



Office of the Washington State Climatologist



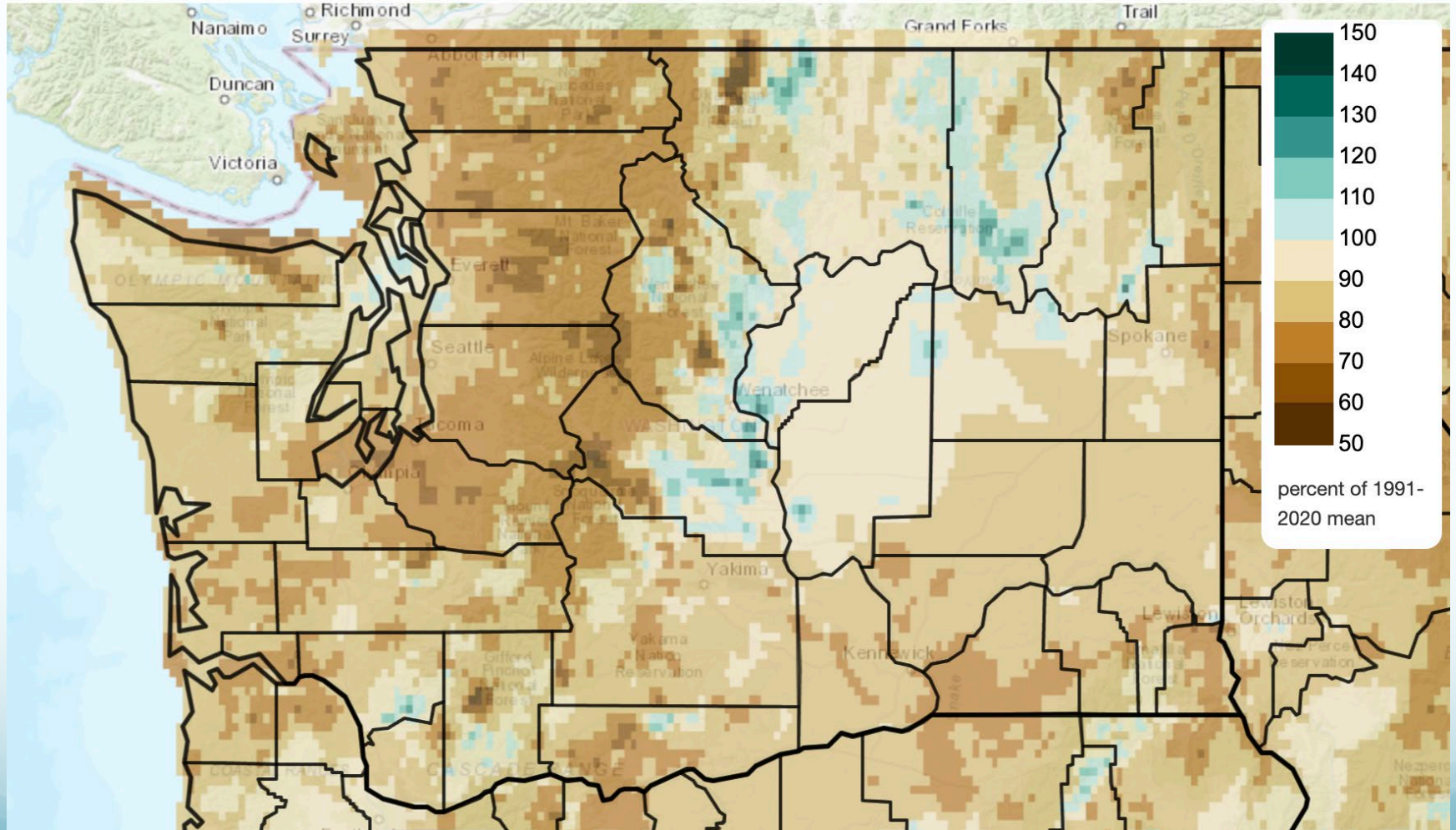
# Current Conditions and Seasonal Outlook

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Office of the Washington State Climatologist  
Cooperative Institute for Climate, Ocean, and Ecosystem Studies  
University of Washington  
31 July 2023

