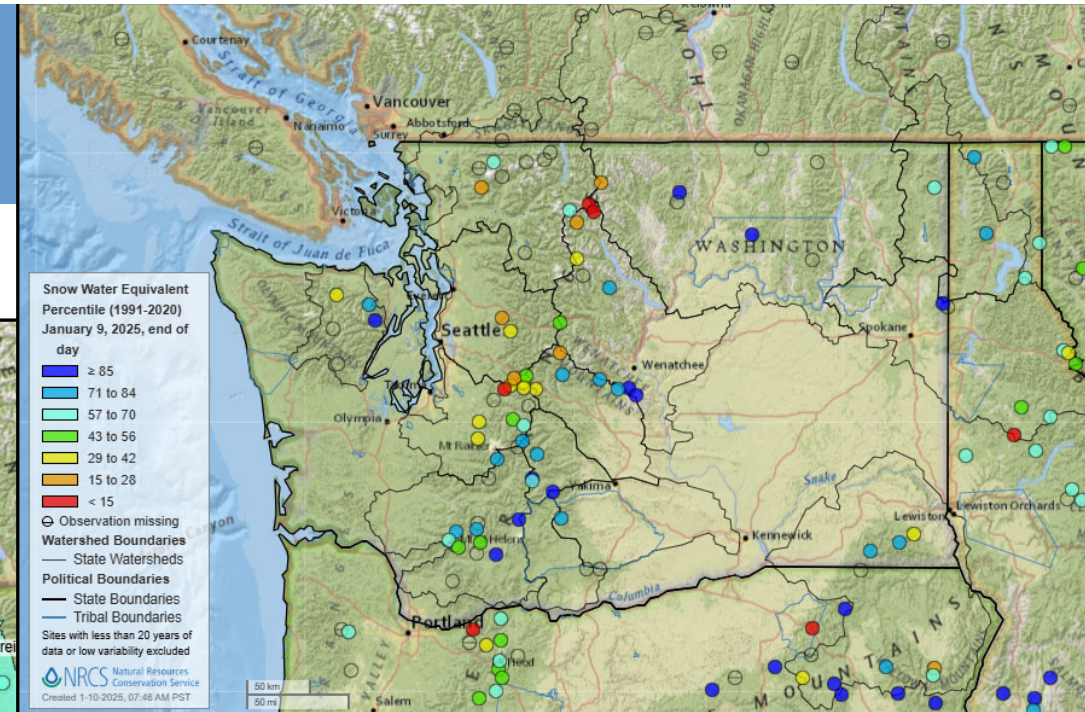
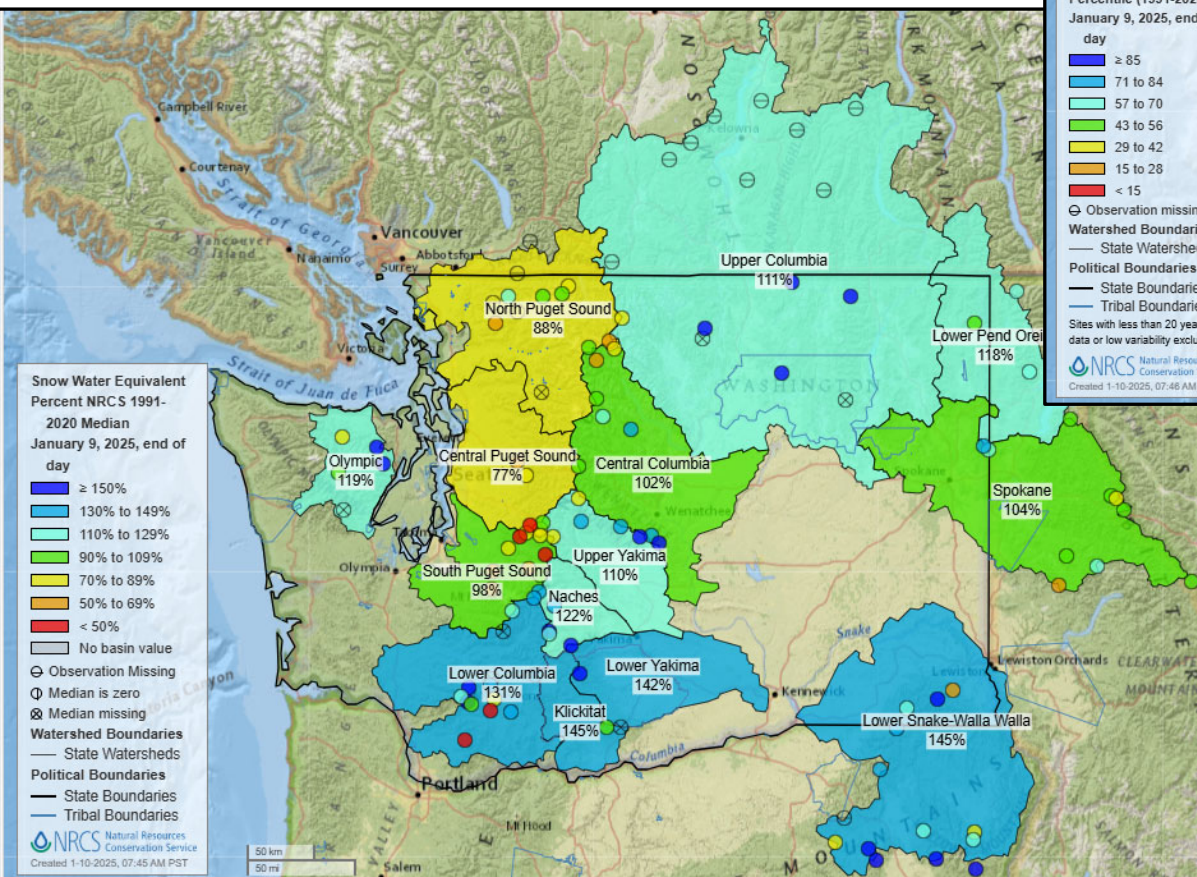


Big picture snowpack



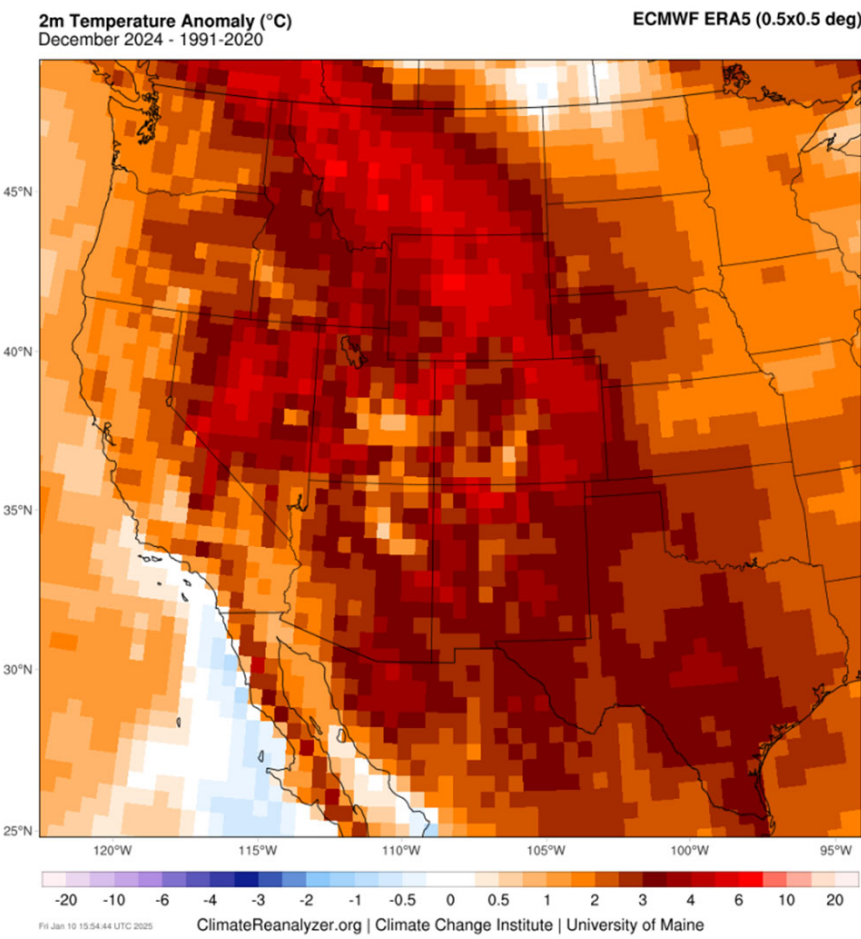
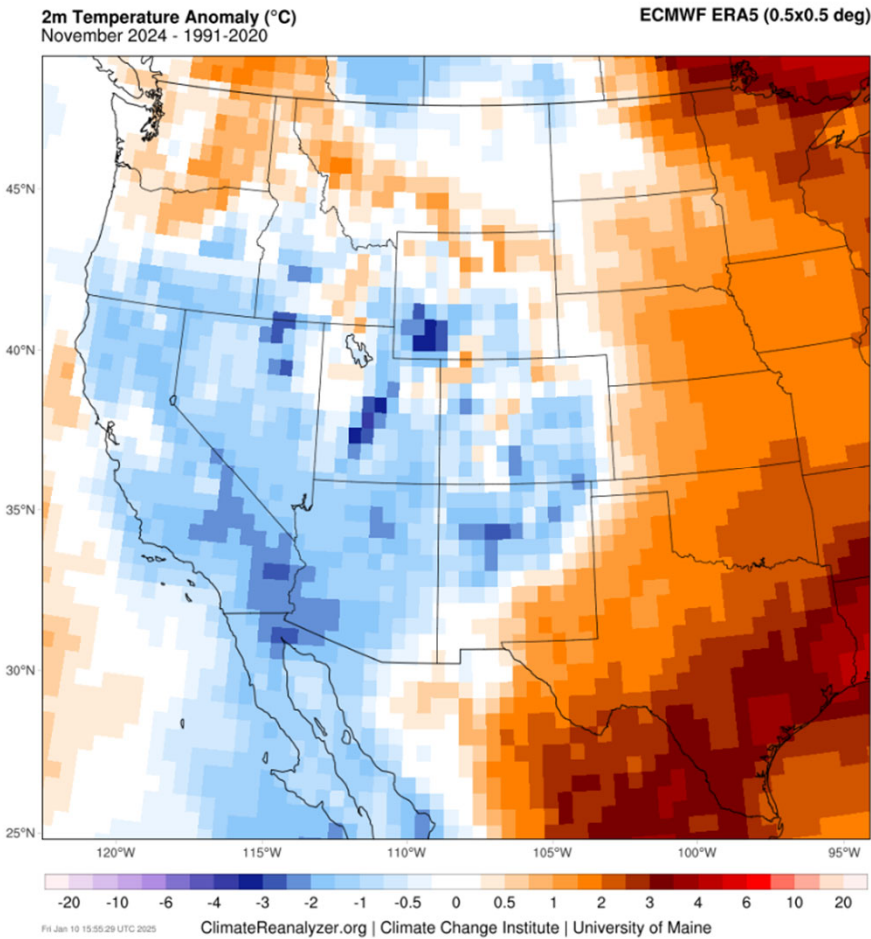
Basin Snowpack

Sub-basin and site map



November and December Temperature Anomalies

PRSIM



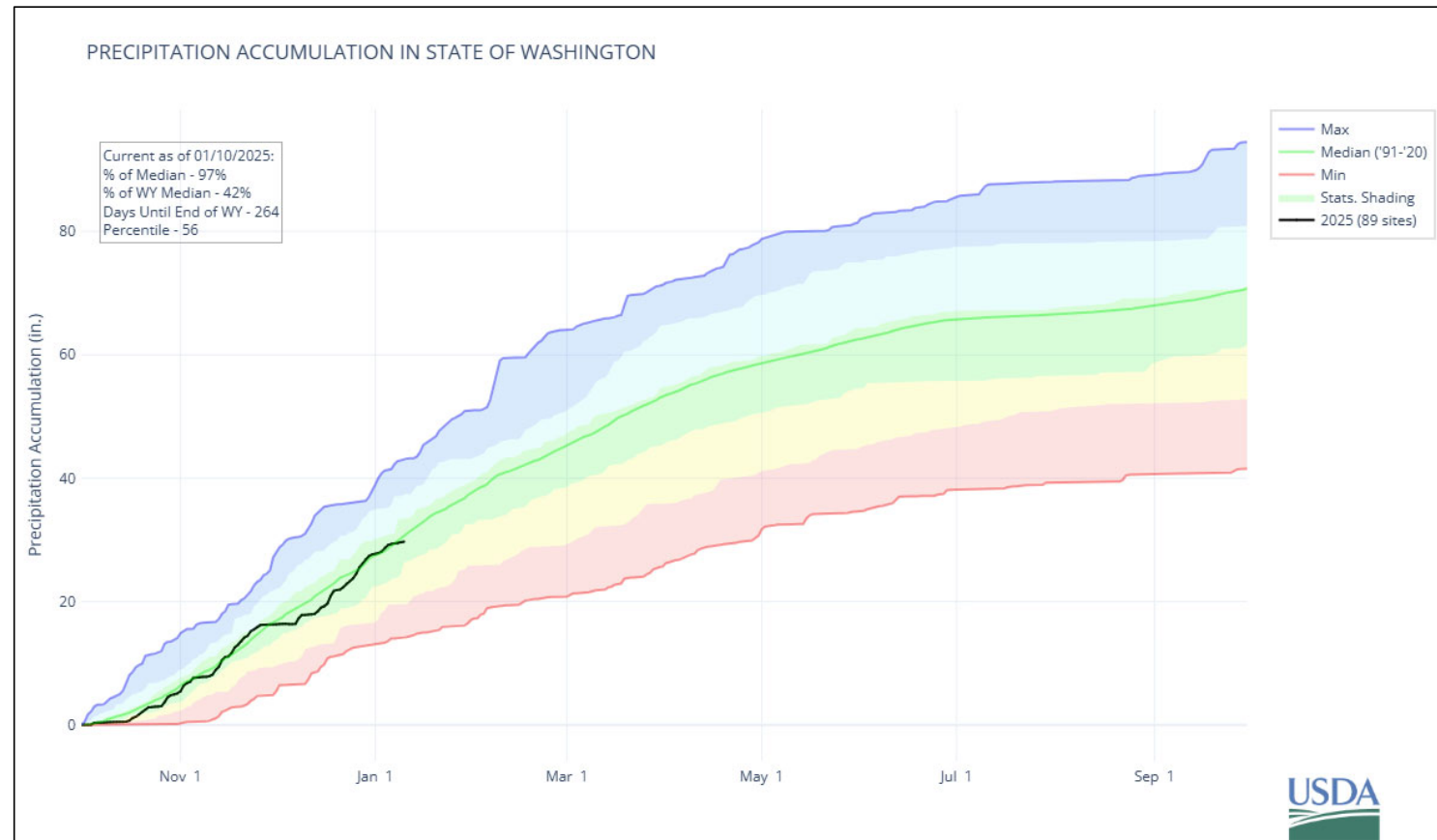


Precipitation Conditions

WYTD Precipitation – Basin Map

Statewide WYTD Precipitation:
97% of Normal

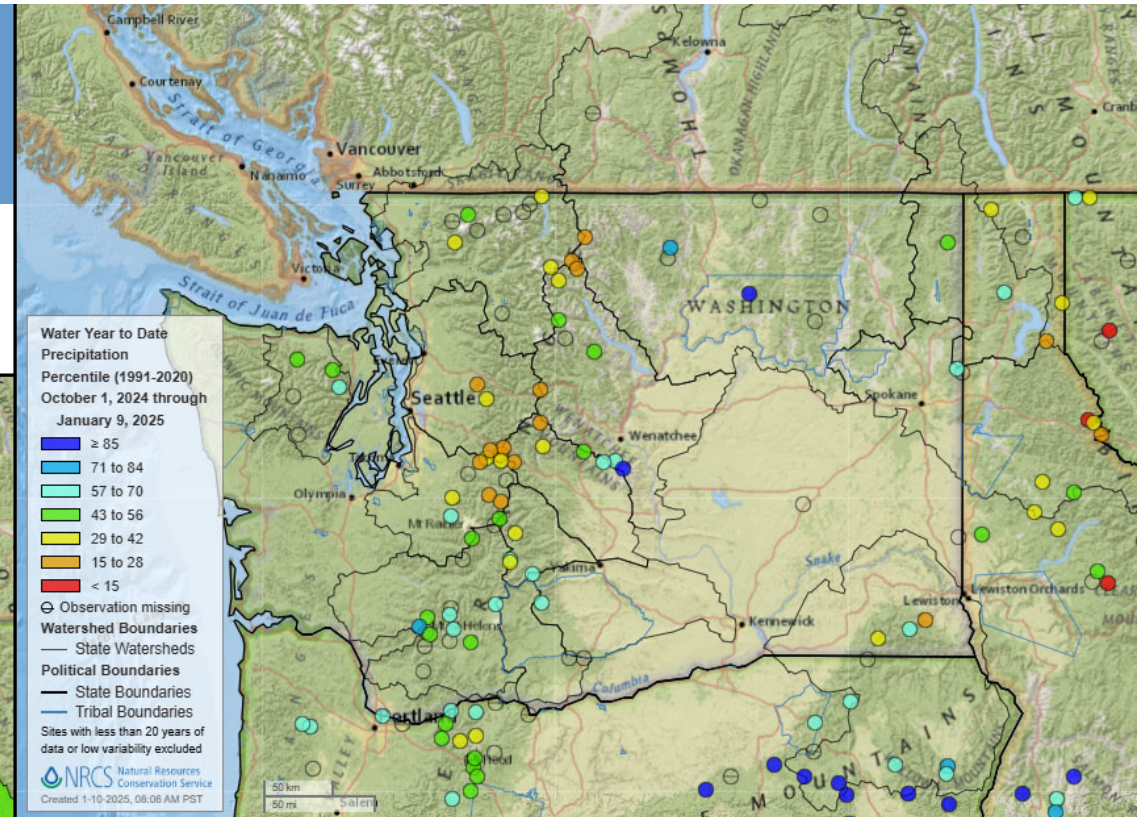
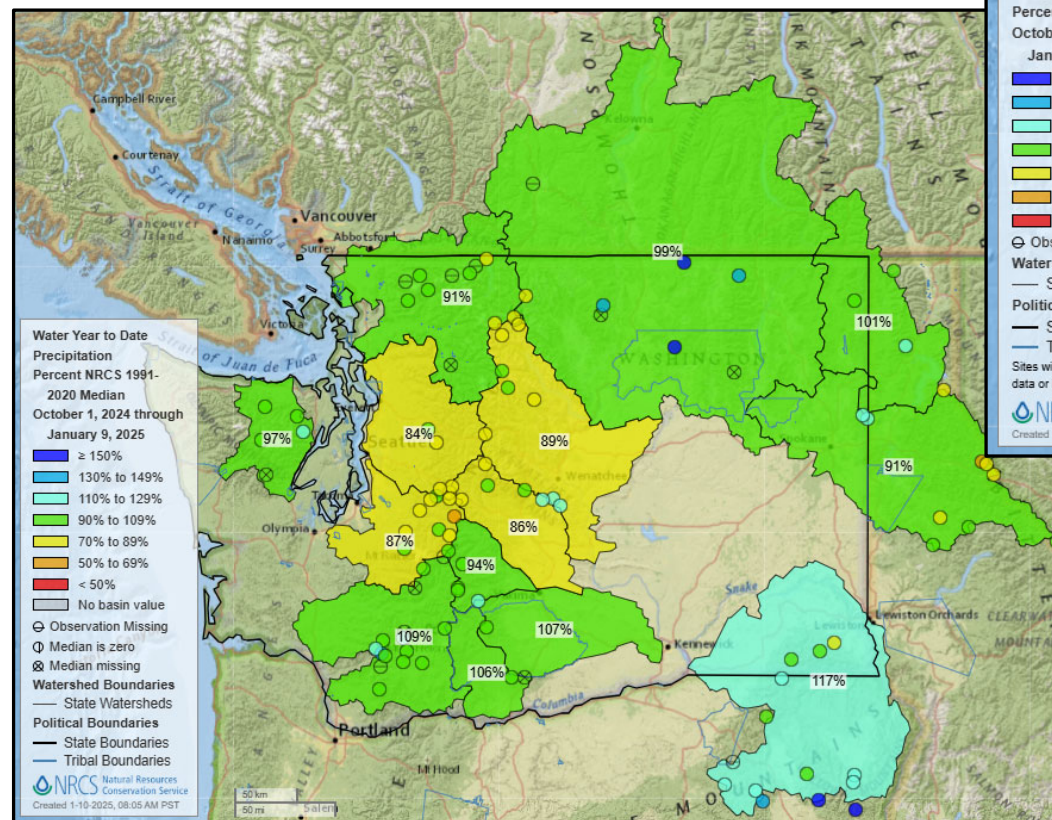
56 – percentile (Normal period)



WYTD Precipitation – Site Map

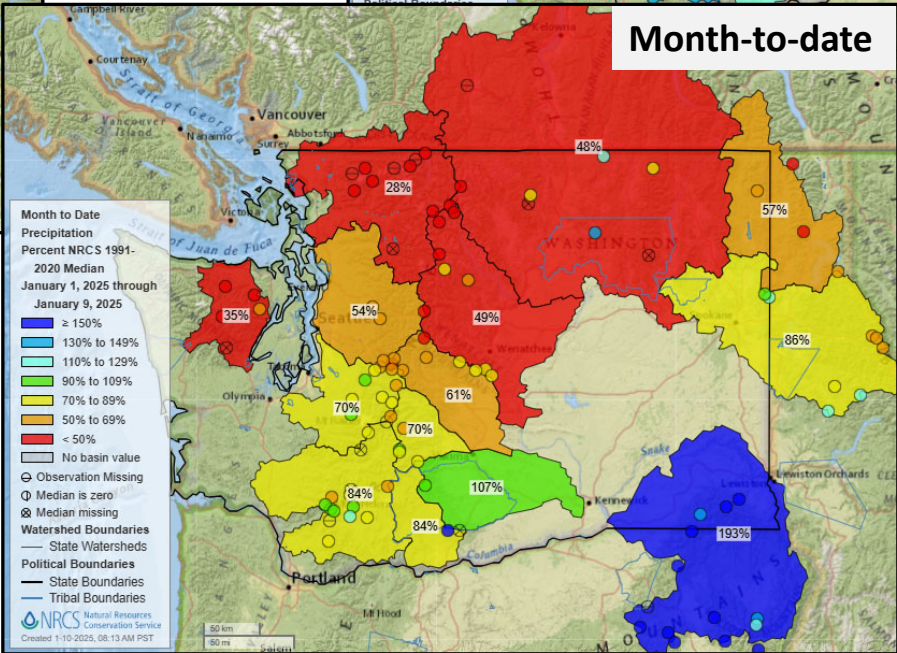
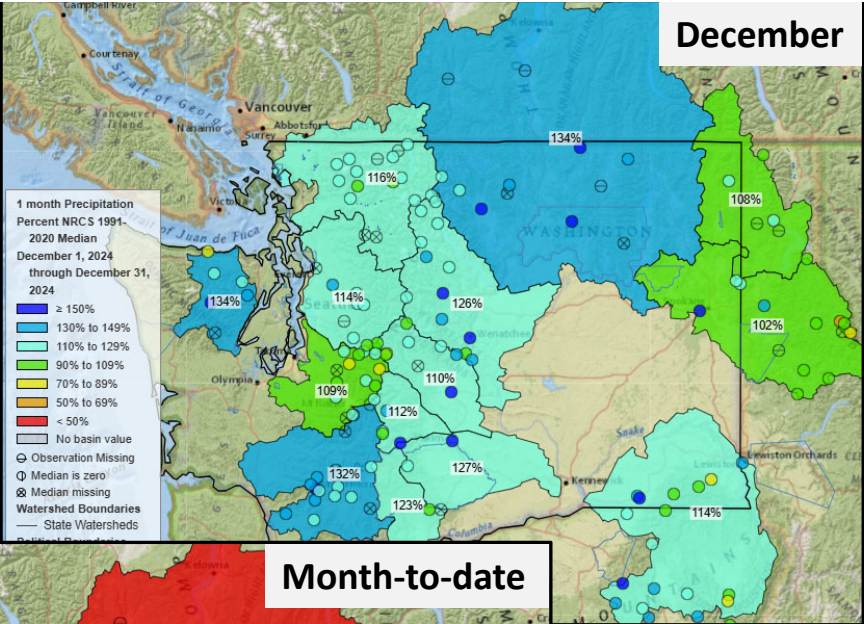
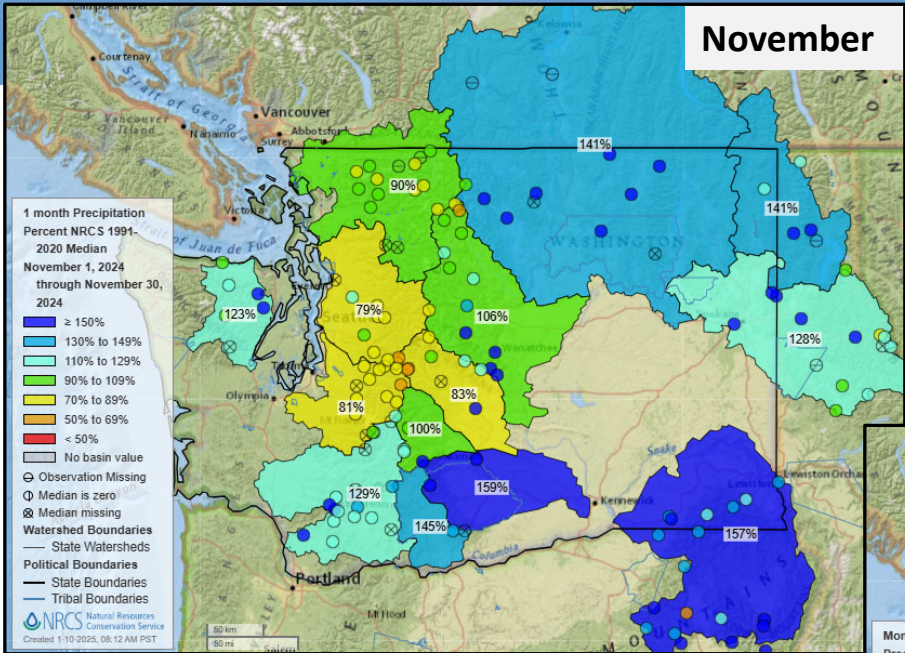
Percent of Normal and Percentile

