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

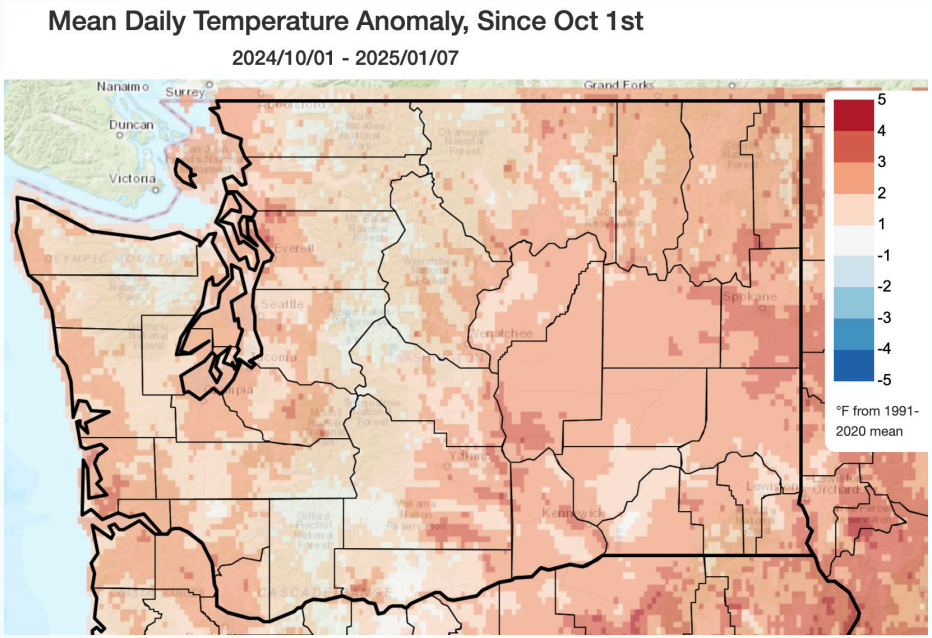
Committee Chair: Caroline Mellor, Statewide Drought Lead, WA Department of Ecology
Caroline.Mellor@ecy.wa.gov | (c) 360.628.4666

Current Conditions and Seasonal Outlook

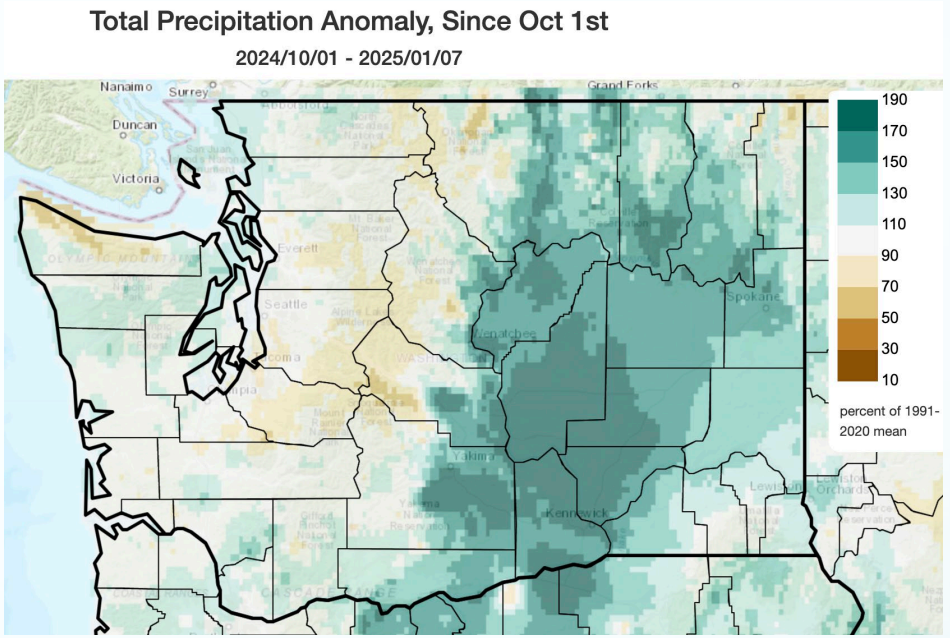
Karin Bumbaco
Washington State Climate Office
Climate Impacts Group
University of Washington
January 10, 2025

Water Year 2025

Temperature



Precipitation



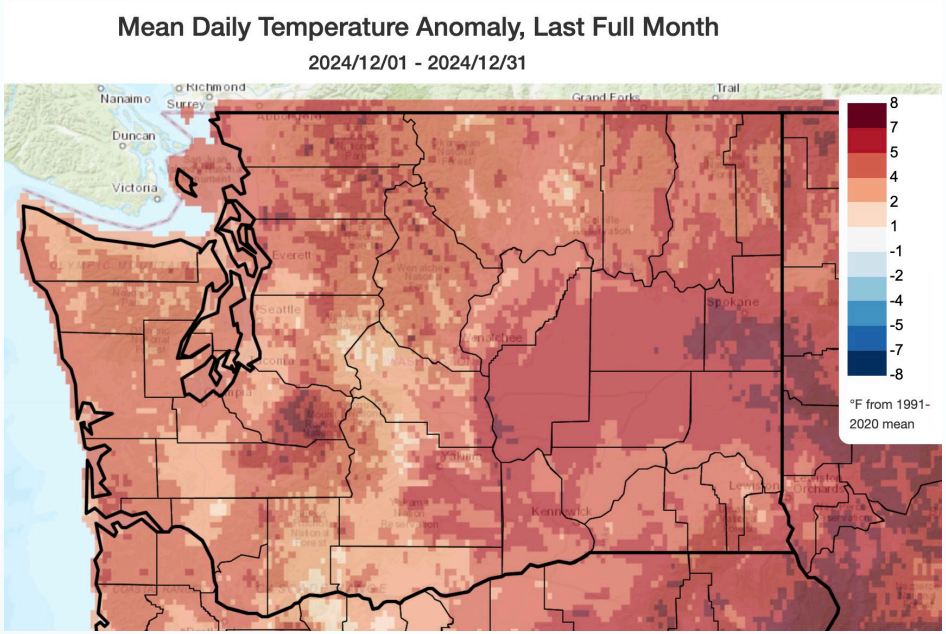
Climate Toolbox

- Averaged statewide, Oct-Dec temperatures were above normal (+1.9°F), tying as the 13th warmest*
- Averaged statewide, Oct-Dec precipitation was near-normal (108% of normal)

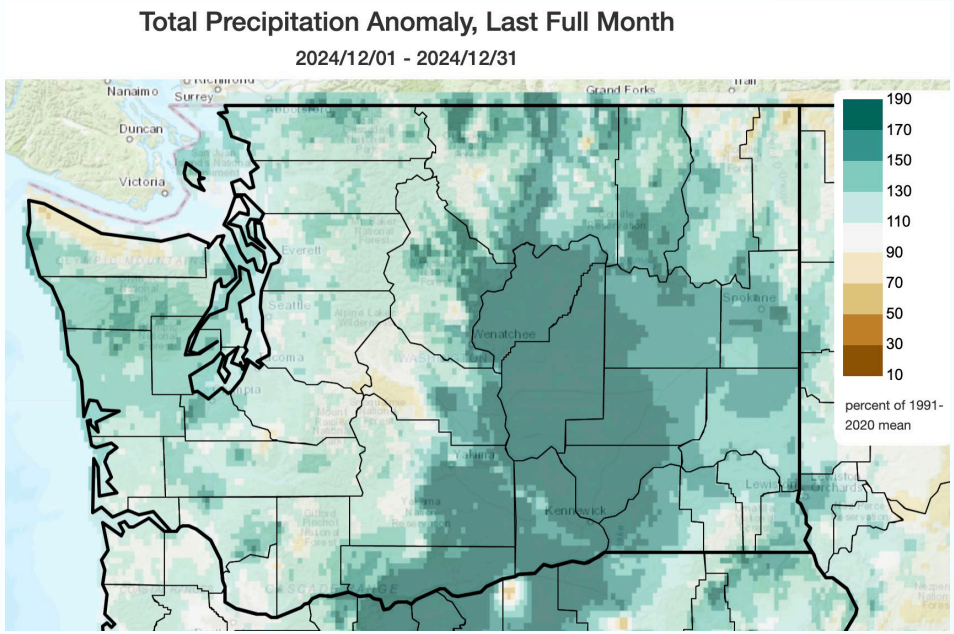
*Records since 1895; Normal is 1991-2020

December 2024

Temperature



Precipitation



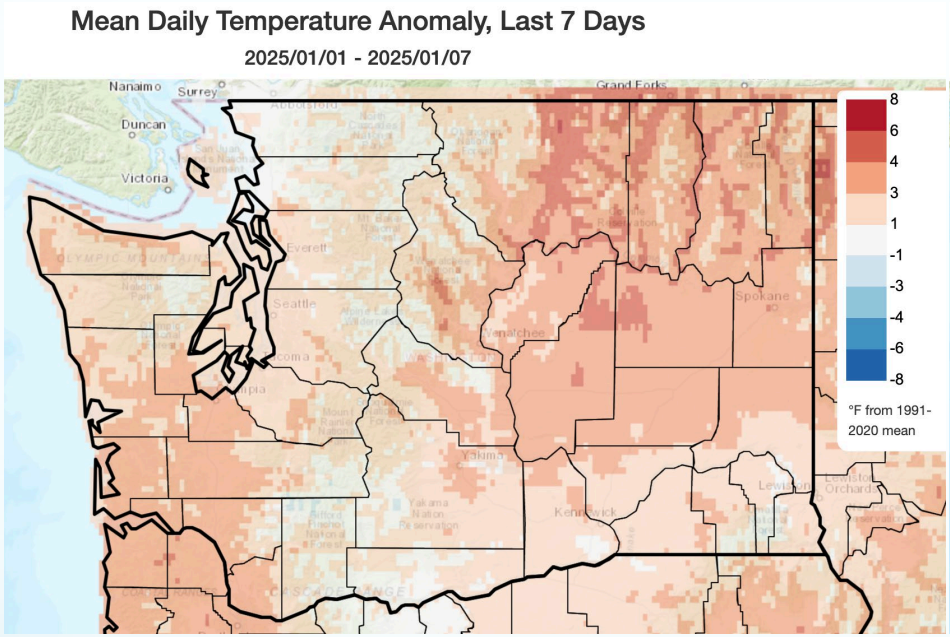
Climate Toolbox

- 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

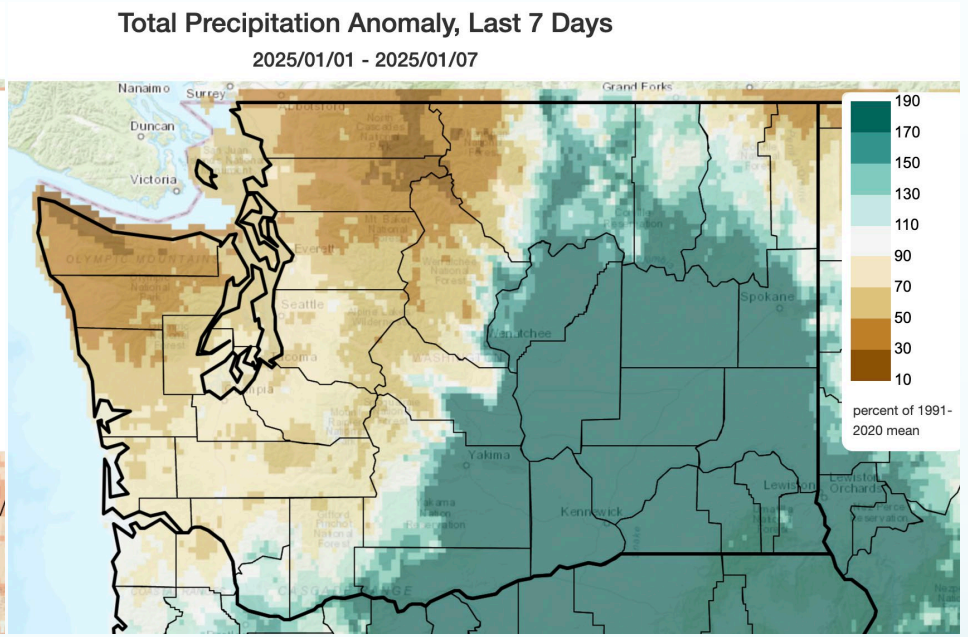
*Records since 1895; Normal is 1991-2020

January 2025 so far...

Temperature

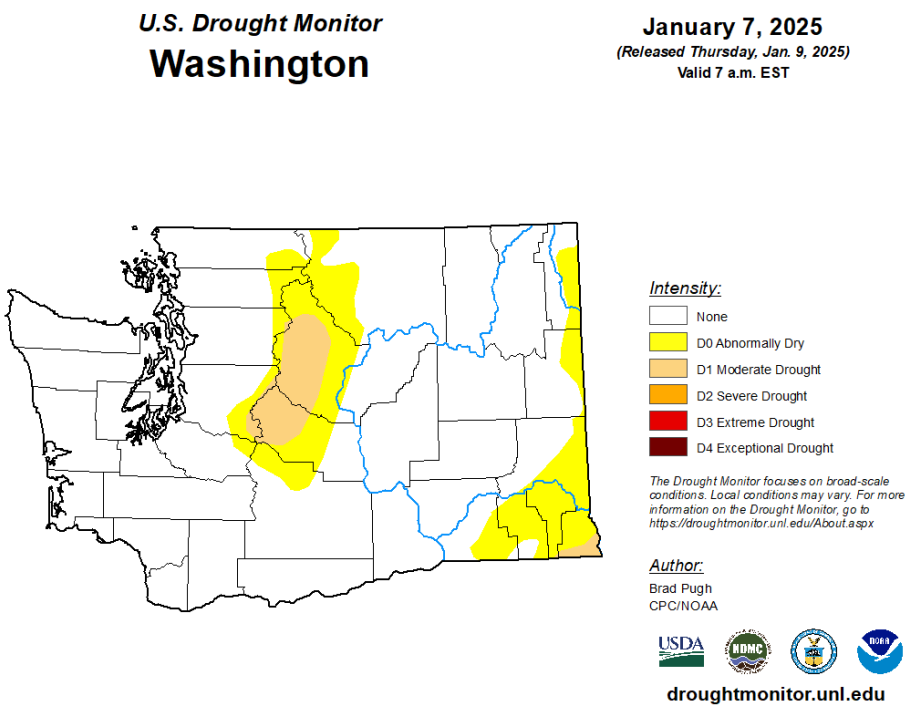


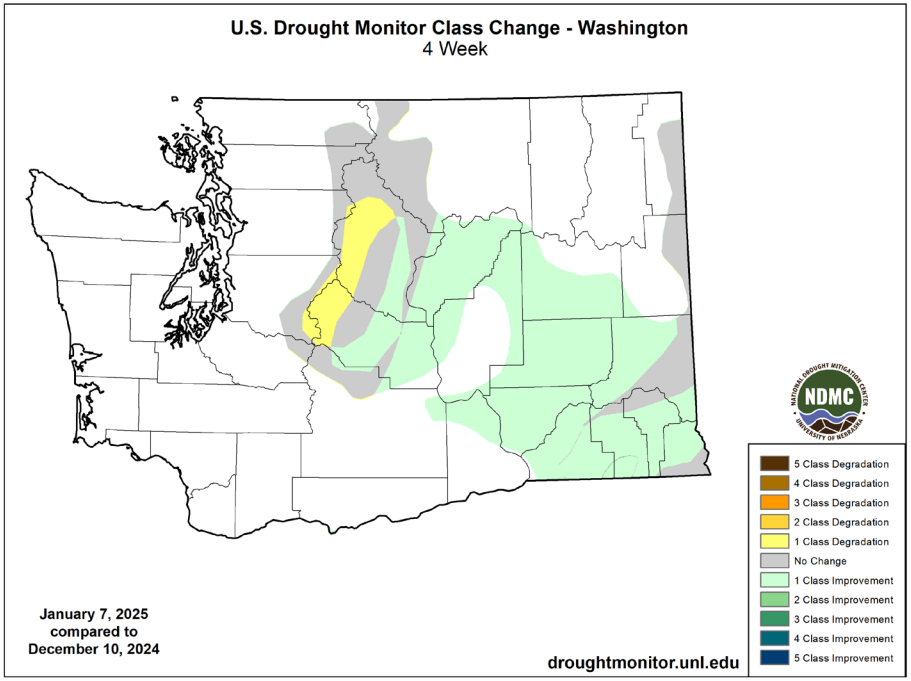
Precipitation



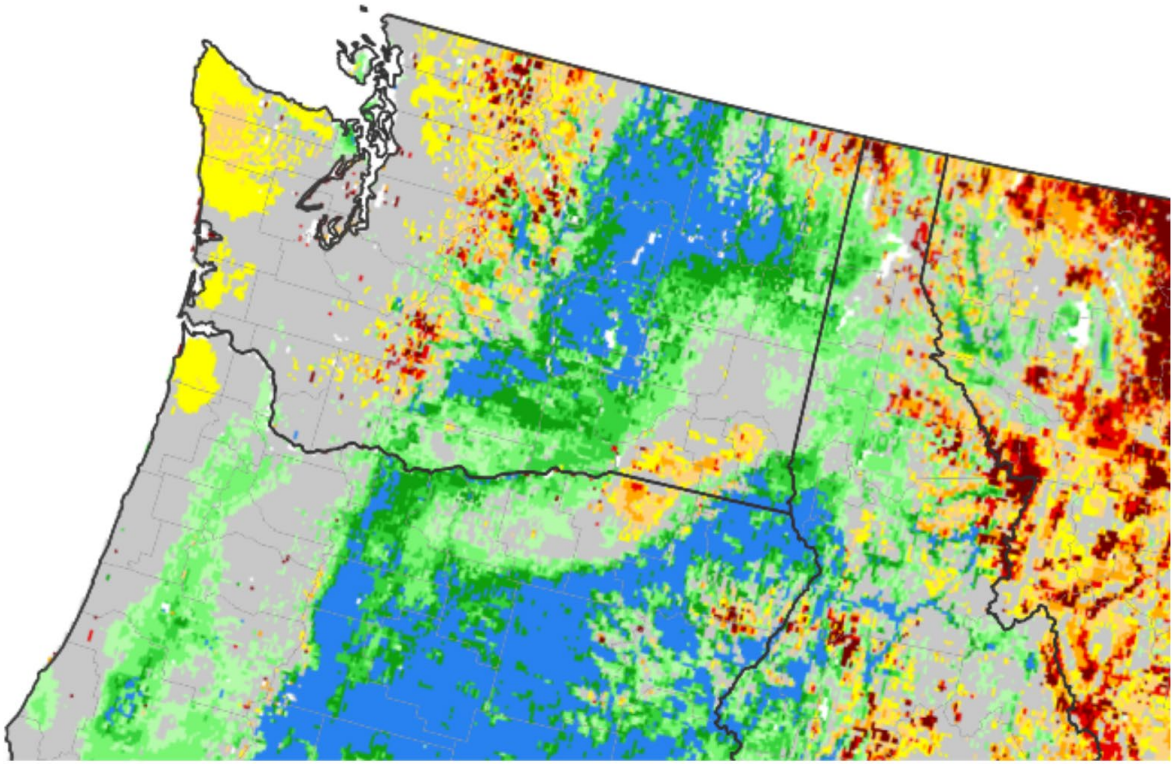
Climate Toolbox

U.S. Drought Monitor





0–100 cm Soil Moisture Percentile



0–100 cm Soil Moisture Percentile

0 2 5 10 20 30 70

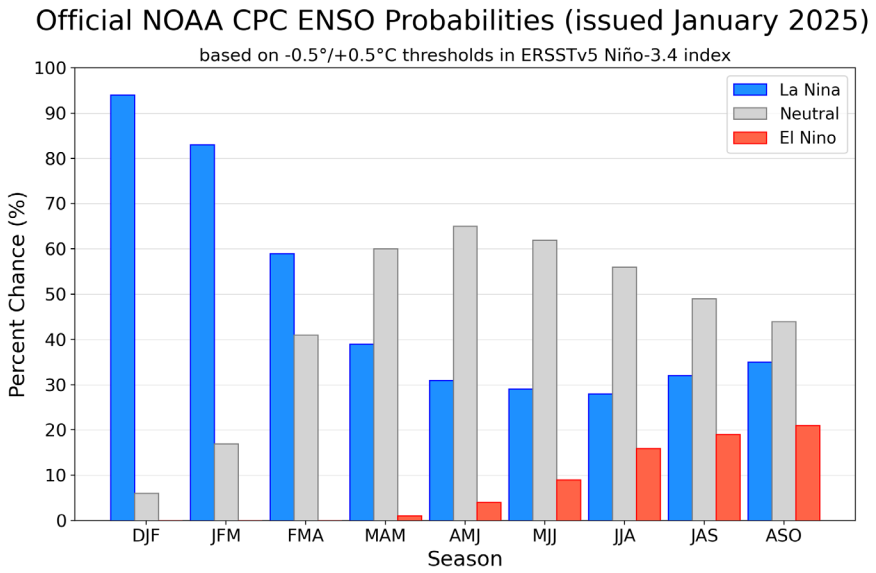
70 80 90 95 98 100

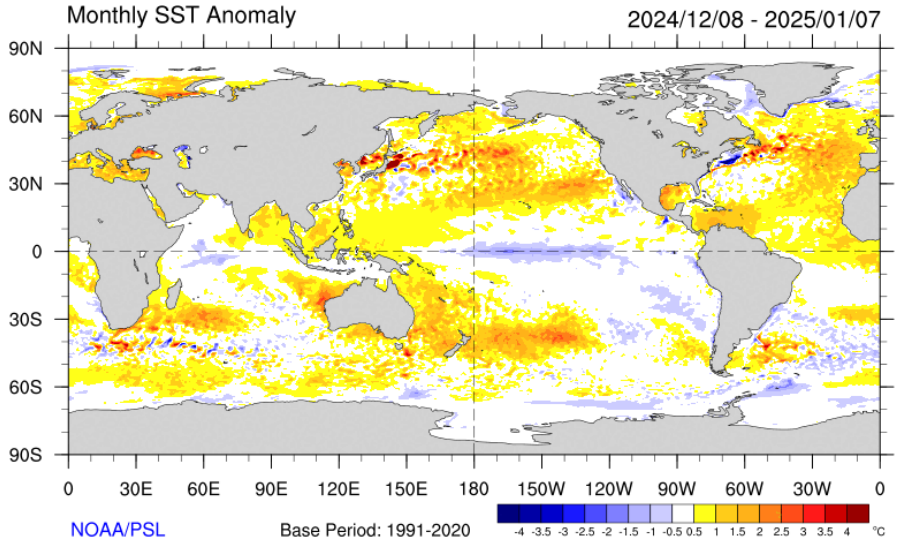
Source(s): NASA
Data Valid: 01/09/25

Drought.gov

Current Status: La Niña

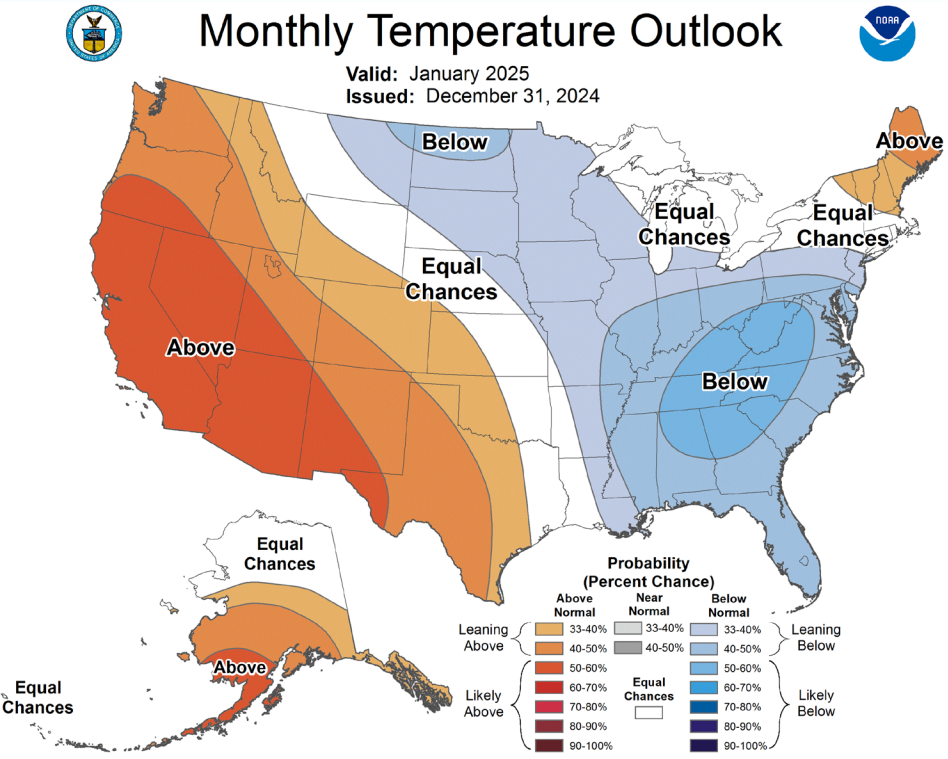
La Niña Advisory

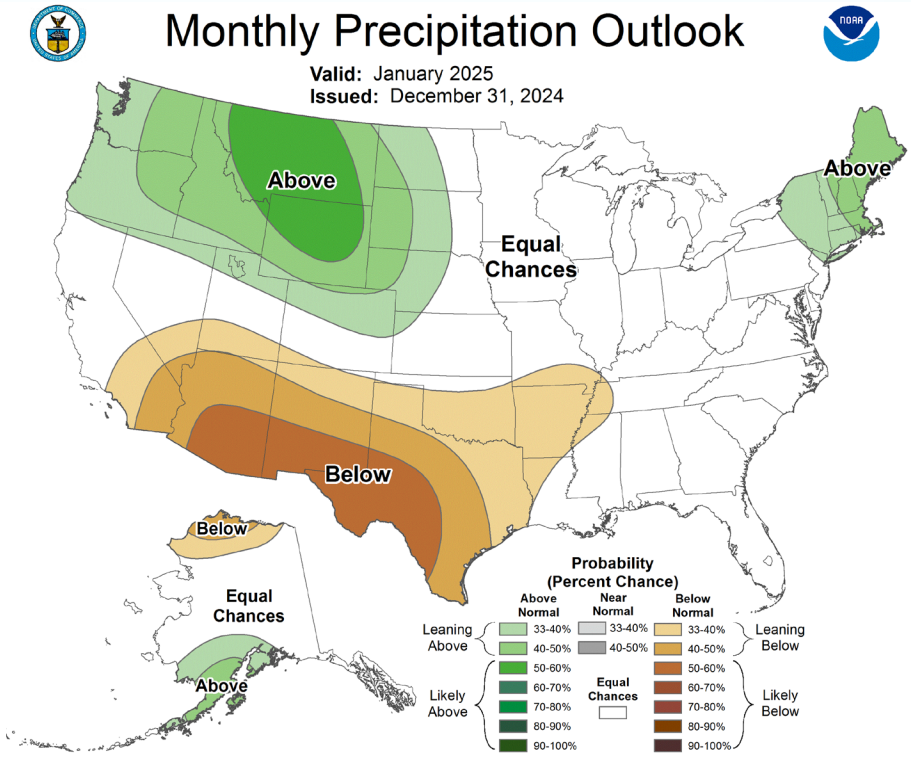




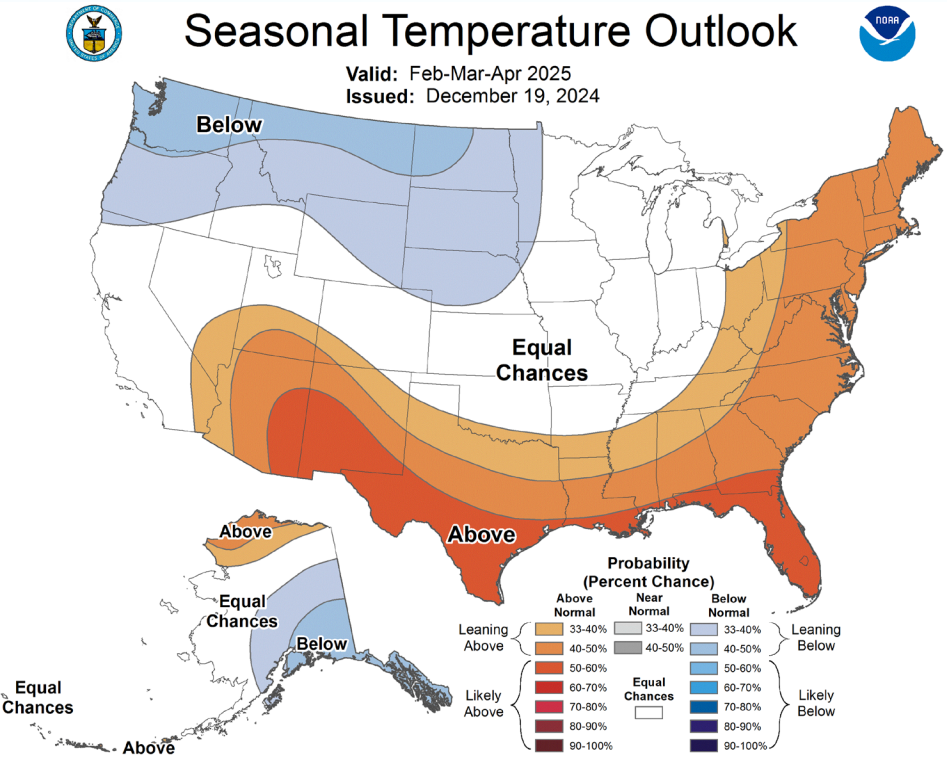
- Weak La Niña is expected to persist through the spring
- Neutral conditions more likely March-May (60%)