# Water Year Precipitation: Percent of Mean

Total Precipitation Anomaly, Since Oct 1st

2022/10/01 - 2023/07/25



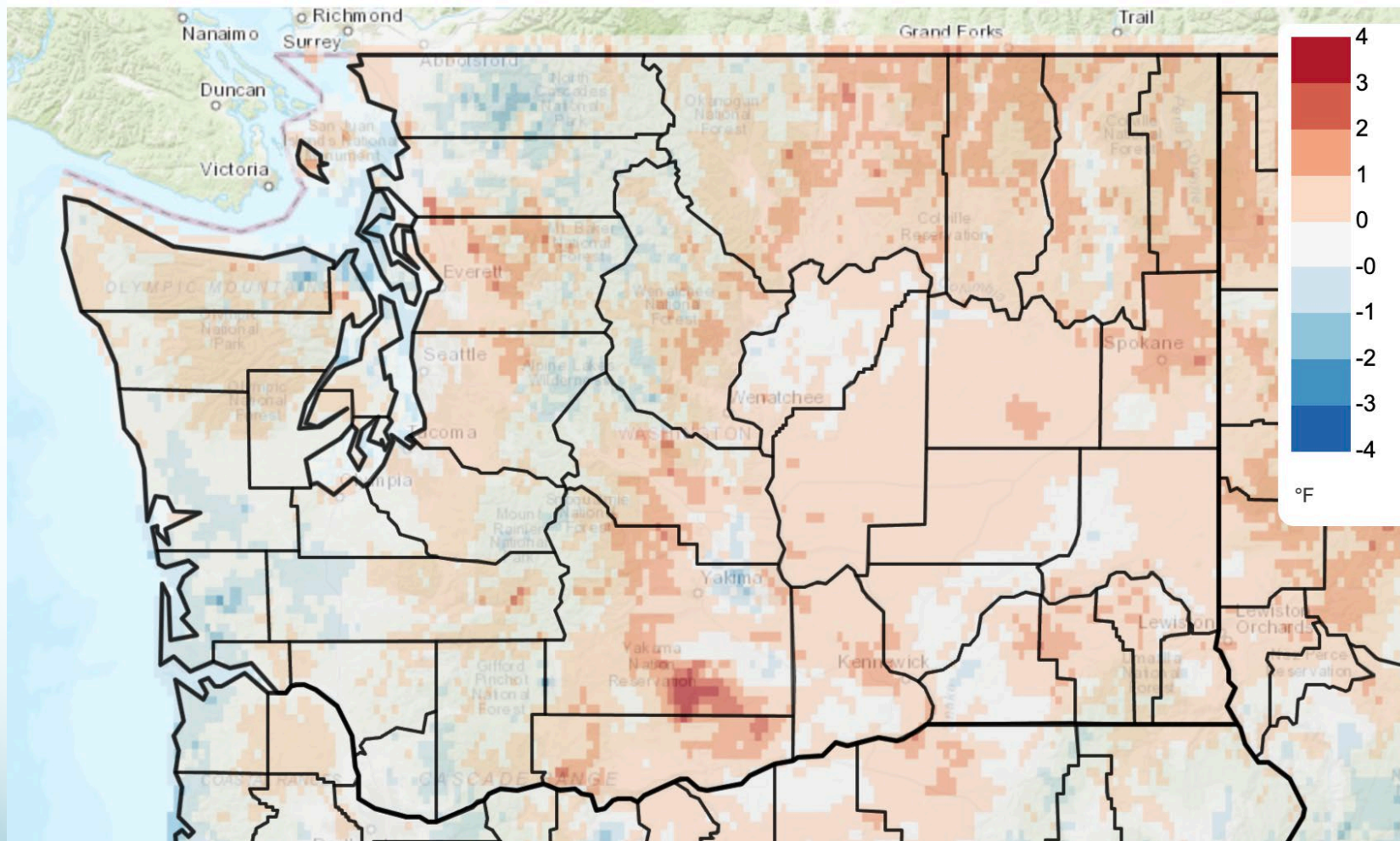
(Climate Toolbox)