Percent of Normal (1991-2020)



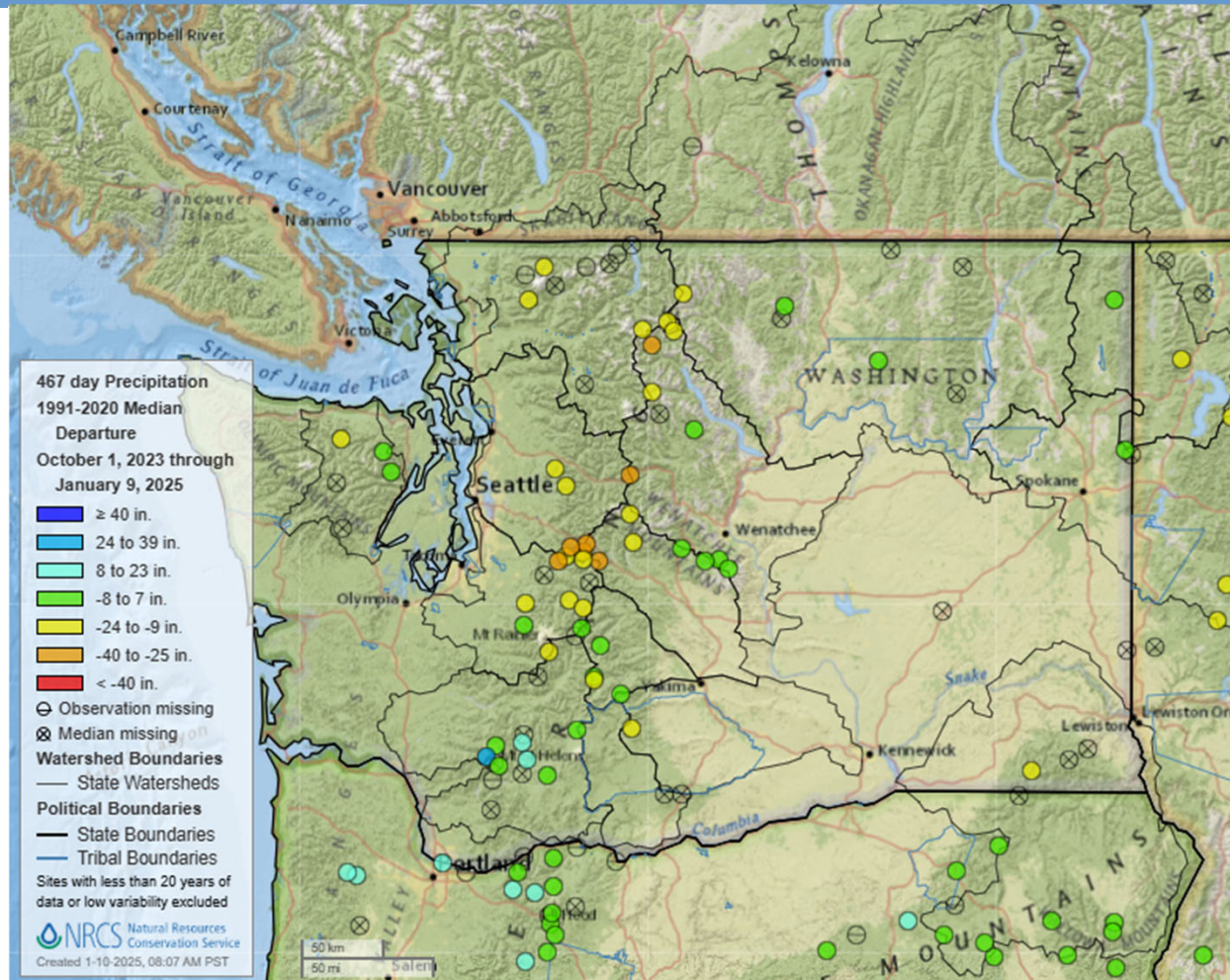
Percentile (1991-2020)

Monthly Precipitation



Precipitation: Compounding Deficits

Oct. 1 2023 - present

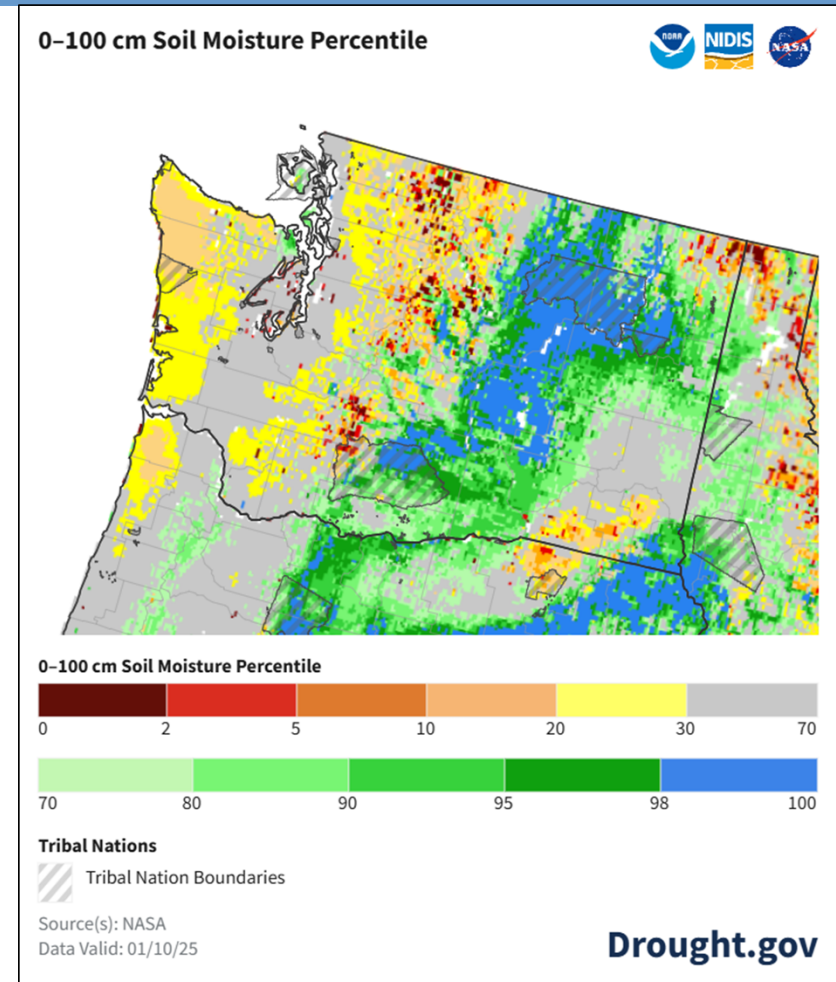
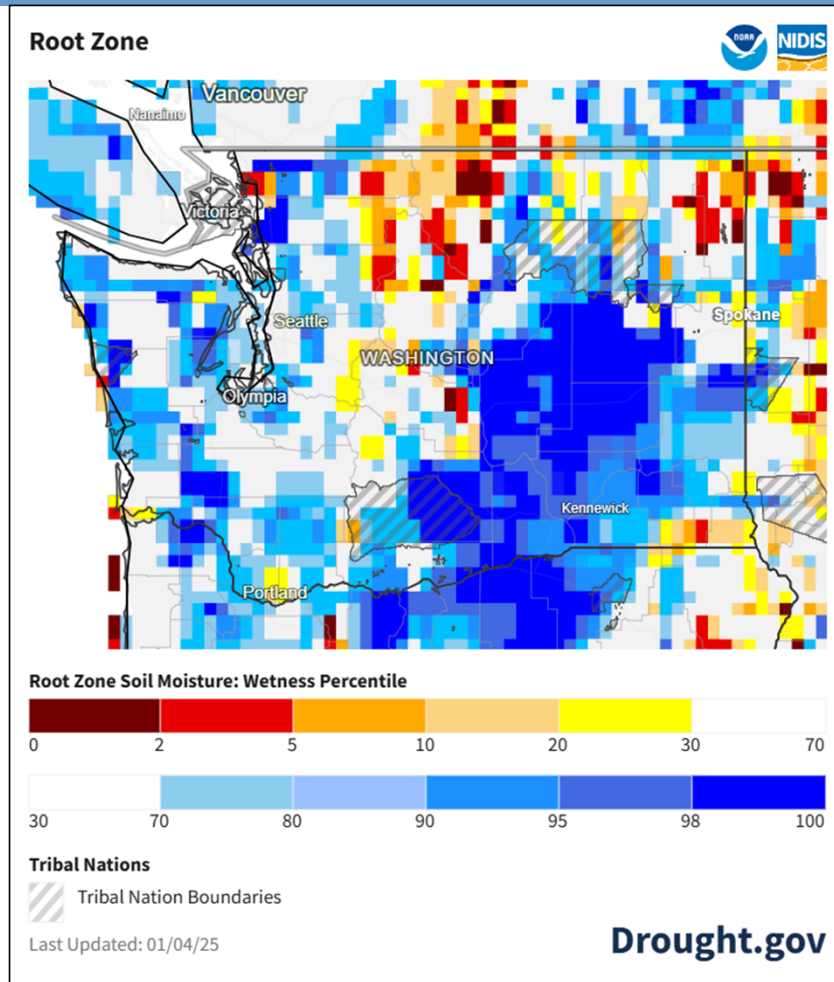




Soil Moisture

Soil Moisture

NASA GRACE and SPoRT-LiS

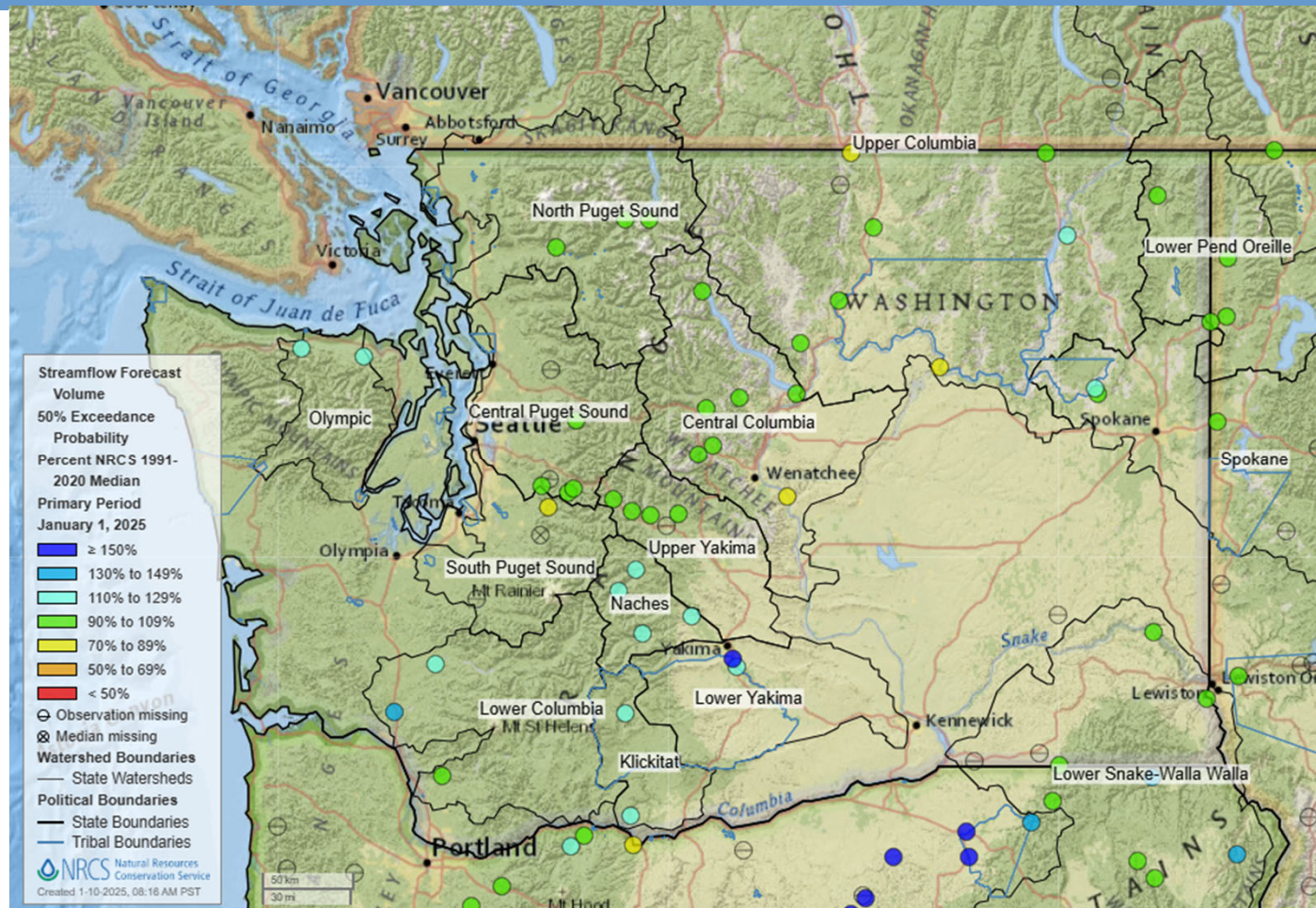




Jan. 1 Water Supply Forecasts

Jan. 1 Water Supply Forecasts

50%-exceedance predictions for primary period



Primary period for these forecasts is typically April-July



Natural Resources Conservation Service

Thank you!

Matt Warbritton
Supervisory Hydrologist
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Portland Data Collection Office
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503-307-2829

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

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Streamflow & Groundwater Conditions in Washington State as of 9 January 2025



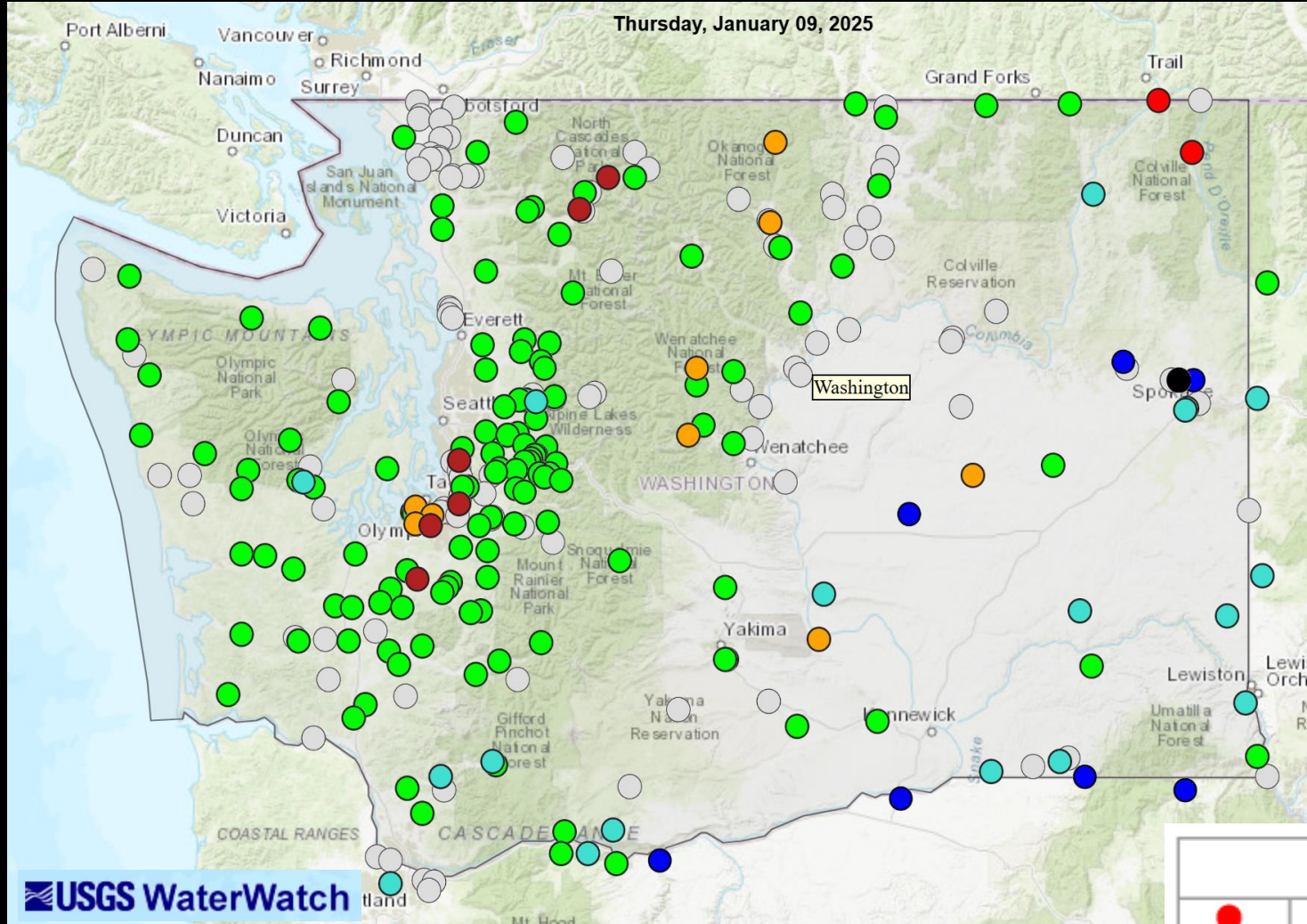
Photograph by Will Elliot

Presented on 10 January 2025
to the Washington Water Supply
Availability Committee
by Nicholas Sutfin,
nsutfin@usgs.gov
USGS Washington Water
Science Center

This information is preliminary and is subject to revision. It is being provided to meet the need for timely best science. The information is provided on the condition that neither the U.S. Geological Survey nor the U.S. Government shall be held liable for any damages resulting from the authorized or unauthorized use of the information.

7-day Average Streamflow

Conditions as of 9 January 2025



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

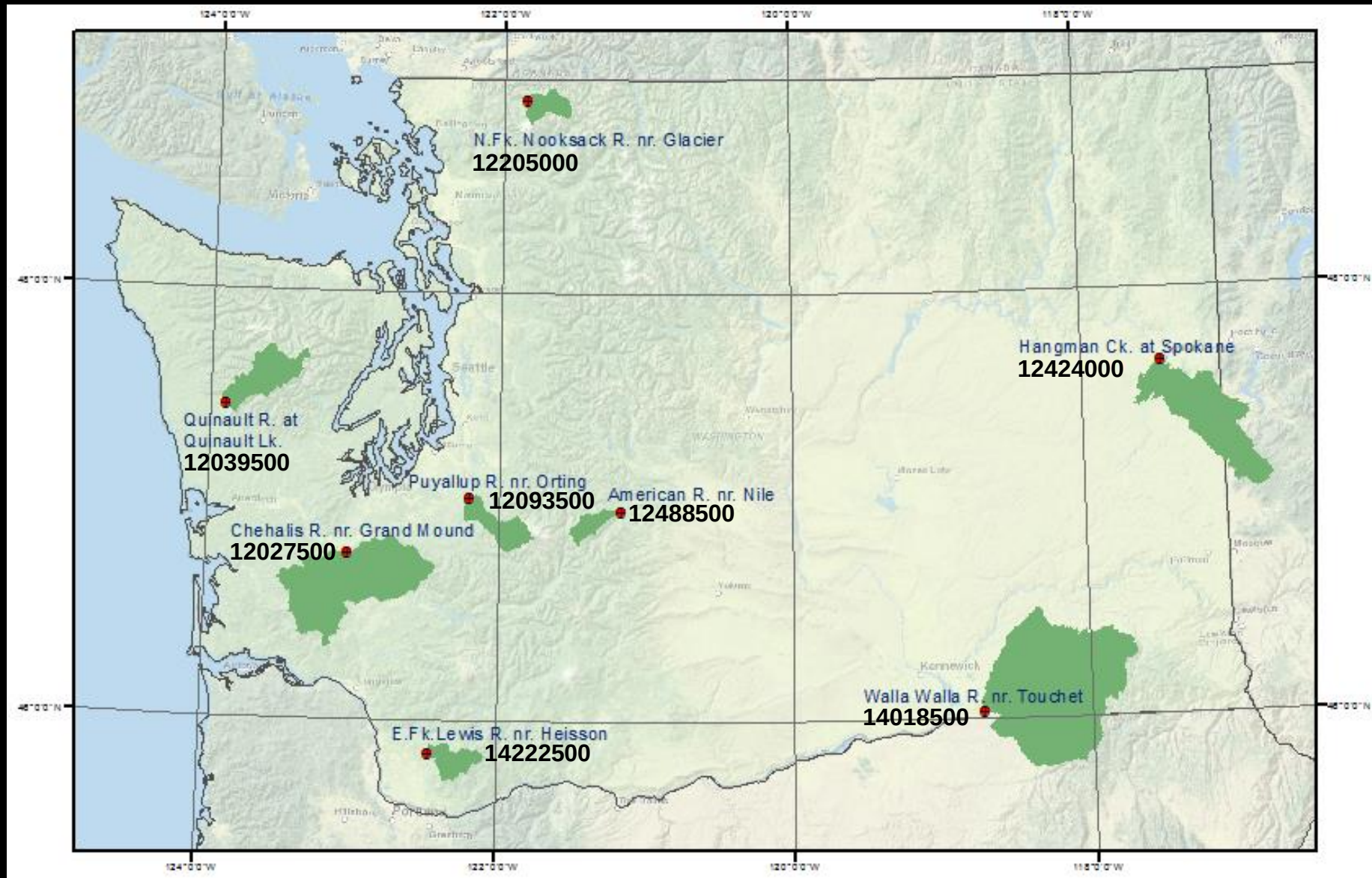
**WaterWatch is scheduled
to be discontinued in 2026**

https://waterwatch.usgs.gov/index.php?id=pa07d&sid=w__gmap&r=wa

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

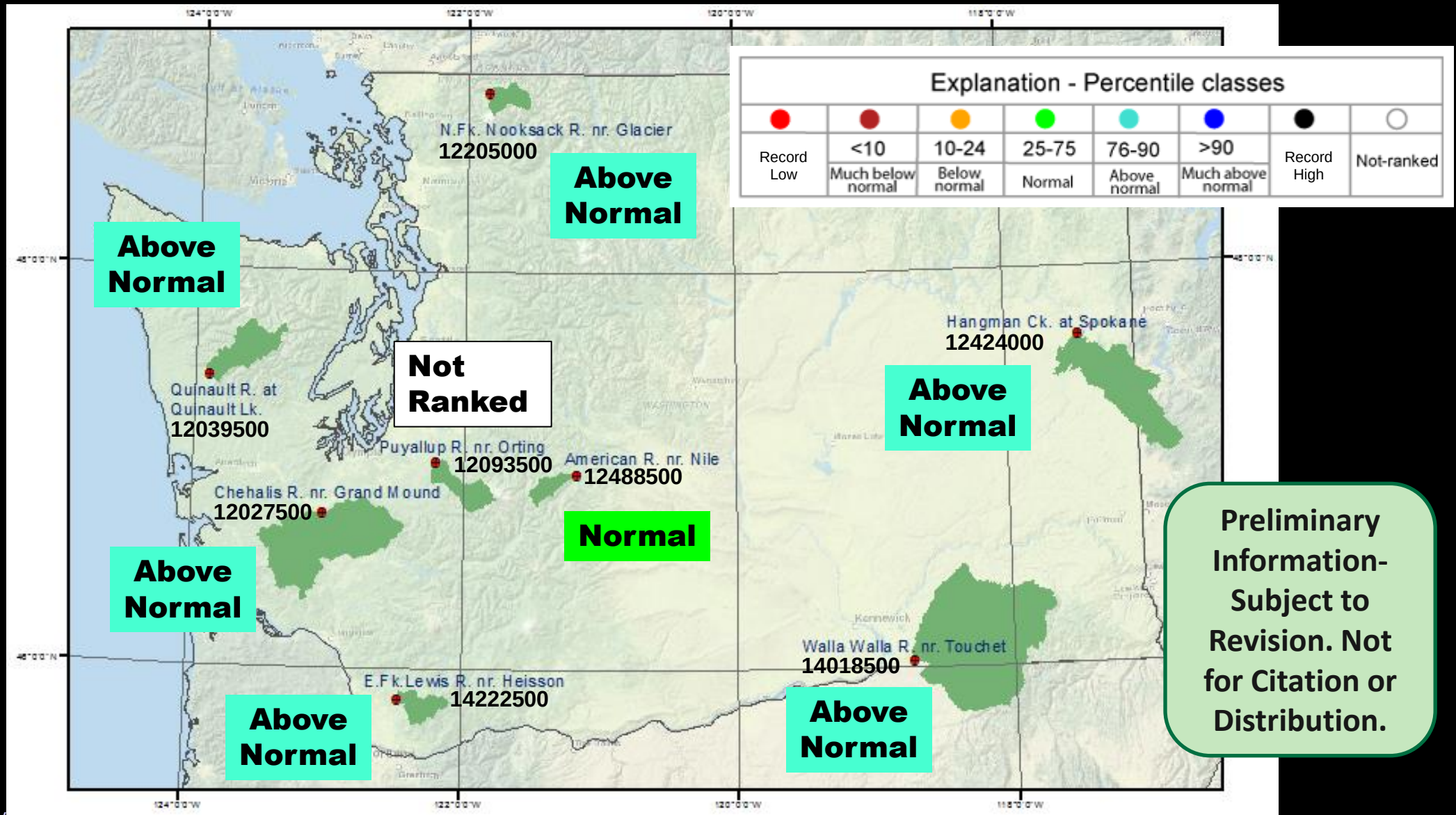
Index Gaging Stations

(Stations that measure natural or near-natural streamflow)