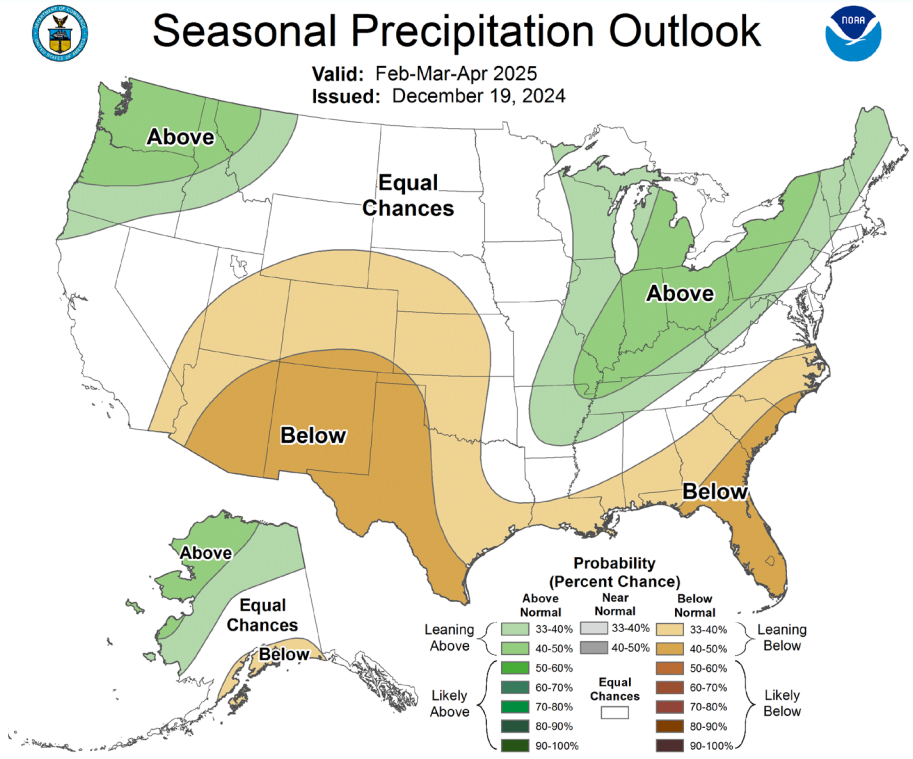
Climate Prediction Center Outlook: **Jan**





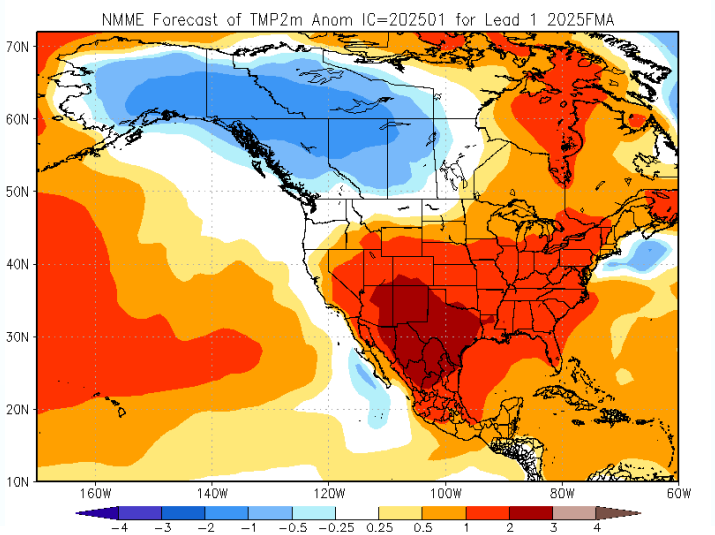
Climate Prediction Center Outlook: **Feb-Apr**

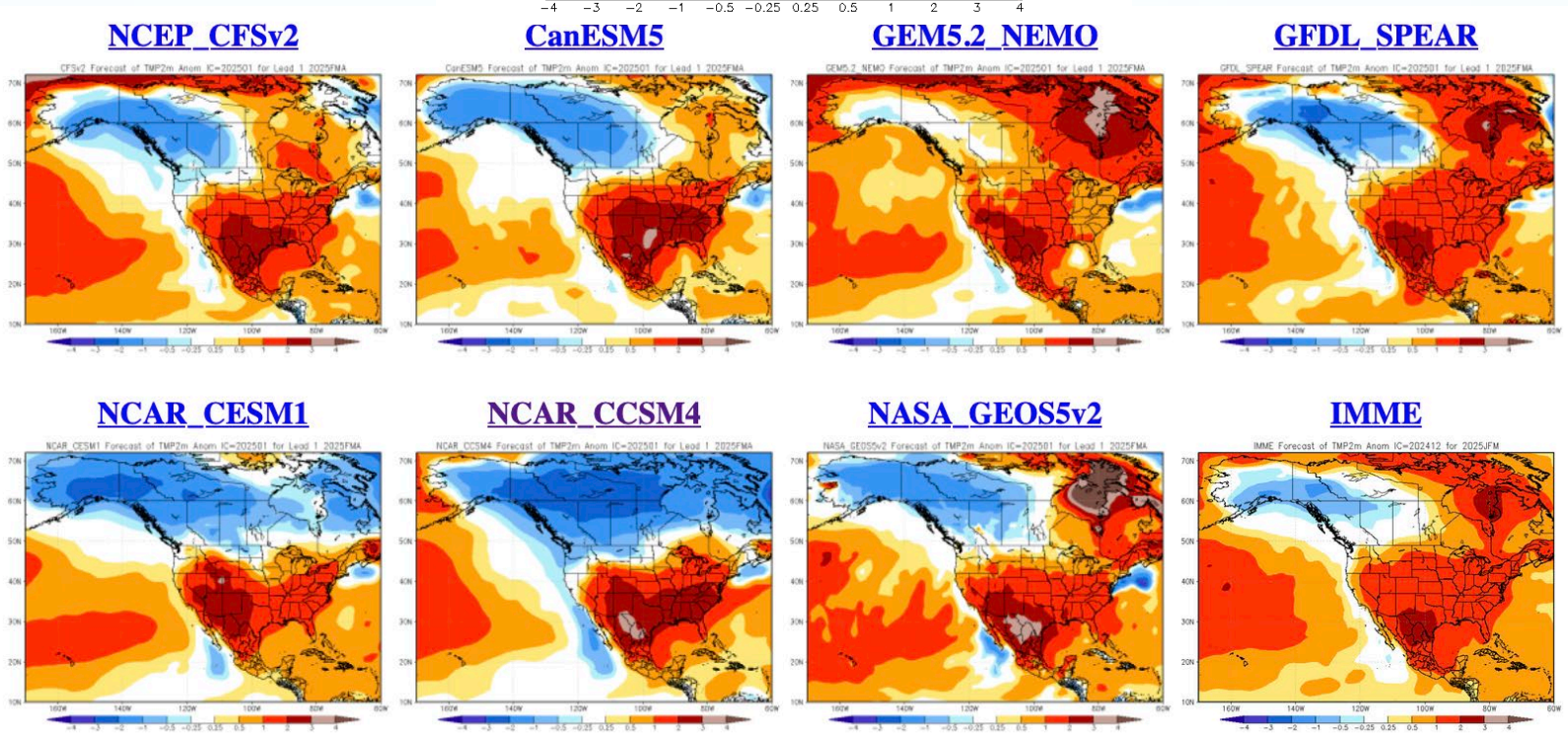




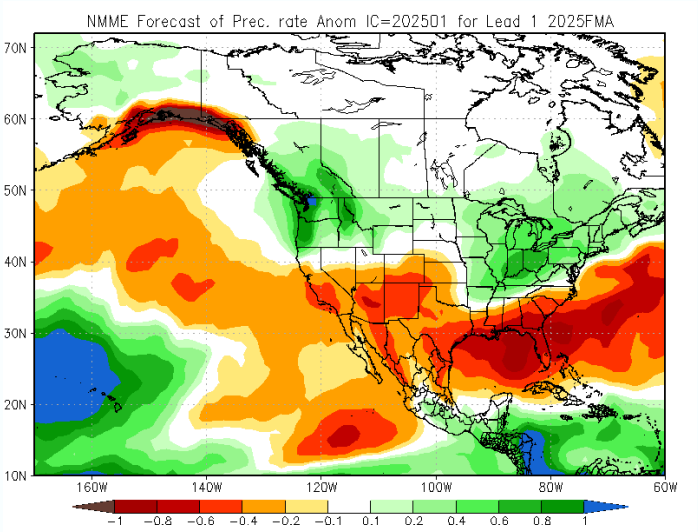
Jan-Mar: Similar odds of below normal temps and above normal precip

NMME: **Feb-Apr** Temperatures

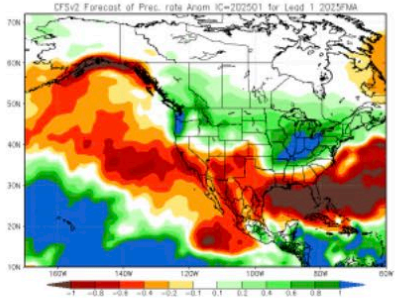




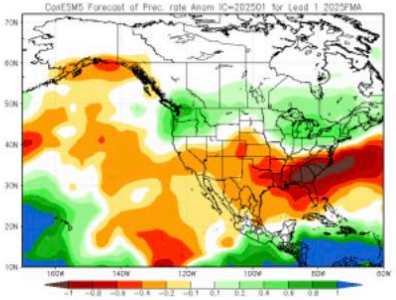
NMME: **Feb-Apr** Precipitation



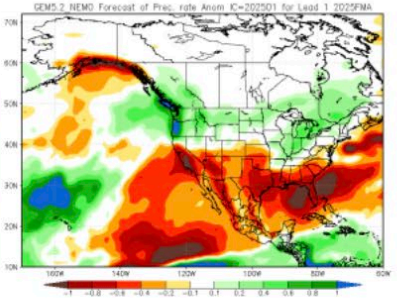
NCEP_CFSv2



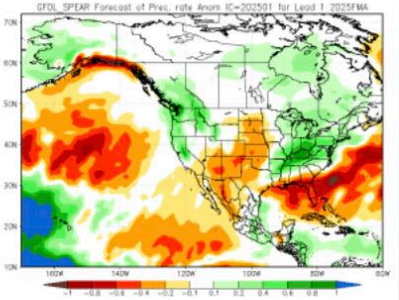
CanESM5



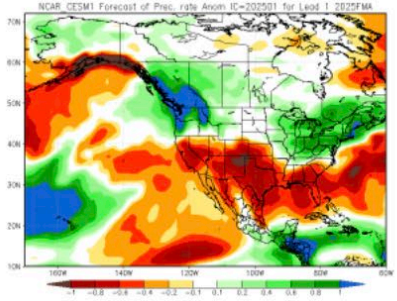
GEM5.2_NEMO



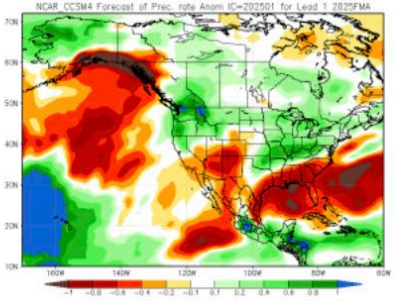
GFDL_SPEAR



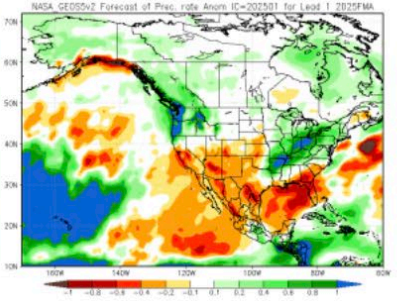
NCAR_CESM1



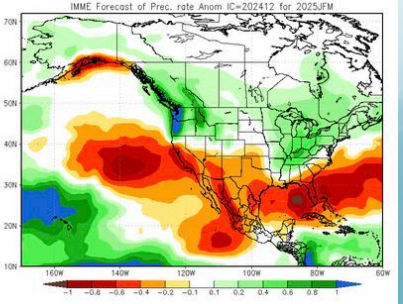
NCAR_CCSM4



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

USDA United States Department of Agriculture
Natural Resources Conservation Service

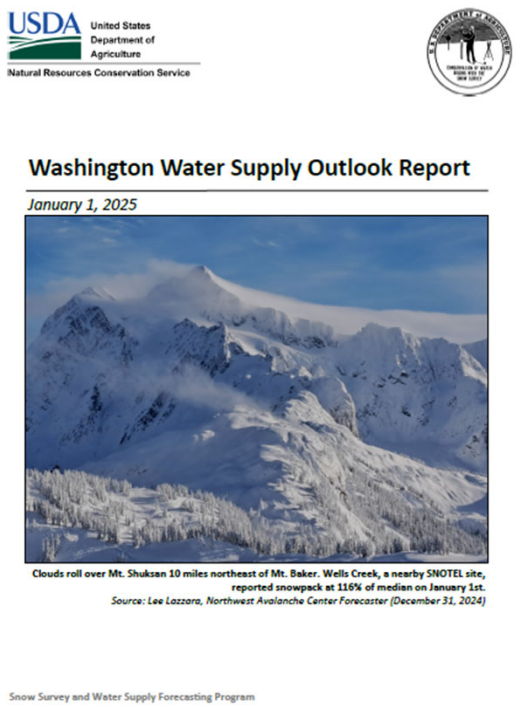
USDA Natural Resources Conservation Service

Snow Survey and Water Supply Forecasting Program

Washington

Water Supply Availability Committee

Jan. 10, 2025


USDA United States Department of Agriculture
Natural Resources Conservation Service

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)

Snow Survey and Water Supply Forecasting Program

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

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Snowpack Conditions

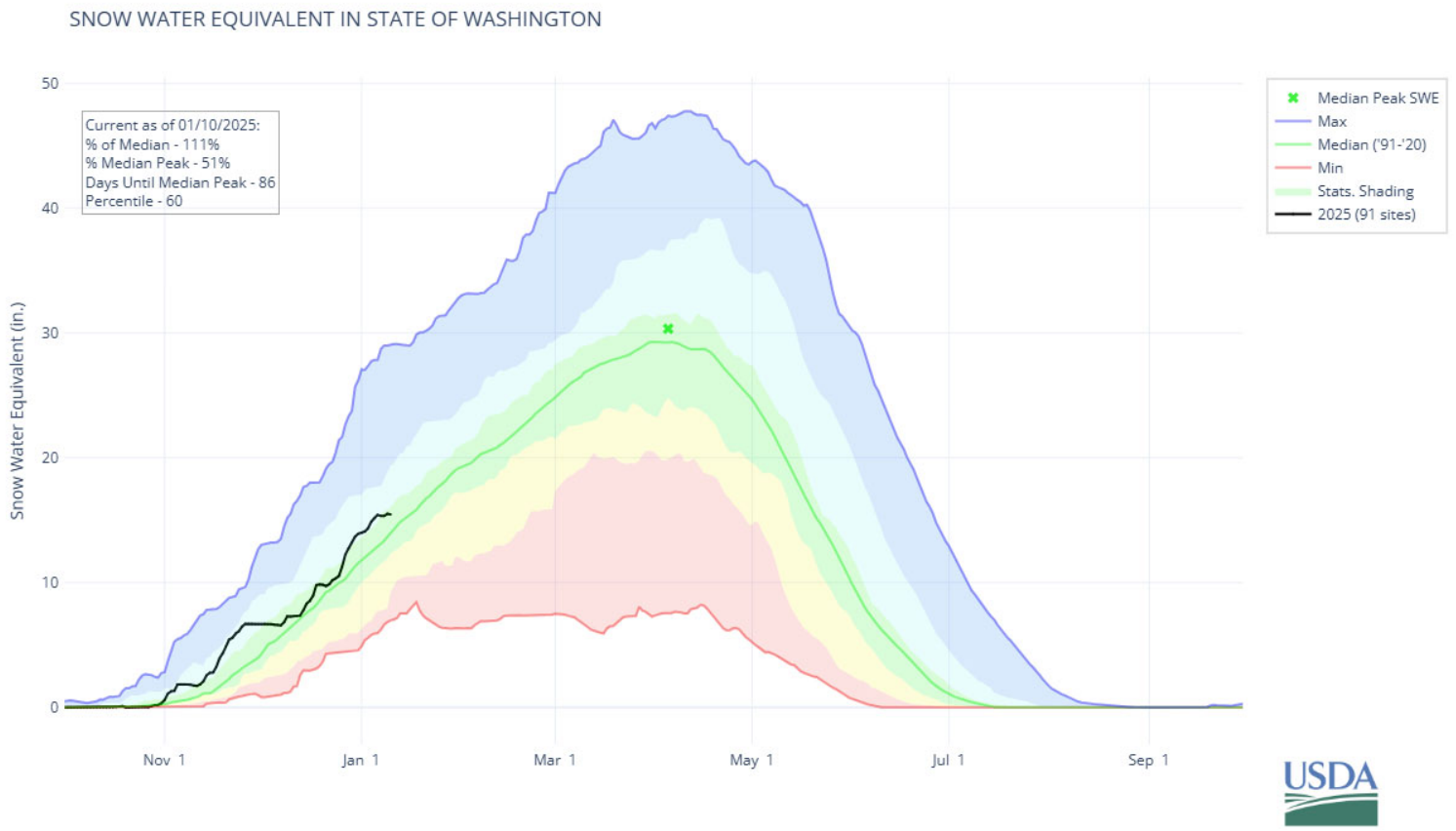
Statewide Snowpack

Profile for Snow Water Equivalent

United States Department of Agriculture
Natural Resources Conservation Service

Statewide Snowpack:
111% of Normal
51% of median peak

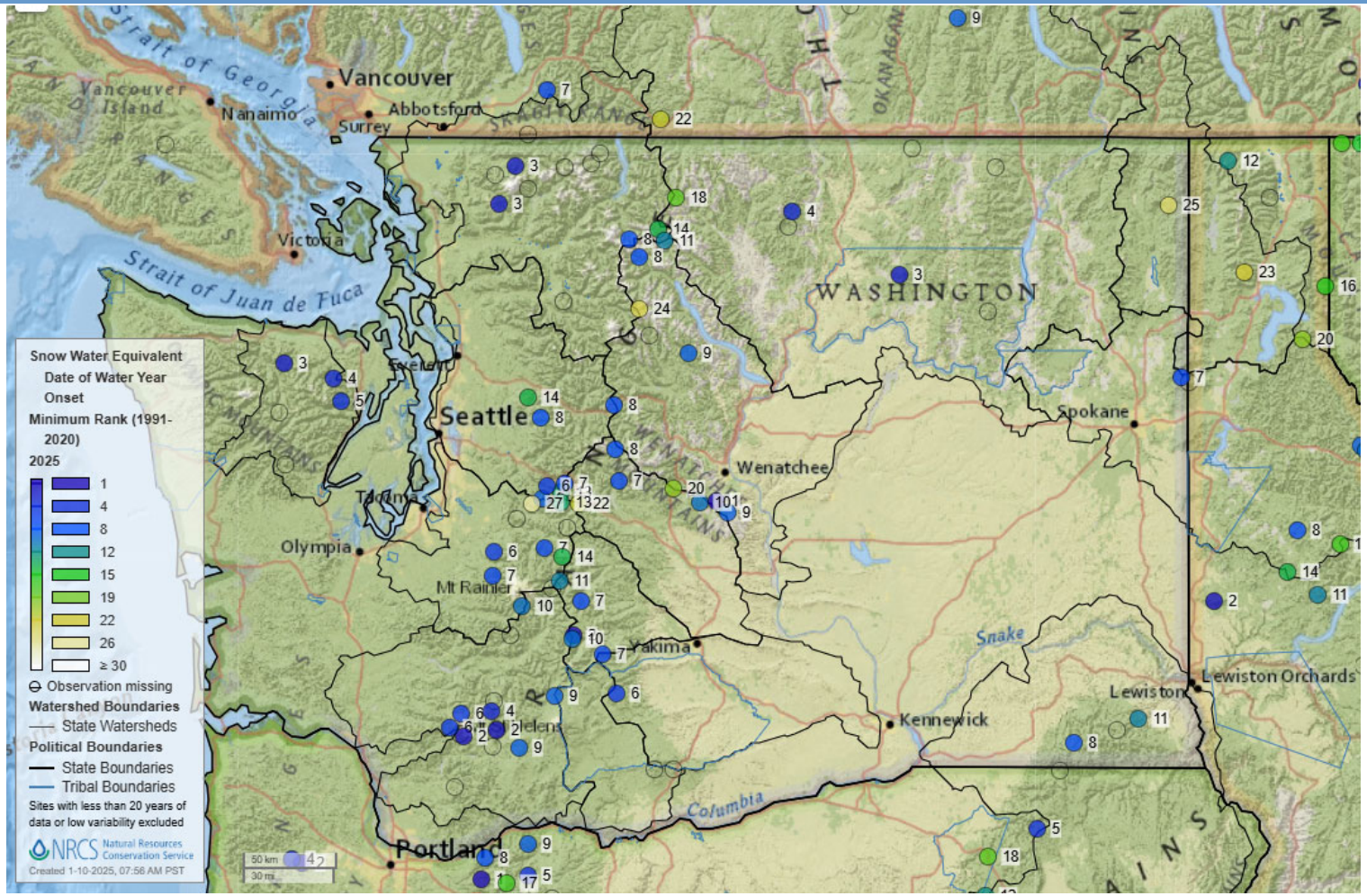
Snowpack Percentile: 60



Onset to snow-accumulation season

Minimum Ranking

USDA United States Department of Agriculture
Natural Resources Conservation Service



Big picture snowpack

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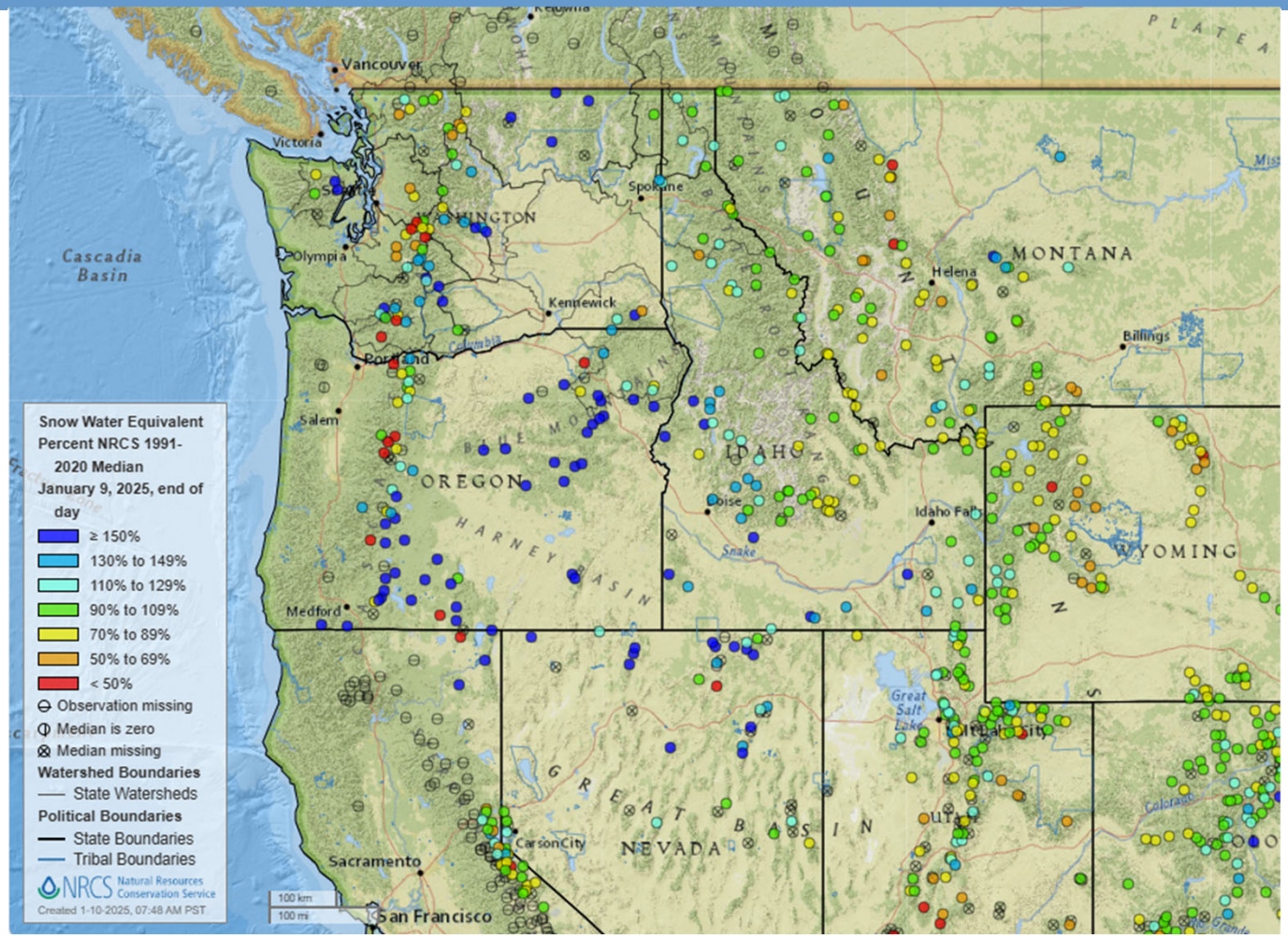
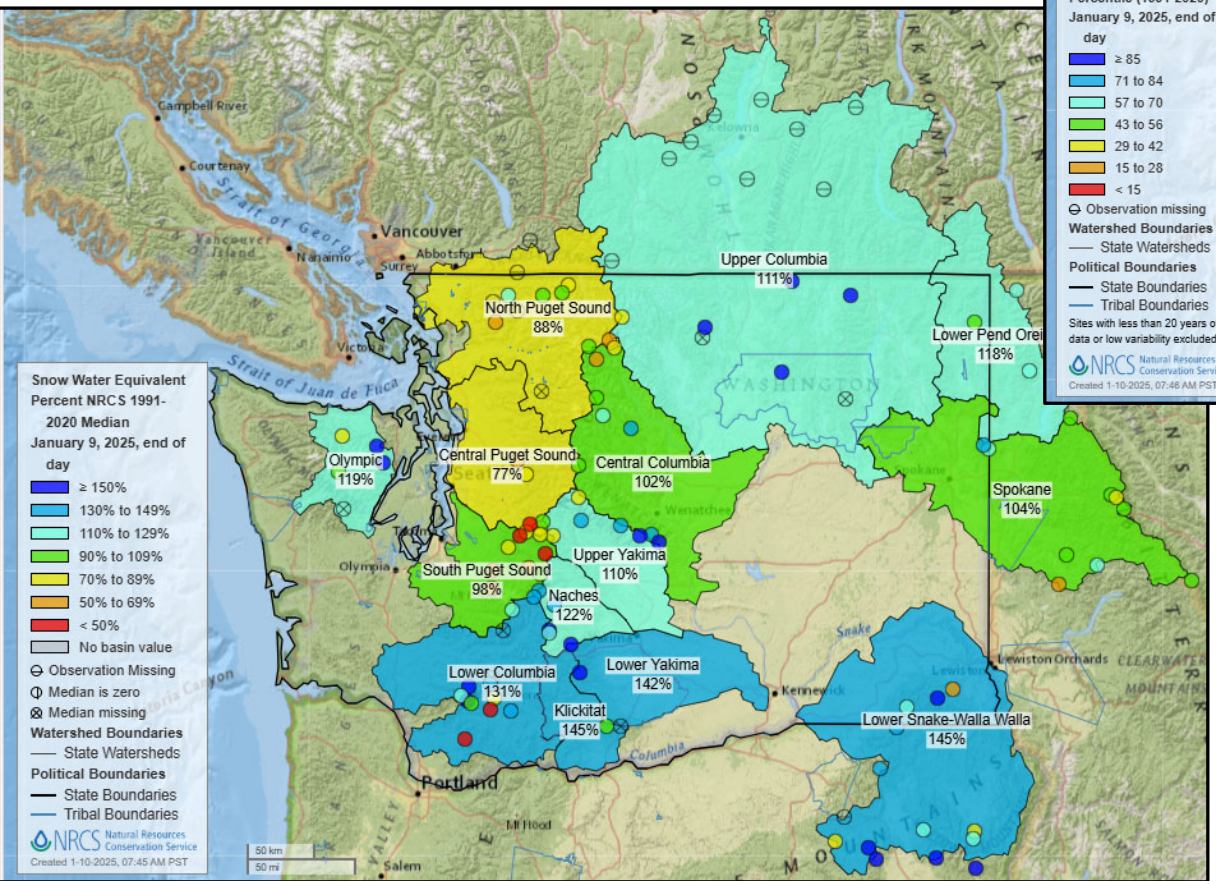
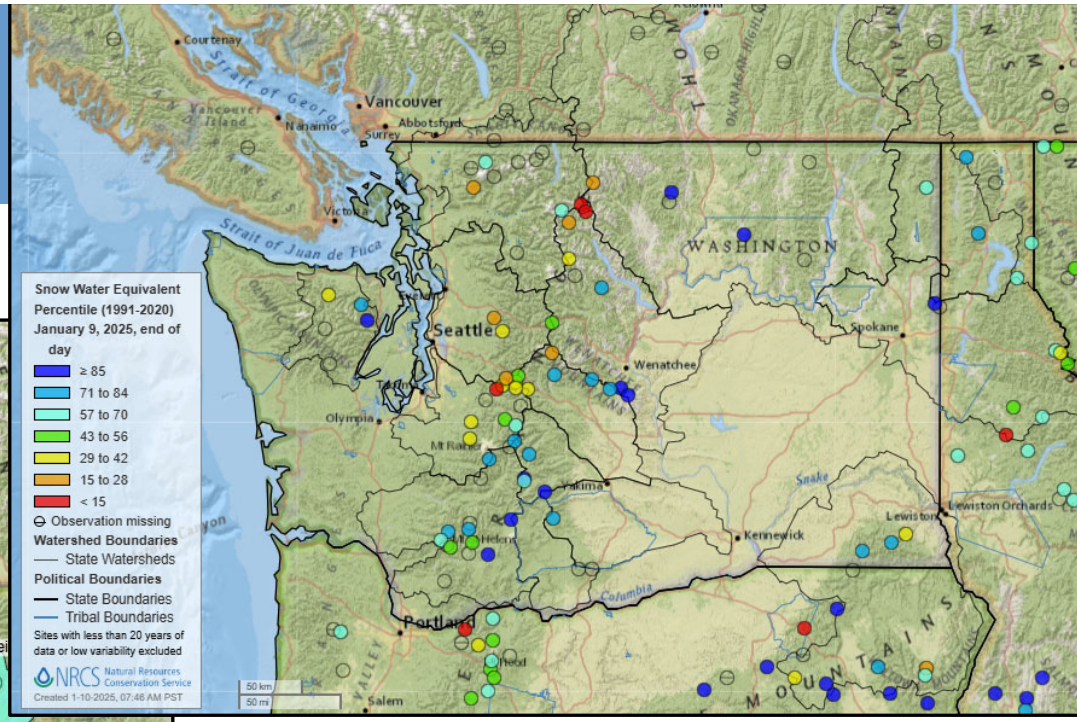
Natural Resources Conservation Service