# Mean Daily Temperature Anomaly: Since Jan

1

2023/01/01 - 2023/07/25



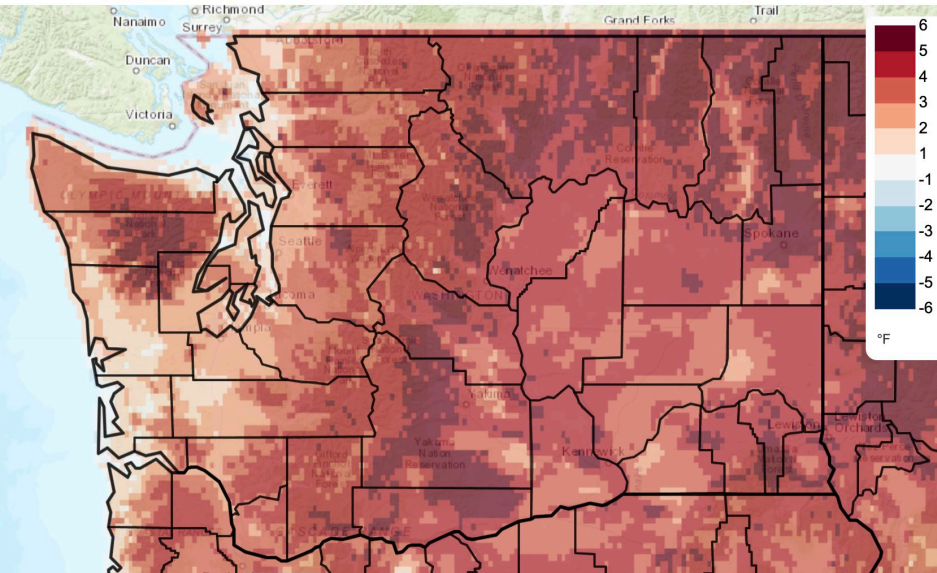
(Climate Toolbox)

# Last 90 Days

## Temperature

### Mean Daily Temperature Anomaly, Last 90 Days

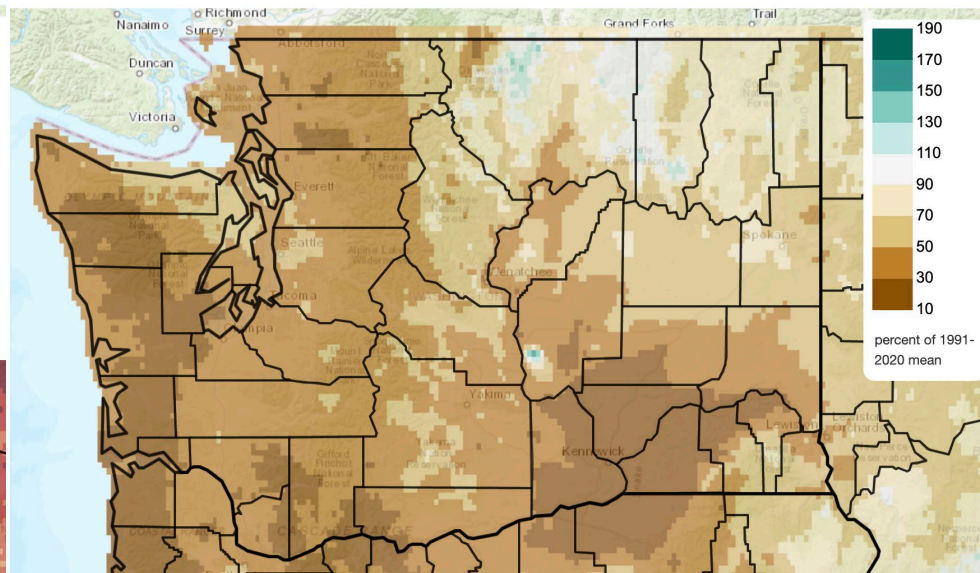
2023/04/27 - 2023/07/25



## Precipitation

### Total Precipitation Anomaly, Last 90 Days

2023/04/27 - 2023/07/25



Climate Toolbox

- The temperatures over the last 90 days are in the 90<sup>th</sup> percentile\* for the entire state
- Precipitation totals are about 50% statewide, and in the lowest 10<sup>th</sup> percentile\* for all but portions of eastern WA