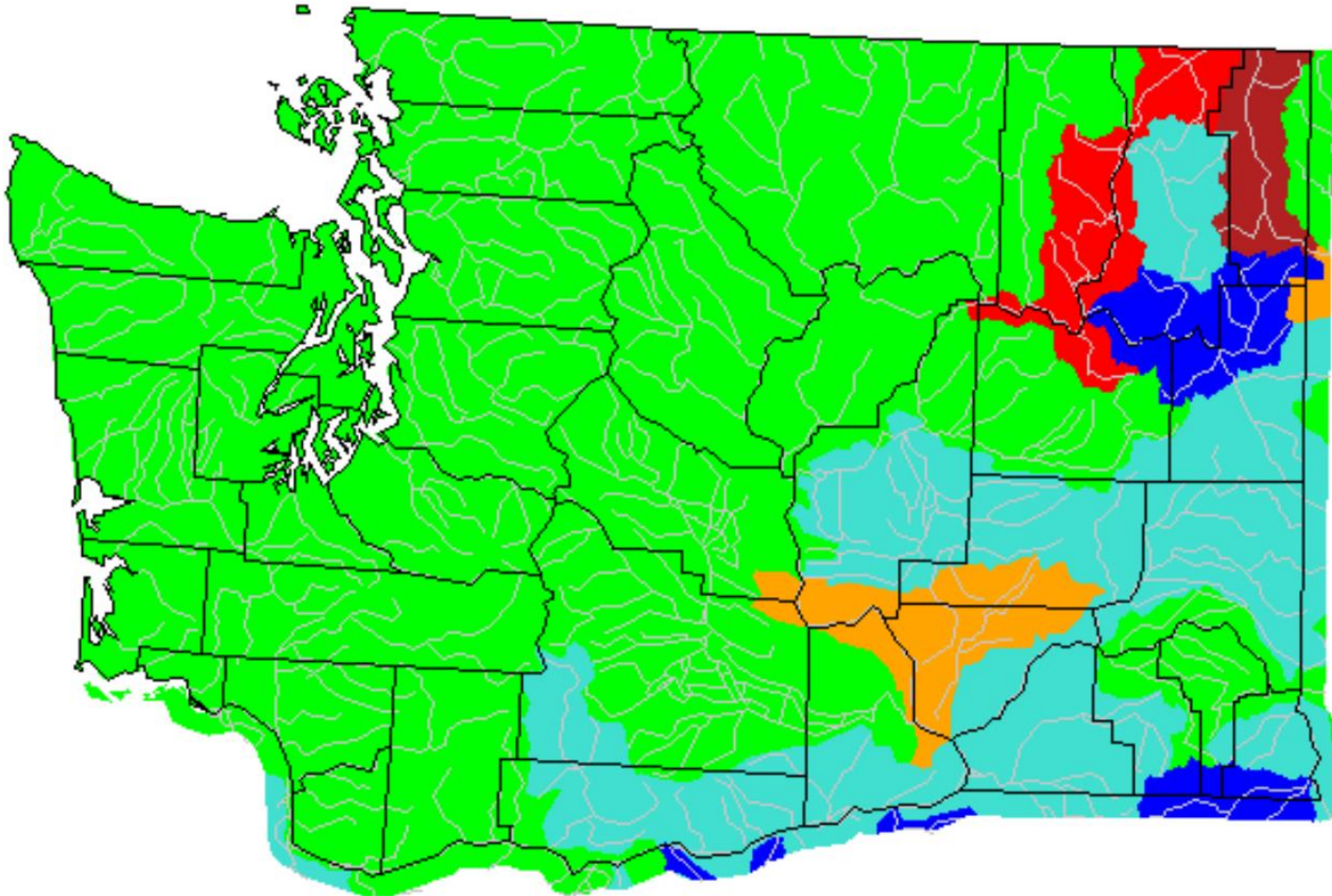
Index Gaging Stations

7-day average streamflow as of 9 January 2025



Average streamflow compared to historical streamflow

7-day average as of 9 January 2025

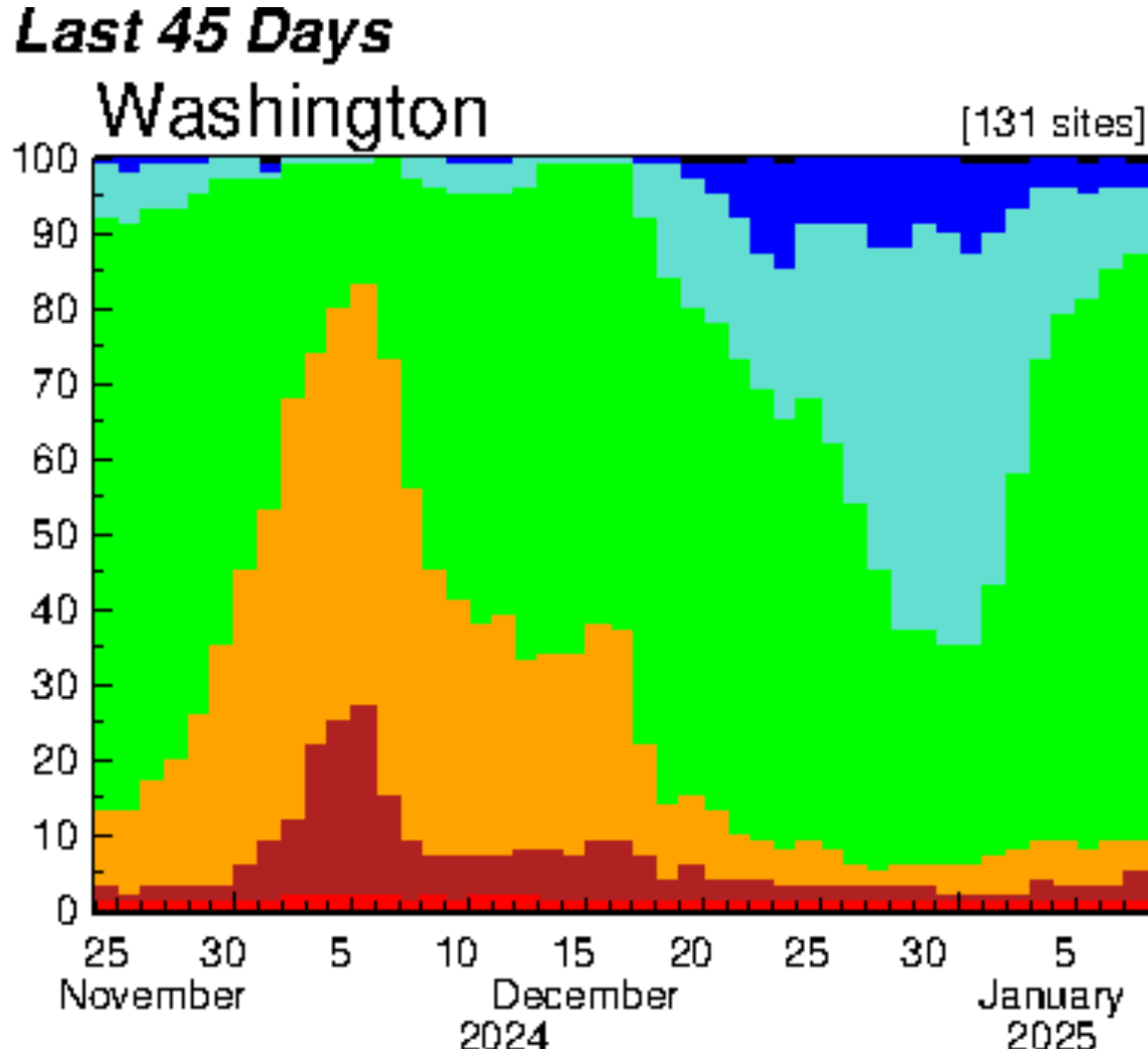


Explanation - Percentile classes						
Record Low	<10	10-24	25-75	76-90	>90	Record High
	Much below normal	Below normal	Normal	Above normal	Much above normal	

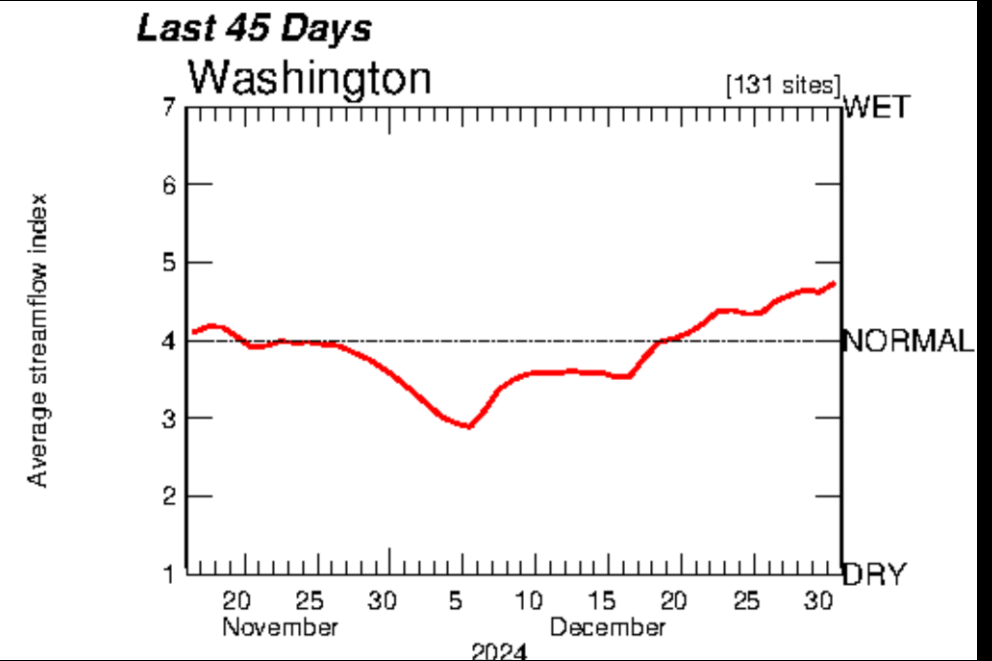
**Preliminary Information-
Subject to Revision. Not for
Citation or Distribution.**

7-day average streamflow

Most USGS stream gages at normal as of 9 January 2025



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

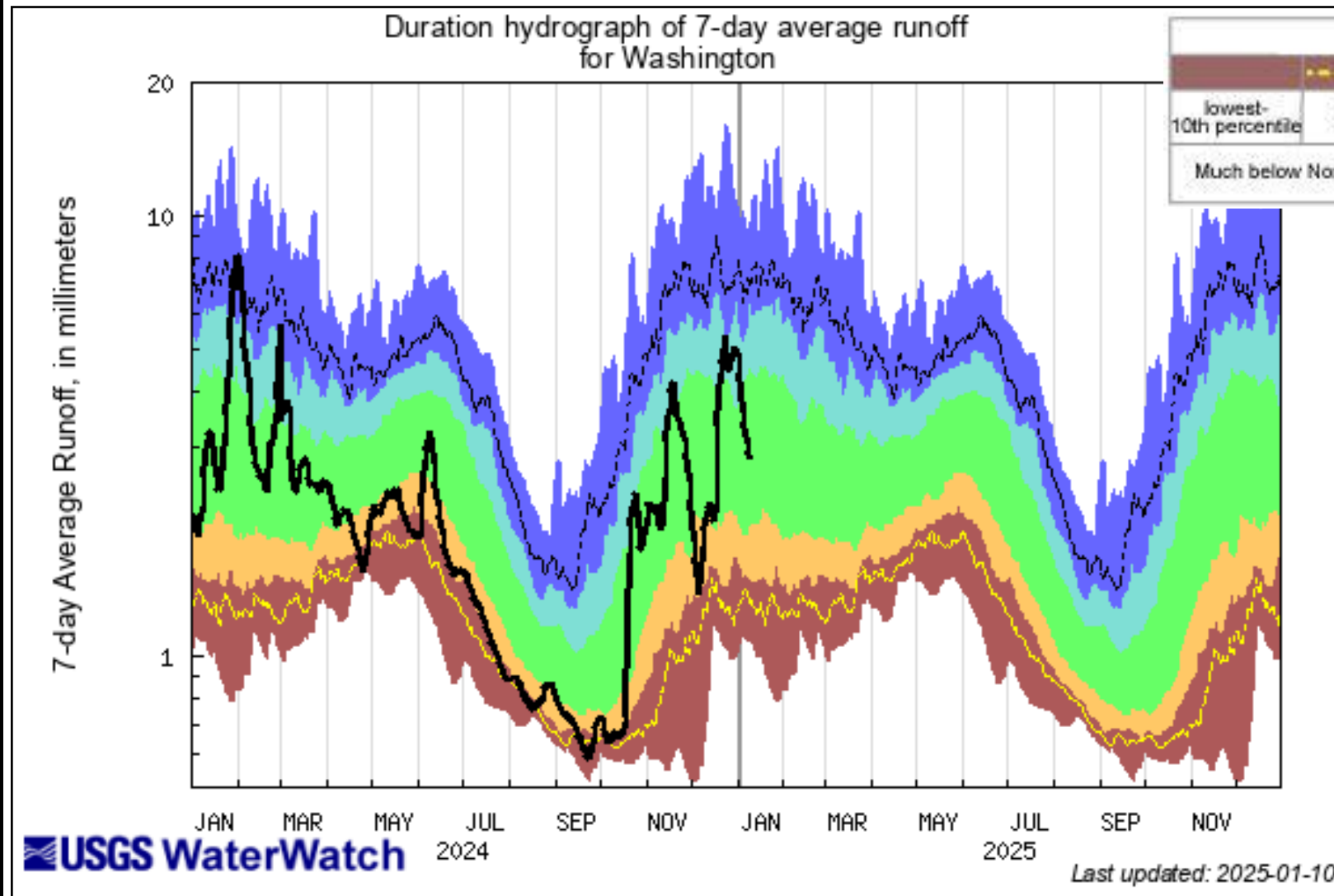


Explanation - Percentile classes

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

Area-Based Runoff Duration Hydrograph

7-day average streamflow as of 9 January 2025 is normal



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

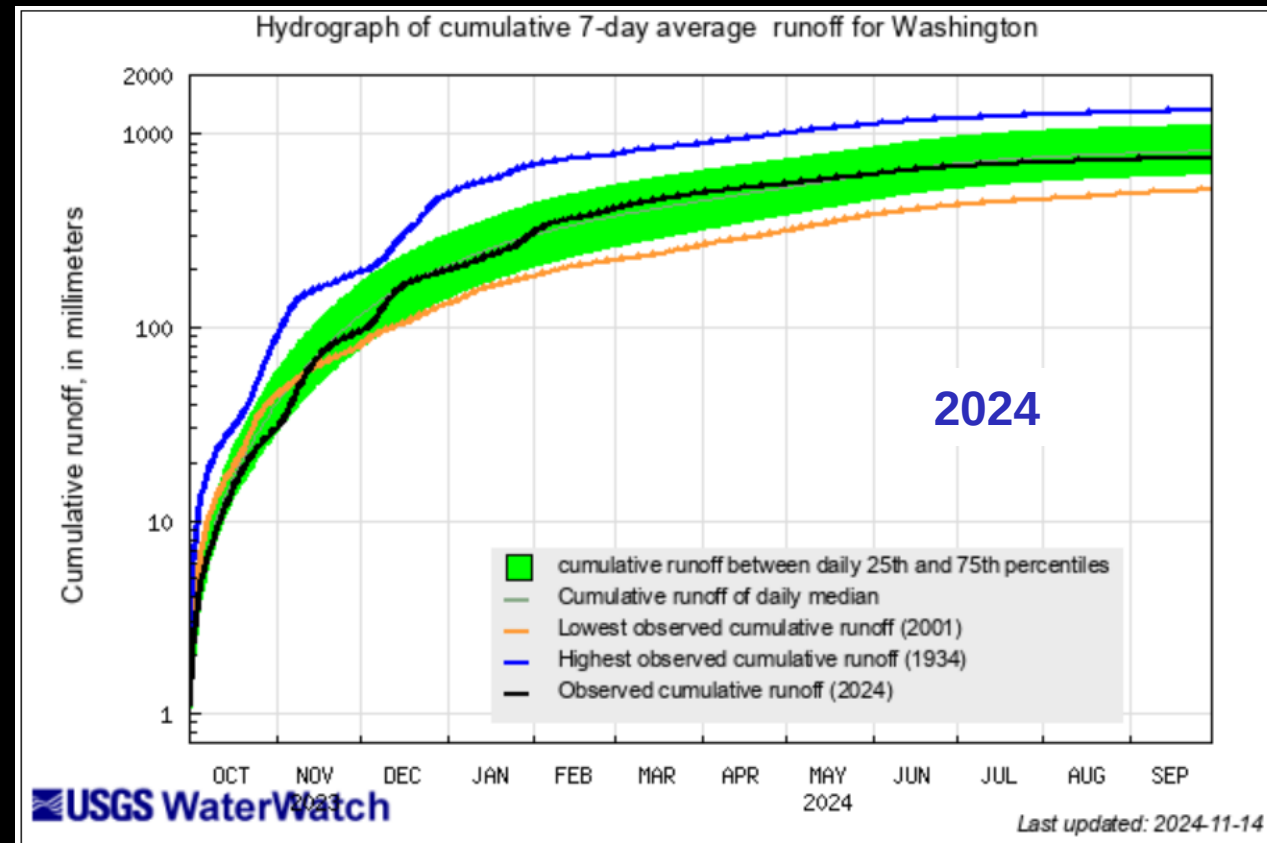
**Preliminary Information-
Subject to Revision. Not for
Citation or Distribution.**

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

Cumulative runoff hydrograph

Area-based runoff based on 7-day average

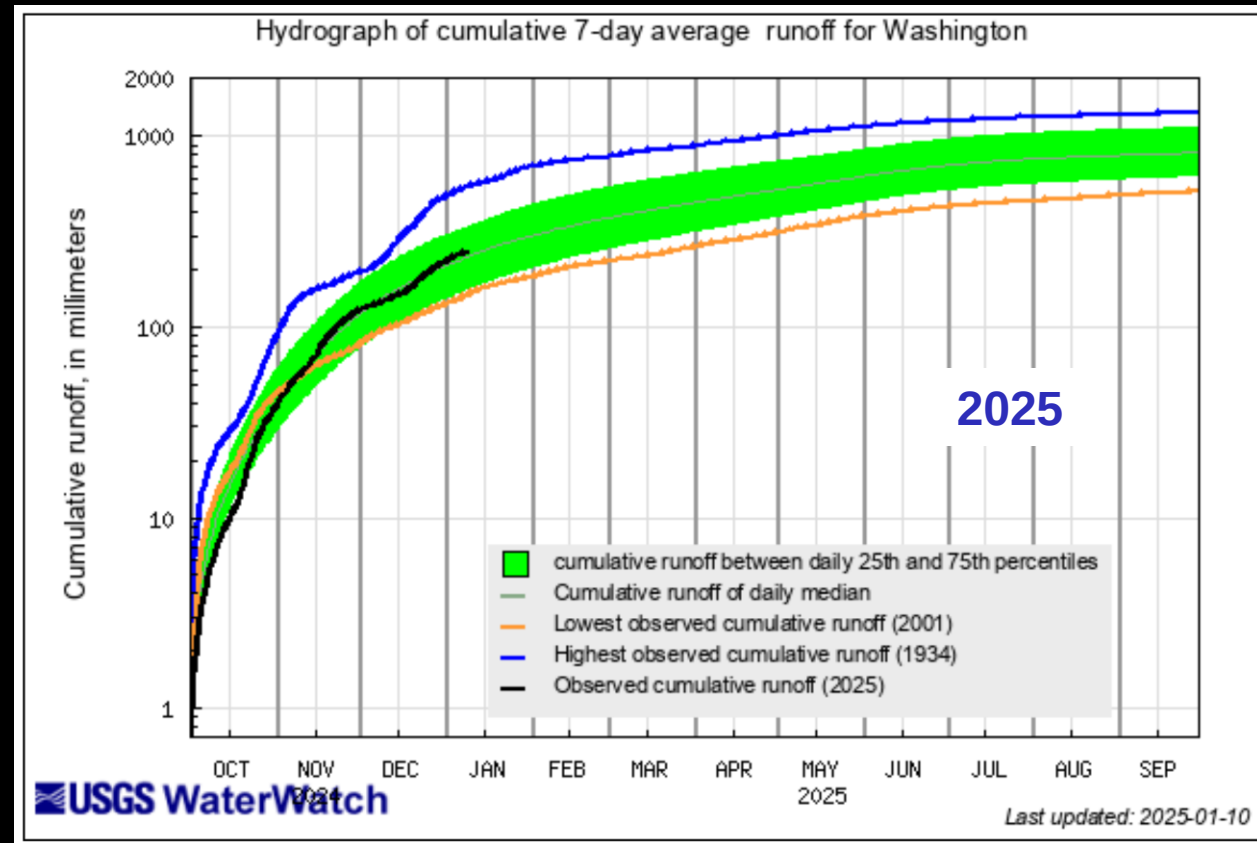
Normal for 2025 water year as of 9 January