Basin Snowpack

Sub-basin and site map

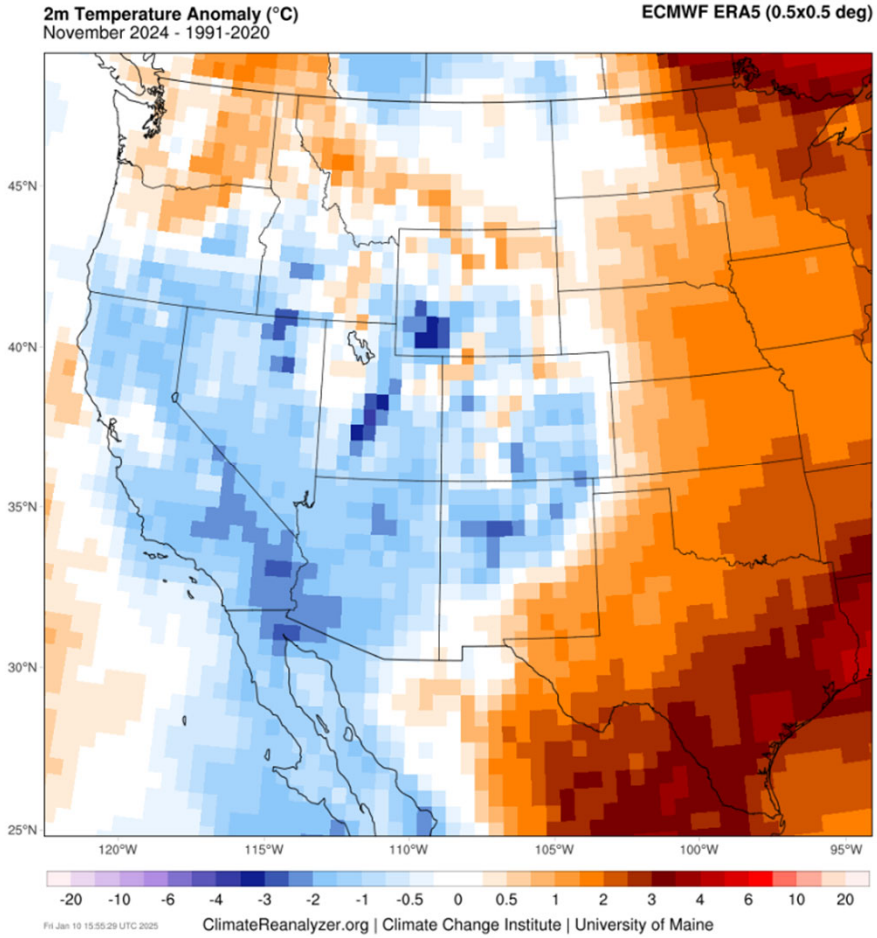


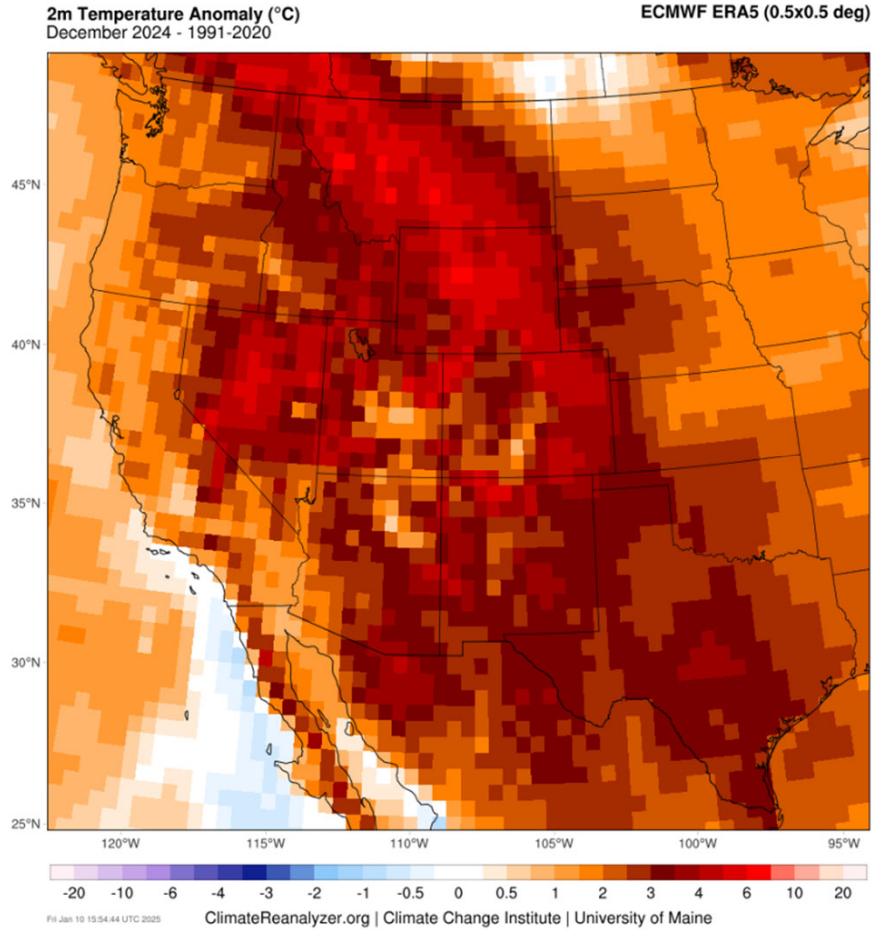


November and December Temperature Anomalies

PRSIM

United States Department of Agriculture
Natural Resources Conservation Service





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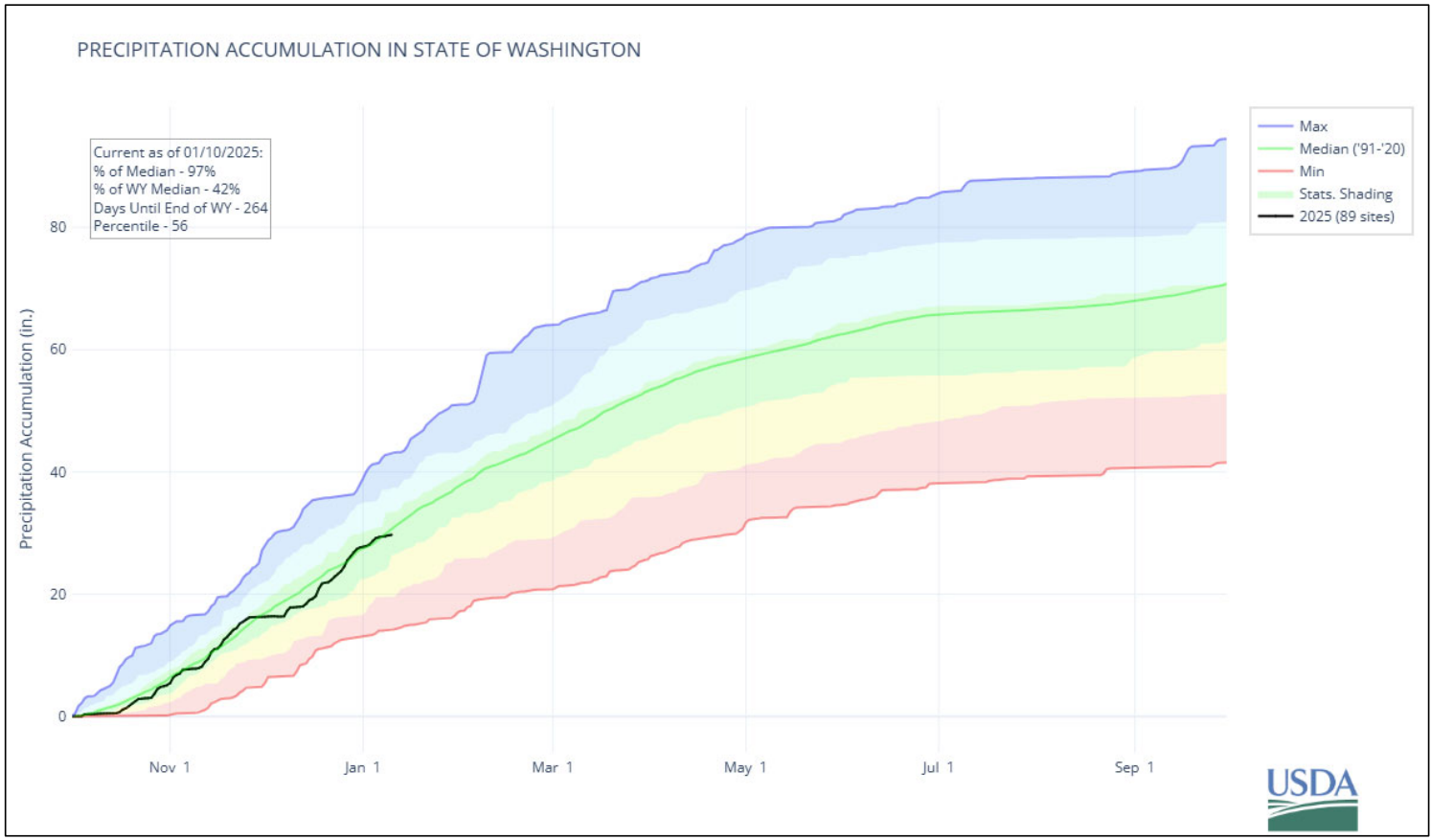
Precipitation Conditions

WYTD Precipitation – Basin Map

United States Department of Agriculture
Natural Resources Conservation Service

Statewide WYTD Precipitation:
97% of Normal

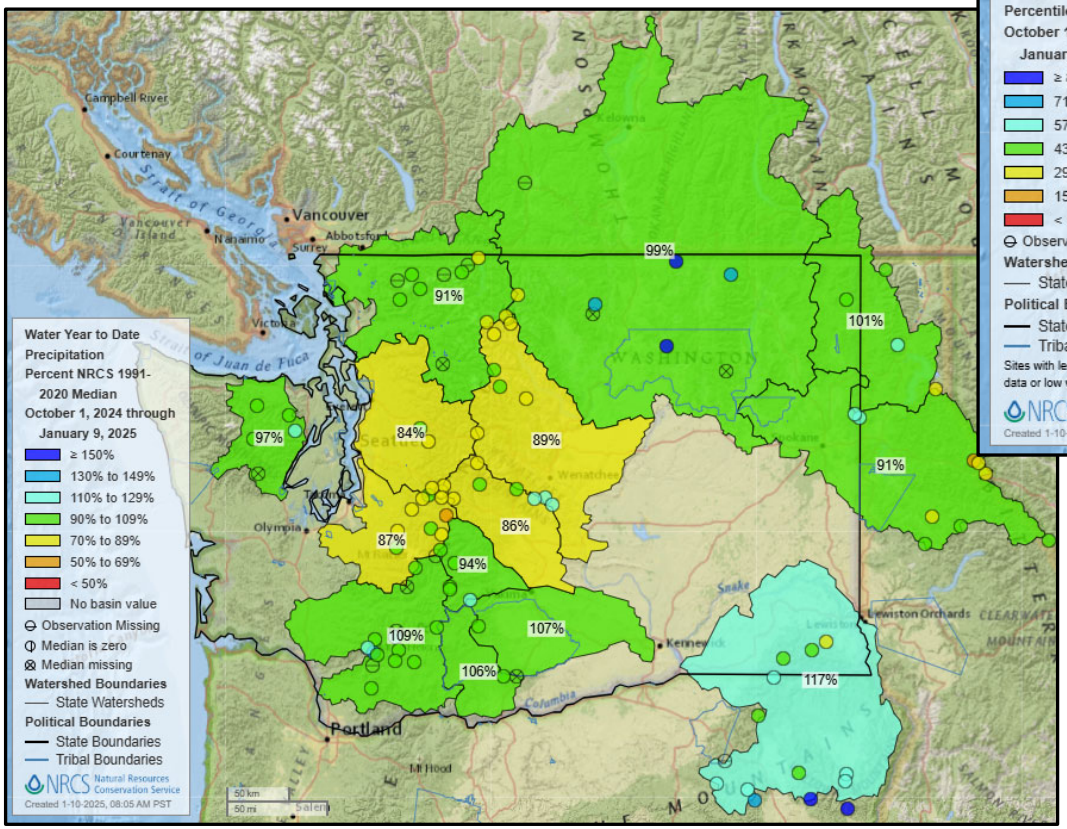
56 – percentile (Normal period)



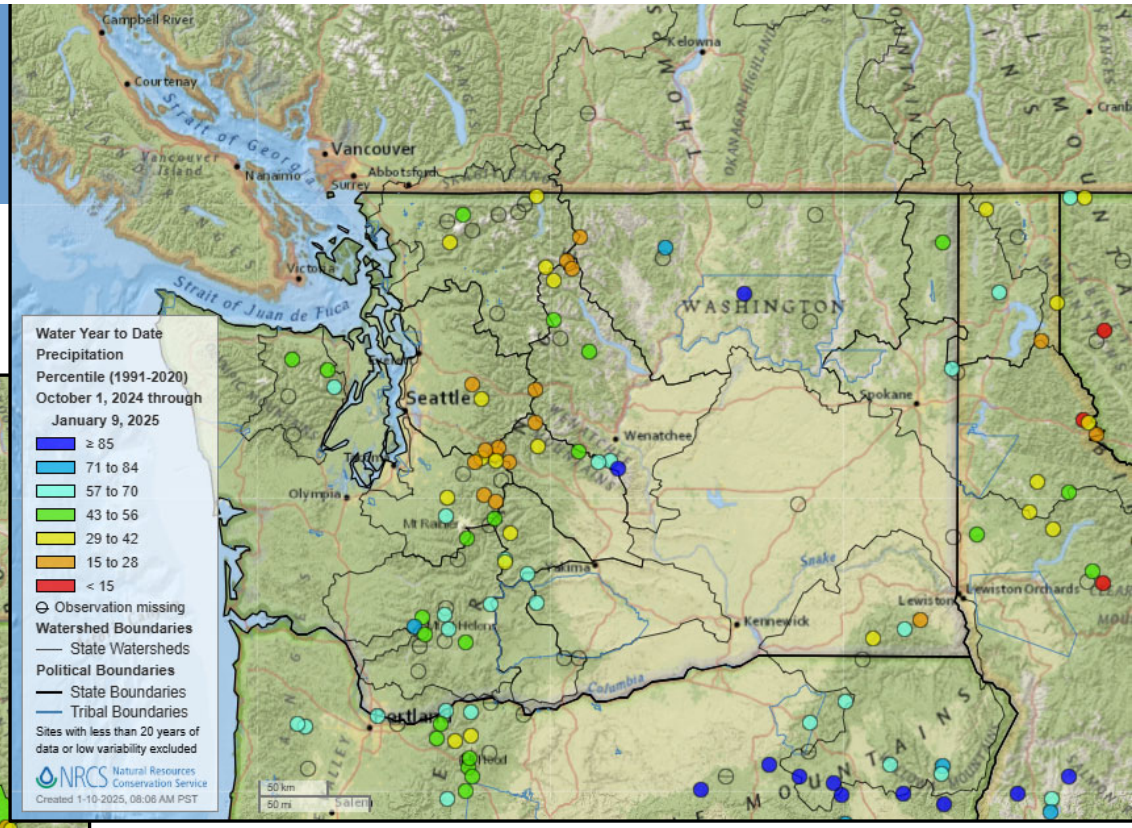
WYTD Precipitation – Site Map

Percent of Normal and Percentile

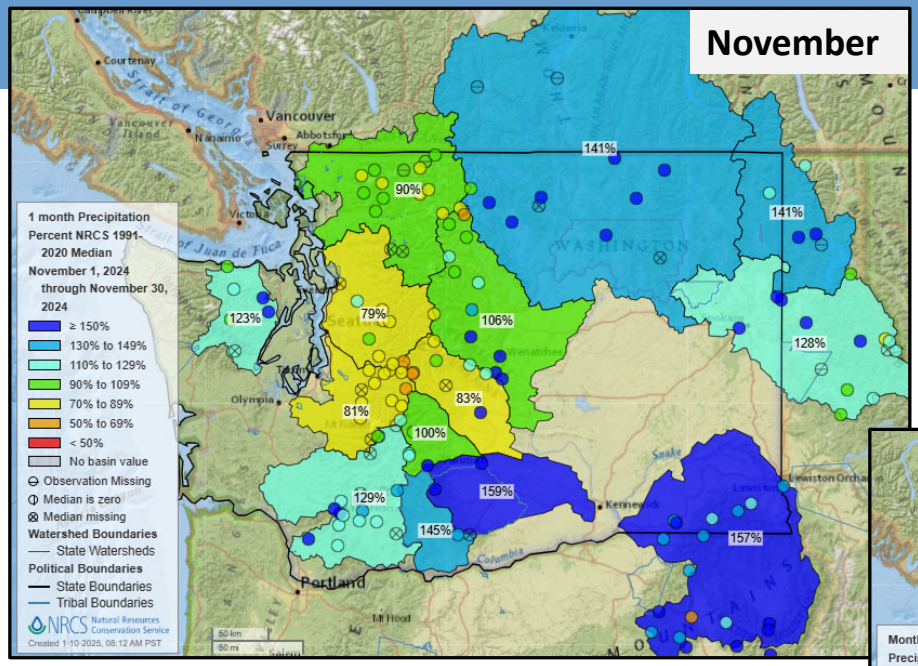
Percent of Normal (1991-2020)

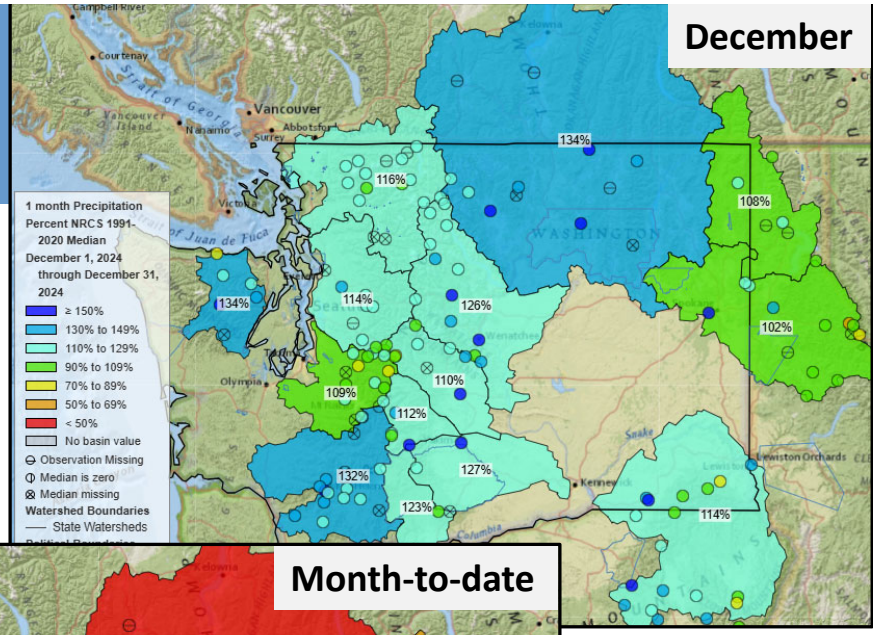


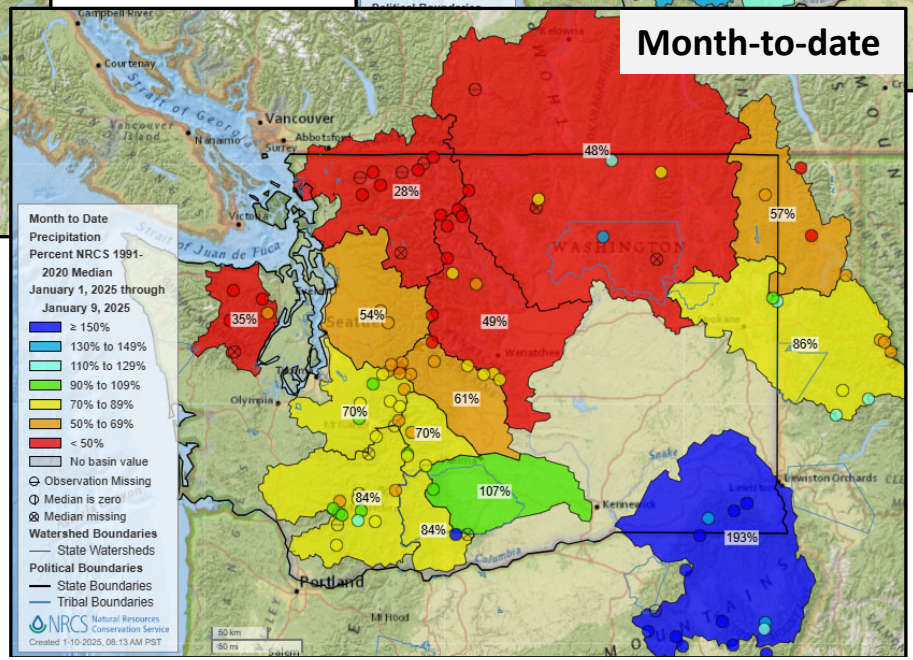
Percentile (1991-2020)



Monthly Precipitation







Precipitation: Compounding Deficits

Oct. 1 2023 - present

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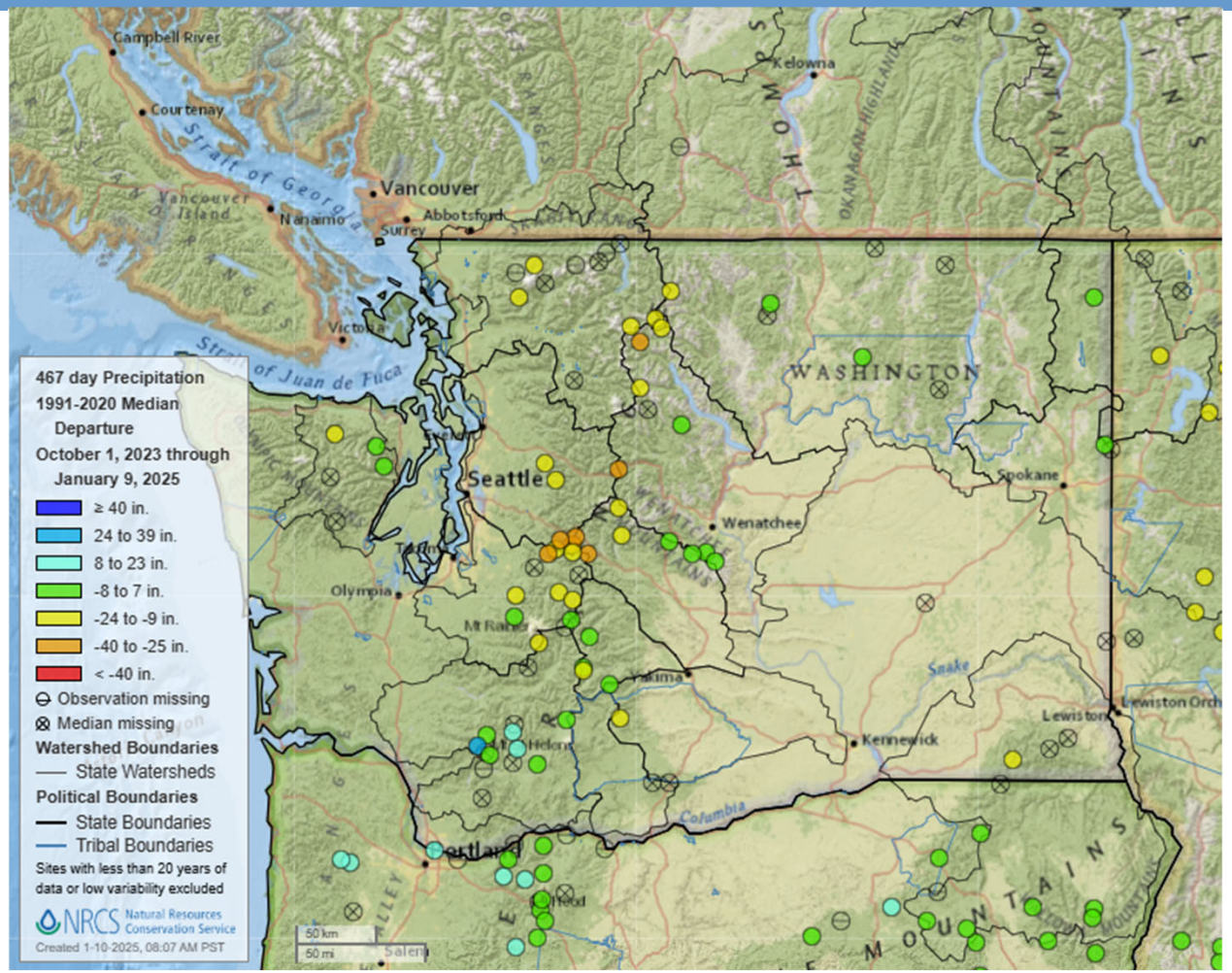
Natural Resources Conservation Service