\*Records since 1979

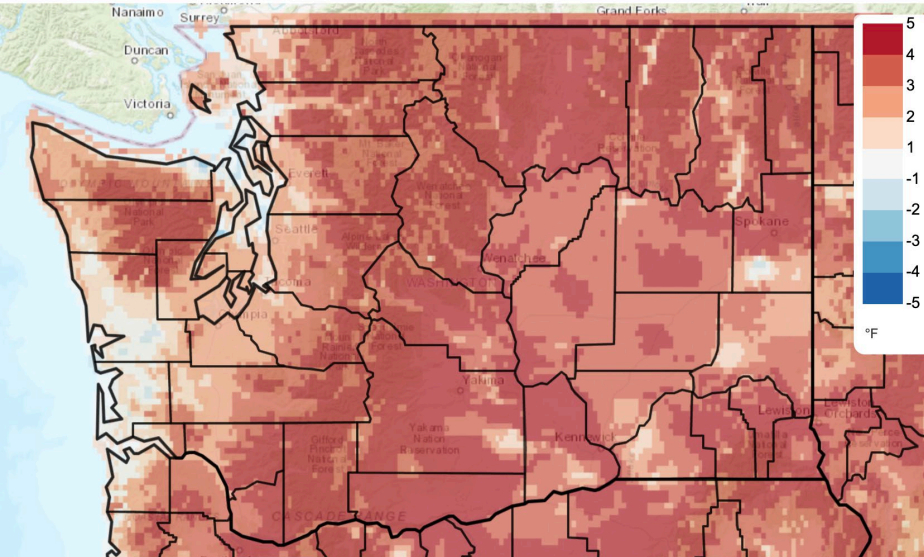


# Last 30 Days

## Temperature

Mean Daily Temperature Anomaly, Last 30 Days

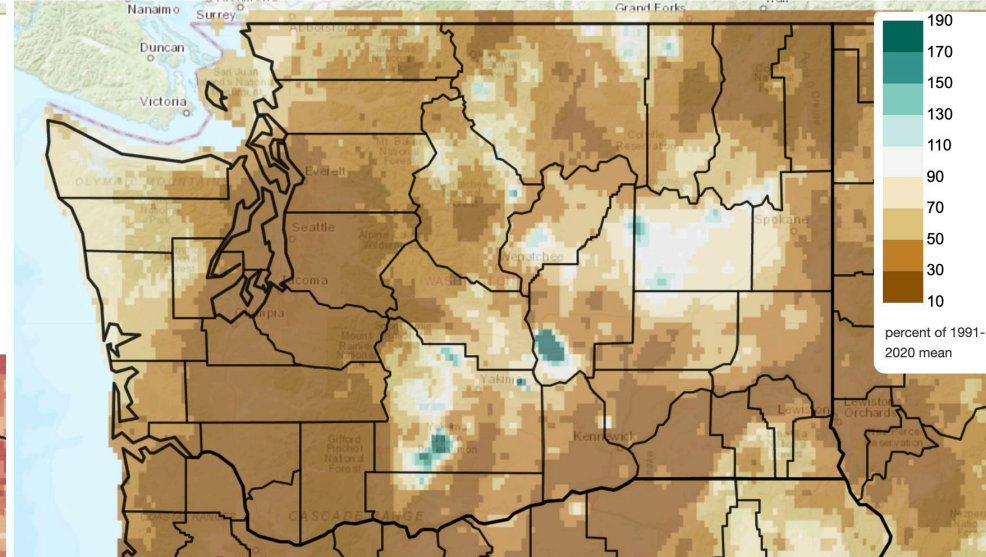
2023/06/26 - 2023/07/25



## Precipitation

Total Precipitation Anomaly, Last 30 Days

2023/06/26 - 2023/07/25



Climate Toolbox