2024 water year

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

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

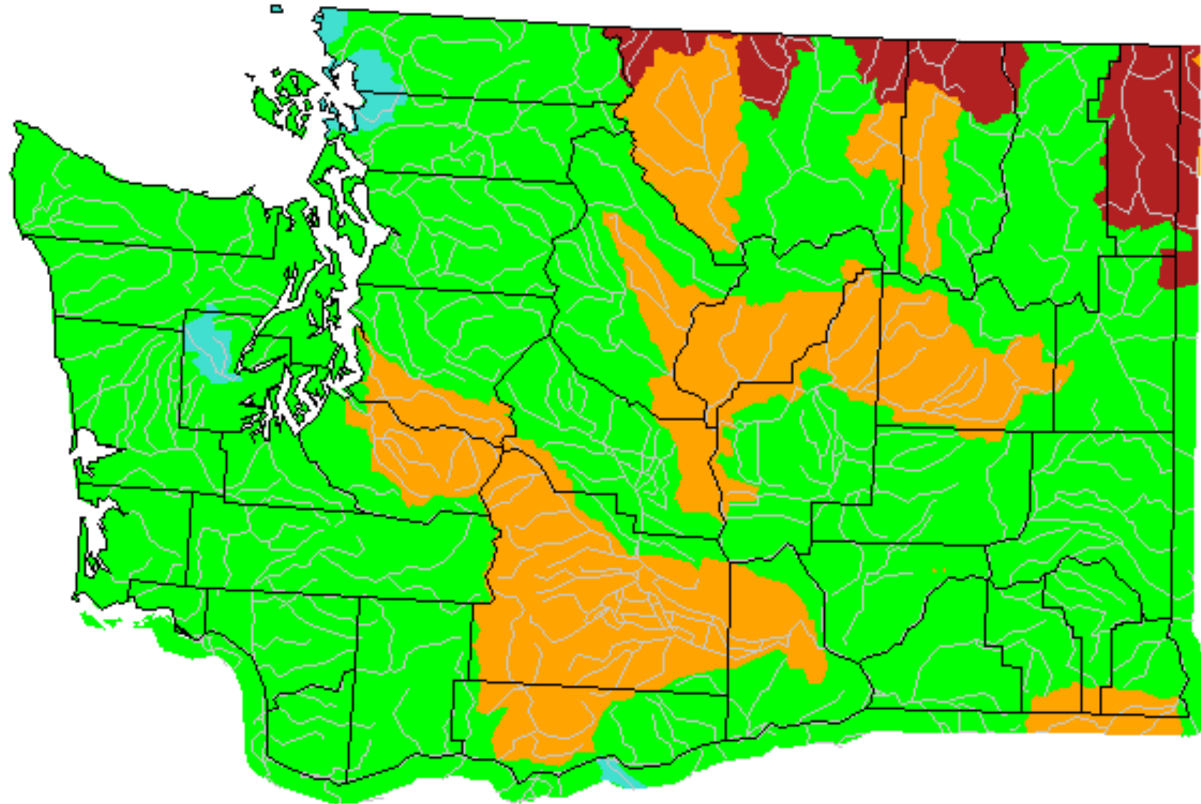


2025 water year

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

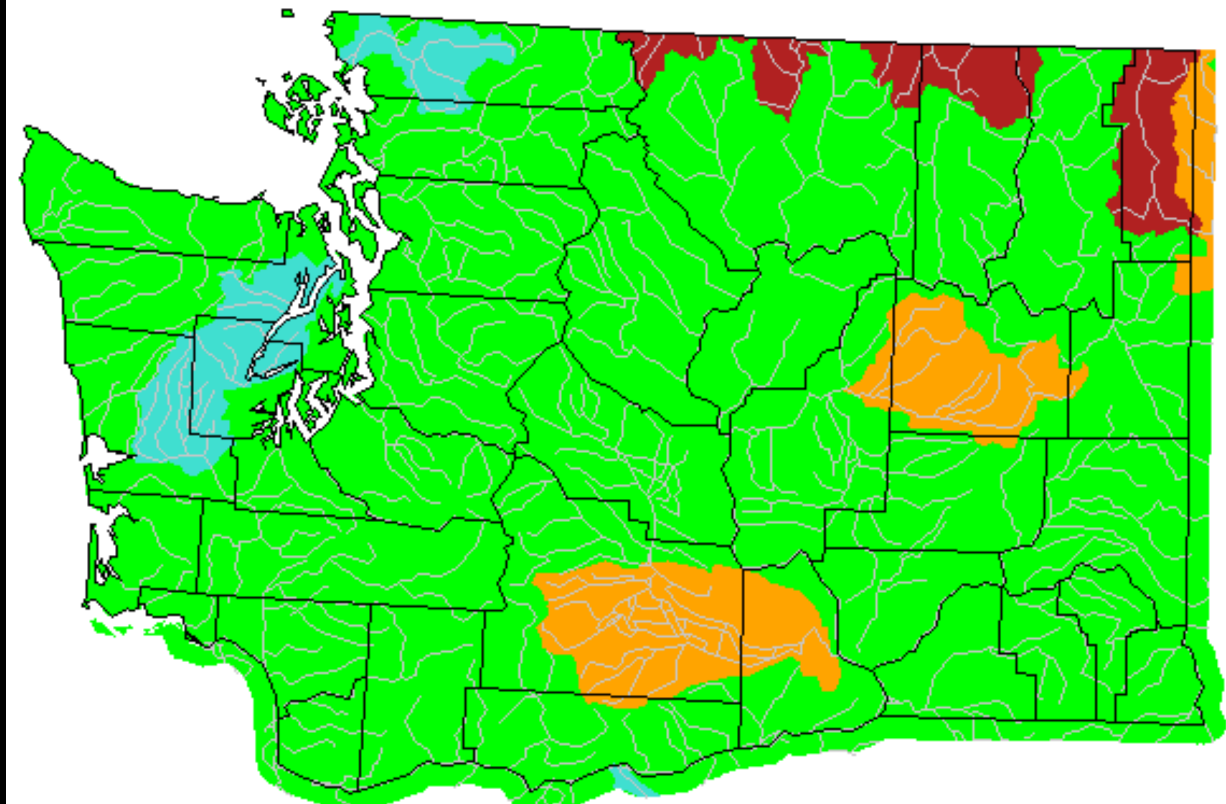
Monthly average streamflow compared to historical streamflow

November 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	

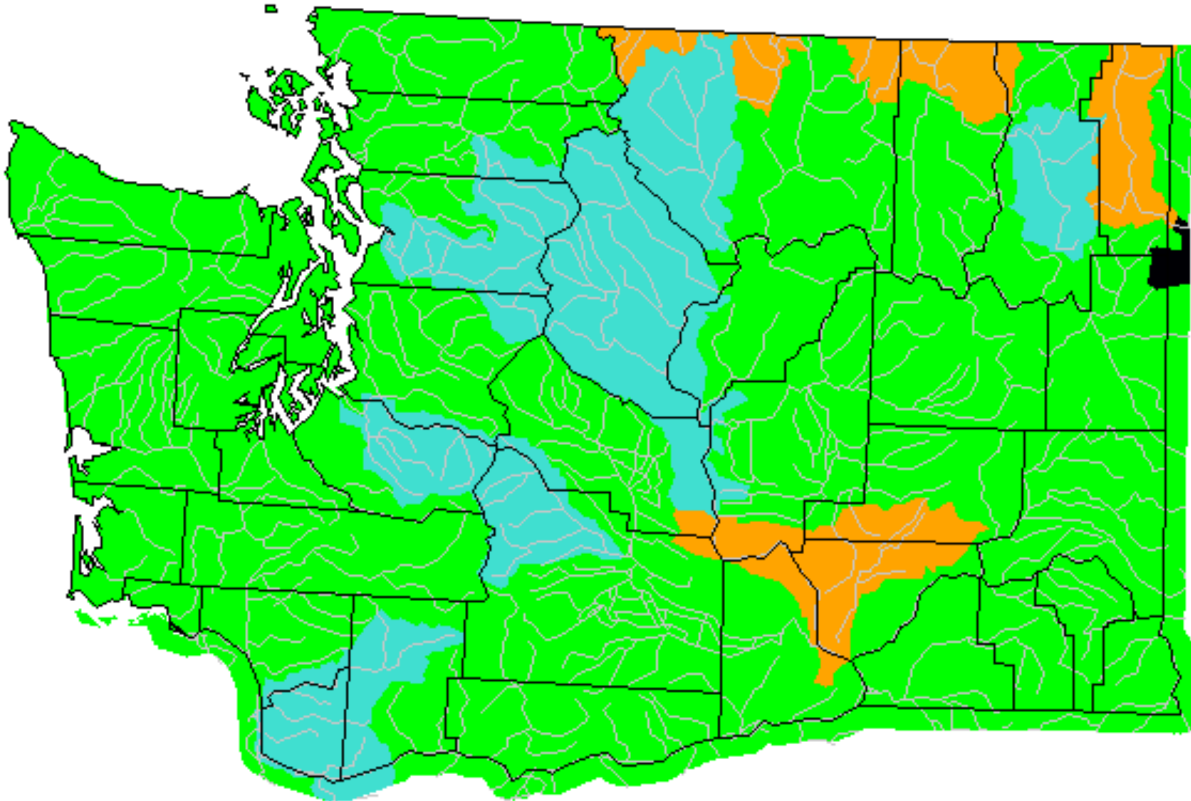
December 2024



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

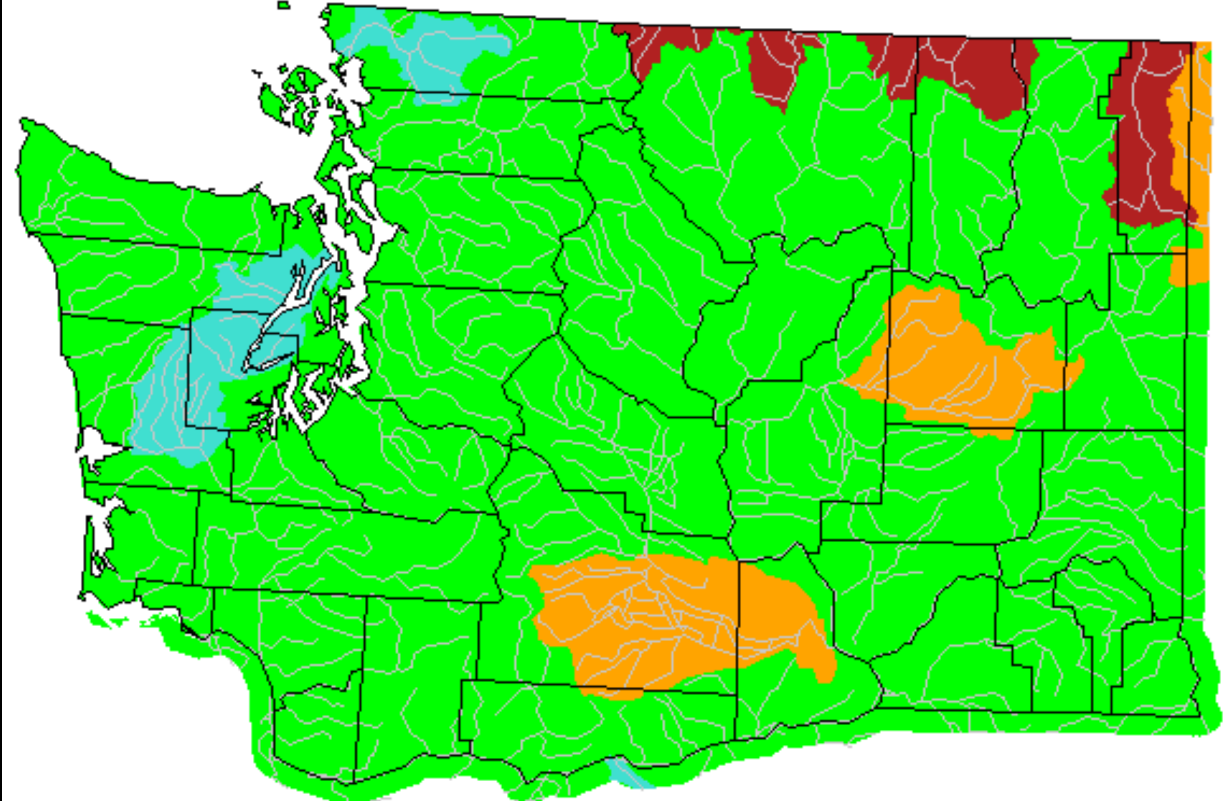
Monthly average streamflow compared to historical streamflow

December 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	

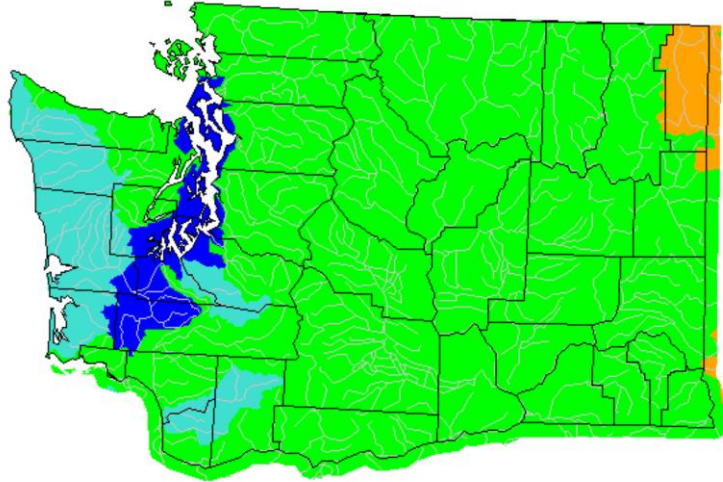
December 2024



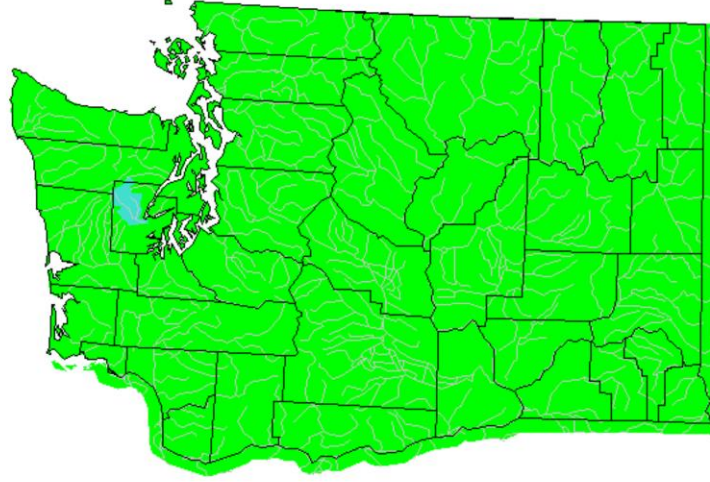
Preliminary Information-Subject to Revision. Not for Citation or Distribution.

Monthly average streamflow compared to historical streamflow

December 2001



December 2005

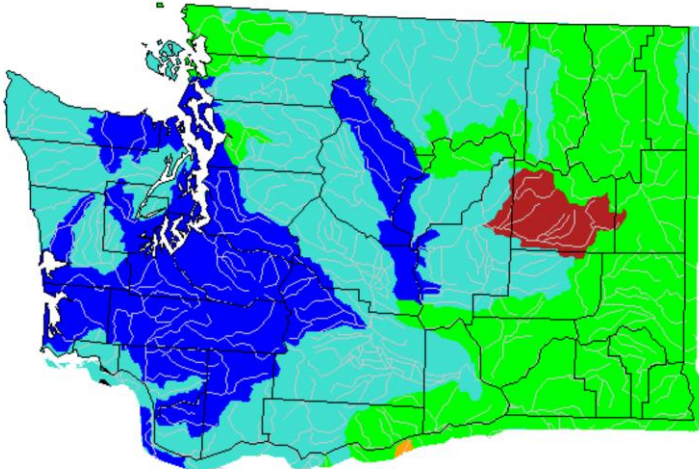


Explanation - Percentile classes						
Record Low	<10	10-24	25-75	76-90	>90	Record High
	Much below normal	Below normal	Normal	Above normal	Much above normal	

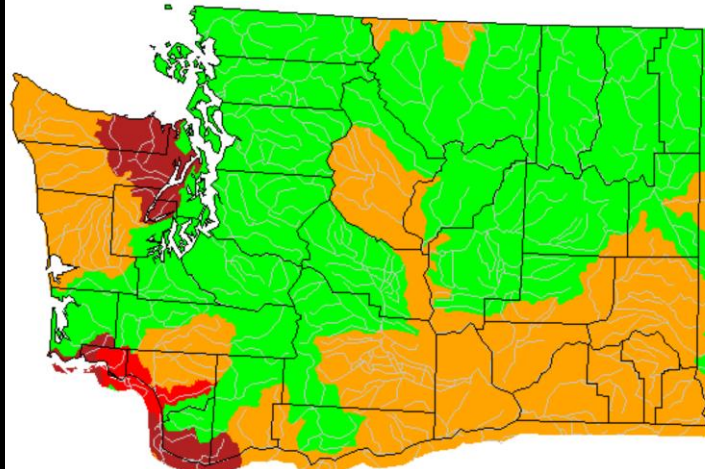
<https://waterwatch.usgs.gov/>

**Preliminary Information-
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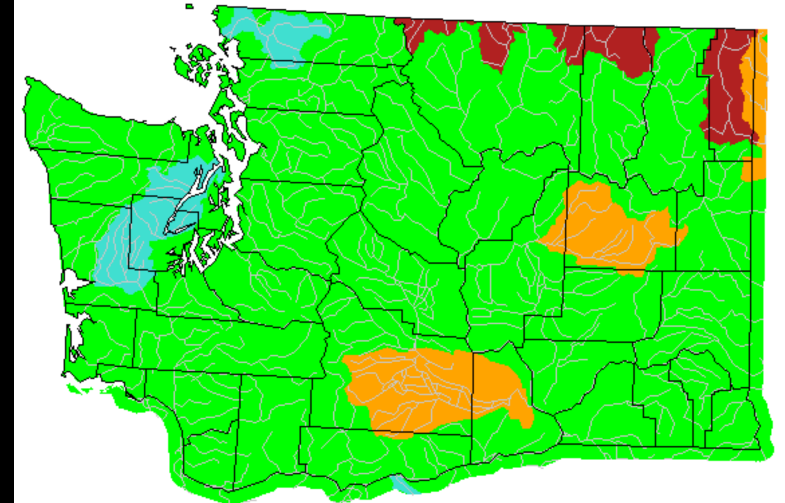
December 2015



December 2019



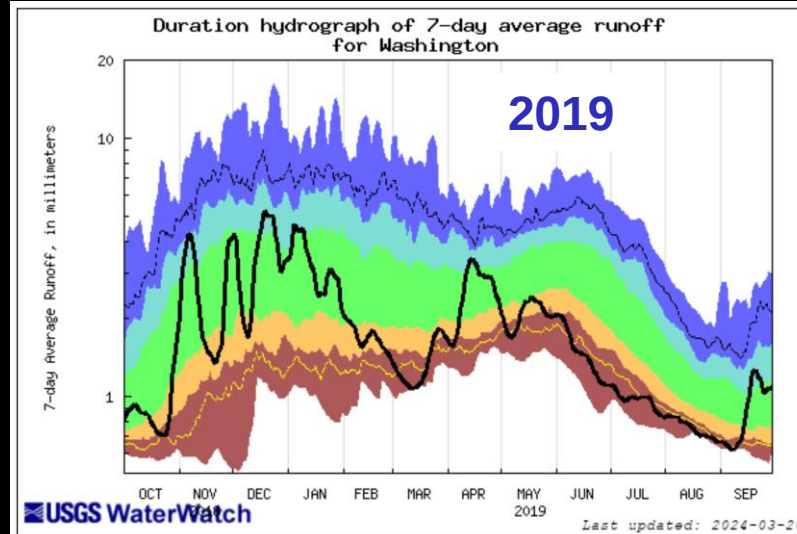
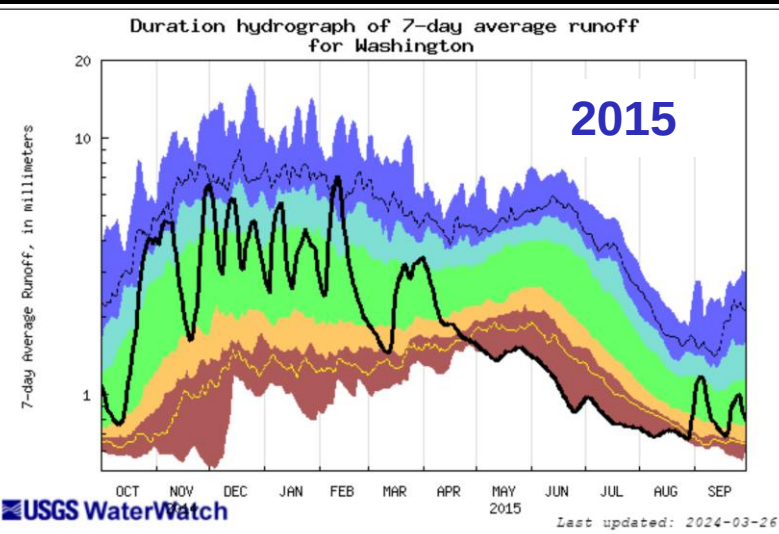
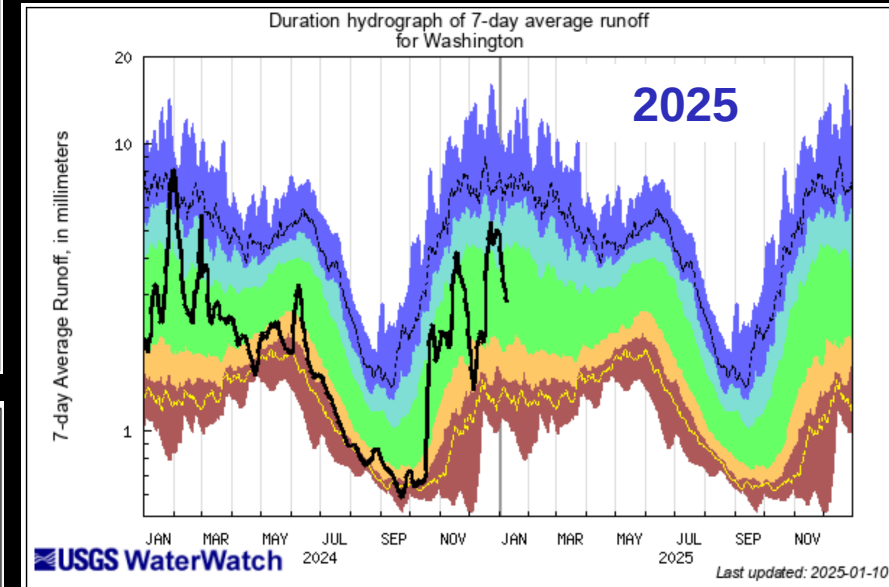
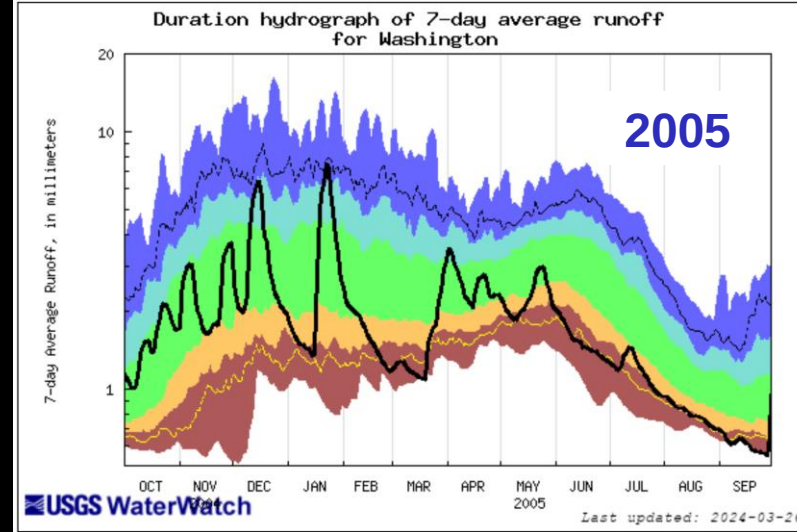
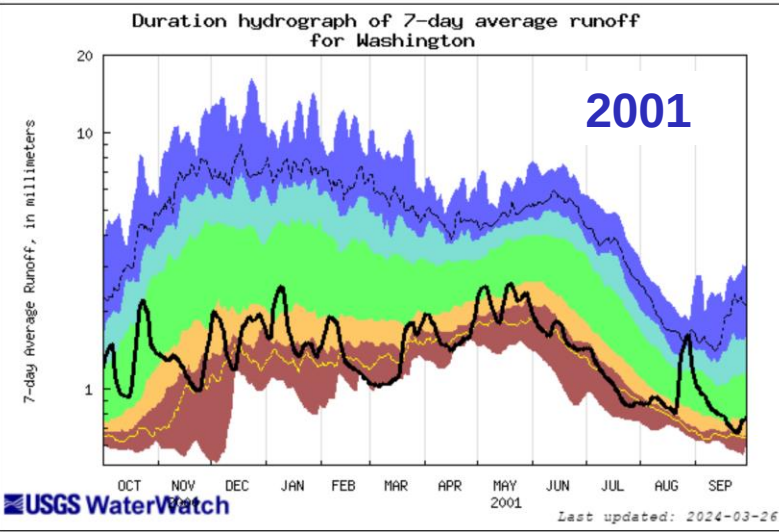
December 2024