USDA United States Department of Agriculture

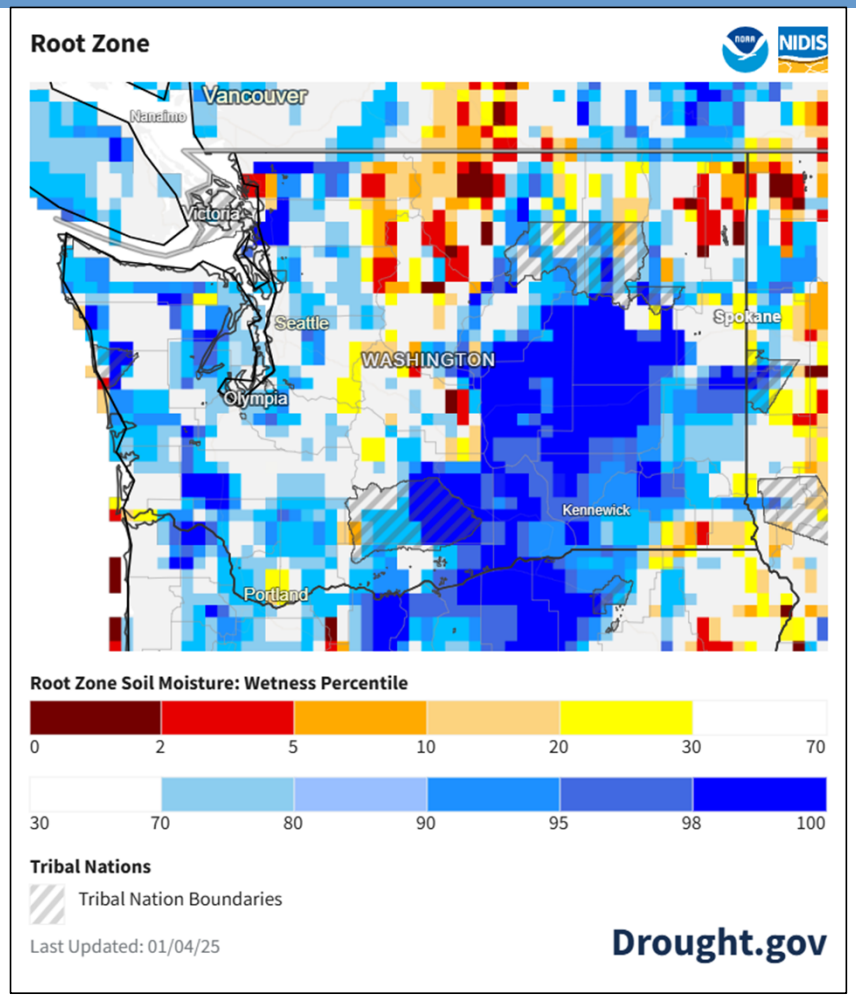
Natural Resources Conservation Service

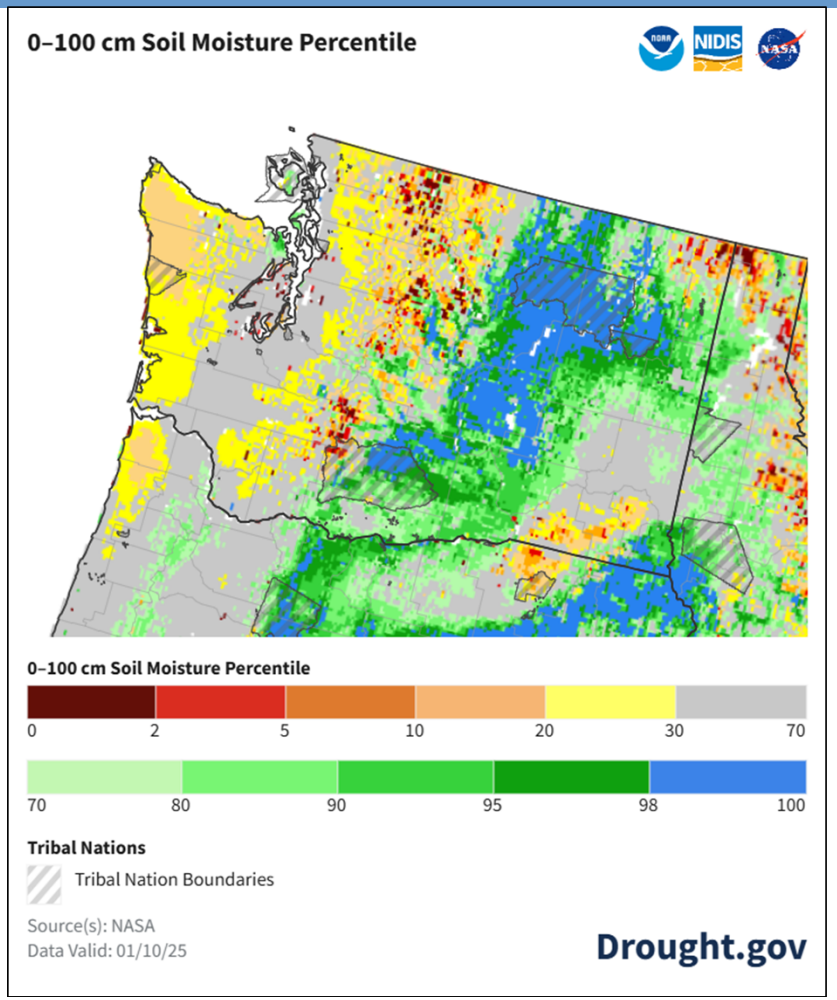
Soil Moisture

Soil Moisture

NASA GRACE and SPoRT-LiS

United States Department of Agriculture
Natural Resources Conservation Service





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Jan. 1 Water Supply Forecasts

Jan. 1 Water Supply Forecasts

50%-exceedance predictions for primary period

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Natural Resources Conservation Service

Primary period for these forecasts is typically April-July

USDA United States Department of Agriculture

Natural Resources Conservation Service

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

USGS
science for a changing world

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

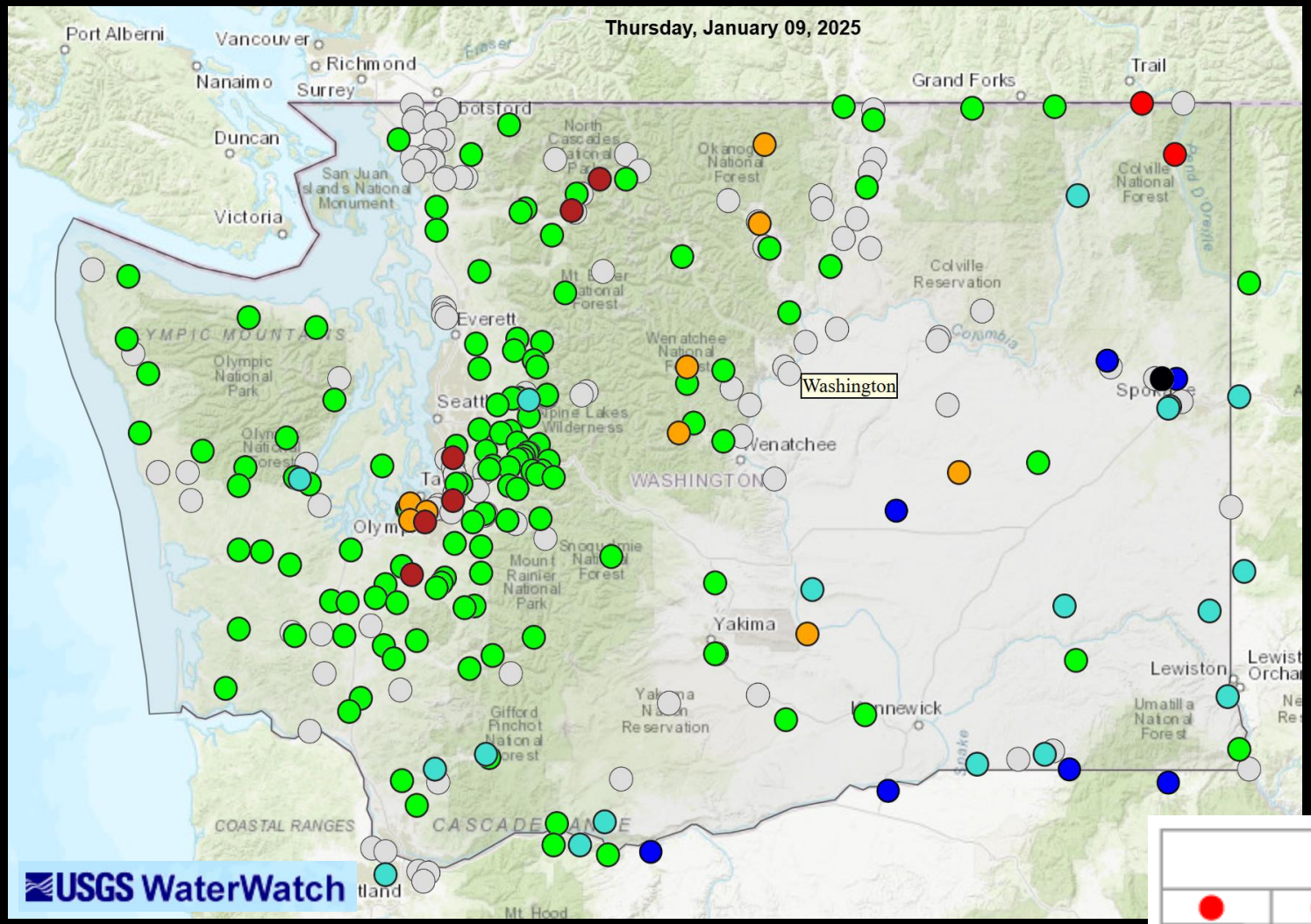
Photograph by Will Elliot

Presented on 10 January 2025
to the Washington Water Supply Availability Committee

by Nicholas Sutfin,
nsutfin@usgs.gov
USGS Washington Water Science Center

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

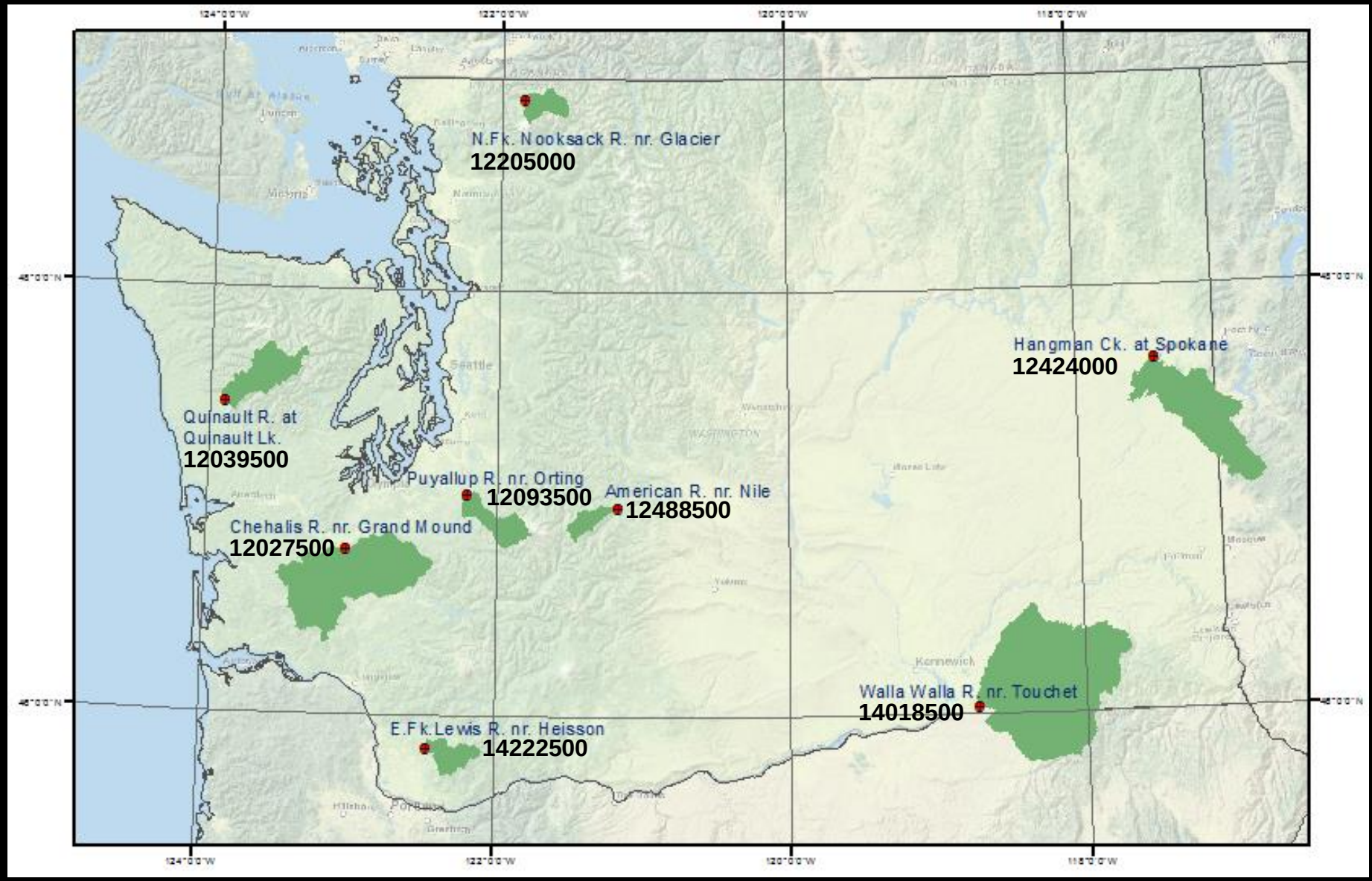
Explanation - Percentile classes							
Record Low	<10 Much below normal	10-24 Below normal	25-75 Normal	76-90 Above normal	>90 Much above normal	Record High	Not-ranked

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

USGS
science for a changing world

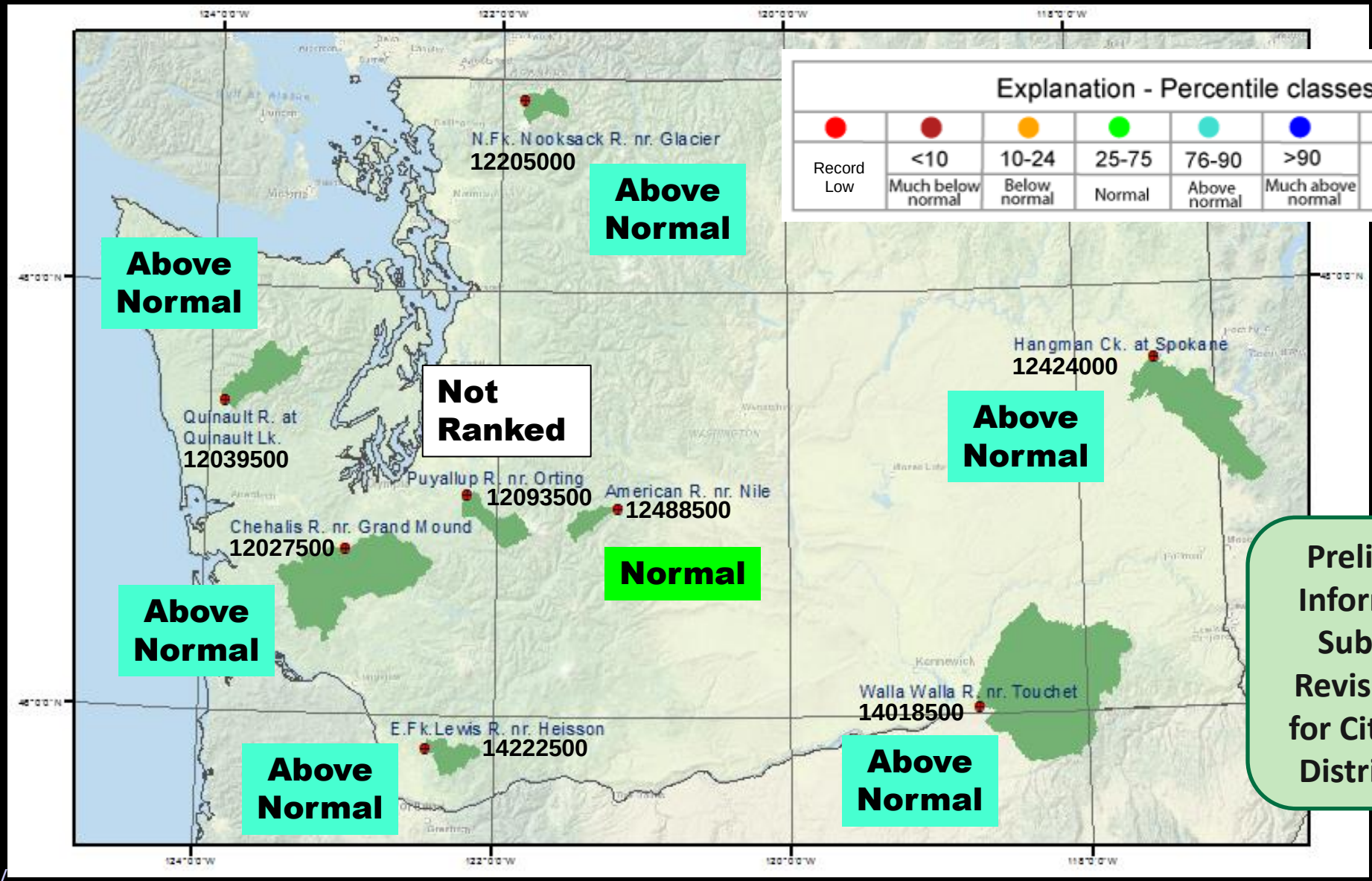
Index Gaging Stations

(Stations that measure natural or near-natural streamflow)



Index Gaging Stations

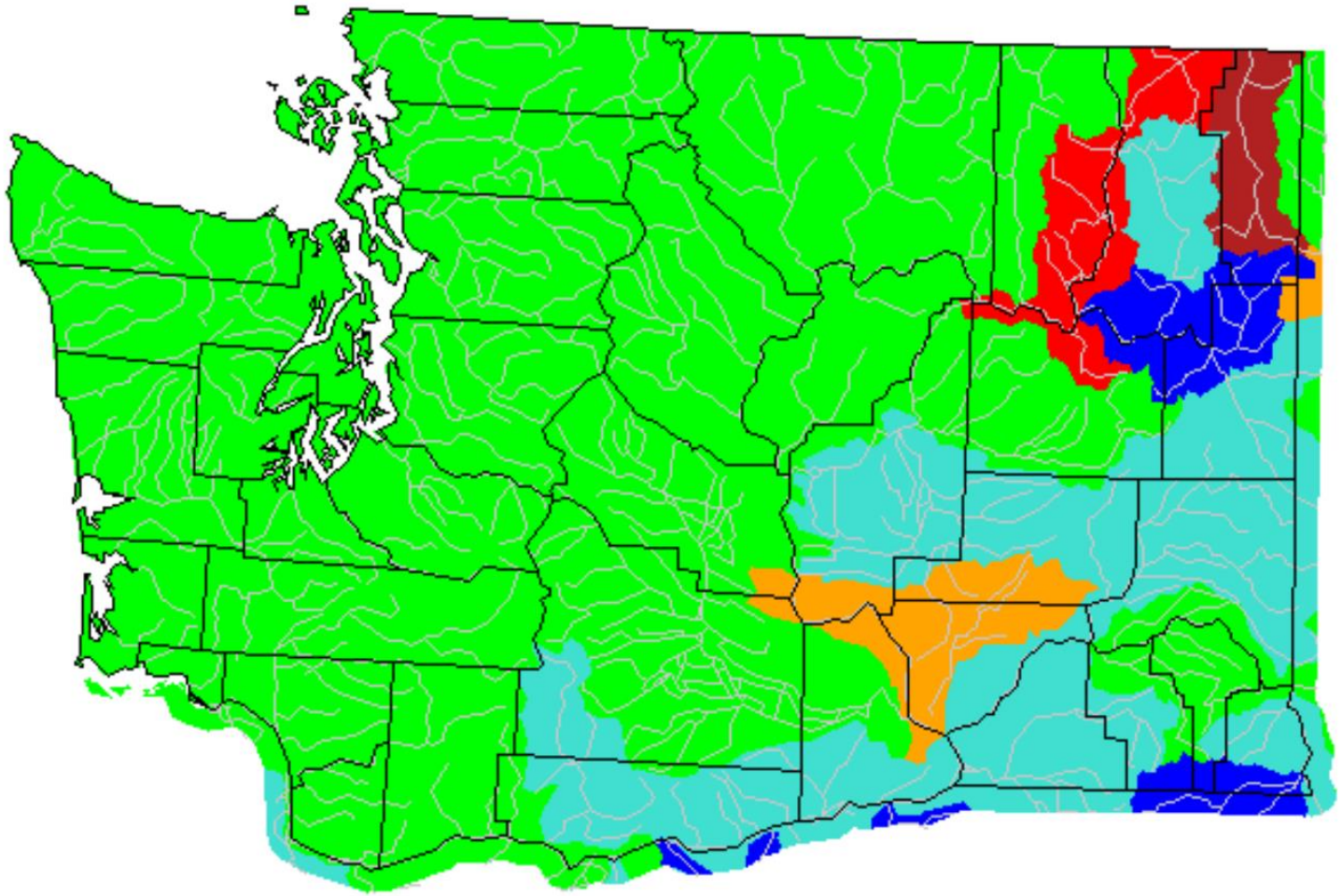
7-day average streamflow as of 9 January 2025



https://waterwatch.usgs.gov/

Average streamflow
compared to historical streamflow

7-day average as of 9 January 2025



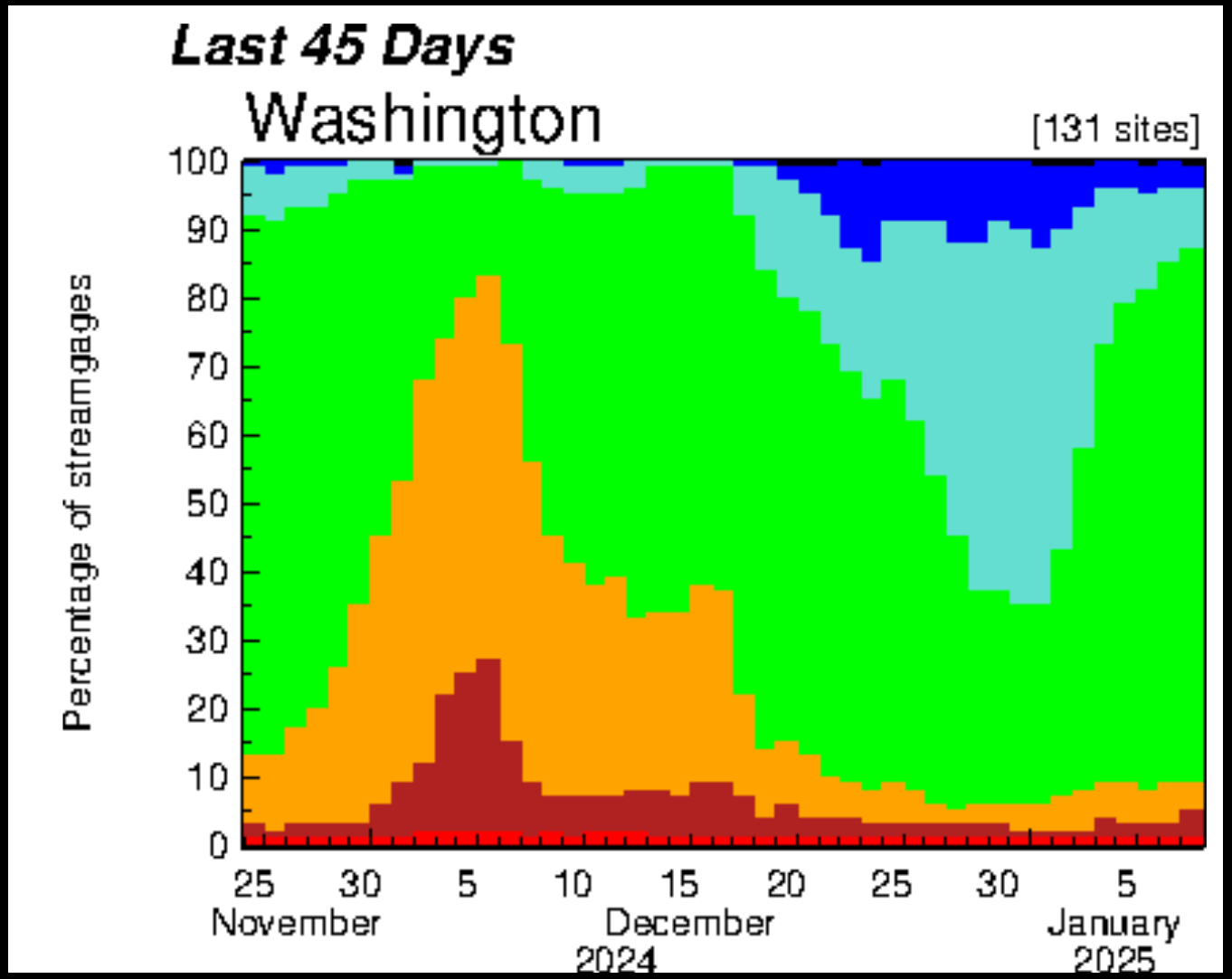
Explanation - Percentile classes						
Record Low	<10	10-24	25-75	76-90	>90	Record High
	Much below normal	Below normal	Normal	Above normal	Much above normal	