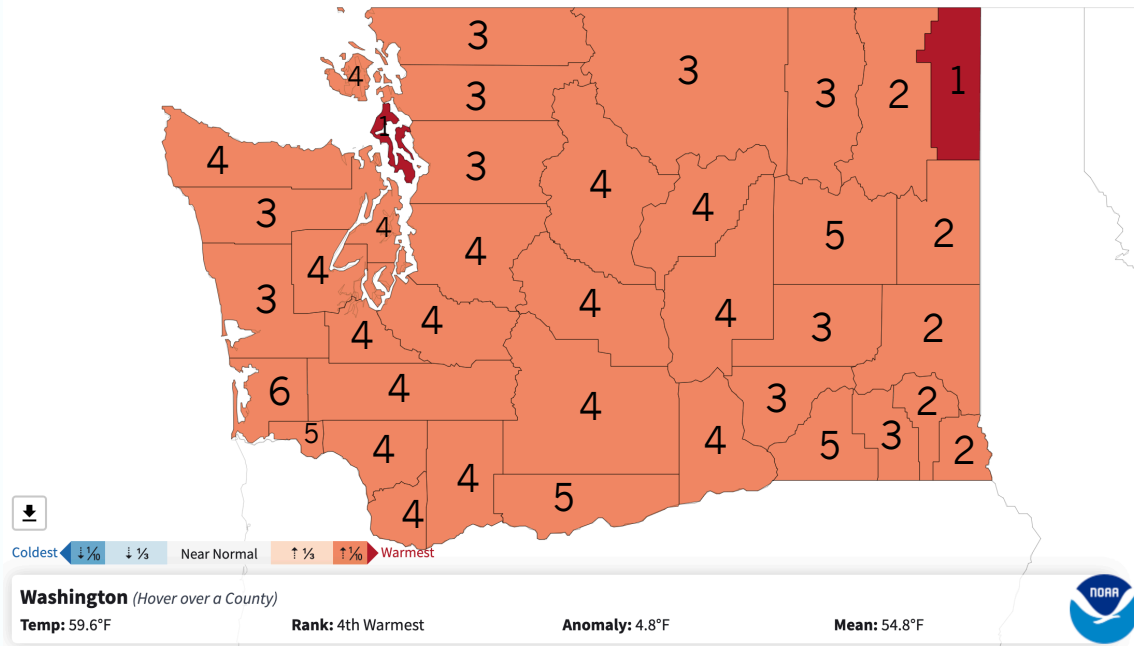
- The warm temperatures over the last 30 days are in the 90<sup>th</sup> percentile or above\* for most of the state
- Precipitation totals continue to be below normal

\*Records since 1979

# May-June 2023

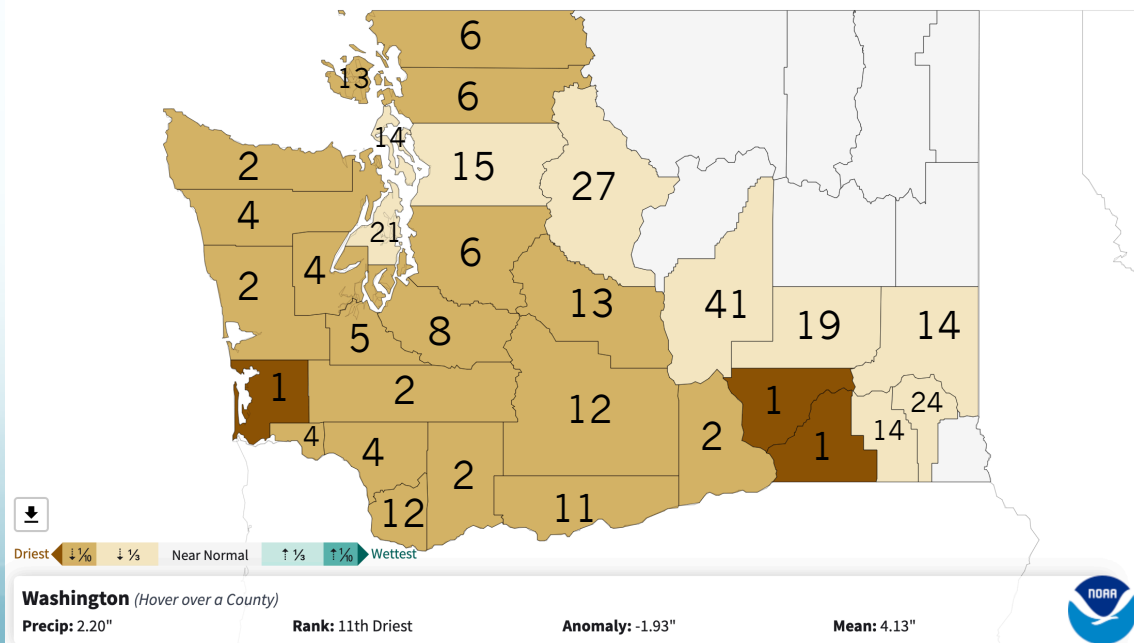
County Average Temperature Rank (129 years)