Area-Based Runoff Duration Hydrograph

7-day average streamflow

Duration hydrograph for the year compared to recent years of drought

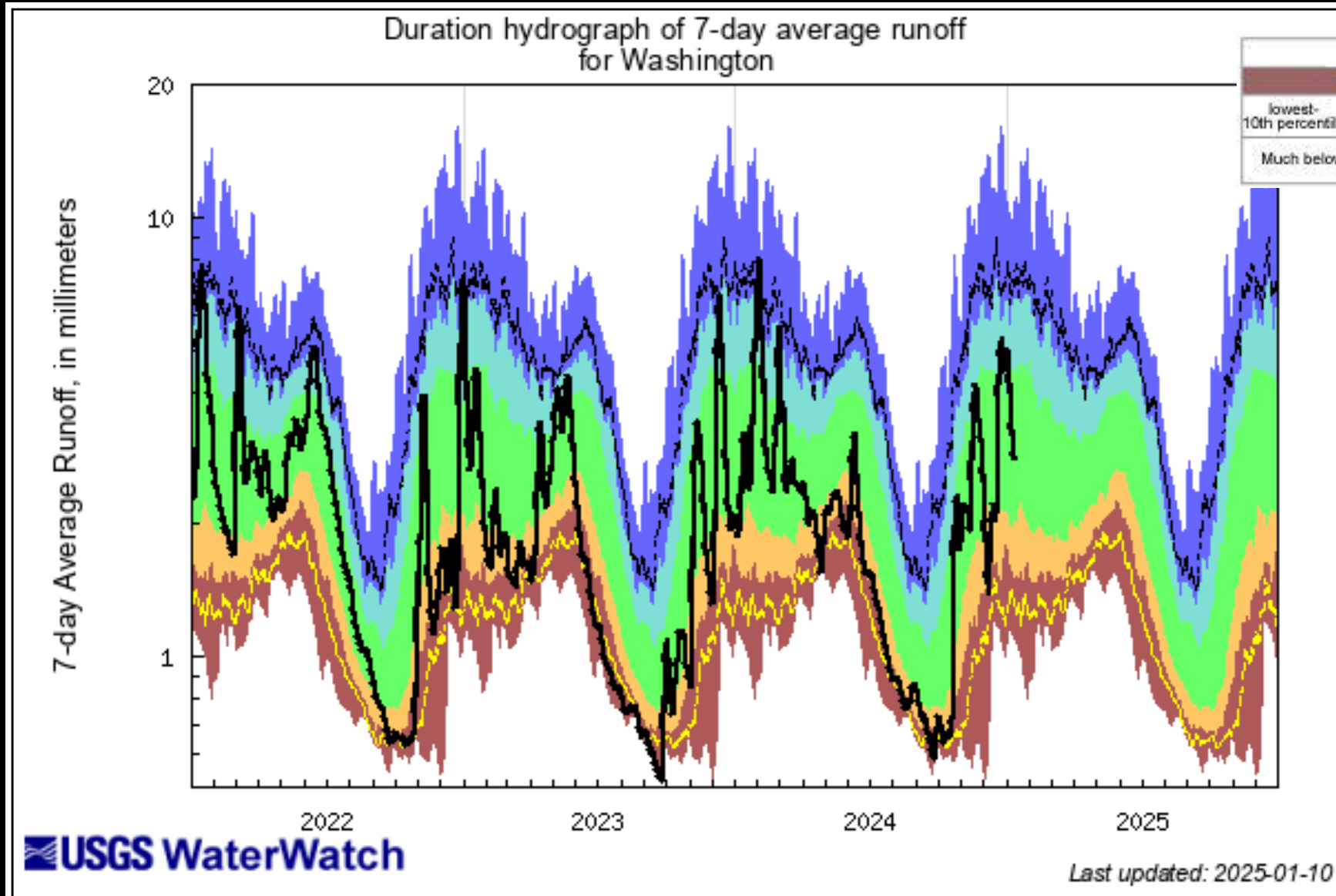


Explanation - Percentile classes							
lowest-10th percentile	5	10-24	25-75	76-90	95	90th percentile-highest	Flow
Much below Normal	Below normal	Normal	Above normal	Much above normal			

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

Area-Based Runoff Duration Hydrograph

7-day average streamflow

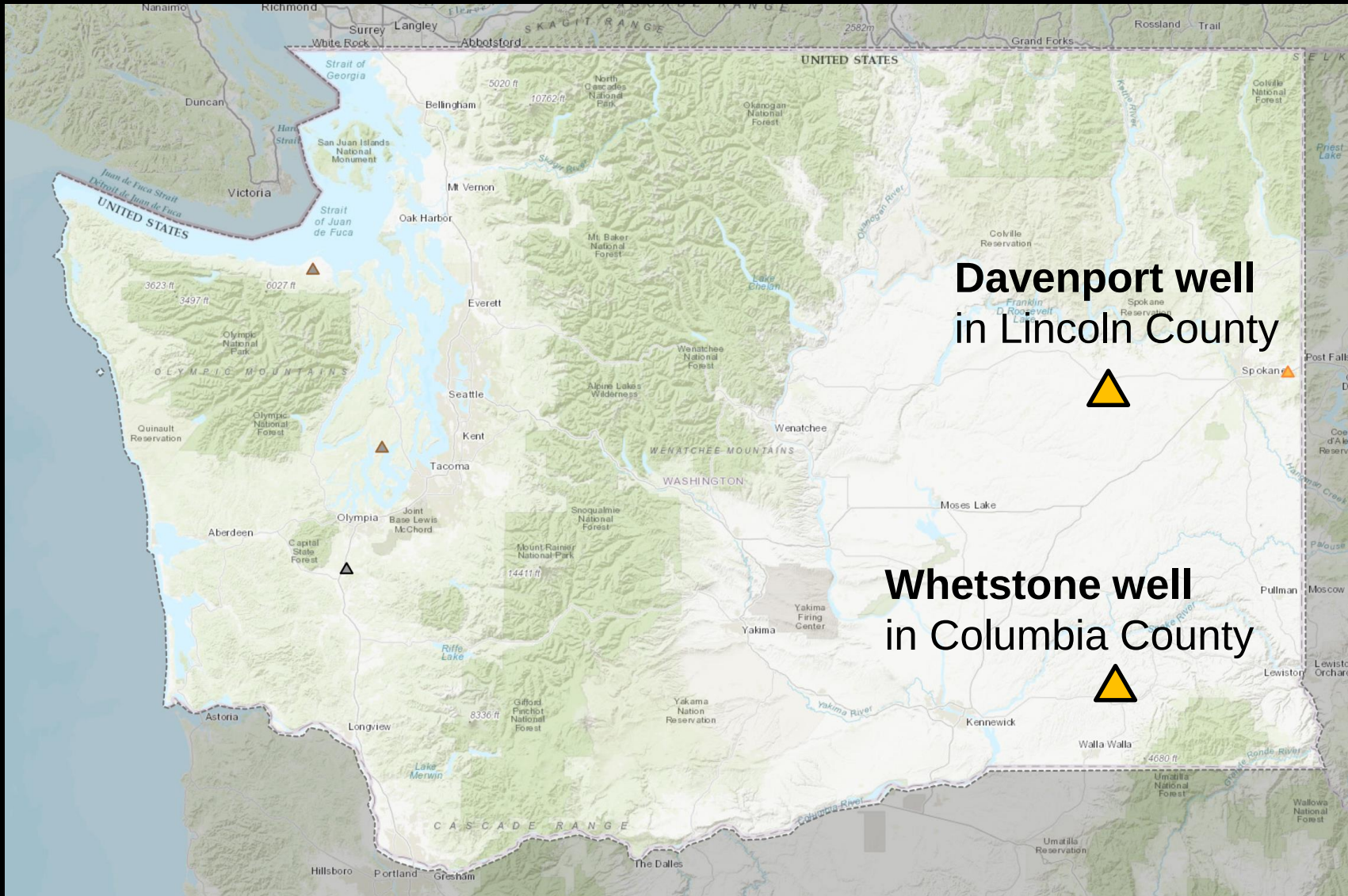


Explanation - Percentile classes						
lowest-10th percentile	5	10-24	25-75	76-90	95	90th percentile - highest
Much below Normal	Below normal	Normal	Above normal	Much above normal		Flow

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

Two reference groundwater wells



**Preliminary Information-
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Distribution.**

Davenport Well Groundwater Conditions

24N/36E-16A01 - 473442118162201

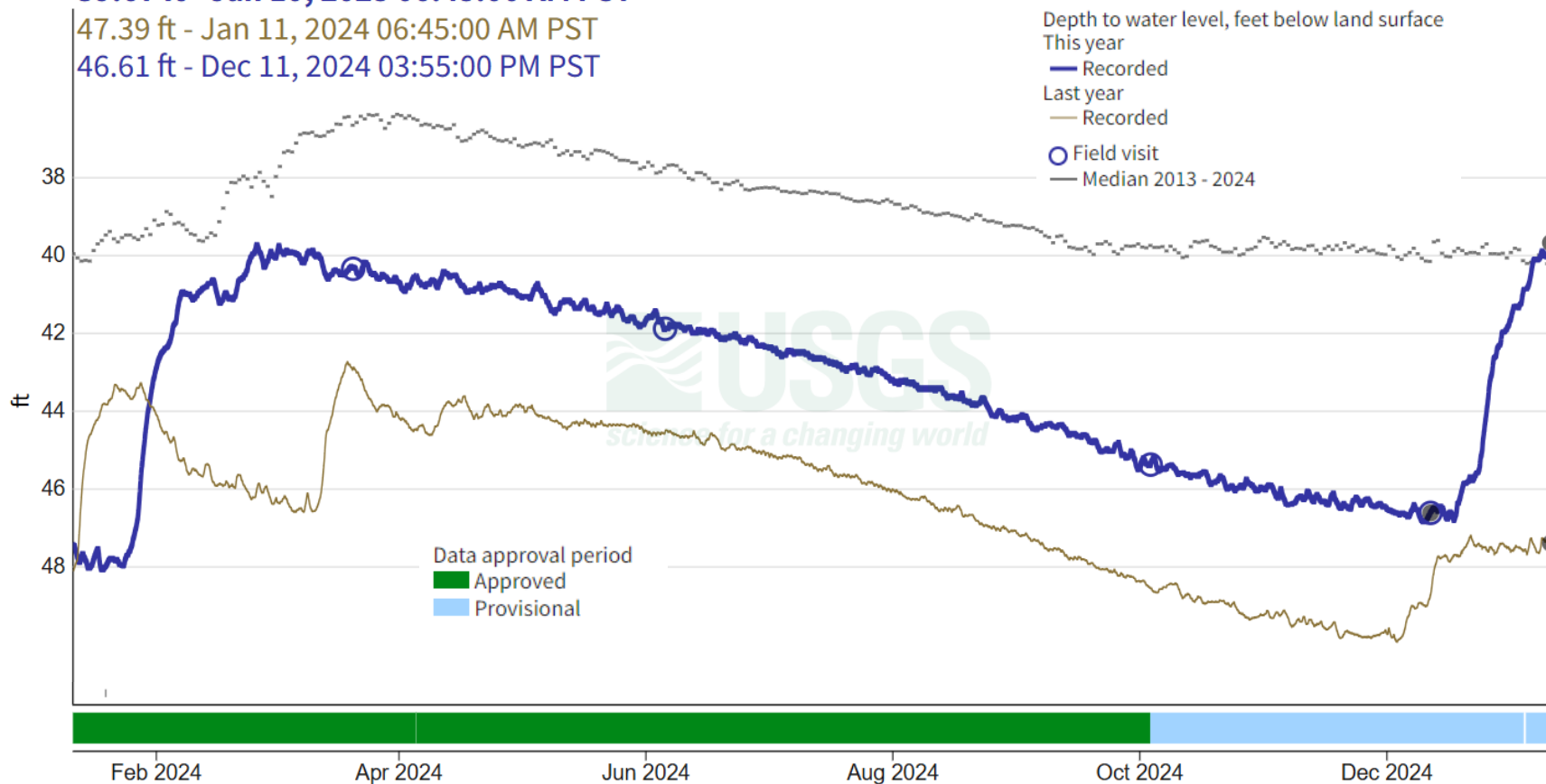
January 11, 2024 - January 10, 2025

Depth to water level, feet below land surface

39.67 ft - Jan 10, 2025 06:45:00 AM PST

47.39 ft - Jan 11, 2024 06:45:00 AM PST

46.61 ft - Dec 11, 2024 03:55:00 PM PST



Davenport well

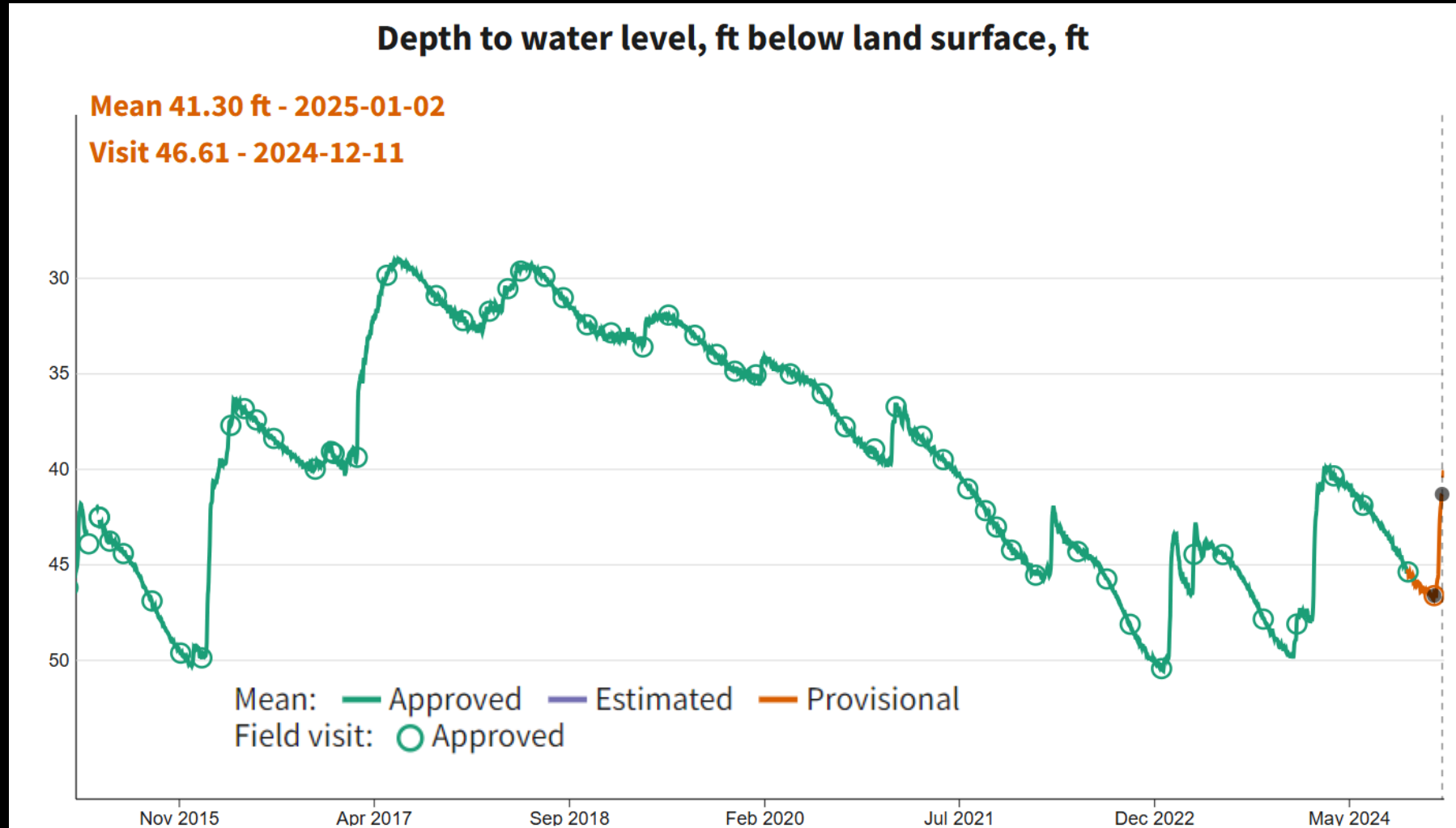
Well Details

- Lincoln County
- 117-ft deep
- Wanapum Basalt

**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

10N/37E-23R01 - 461935118081501

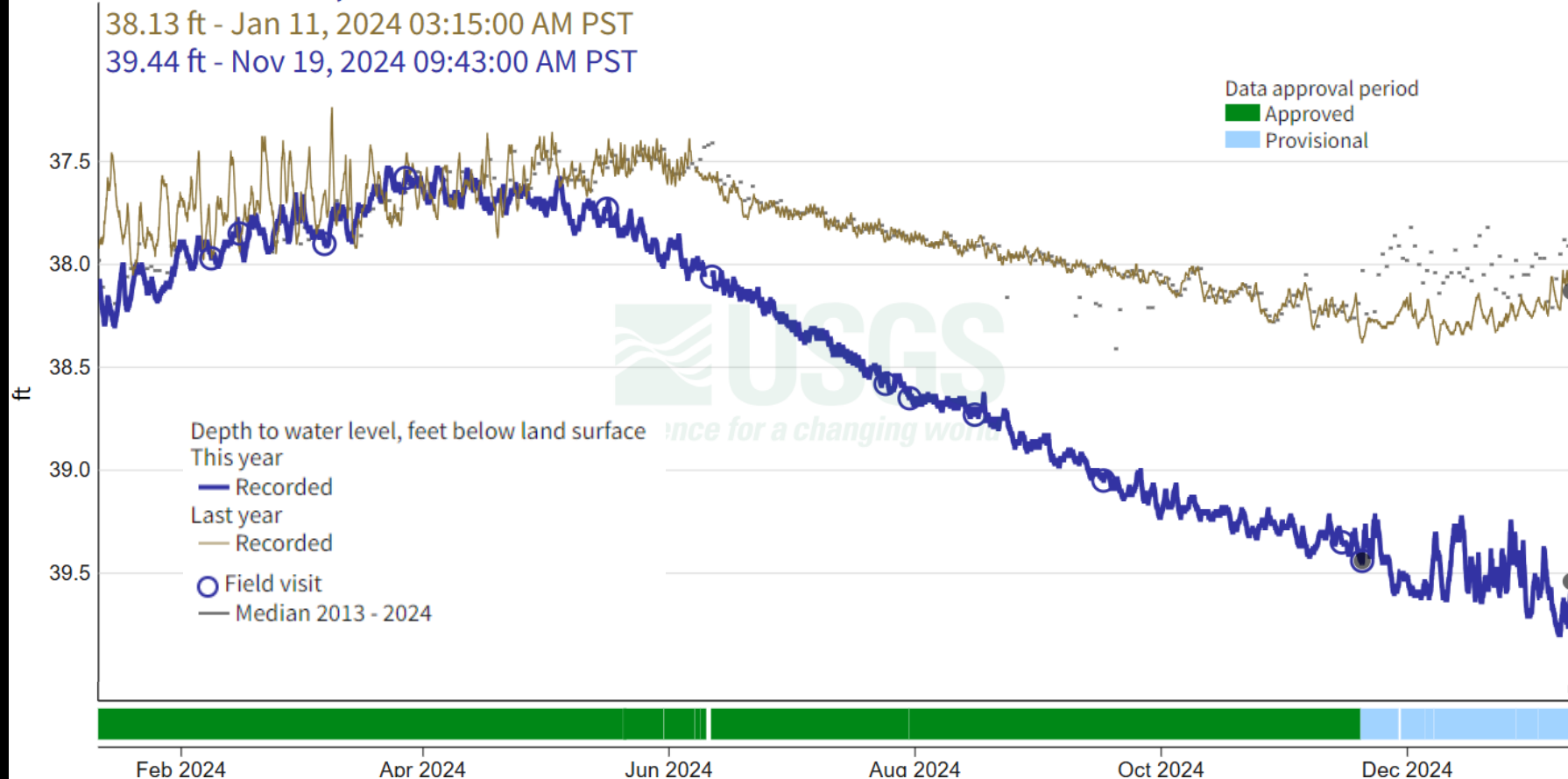
January 11, 2024 - January 10, 2025

Depth to water level, feet below land surface

39.54 ft - Jan 10, 2025 03:15:00 AM PST

38.13 ft - Jan 11, 2024 03:15:00 AM PST

39.44 ft - Nov 19, 2024 09:43:00 AM PST



Whetstone well

Well Details:

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

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

Whetstone Well Groundwater Conditions

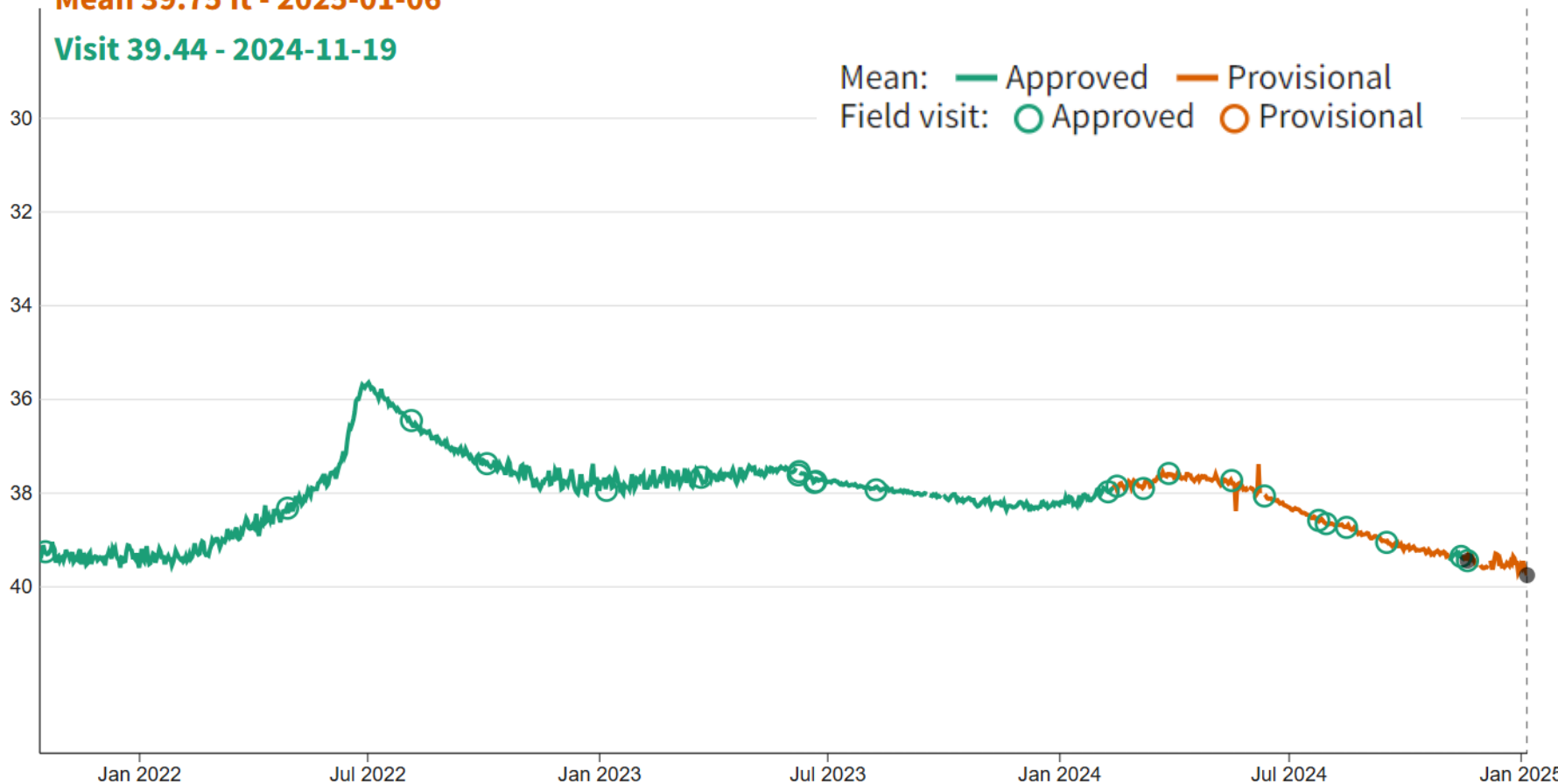
Well ID: 10N/37E-23R01 - 461935118081501