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

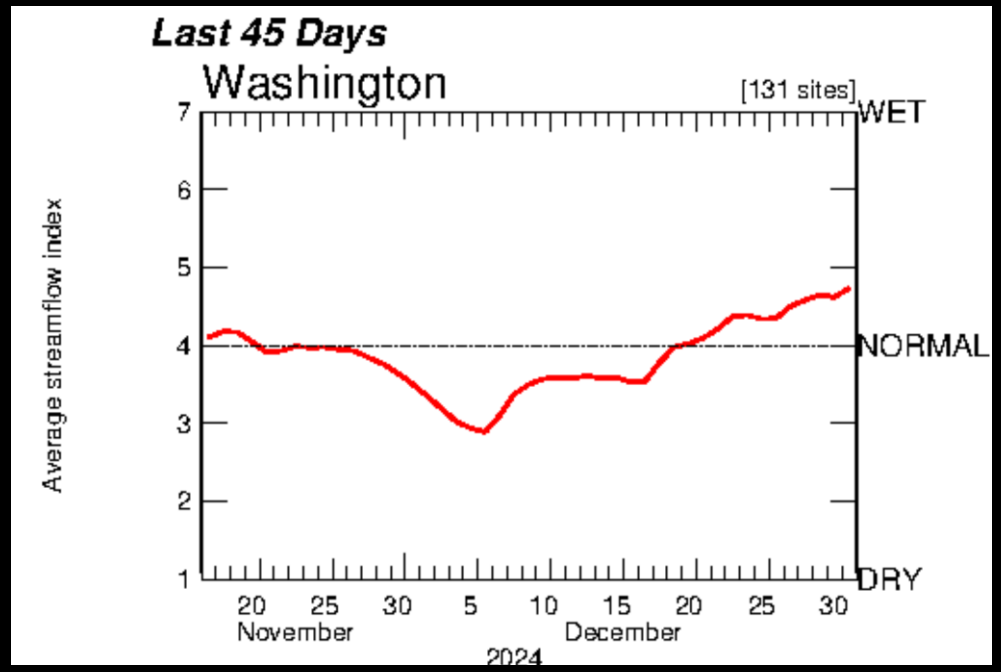
https://waterwatch.usgs.gov/

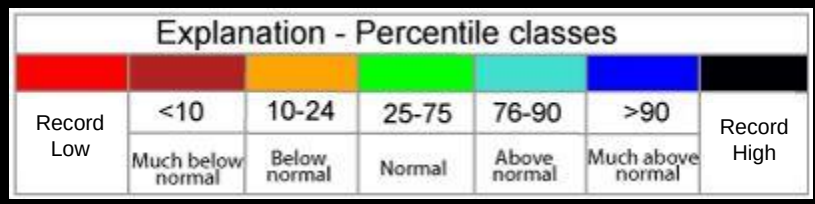
7-day average streamflow

Most USGS stream gages at normal as of 9 January 2025



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

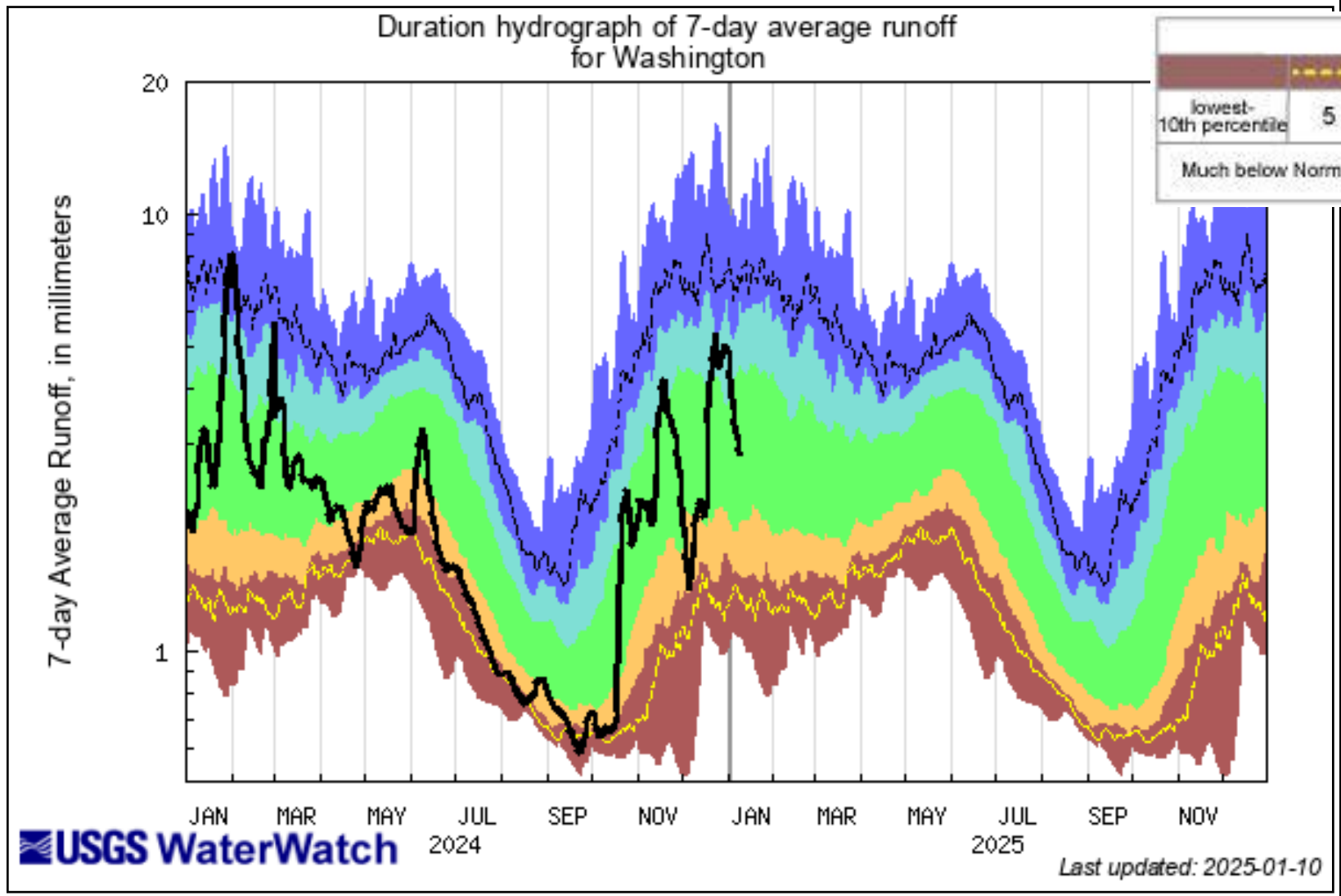


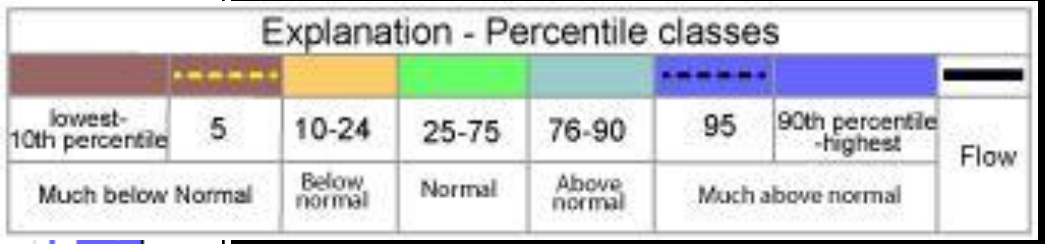


https://waterwatch.usgs.gov/

Area-Based Runoff Duration Hydrograph

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





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

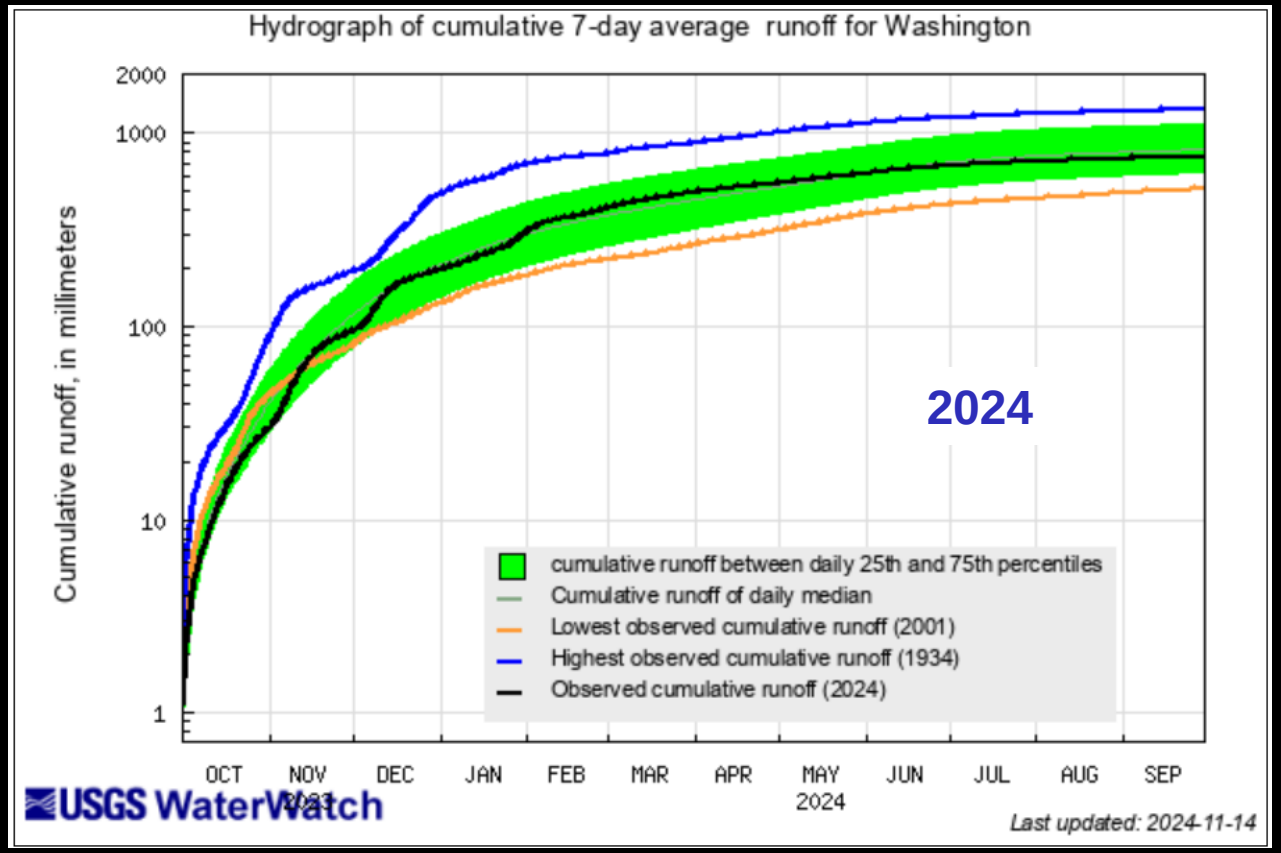
For some streams, flow statistics may have been computed from mixed regulated and unregulated flows; this can affect depictions of flow conditions.

https://waterwatch.usgs.gov/

Cumulative runoff hydrograph

Area-based runoff based on 7-day average

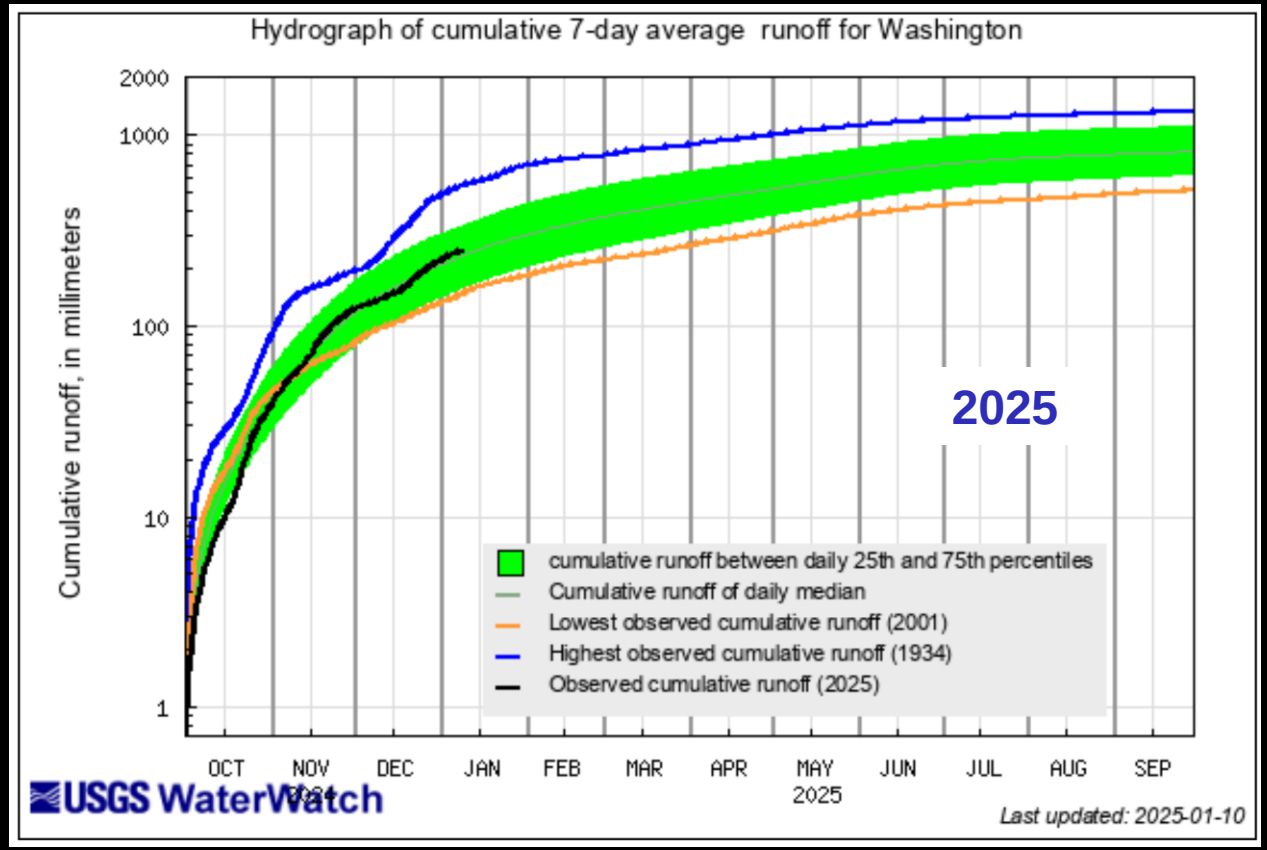
Normal for 2025 water year as of 9 January



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.

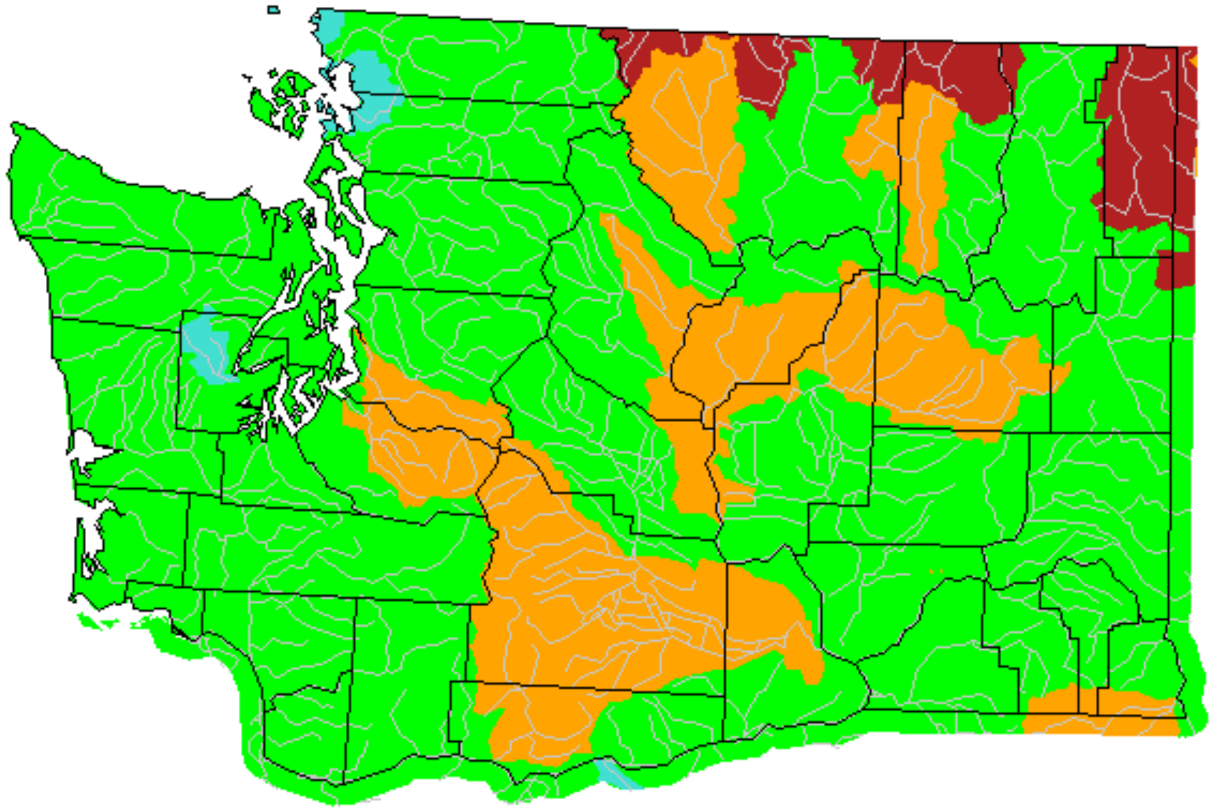
Monthly average streamflow

compared to historical streamflow

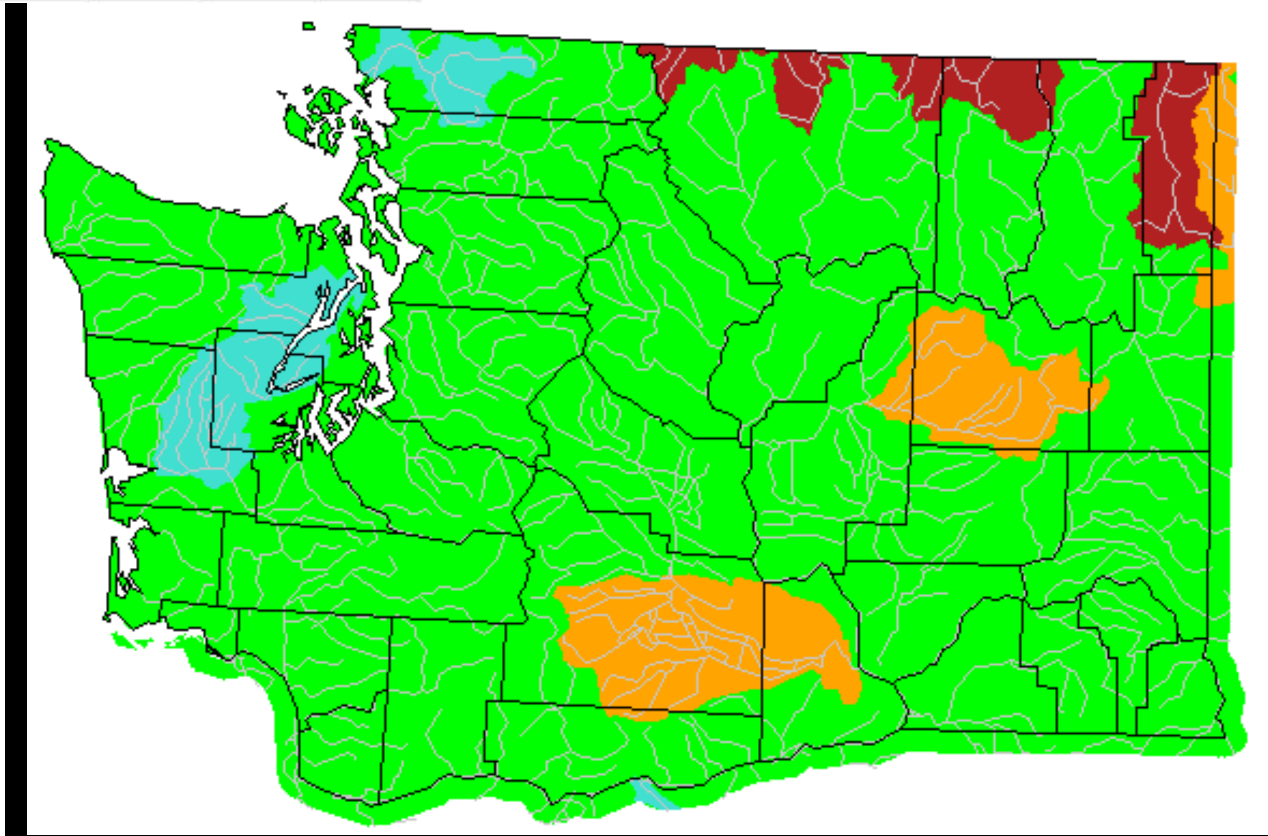
USGS science for a changing world

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	

November 2024



December 2024



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

https://waterwatch.usgs.gov/

Monthly average streamflow

compared to historical streamflow

USGS science for a changing world

Explanation - Percentile classes						
Record Low	<10	10-24	25-75	76-90	>90	Record High
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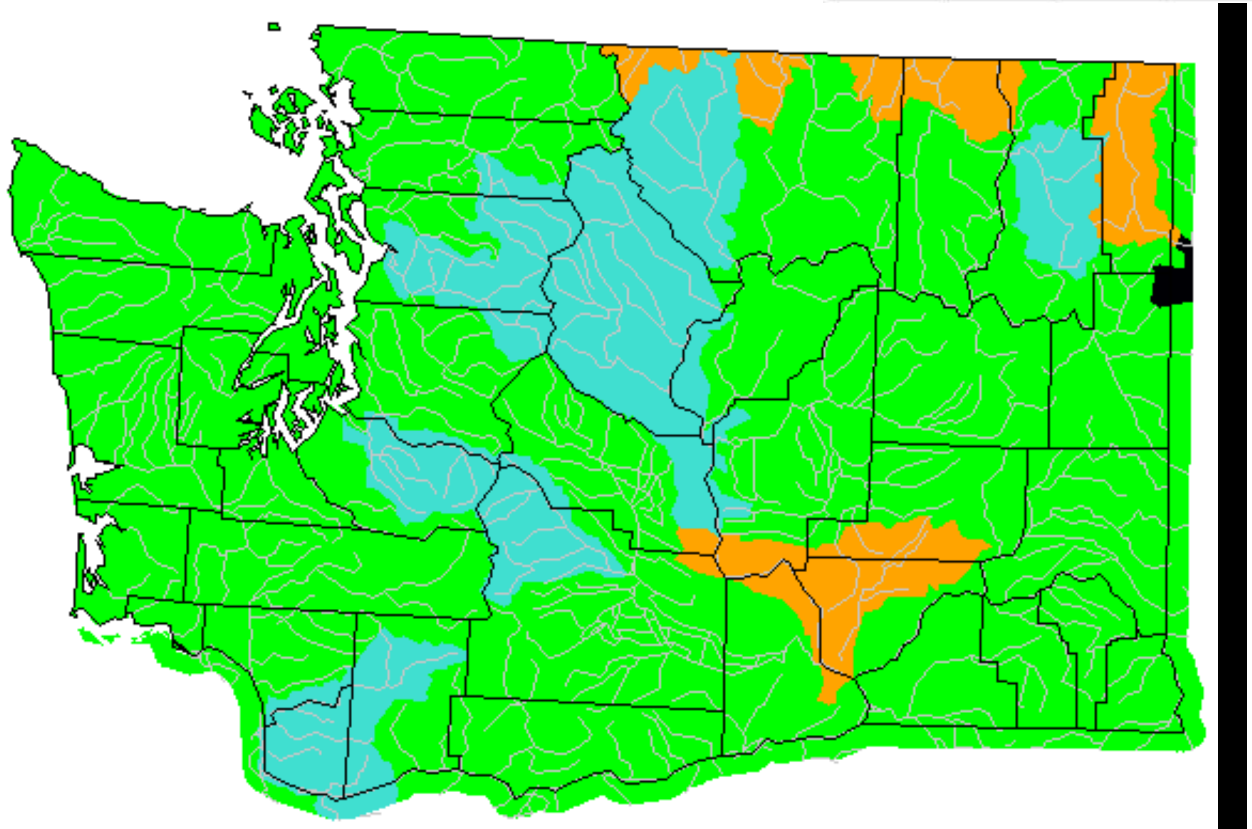
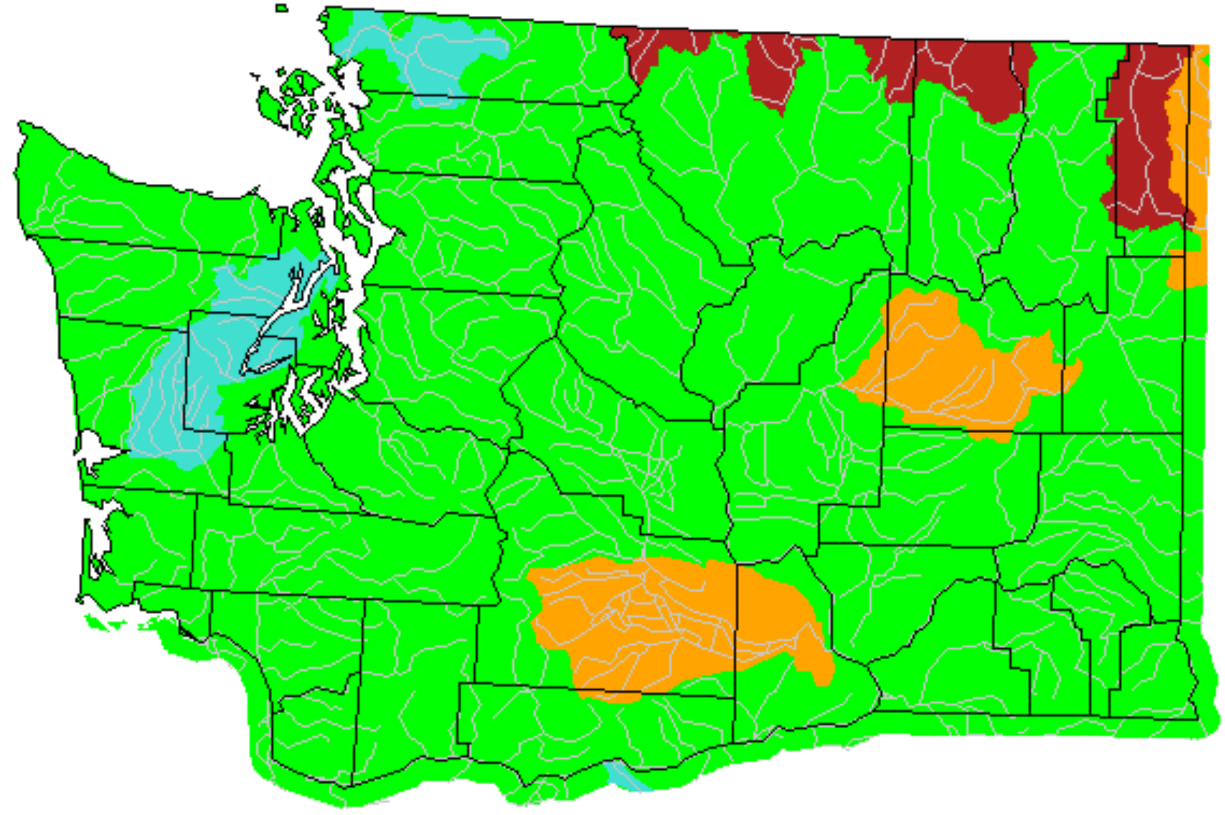
December 2023