Depth to water level, ft below land surface, ft

Mean 39.75 ft - 2025-01-06

Visit 39.44 - 2024-11-19

Mean: — Approved — Provisional
Field visit: ○ Approved ○ Provisional



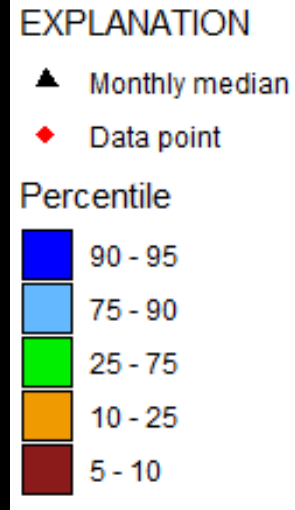
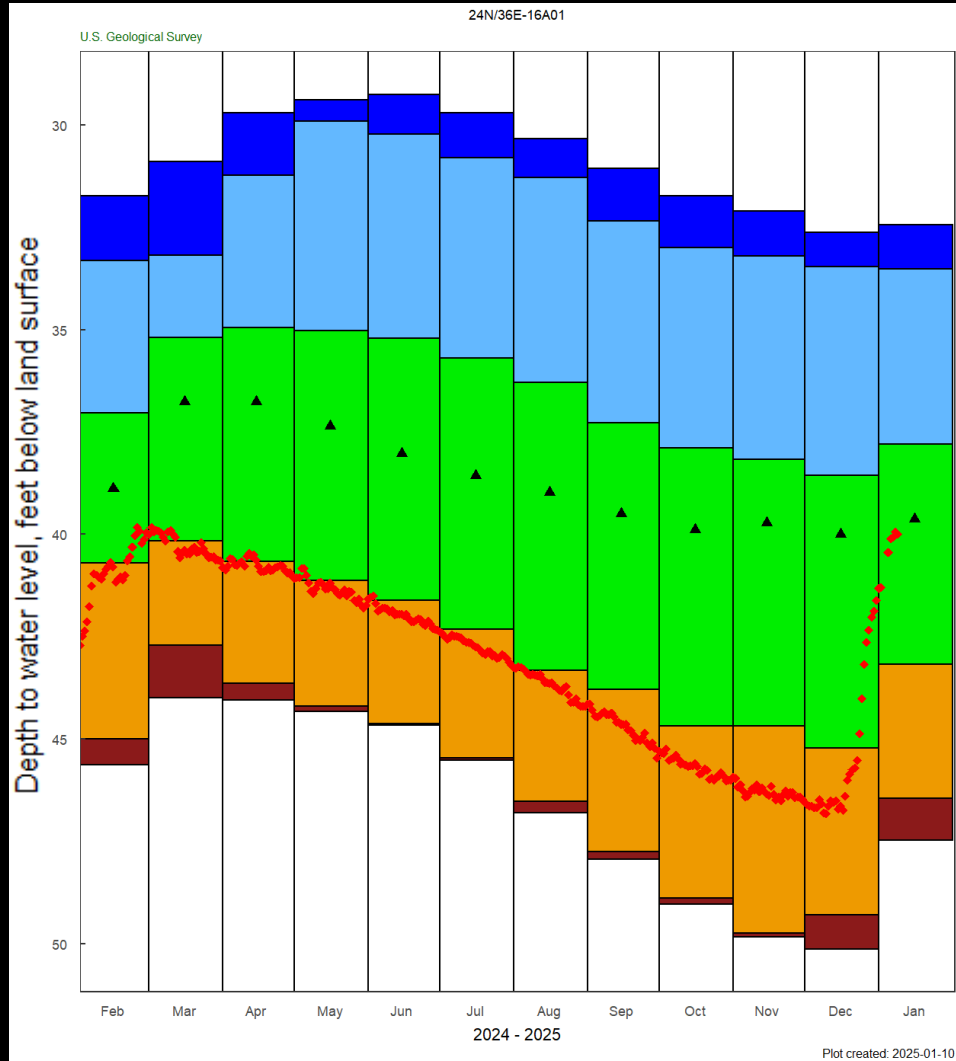
Well Details:

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

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

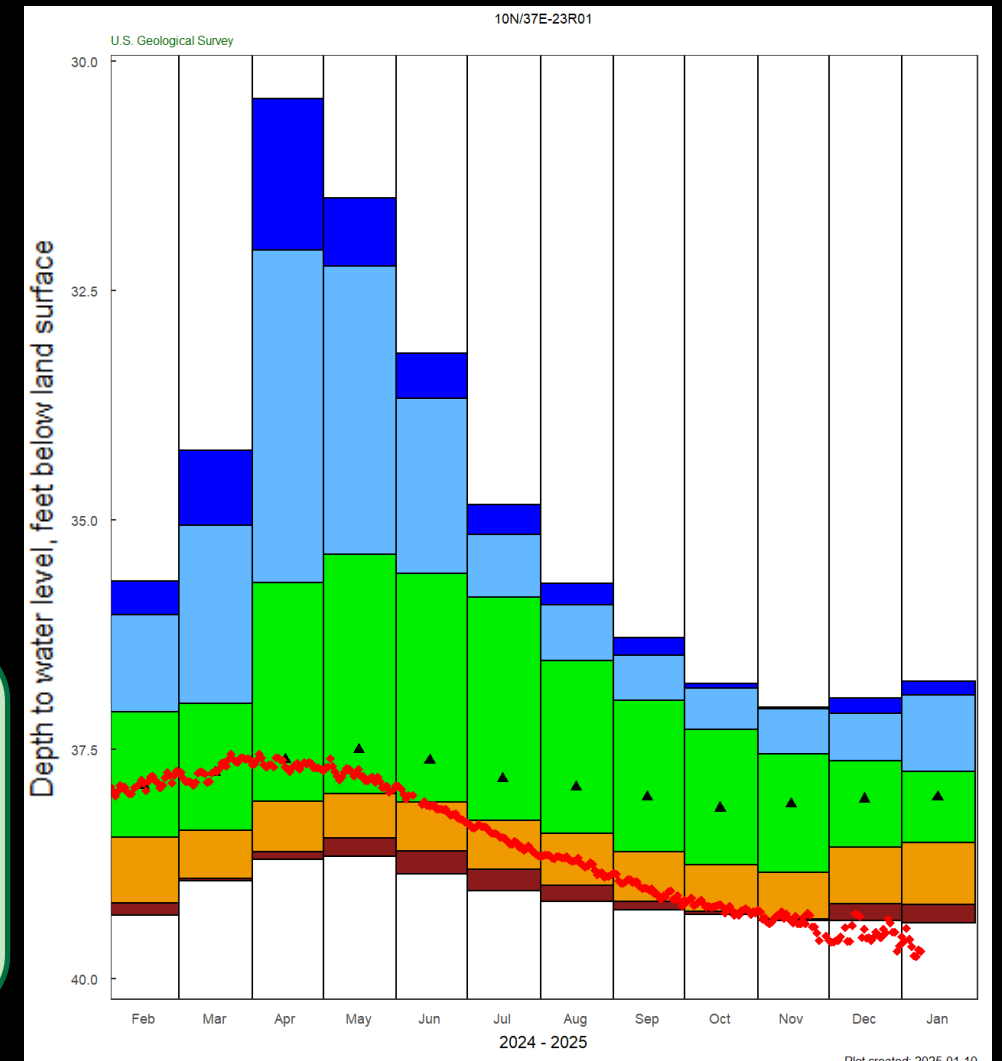
Groundwater Conditions

Davenport well



**Preliminary
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for Citation or
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Whetstone well



Summary of Washington Streamflow and Groundwater Conditions as of 9 Jan. 2025

7-day average streamflow at eight index gaging stations:

Normal

- American River

Above Normal

- Nooksack River
- Quinault River
- Chehalis River nr. Grand Mound
- EF Lewis River
- Hangman Creek
- Walla Walla River

Not Ranked

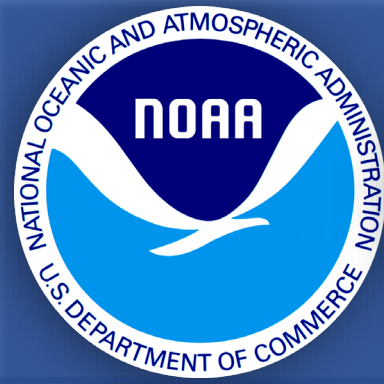
- Puyallup River nr. Orting

Cumulative Runoff Hydrograph Normal for water year 2025

Monthly average groundwater conditions:

- Davenport well –
 - Normal
- Whetstone well
 - Much below normal

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



NWS

January 2025 Washington Water Supply

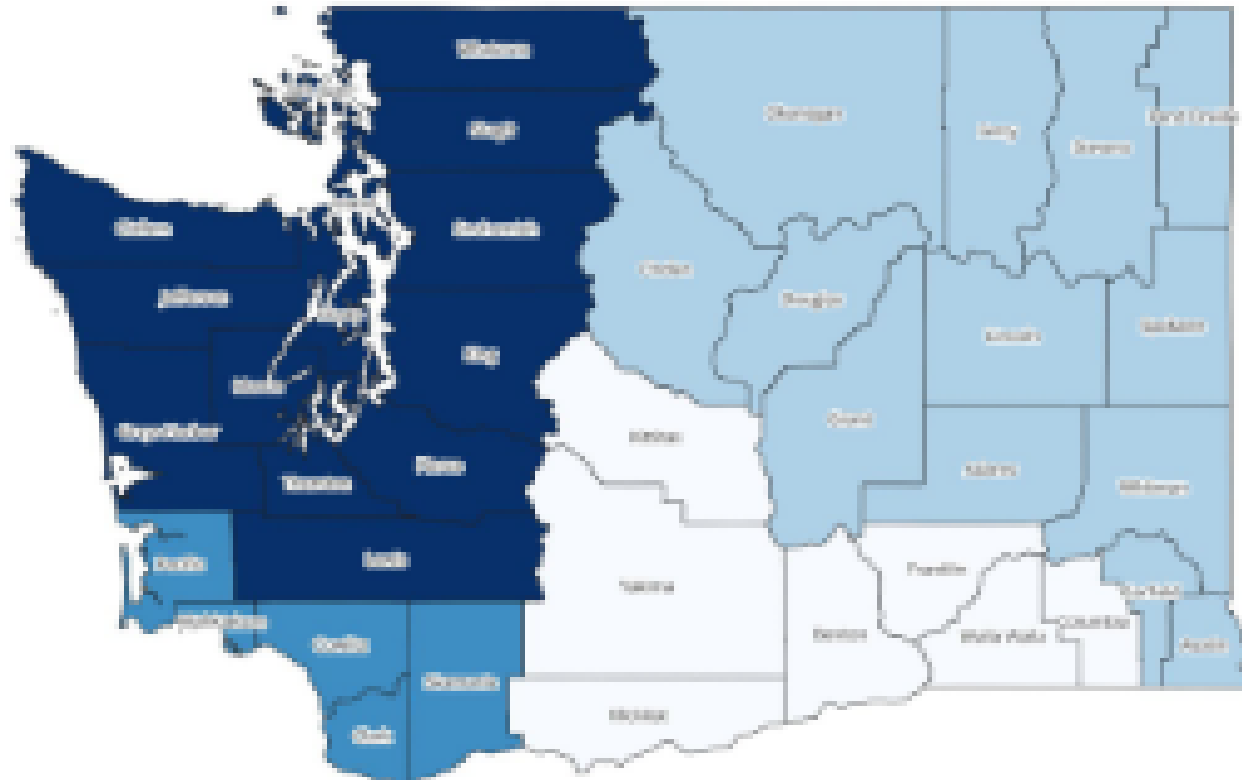
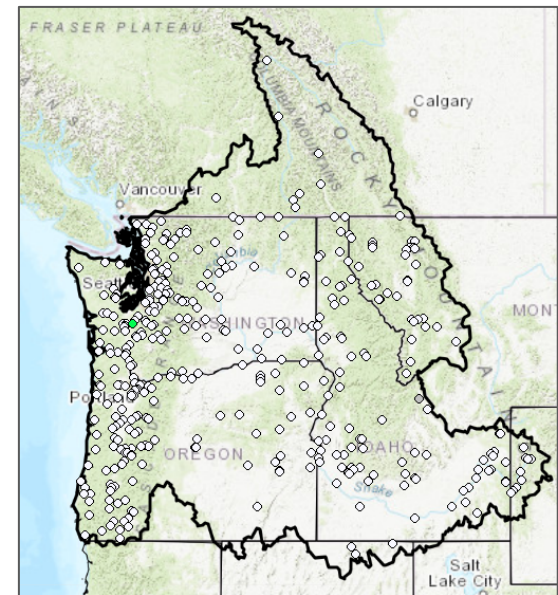
Amy Burke, Sr Hydrologist - Northwest River Forecast Center
NWRFC.watersupply@noaa.gov

Brent Bower, Sr Service Hydrologist Seattle

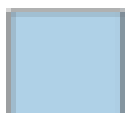
Andy Bryant, Sr Service Hydrologist Portland

Robin Fox, Service Hydrologist Spokane

George Perry, Service Hydrologist Pendleton

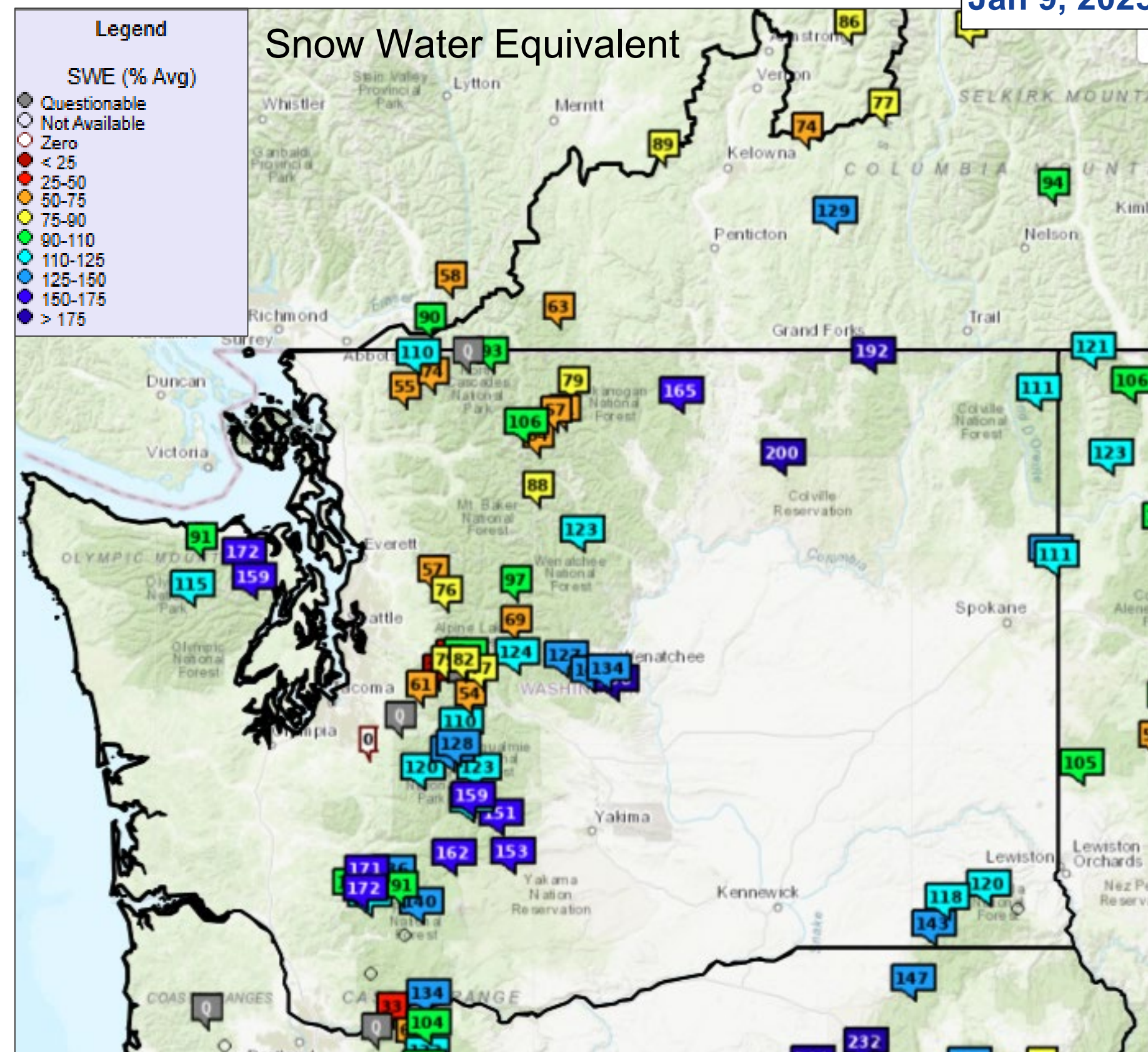
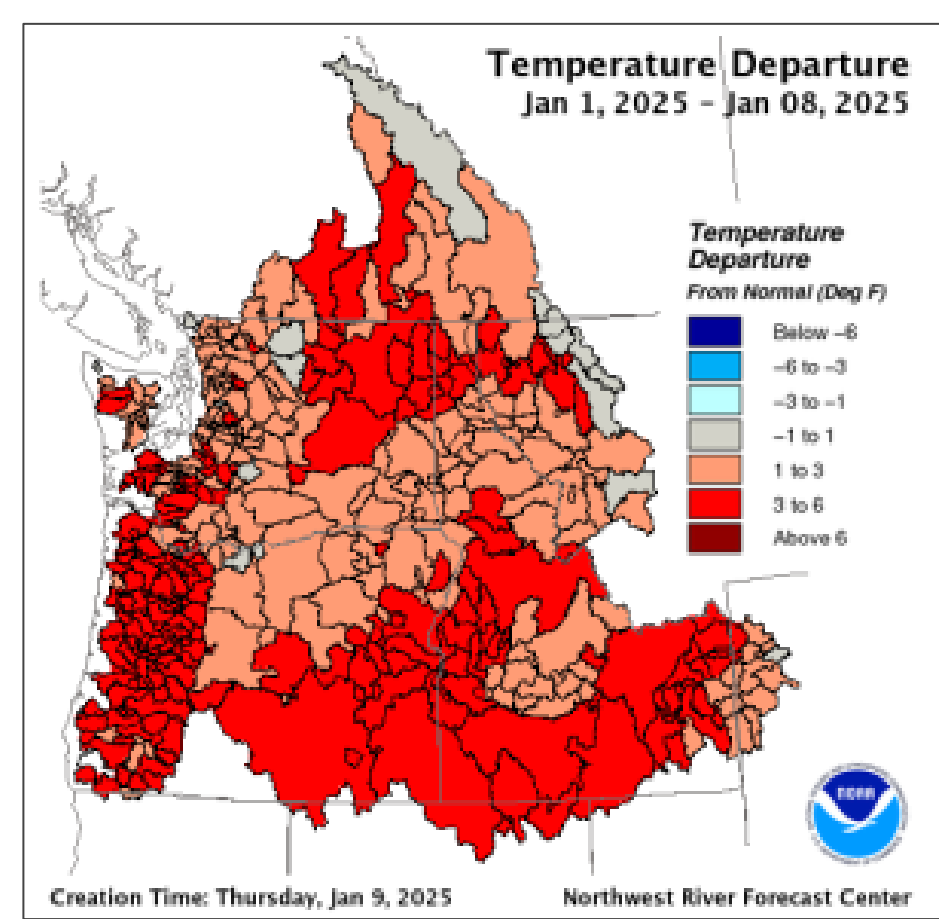
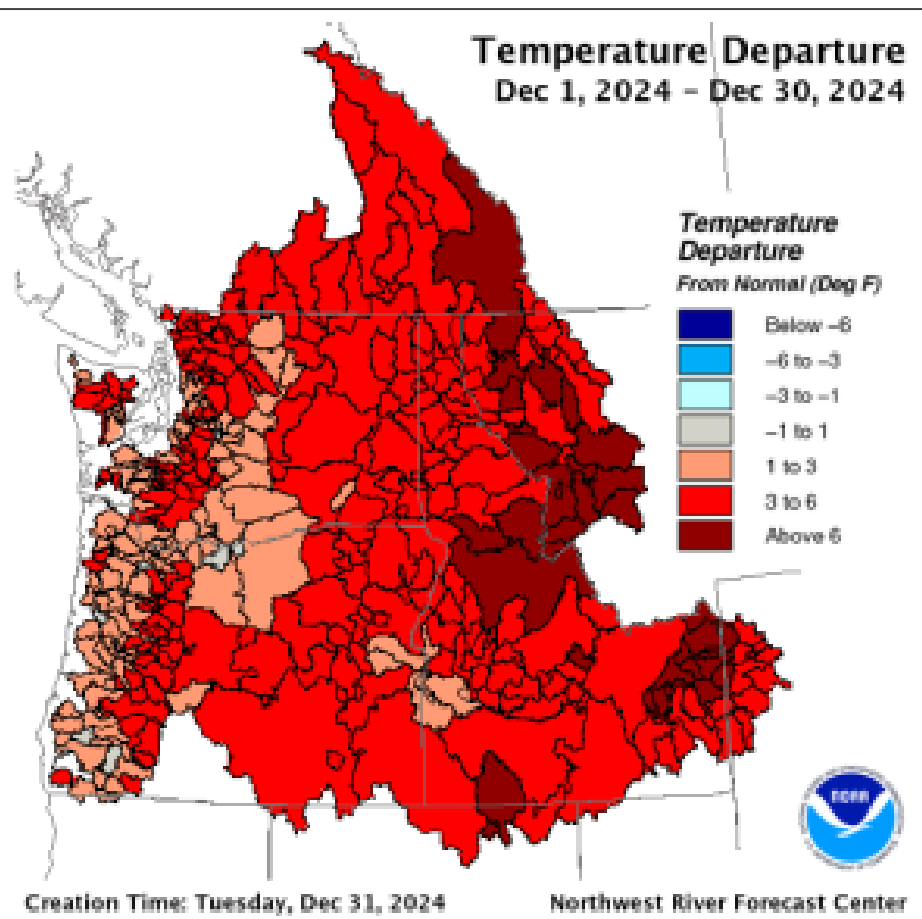
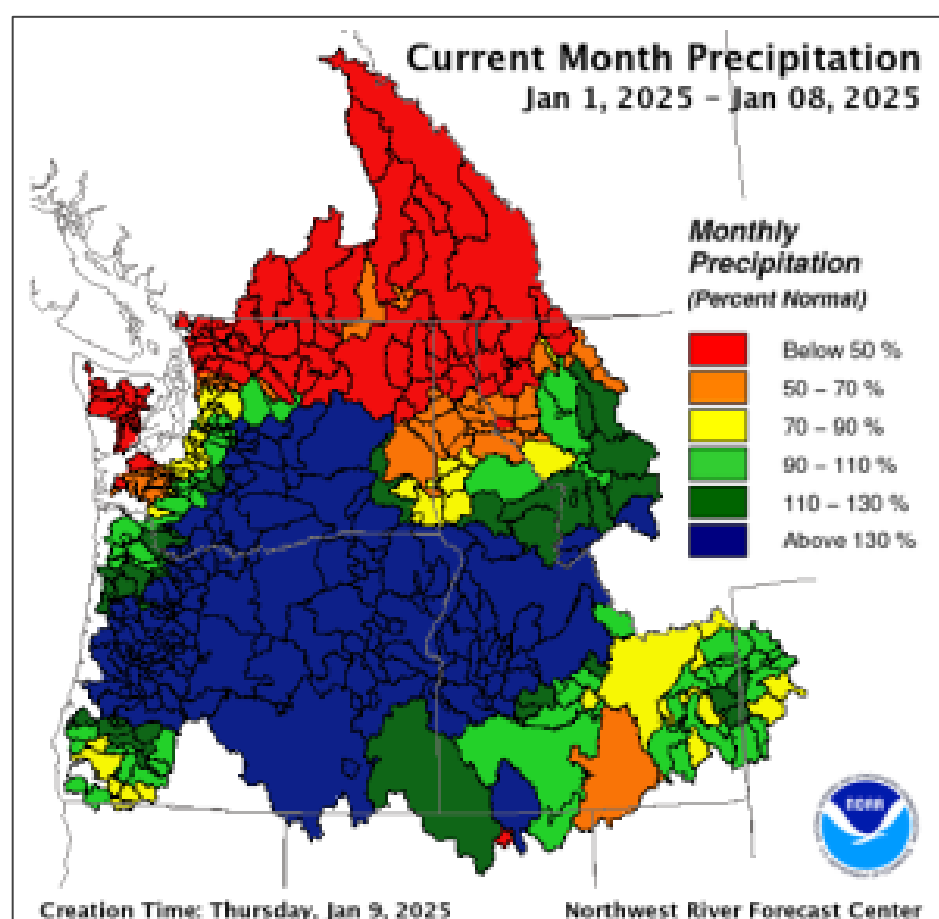
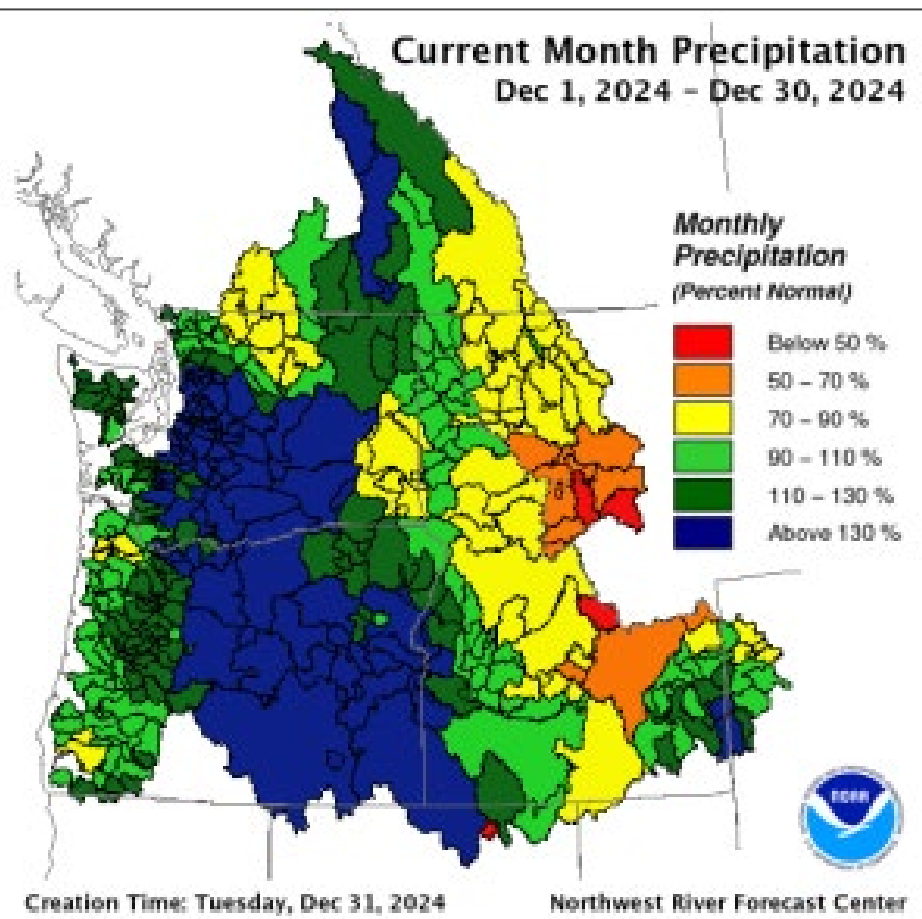


Washington State - Areas of Responsibility

-  Northwest Washington - NWS Seattle - nws.seattle@noaa.gov
-  Southwest Washington - NWS Portland - nws.portland@noaa.gov
-  Northeast Washington - NWS Spokane - nws.spokane@noaa.gov
-  Southeast Washington - NWS Pendleton - pdt.operations@noaa.gov

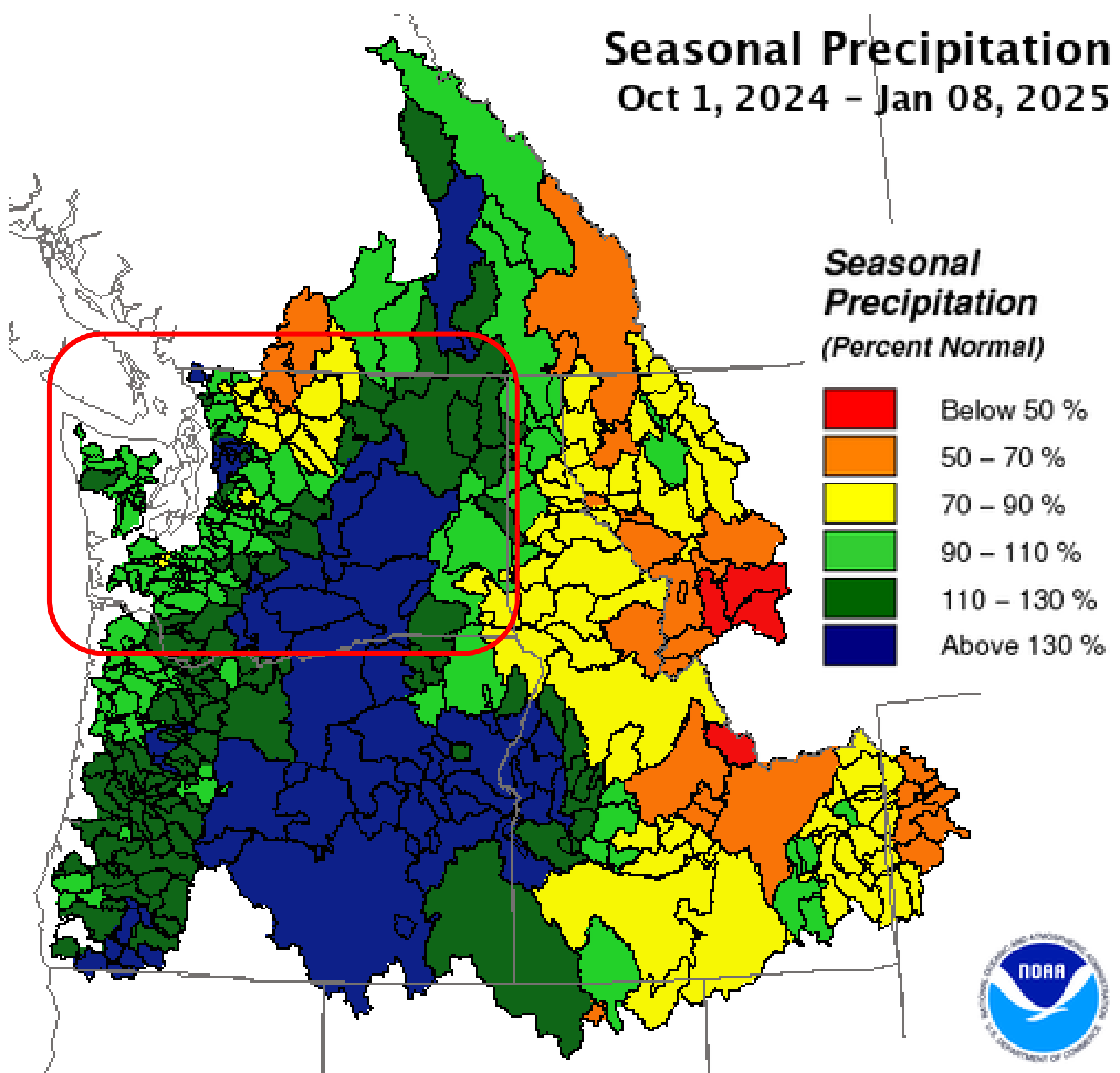
Precipitation, Temperature, and Snowpack

Jan 9, 2025



Precipitation and Runoff

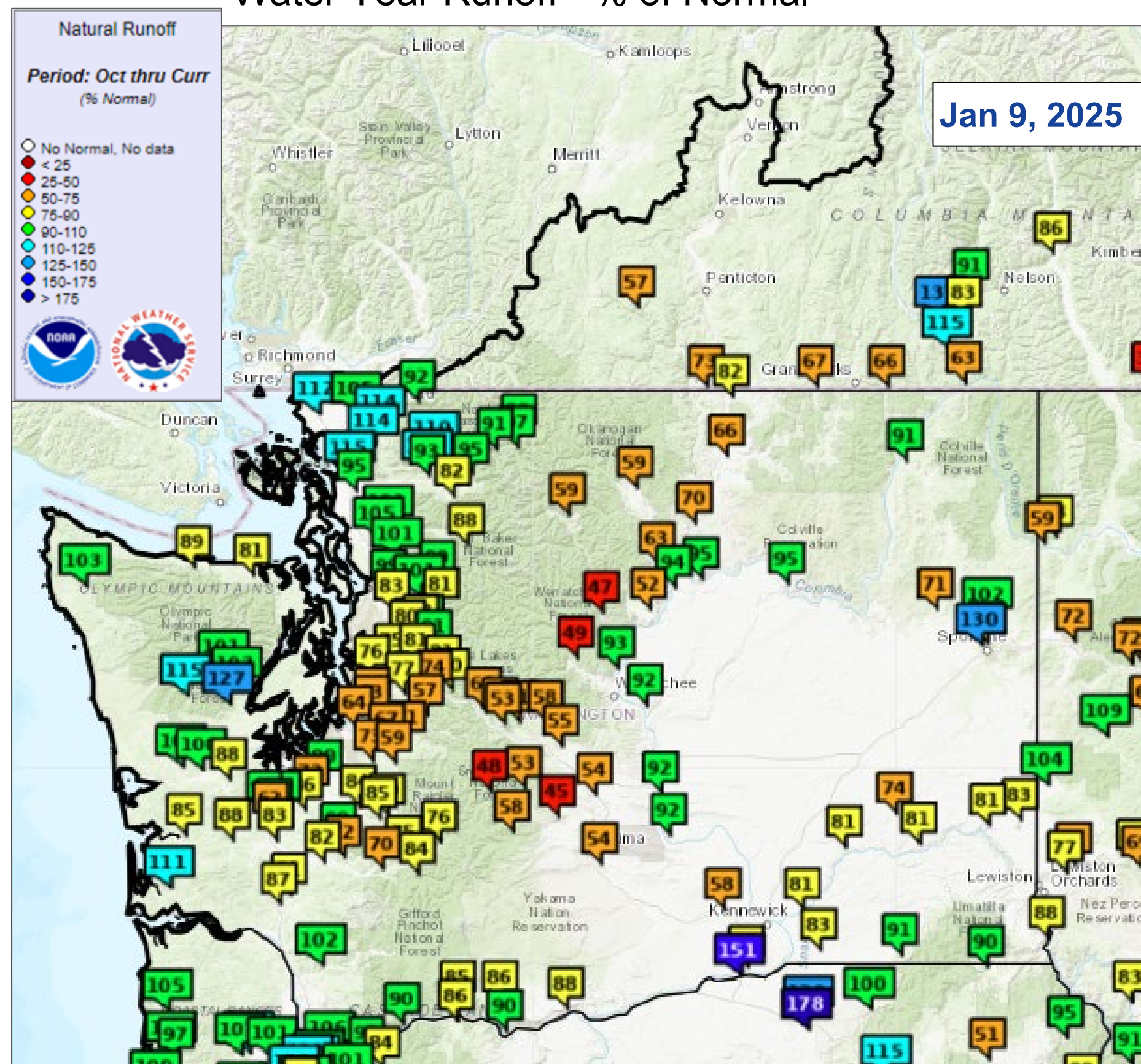
Seasonal Precipitation Oct 1, 2024 – Jan 08, 2025



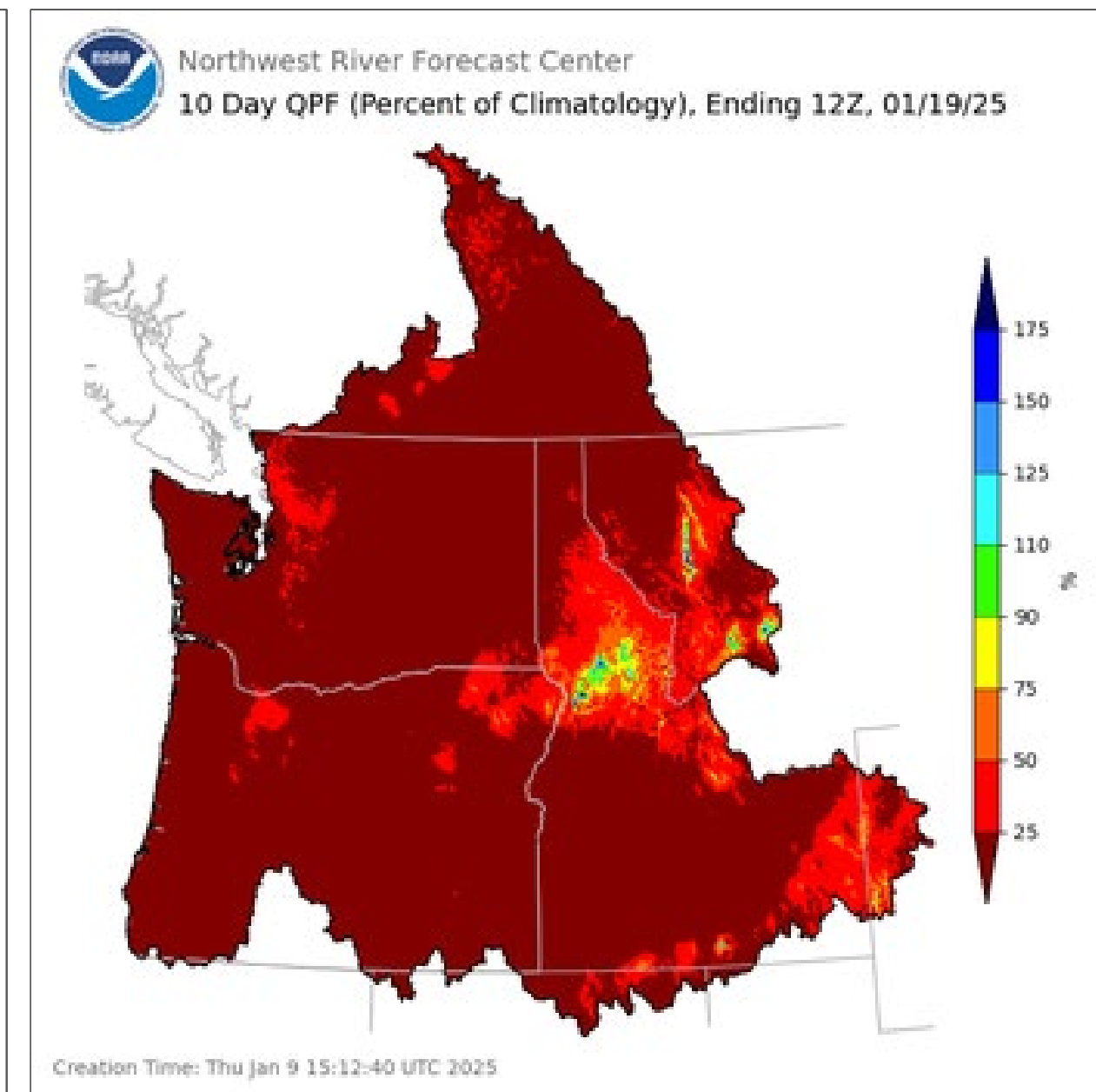
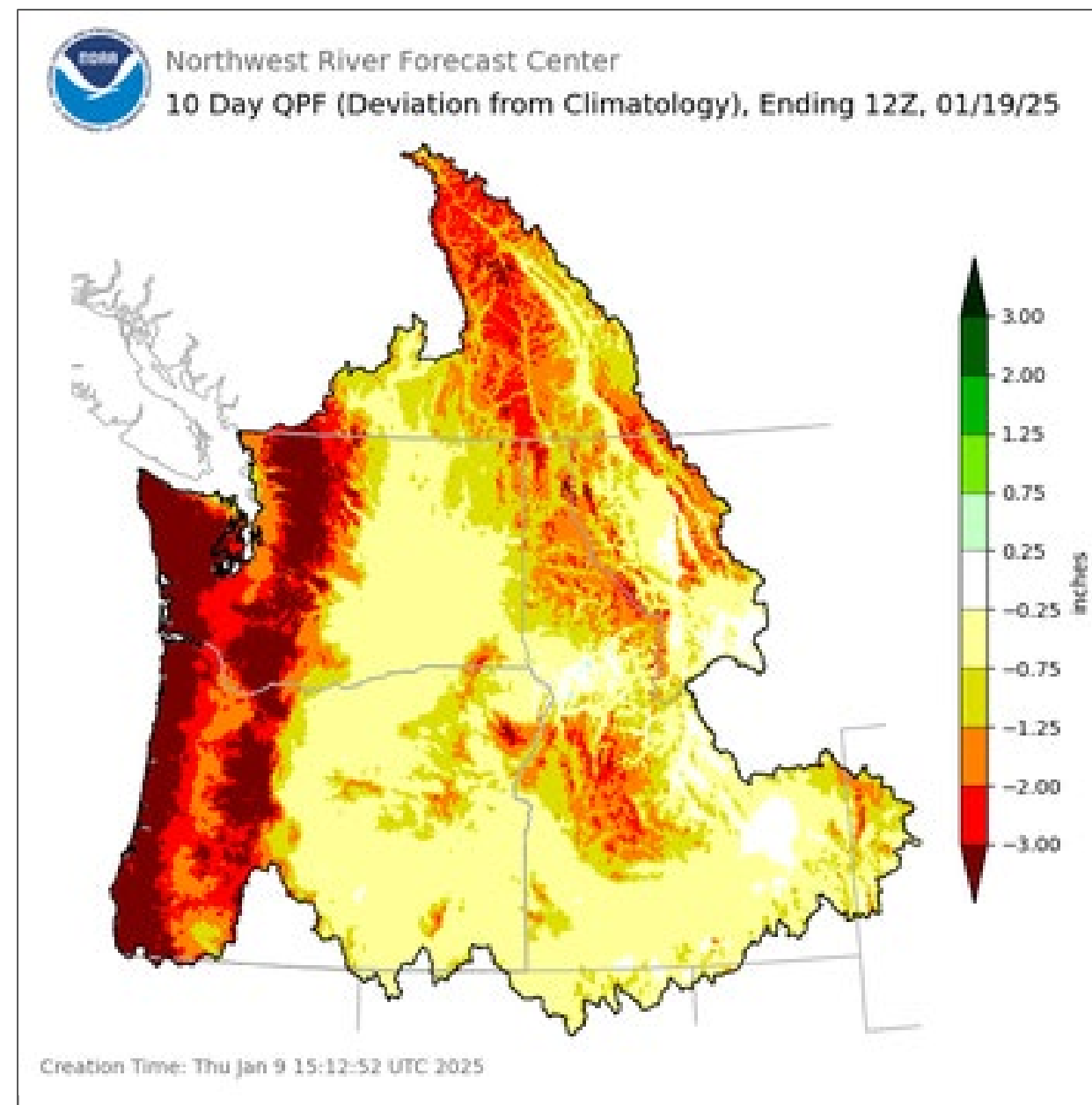
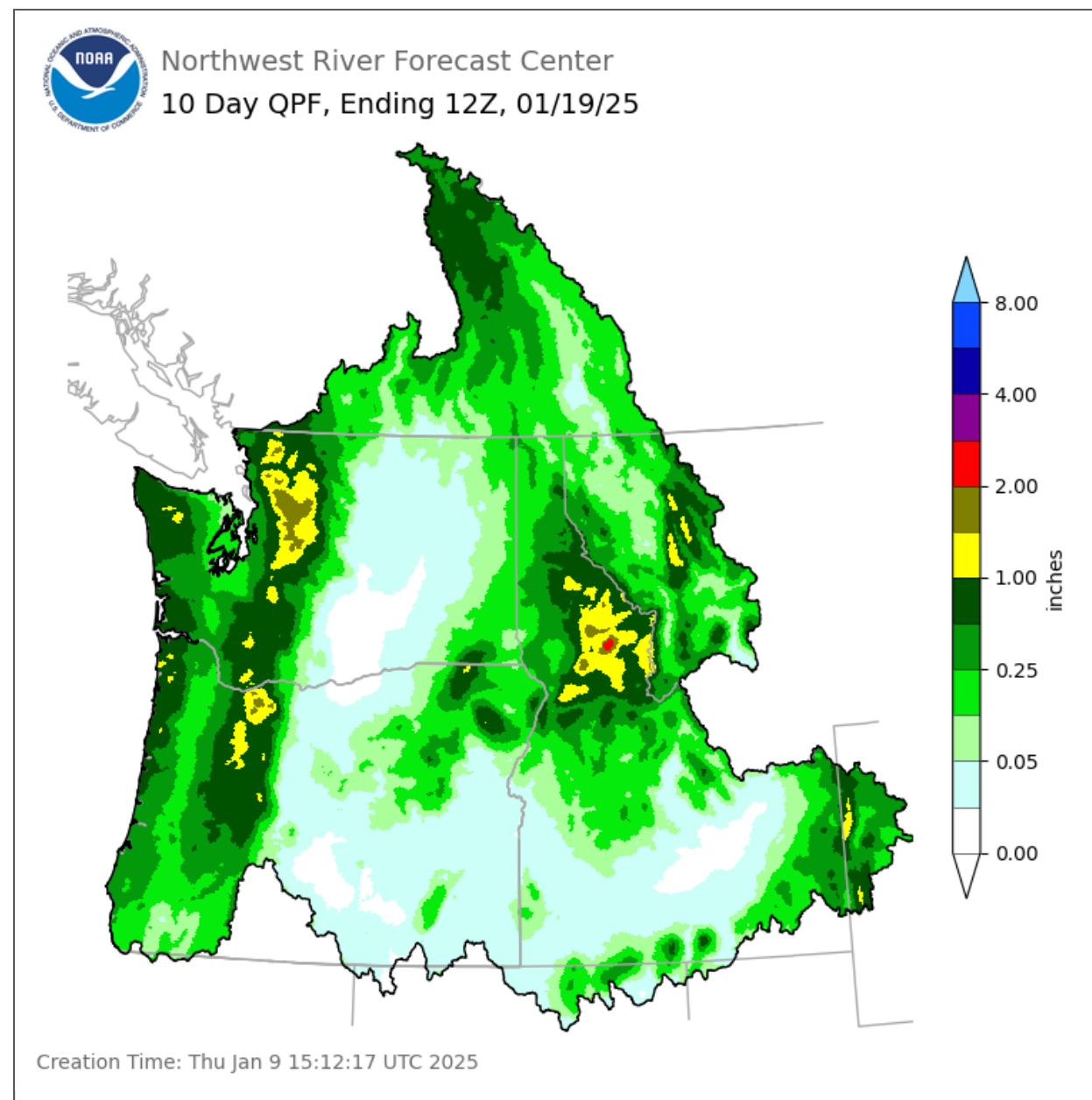
Creation Time: Thursday, Jan 9, 2025

Northwest River Forecast Center

Water Year Runoff - % of Normal



10 Day Precipitation Forecast used in ESP10 Forecasts



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)