December 2024



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

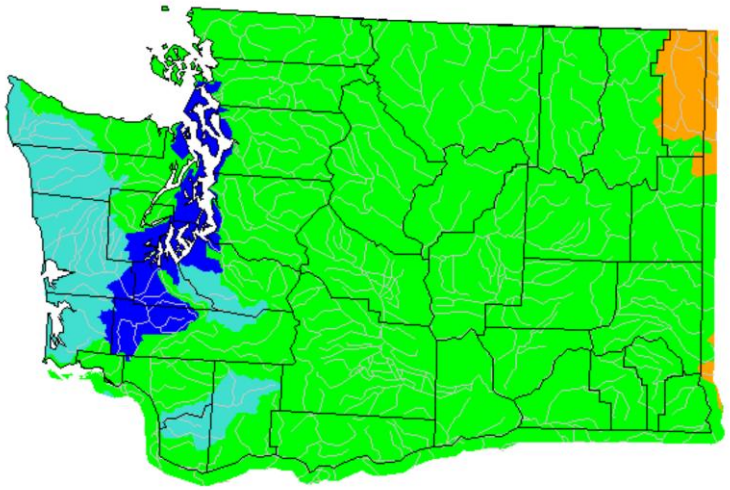
https://waterwatch.usgs.gov/

USGS
science for a changing world

Monthly average streamflow

compared to historical streamflow

December 2001



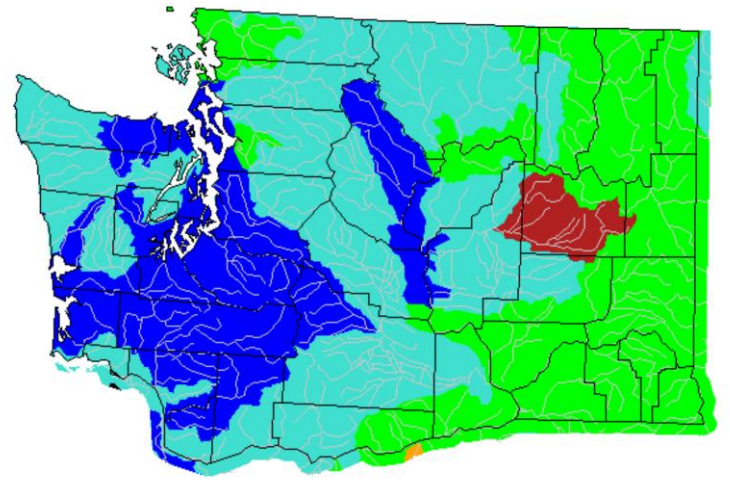
December 2005

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	

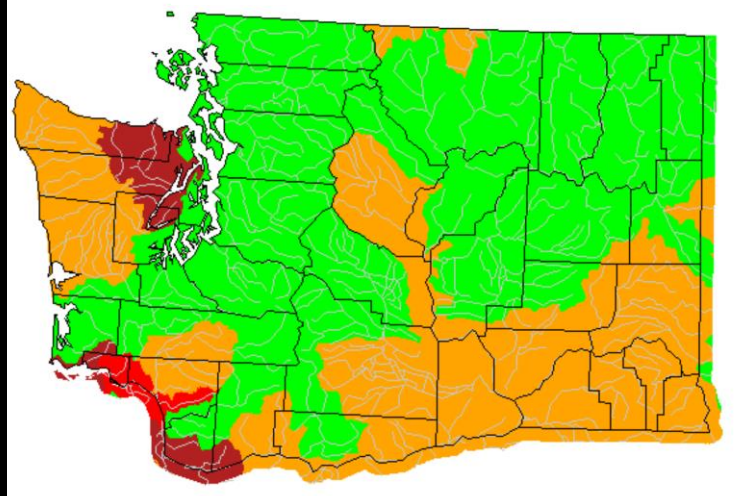
https://waterwatch.usgs.gov/

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

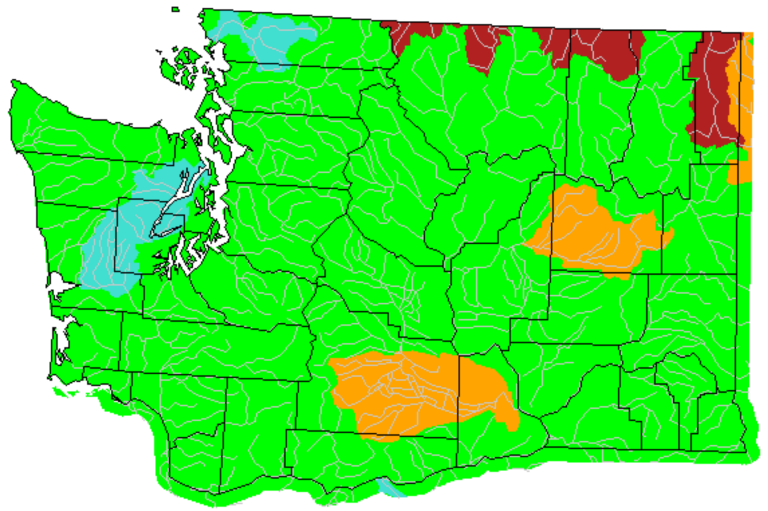
December 2015



December 2019

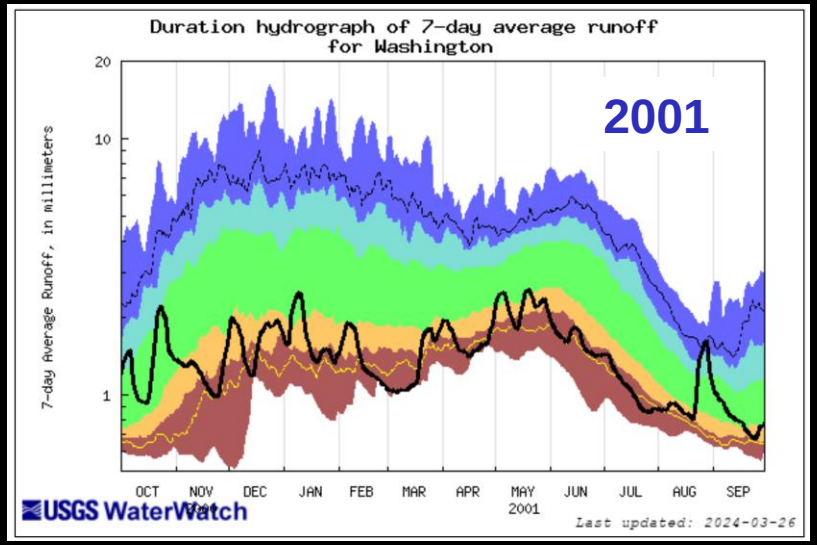


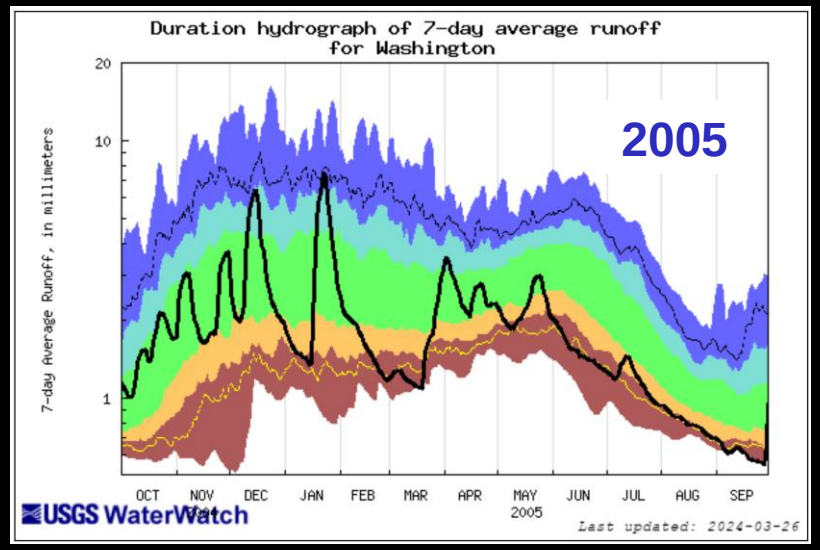
December 2024

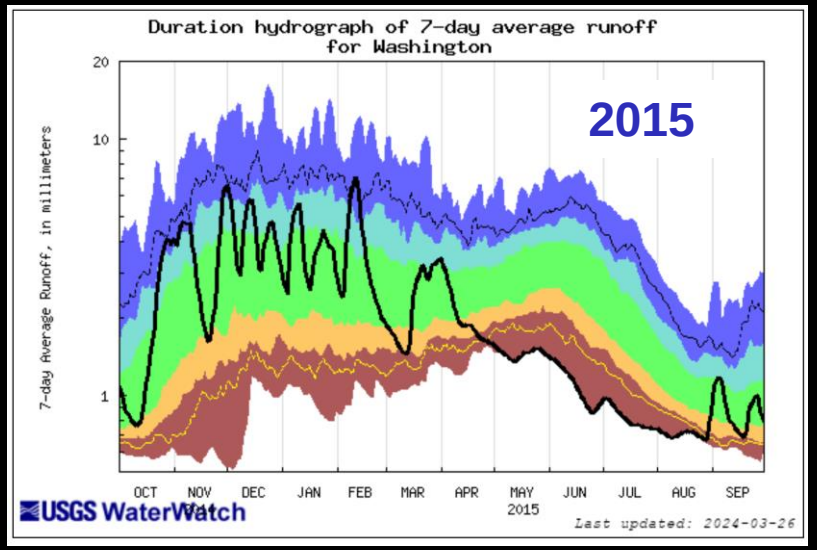


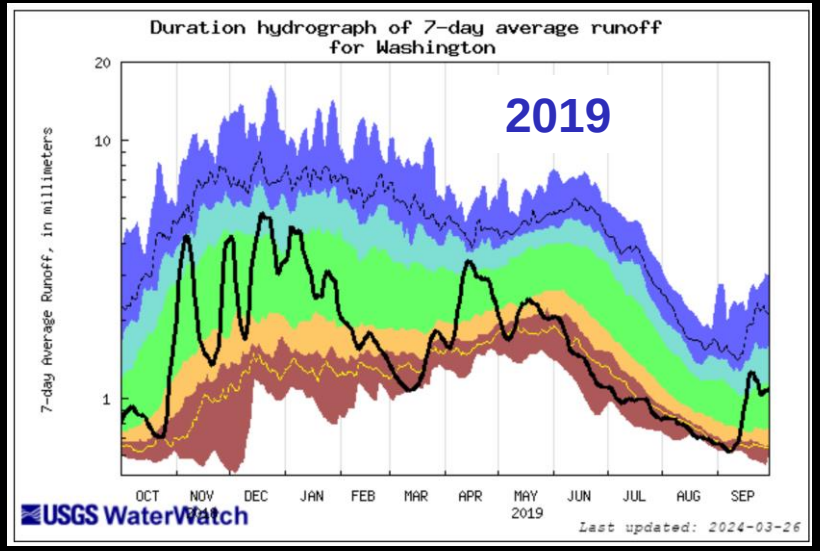
Area-Based Runoff Duration Hydrograph

7-day average streamflow

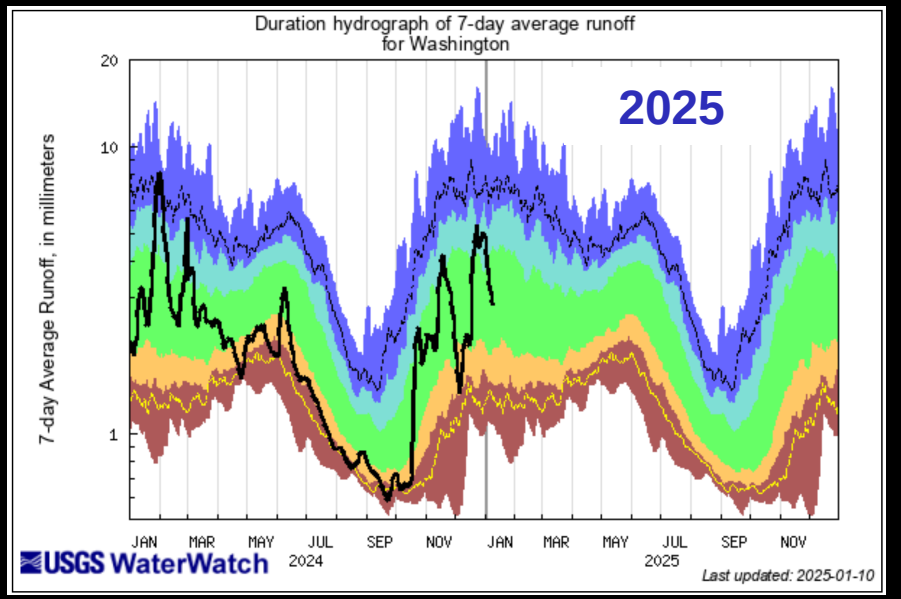


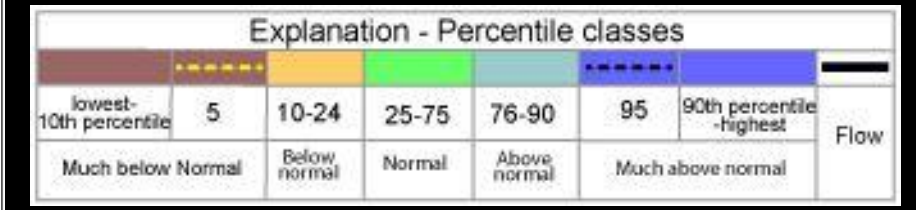






Duration hydrograph for the year compared to recent years of drought



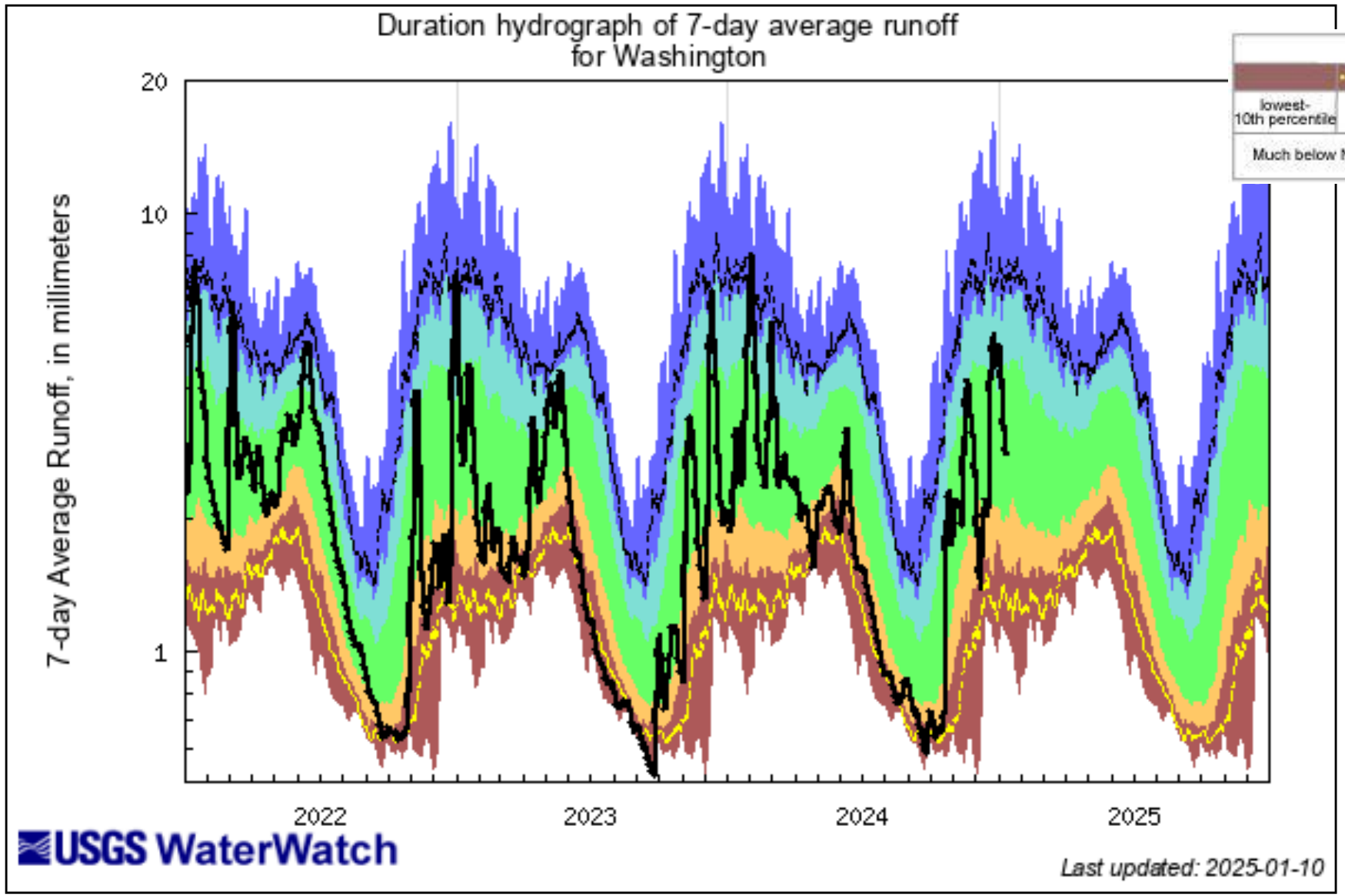


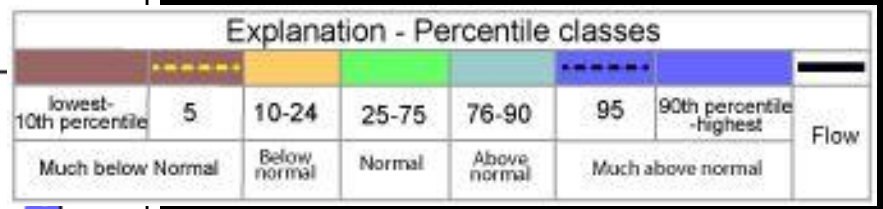
Preliminary Information-Subject to Revision. Not for Citation or Distribution.

https://waterwatch.usgs.gov/

Area-Based Runoff Duration Hydrograph

7-day average streamflow





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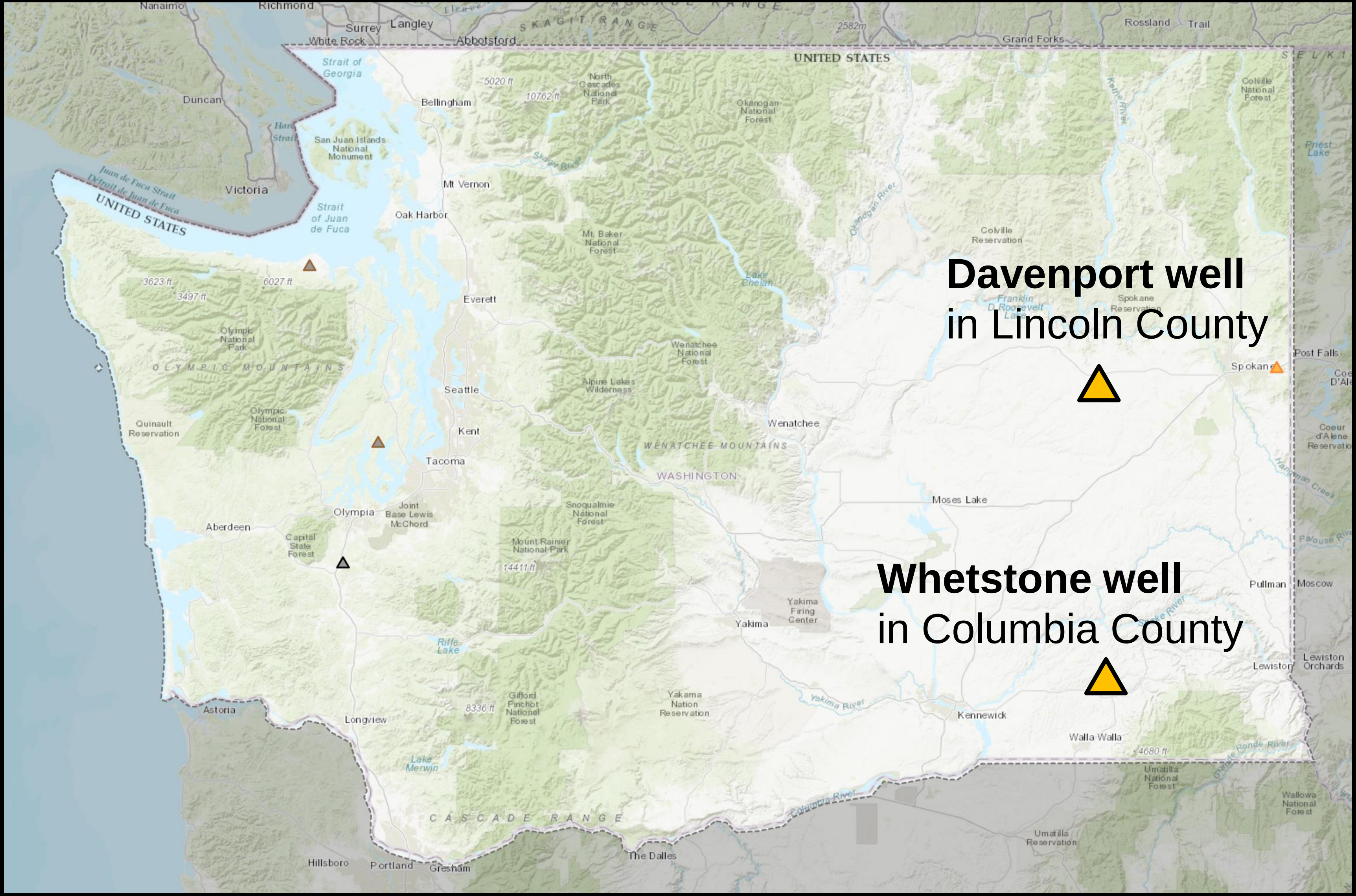
https://waterwatch.usgs.gov/

USGS science for a changing world

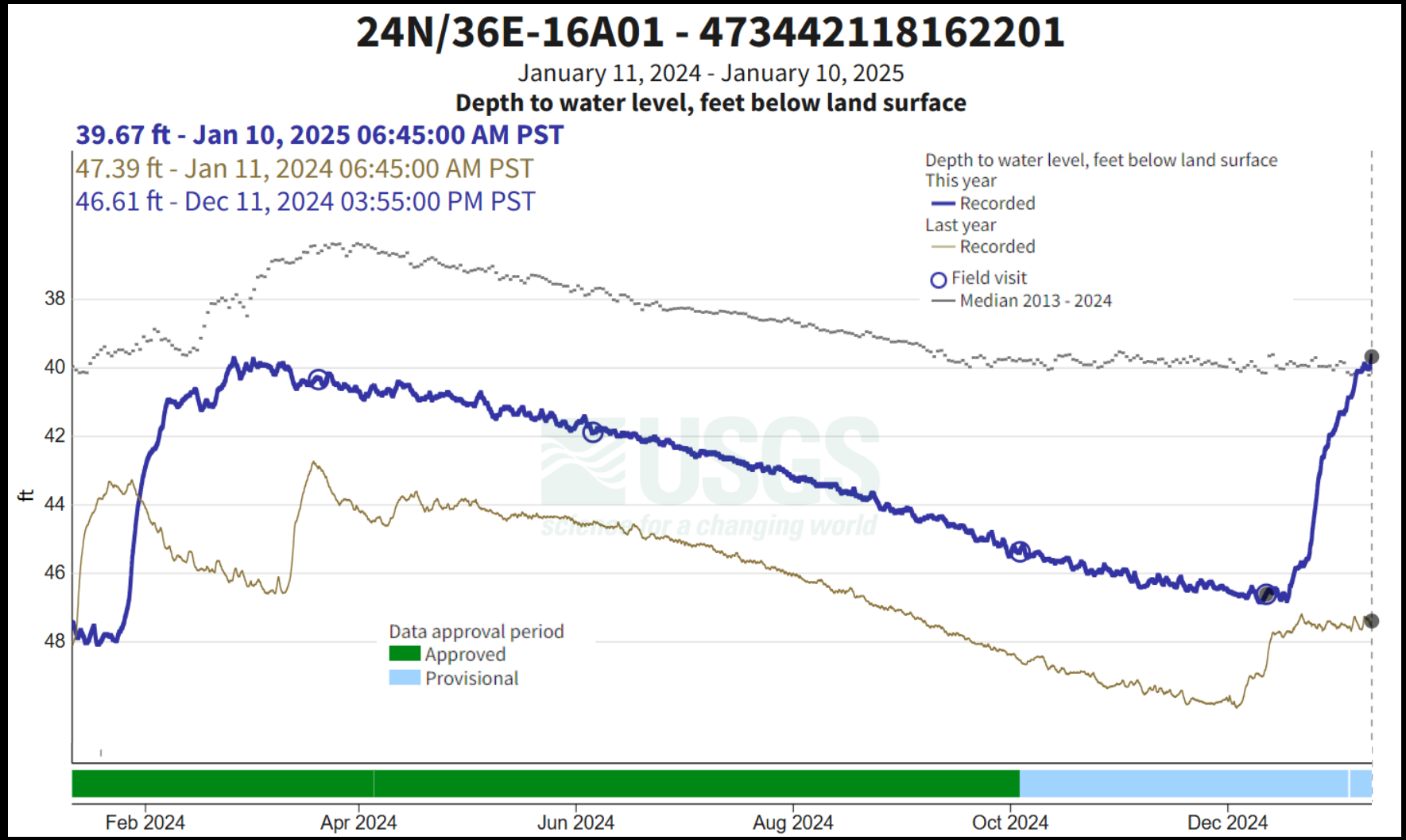
Two reference groundwater wells



https://dashboard.waterdata.usgs.gov/app/nwd/en/?aoi=state-wa

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

Davenport Well Groundwater Conditions



Davenport well

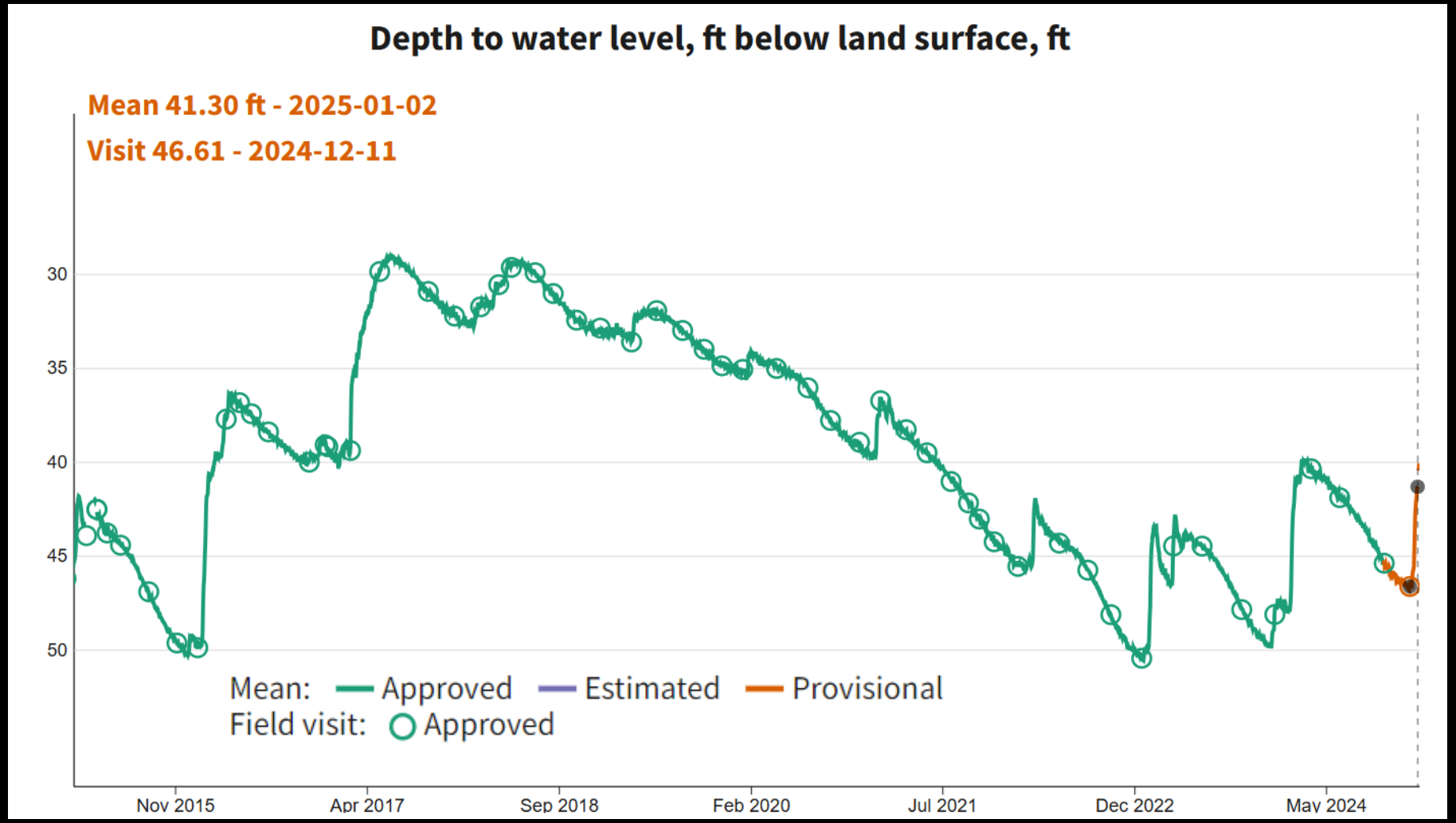
Well Details

- 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

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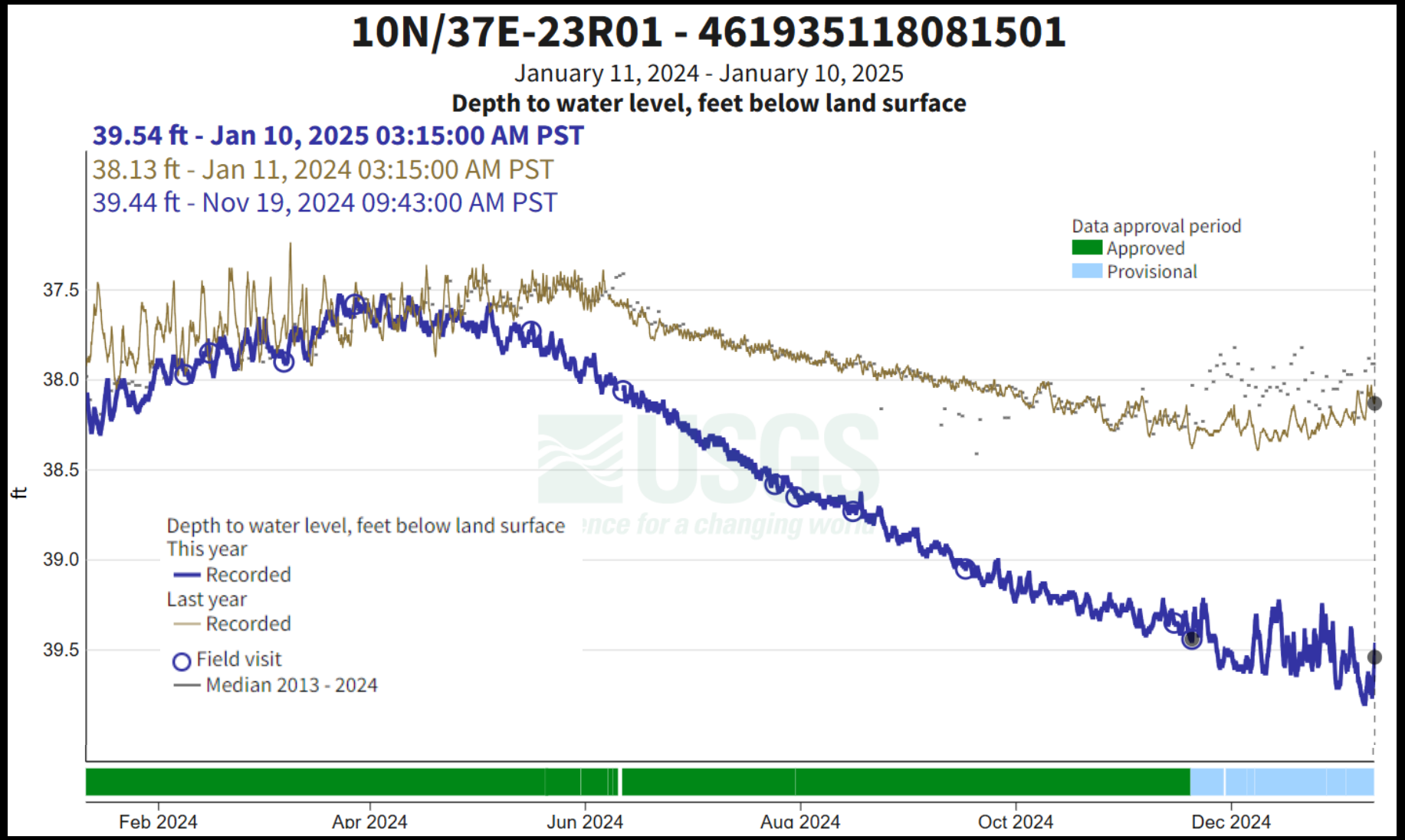
- Wanapum Basalt

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

https://dashboard.waterdata.usgs.gov/app/nwd/en/?aoi=state-wa

Whetstone Well Groundwater Conditions



Whetstone well

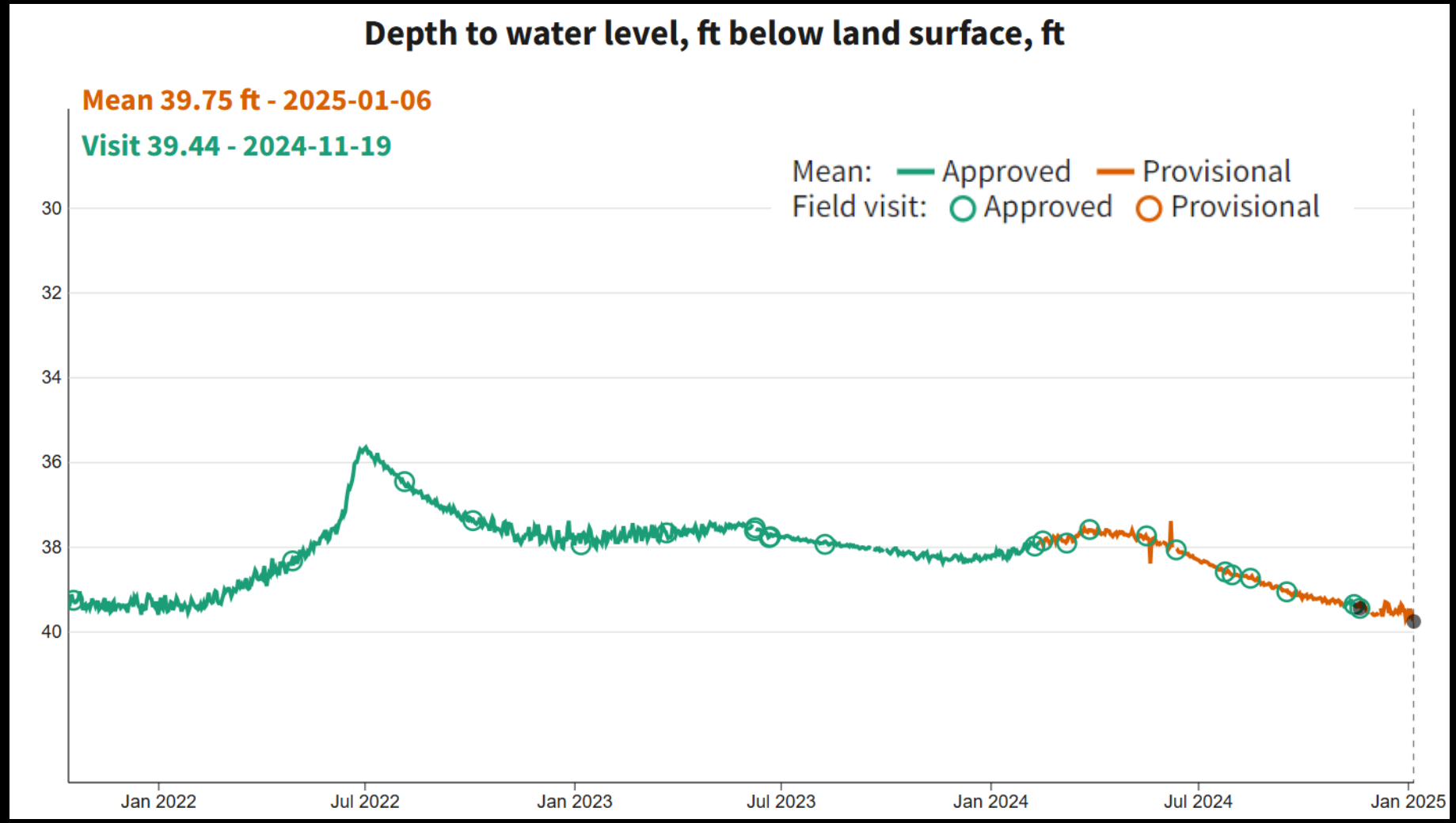
Well Details:

- 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



Well Details:

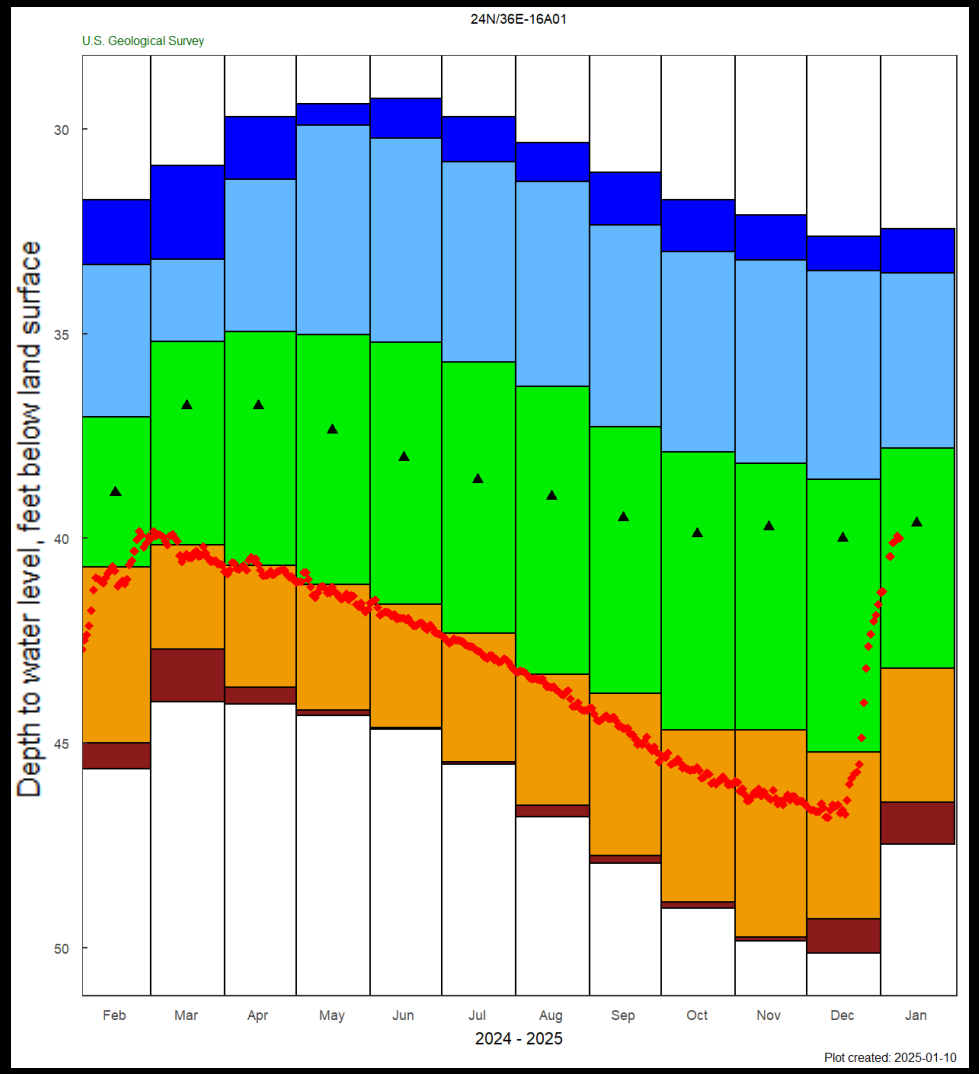
- Columbia County near Waitsburg
- 172.5-ft deep
- Grande Ronde Basalt Formation

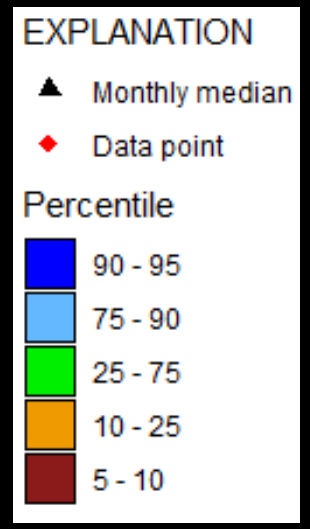
Preliminary Information- Subject to Revision. Not for Citation or Distribution.

https://dashboard.waterdata.usgs.gov/app/nwd/en/?aoi=state-wa

Groundwater Conditions

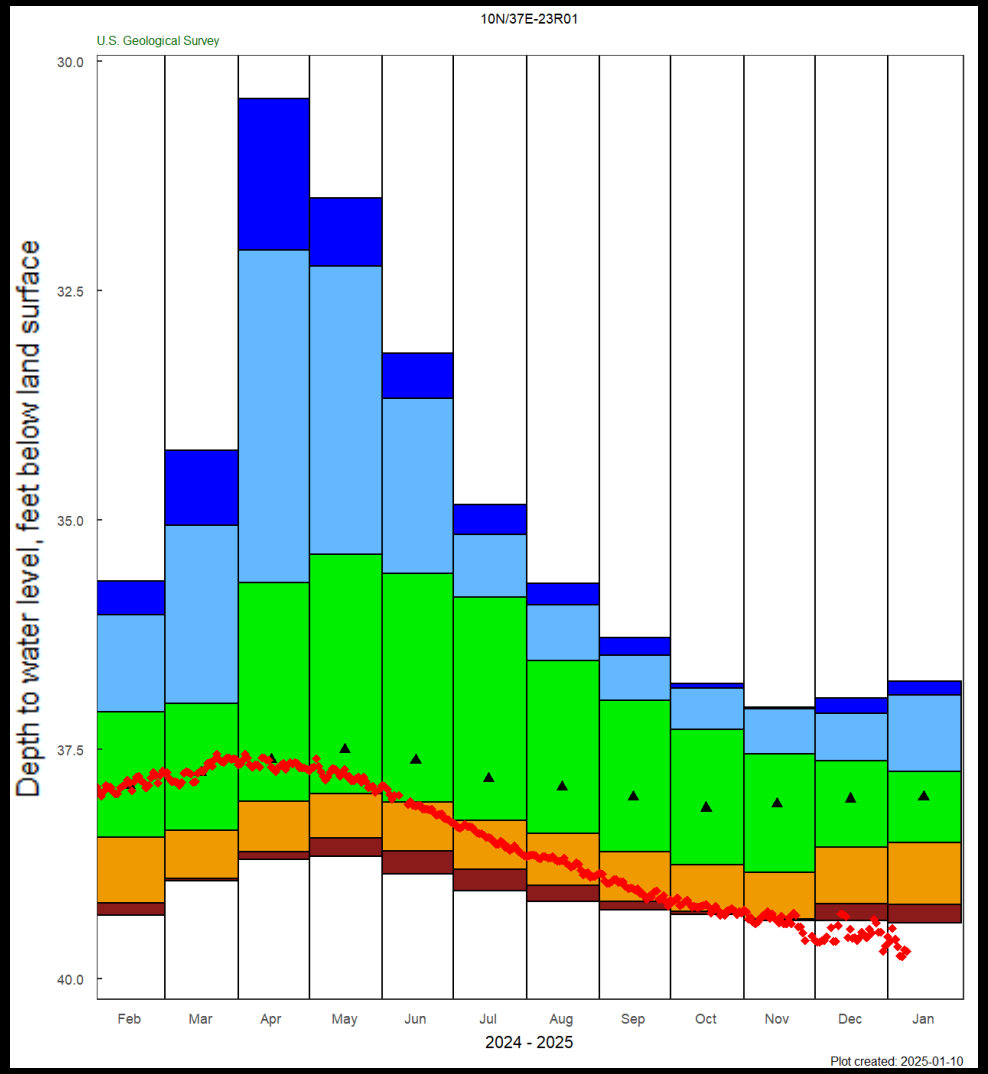
Davenport well





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

Whetstone well



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

USGS science for a changing world

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

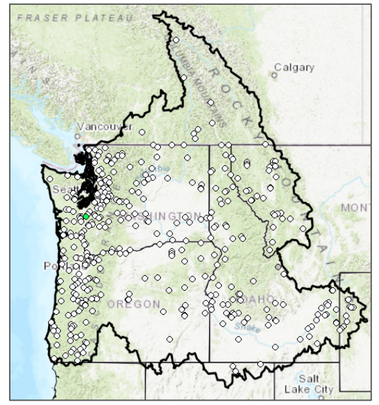
Preliminary Information- Subject to Revision. Not for Citation or Distribution.

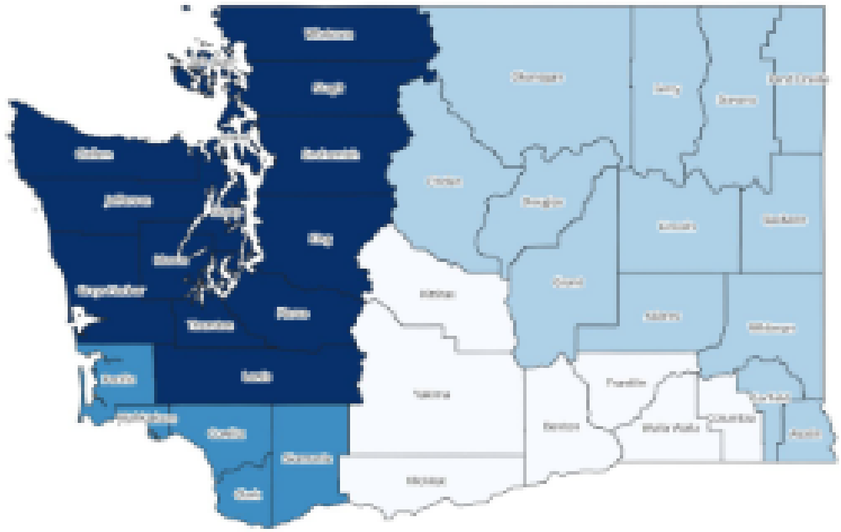
NWS

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

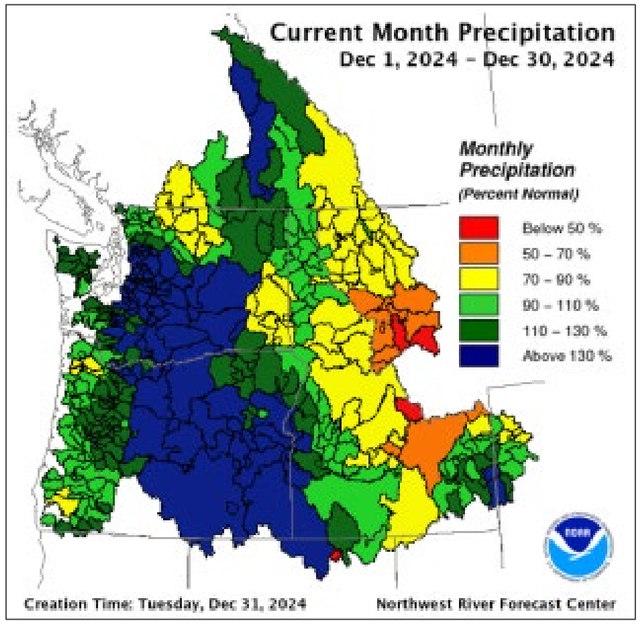


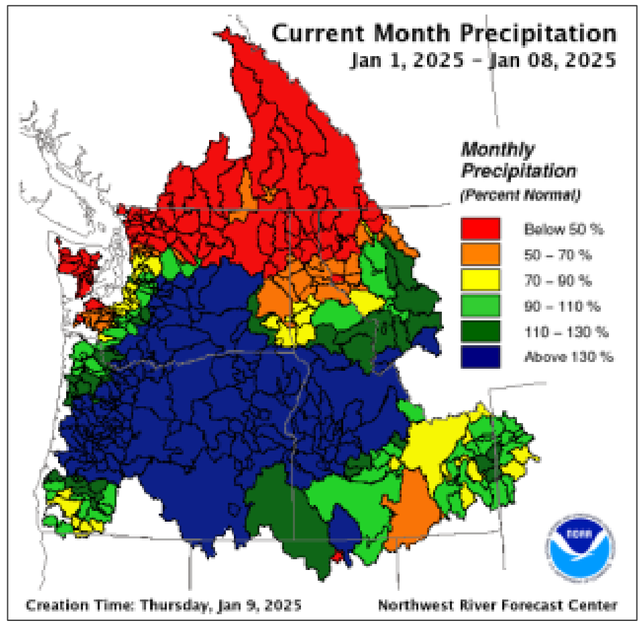


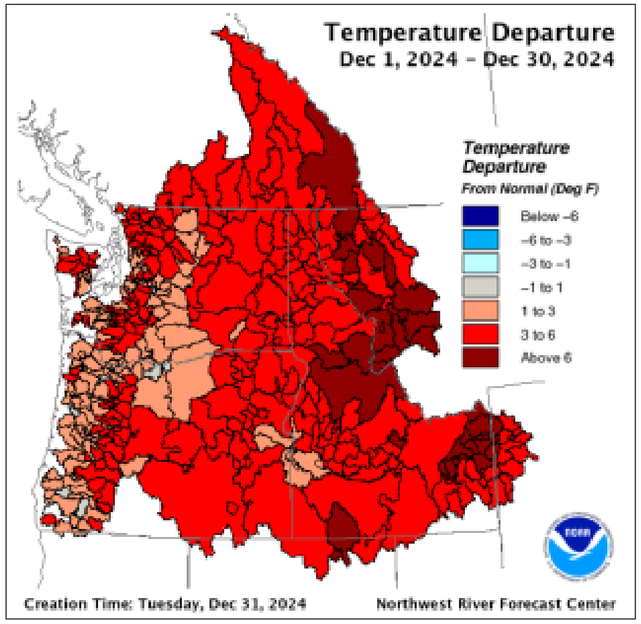
Washington State - Areas of Responsibility

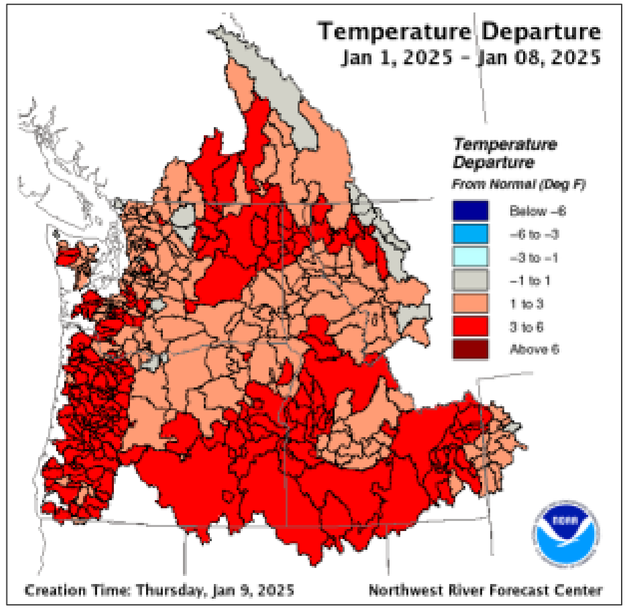
- Northwest Washington - NWS Seattle - nws.seattle@noaa.gov
- Southwest Washington - NWS Portland - nws.portland@noaa.gov
- Northeast Washington - NWS Spokane - nws.spokane@noaa.gov
- Southeast Washington - NWS Pendleton - pdt.operations@noaa.gov