WY Runoff and Water Supply Forecasts

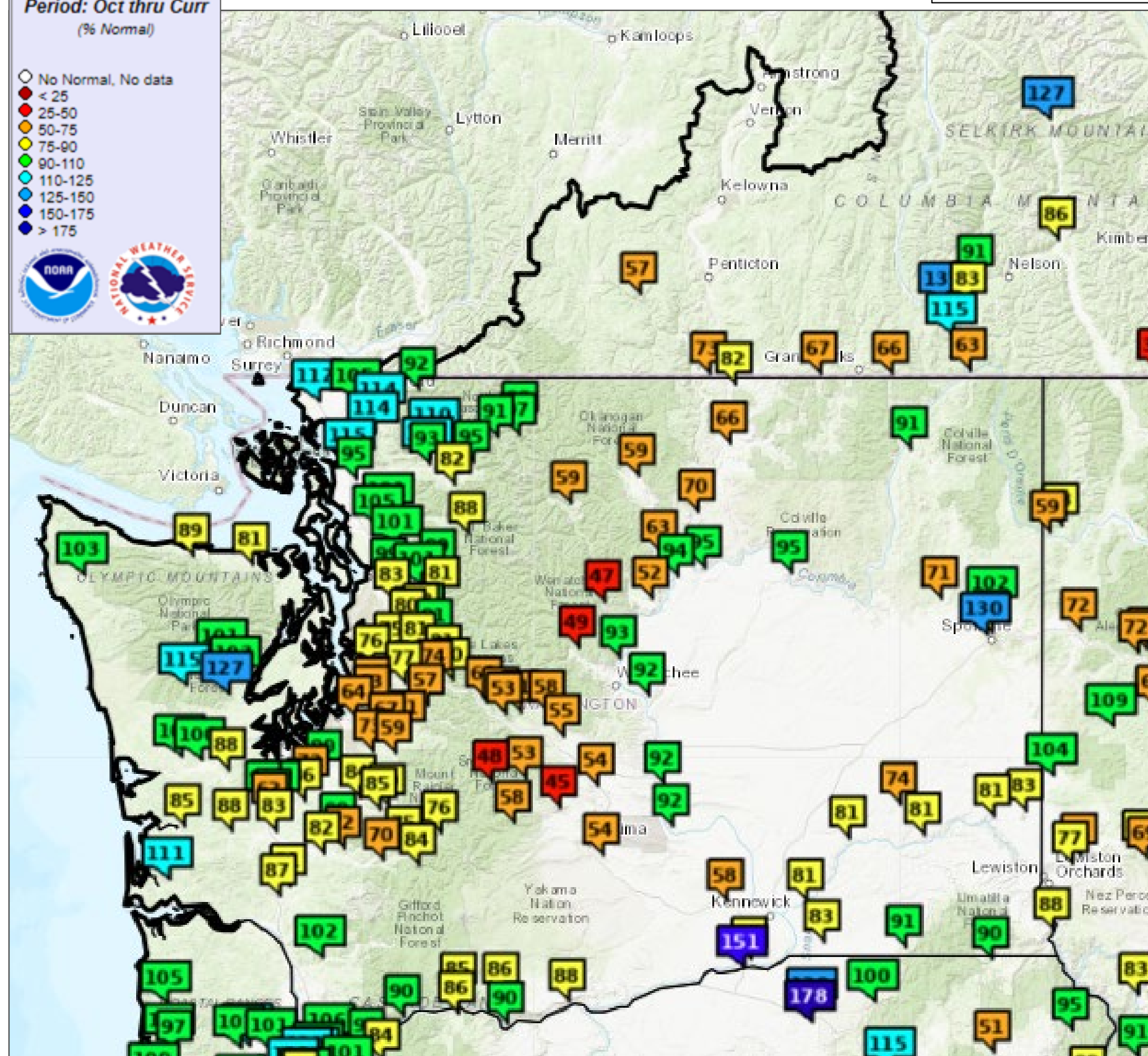
Natural Runoff

Period: Oct thru Curr
(% Normal)

- No Normal, No data
- < 25
- 25-50
- 50-75
- 75-90
- 90-110
- 110-125
- 125-150
- 150-175
- > 175

Water Year Runoff - % of Normal

Jan 9, 2025



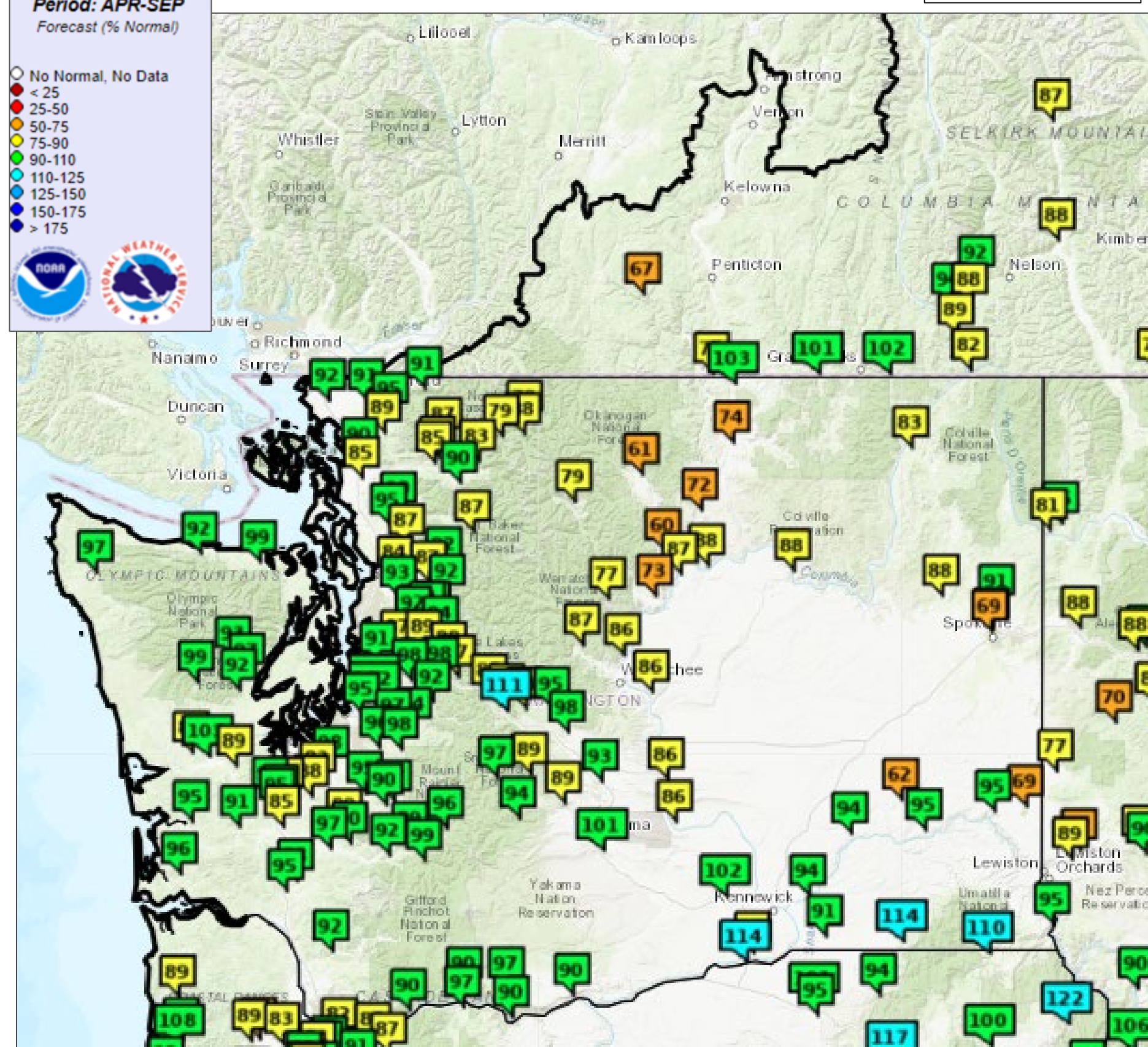
ESP Natural Forecast

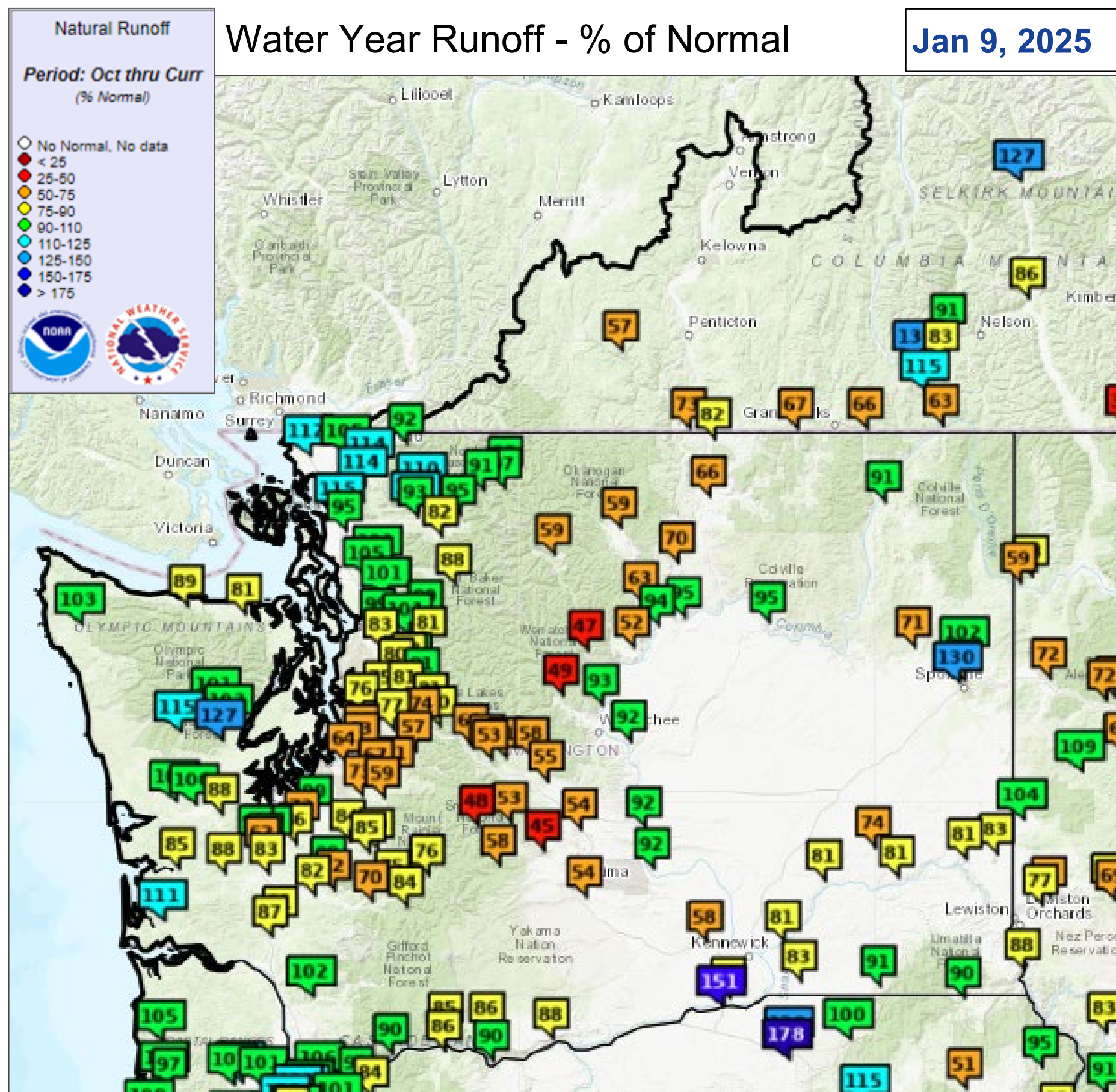
Period: APR-SEP
Forecast (% Normal)

- No Normal, No Data
- < 25
- 25-50
- 50-75
- 75-90
- 90-110
- 110-125
- 125-150
- 150-175
- > 175

Water Supply Forecast - % of Normal

Jan 9, 2025





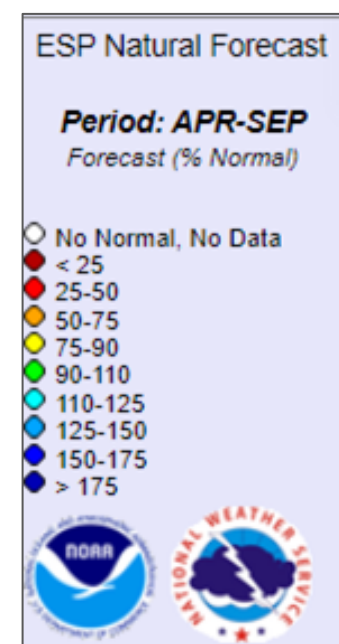
Forecast Point	% Normal Runoff Oct 1 - Current	Change Since Dec 11, 2024
Skagit nr Mt Vernon	95	+9
Dungeness nr Sequim	81	+24
Chehalis at Porter	88	+25
Okanogan at Malott	70	+4
Methow near Pateros	63	+5
Yakima at Parker	54	+10
Walla Walla near Touchet	83	+30



Water Supply Forecasts

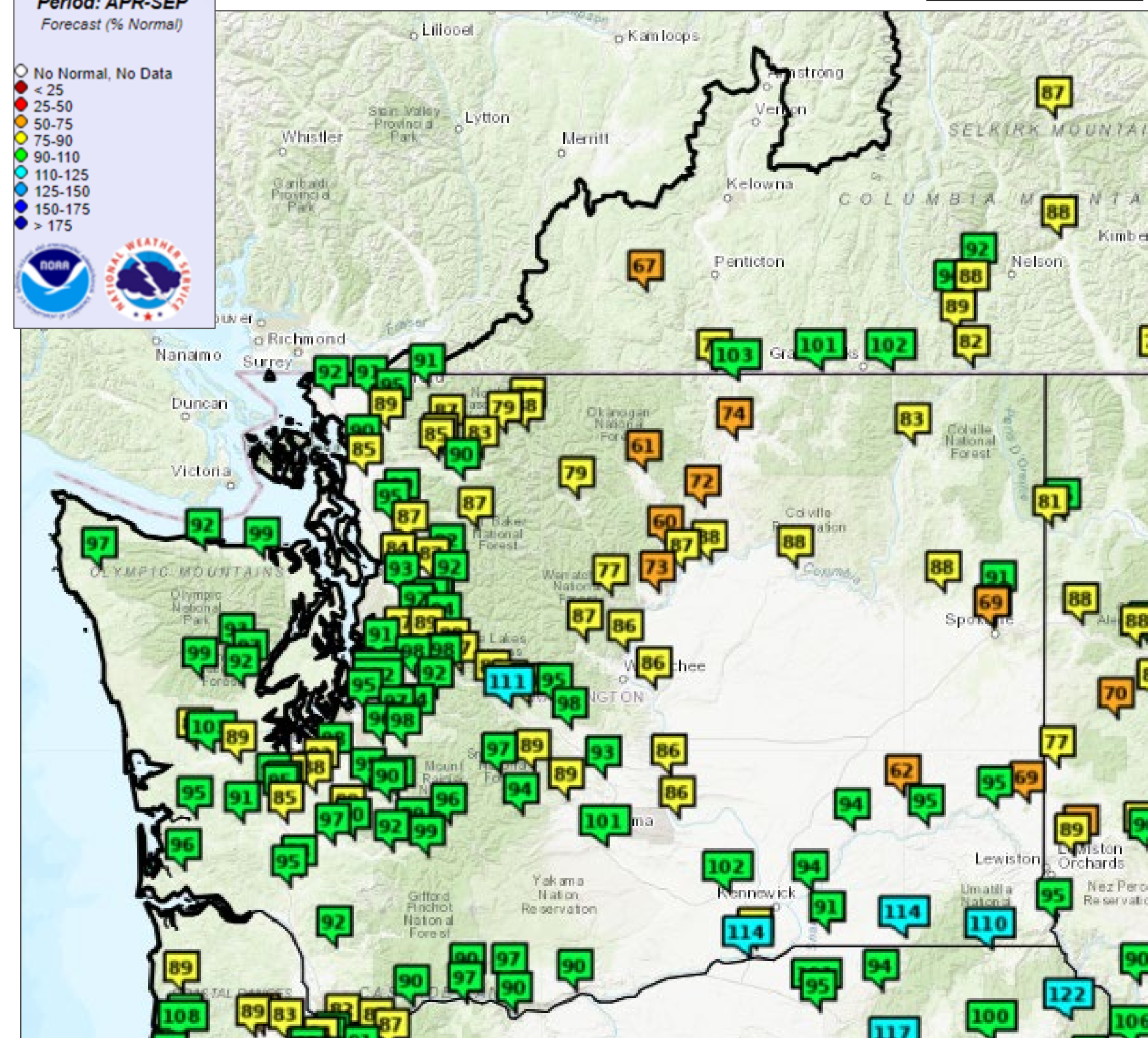
NWS

Forecast Point	% Normal April-Sept Vol	Change Since Dec 11, 2024
Skagit nr Mt Vernon	85	+4
Dungeness nr Sequim	99	0
Chehalis at Porter	89	0
Okanogan at Malott	72	+5
Methow near Pateros	60	0
Yakima at Parker	101	+9
Walla Walla near Touchet	91	+17

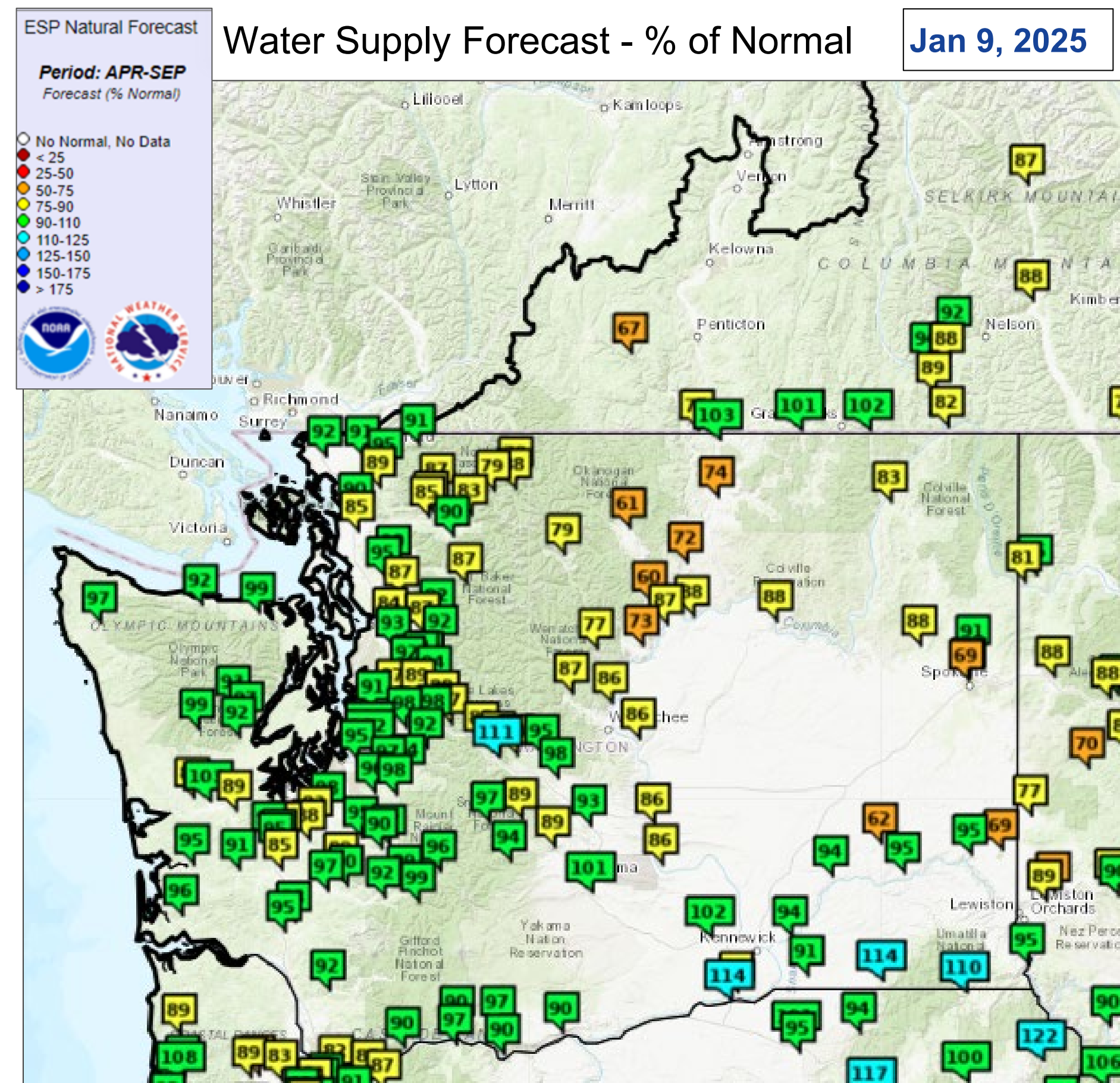
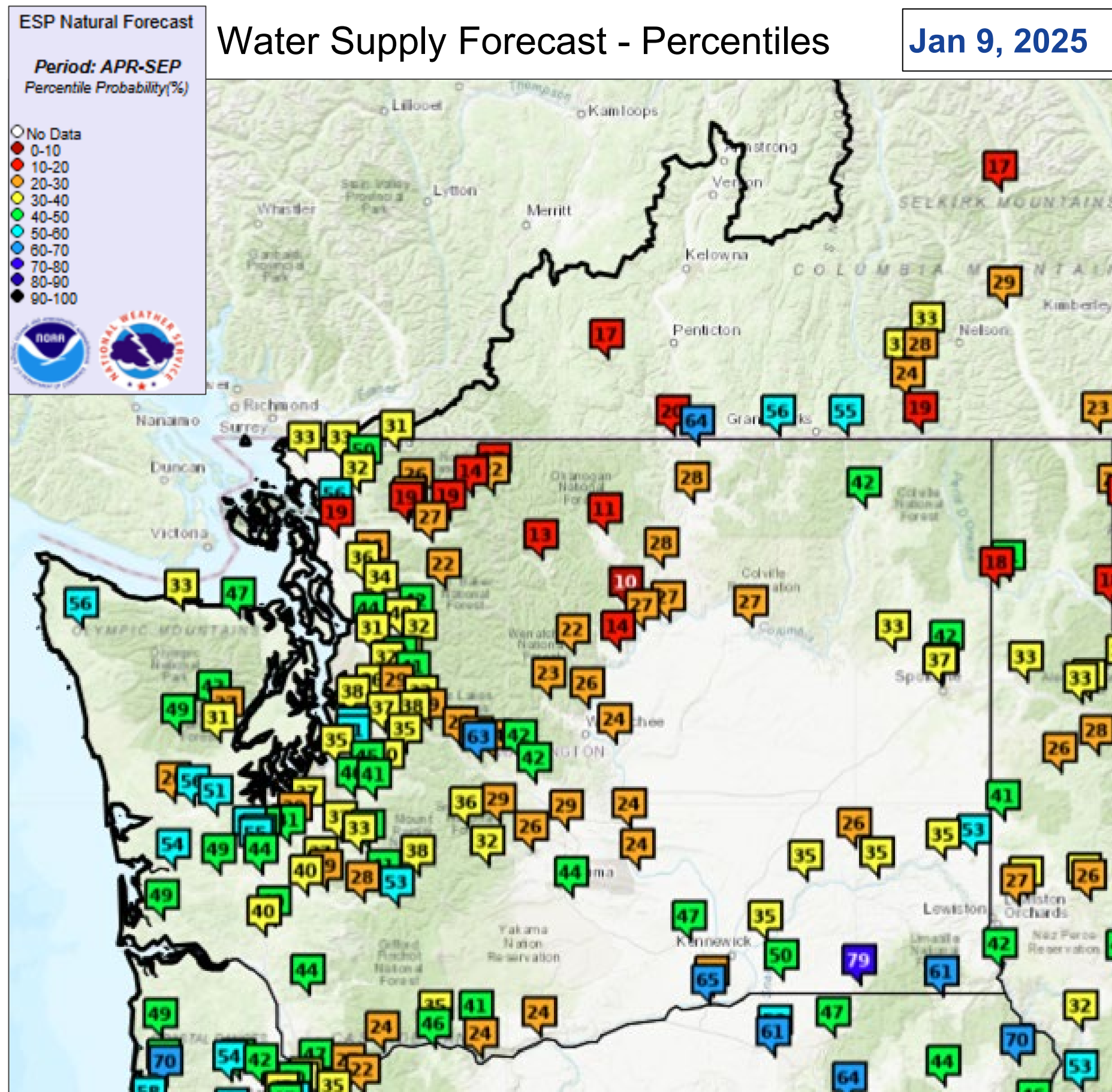


Water Supply Forecast - % of Normal

Jan 9, 2025



Percentiles and Water Supply Forecasts



Takeaways

- Dry & mild Fall -> Actively wet & mild since late November onward
- Variable Runoff due to the storm track and deficits of soil moisture.
- Moving into a January lull, although more active wet weather anticipated.
- Still too early to pin down the Water Supply Forecast although trends have been positive with the wetter than normal conditions.