Precipitation, Temperature, and Snowpack

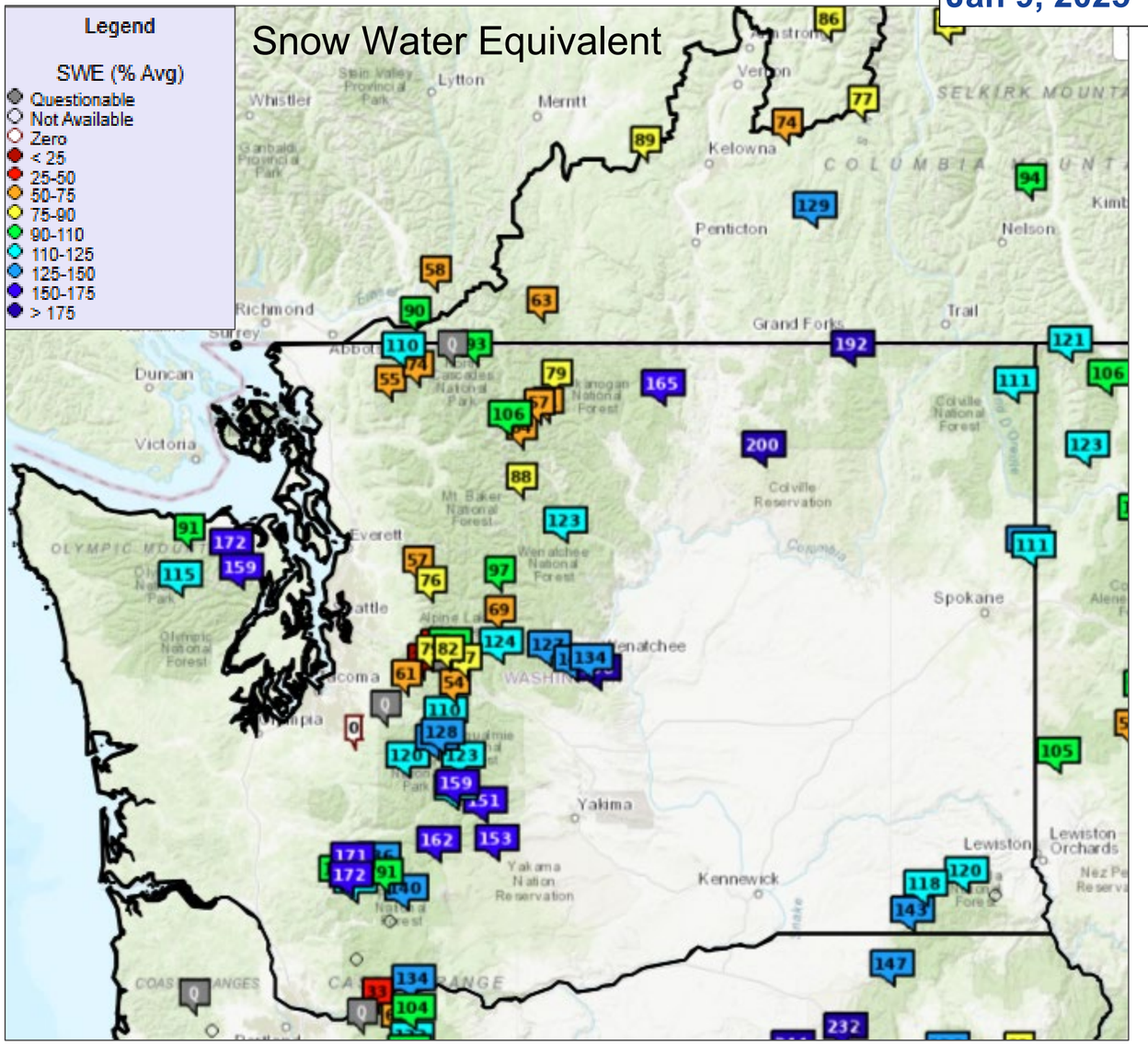




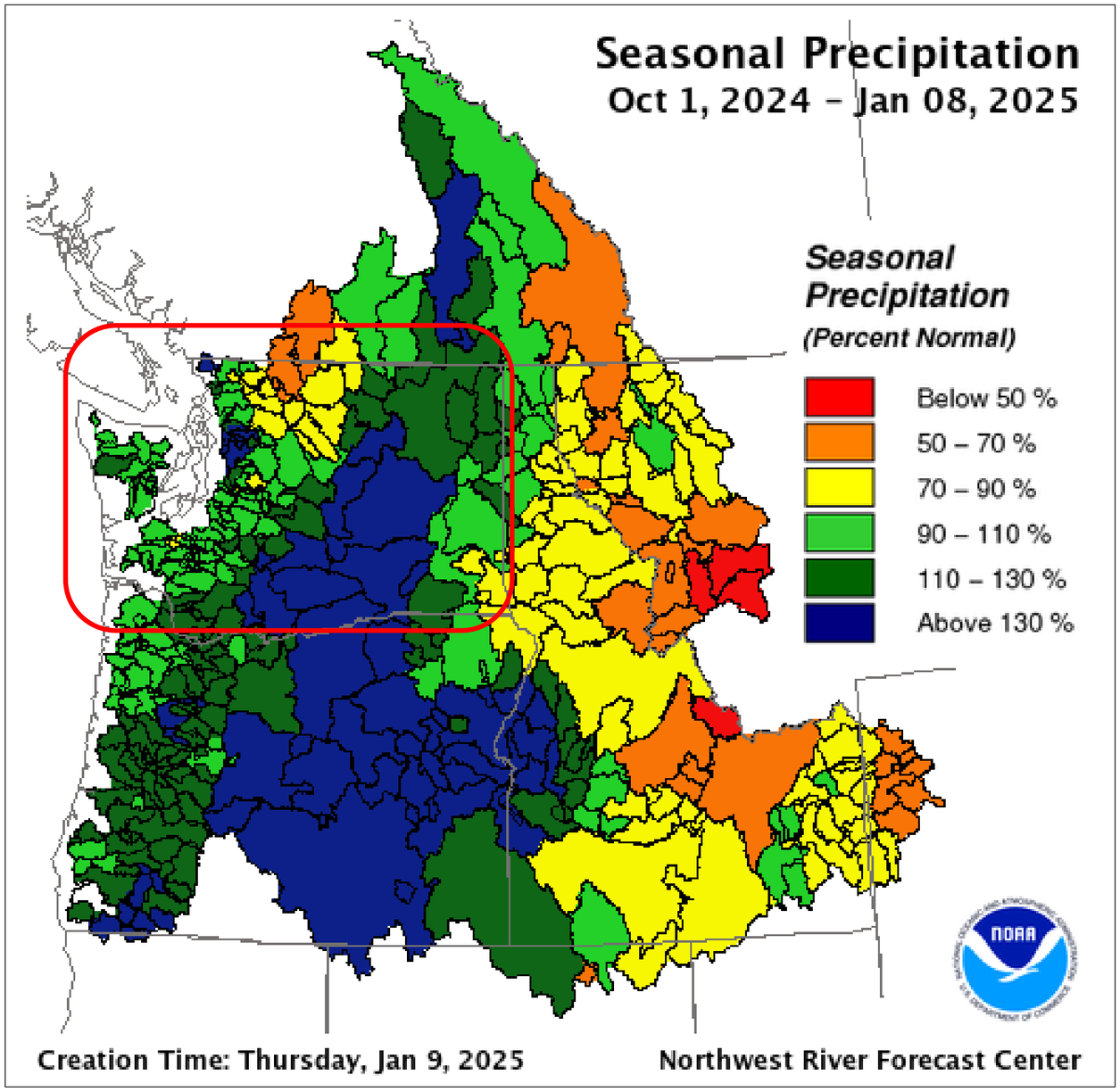




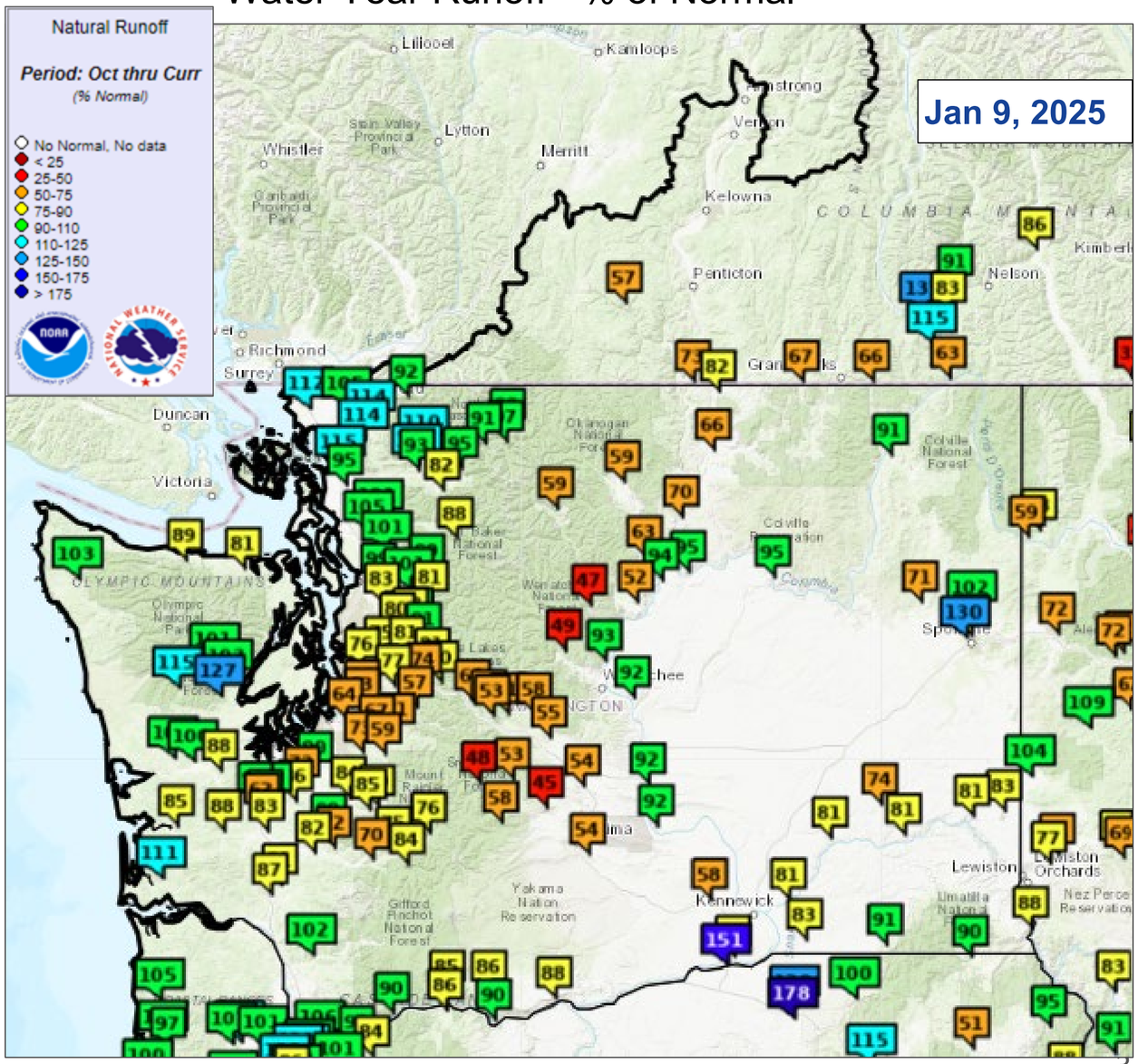
Jan 9, 2025



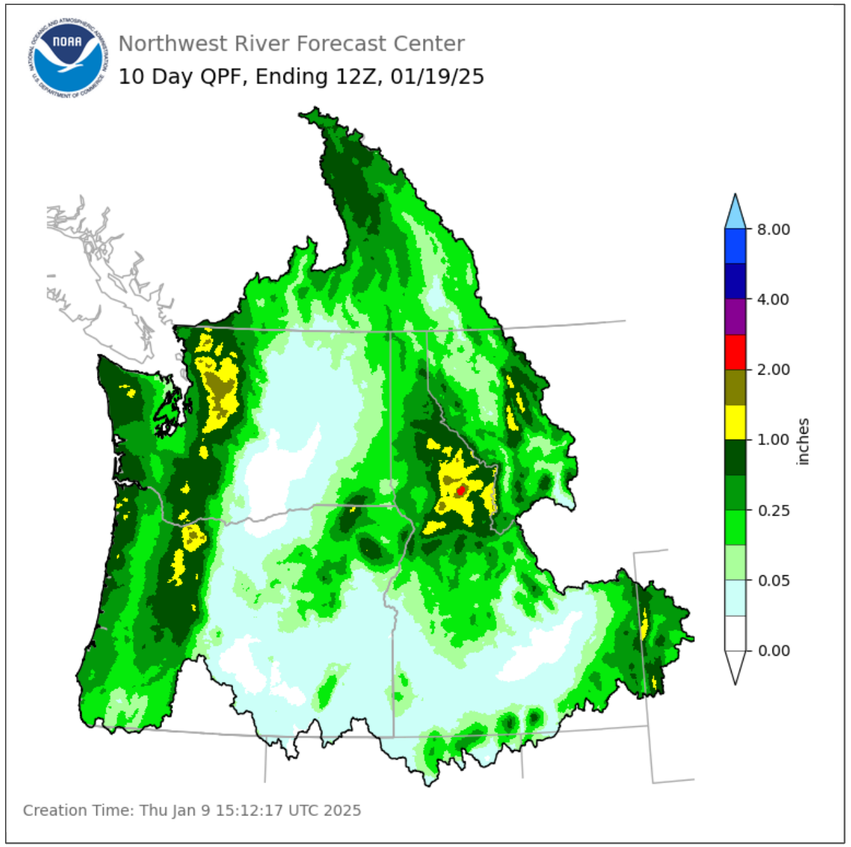
Precipitation and Runoff

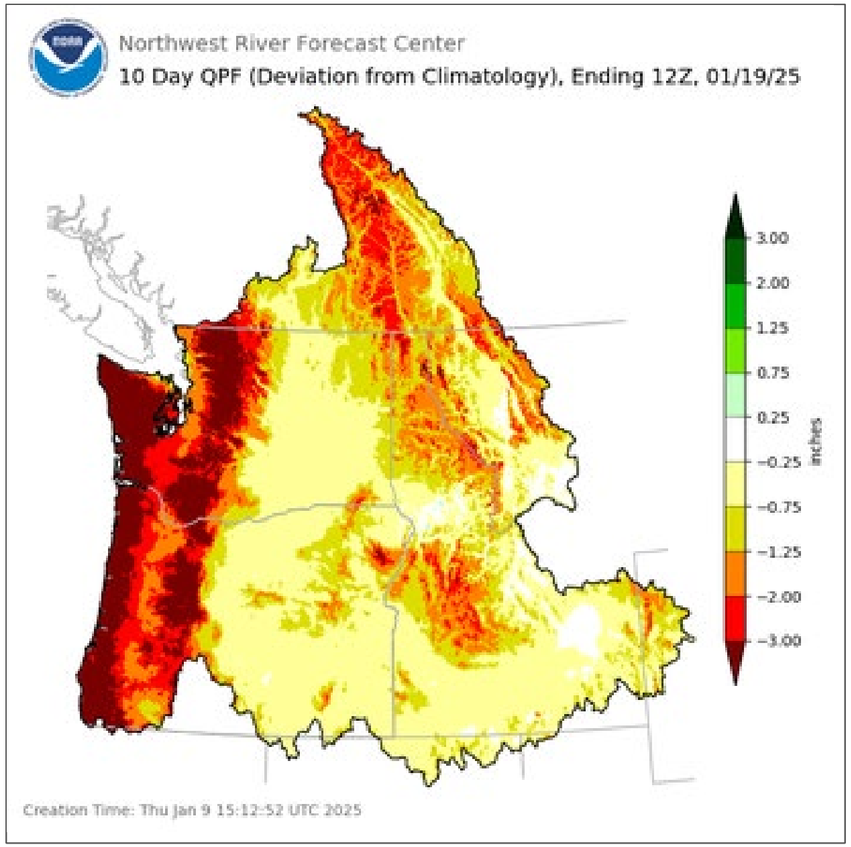


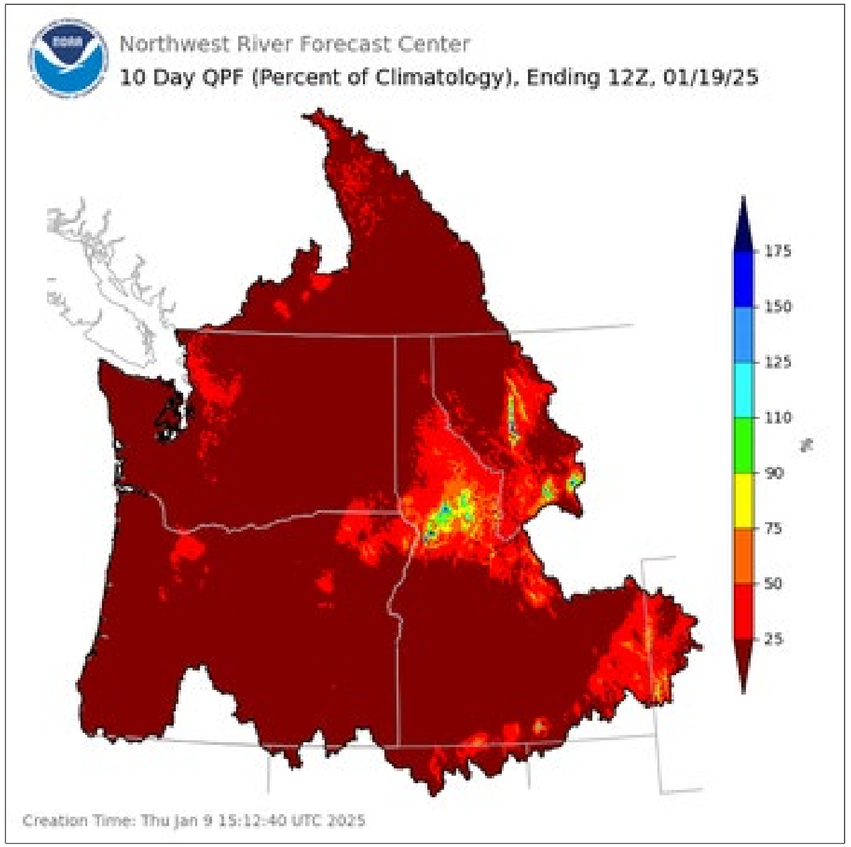
Water Year Runoff - % of Normal



10 Day Precipitation Forecast used in ESP10 Forecasts





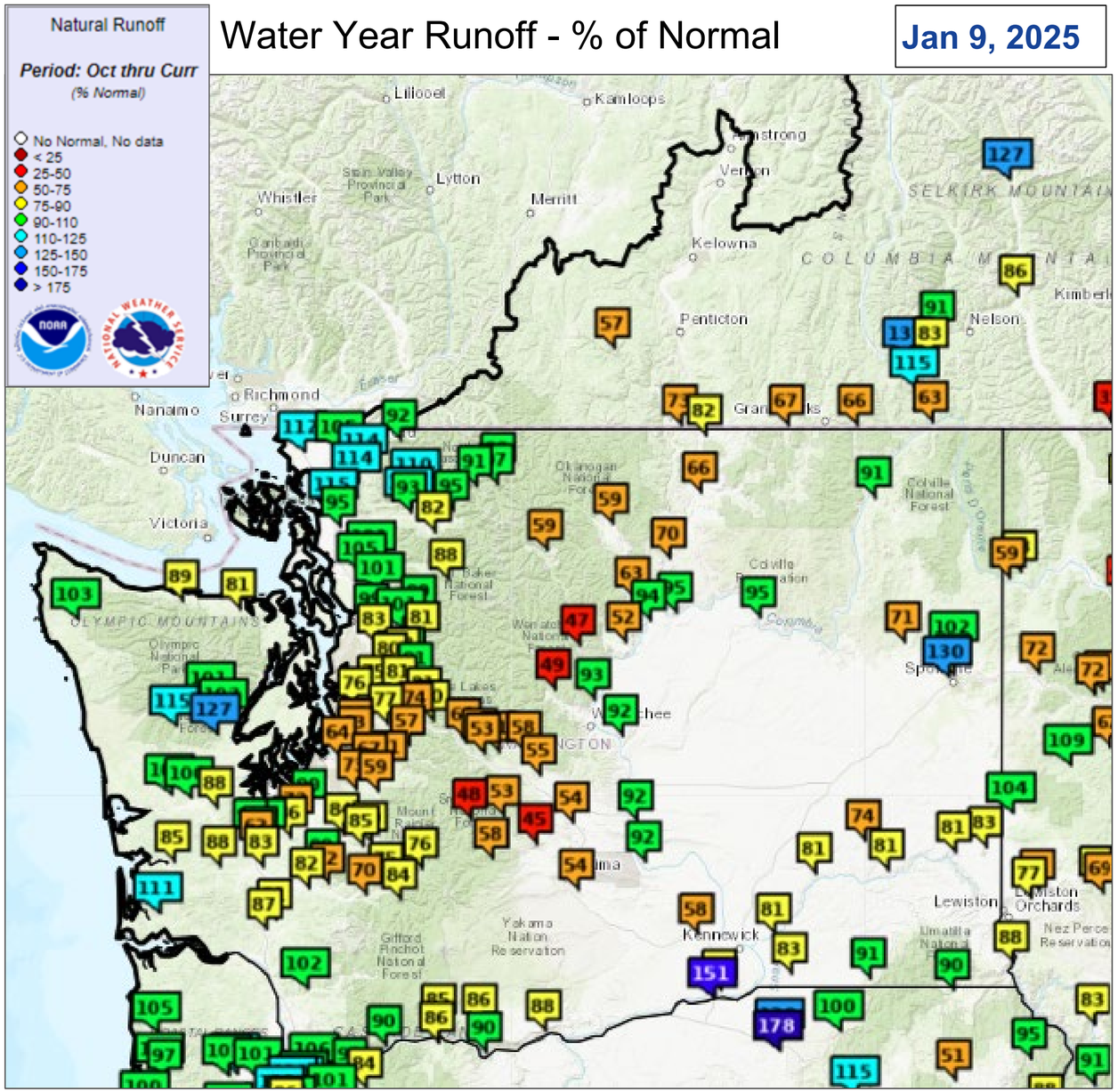


Quantitative Precipitation Forecast (QPF) Sources
Days 1 - 2 NWS Weather Forecast Offices (WFO) in the US, WPC in BC
Days 3 - 7 NWS Weather Prediction Center (WPC)
Days 8 - 10 NWS National Blend of Models (NBM)

WY Runoff and Water Supply Forecasts

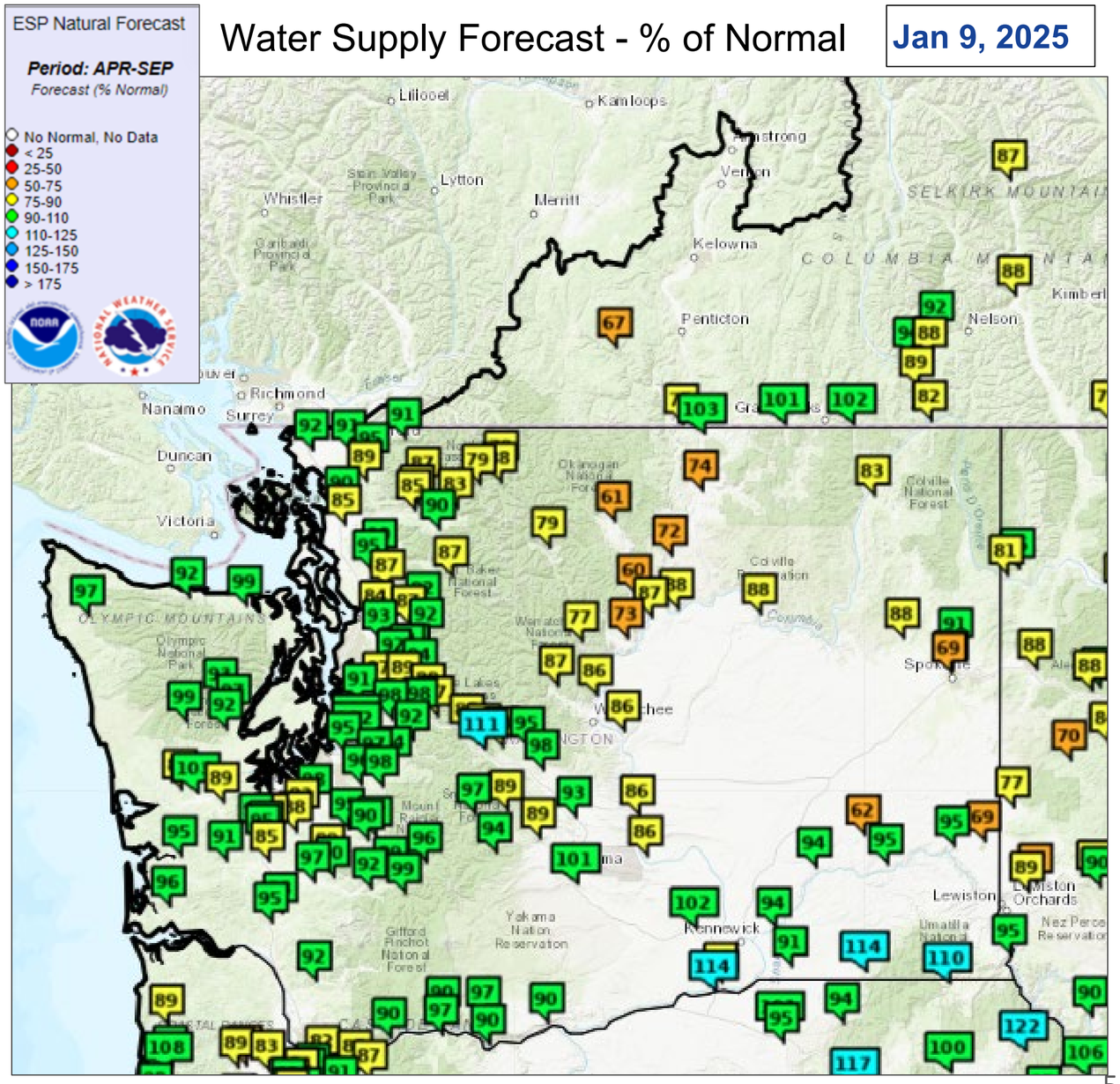
Water Year Runoff - % of Normal

Jan 9, 2025

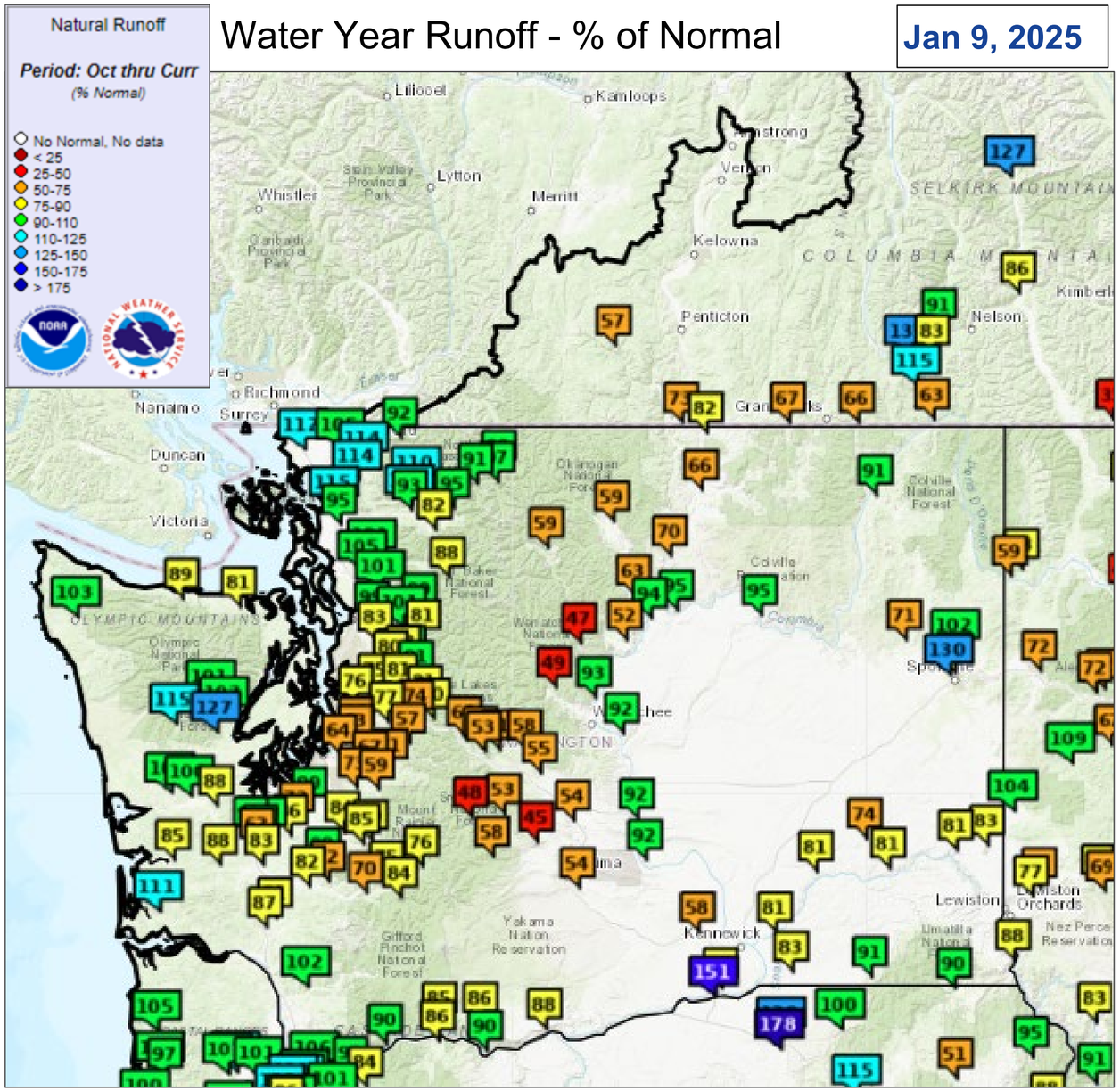


Water Supply Forecast - % of Normal

Jan 9, 2025



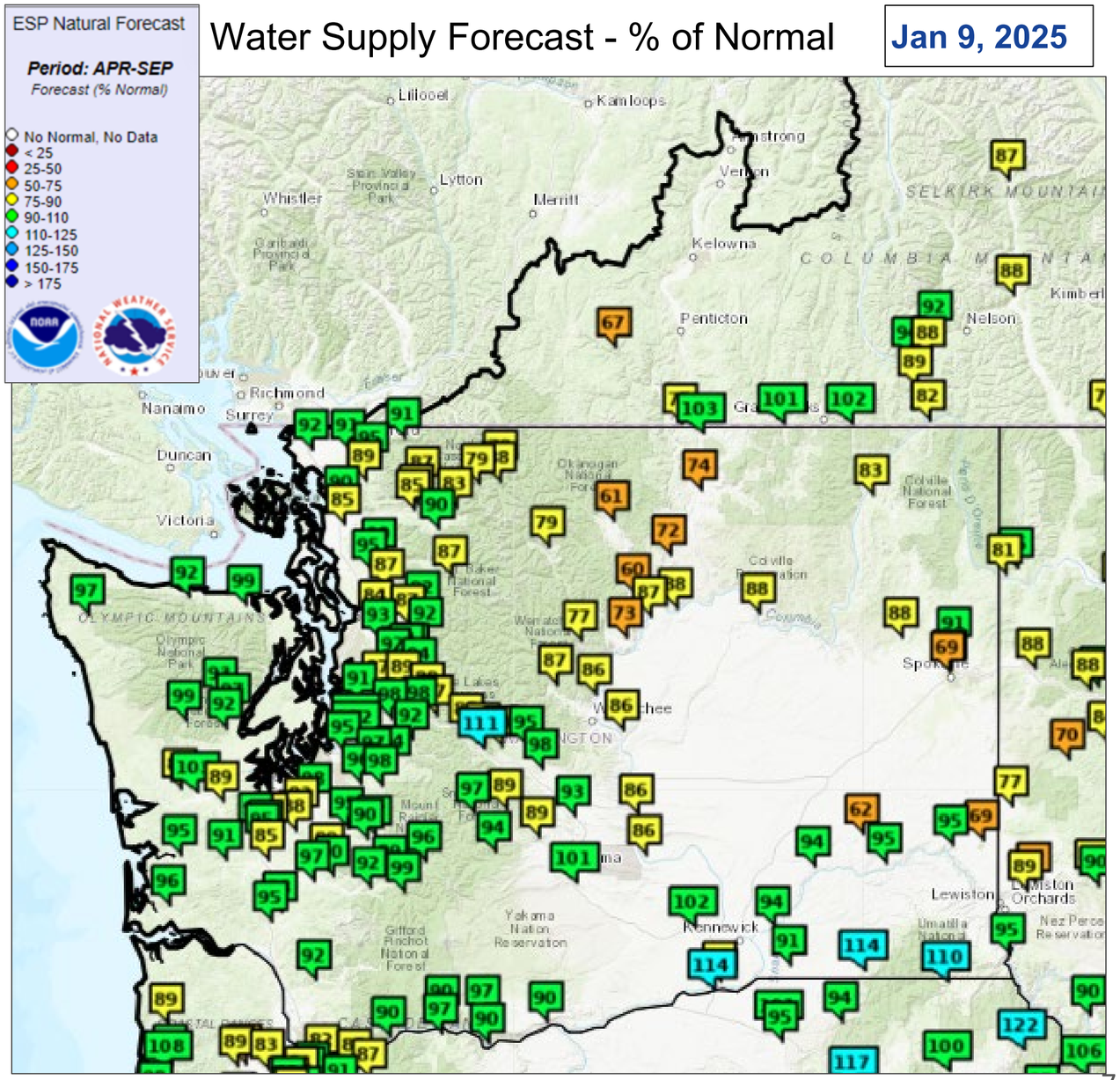
WY Runoff Stats



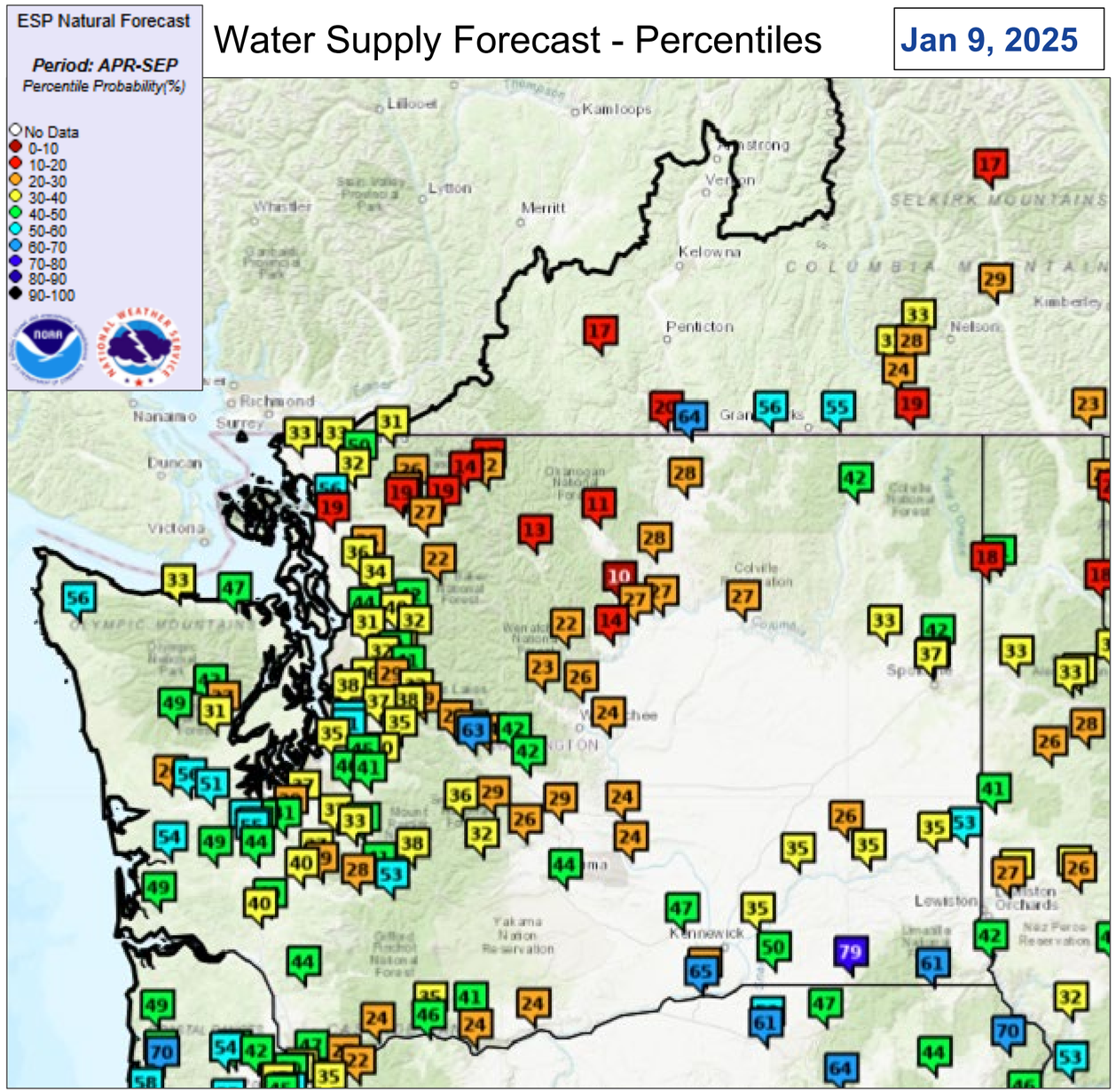
Forecast Point	% Normal Runoff Oct 1 - Current	Change Since Dec 11, 2024
Skagit nr Mt Vernon	95	+9
Dungeness nr Sequim	81	+24
Chehalis at Porter	88	+25
Okanogan at Malott	70	+4
Methow near Pateros	63	+5
Yakima at Parker	54	+10
Walla Walla near Touchet	83	+30

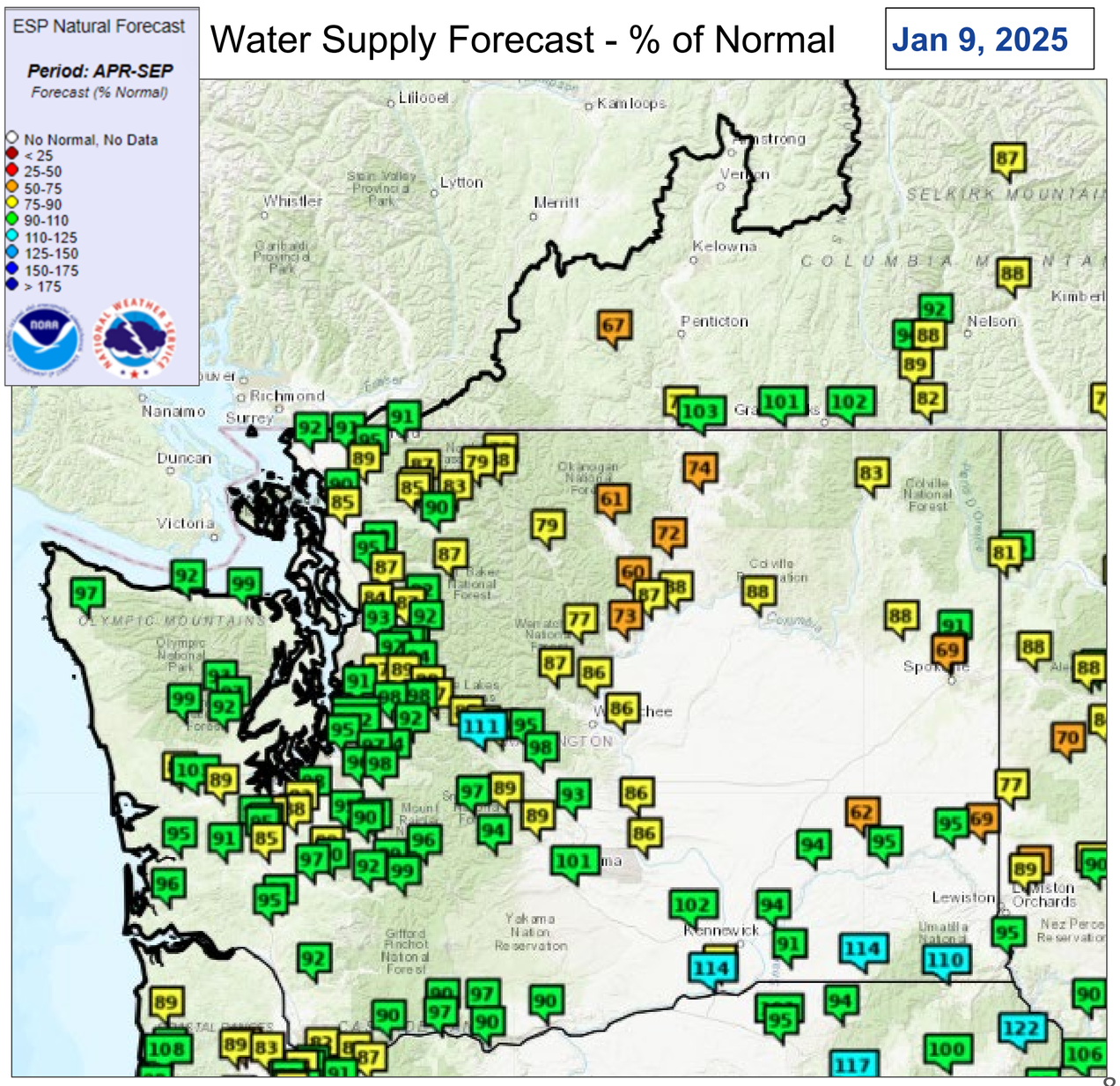
Water Supply Forecasts

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



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.