May - June 2023



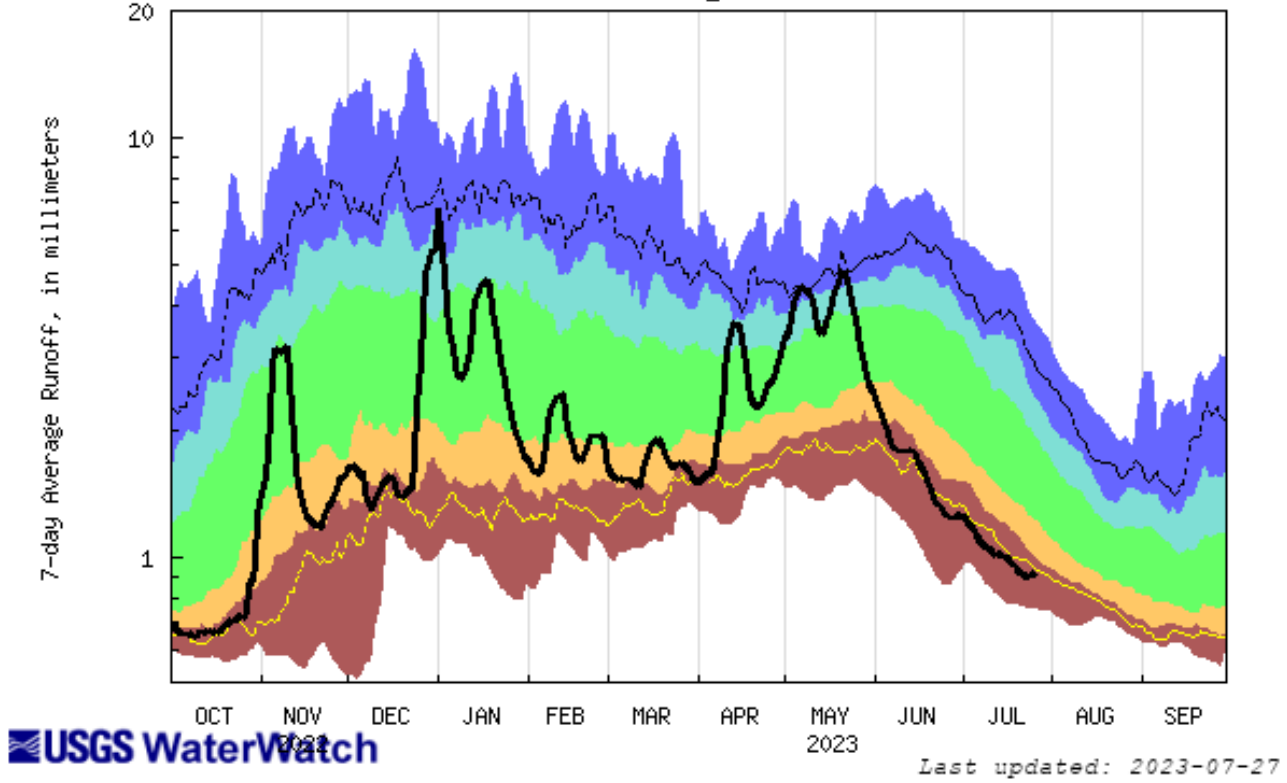
County Precipitation Rank (129 years)








May - June 2023



# Streamflows

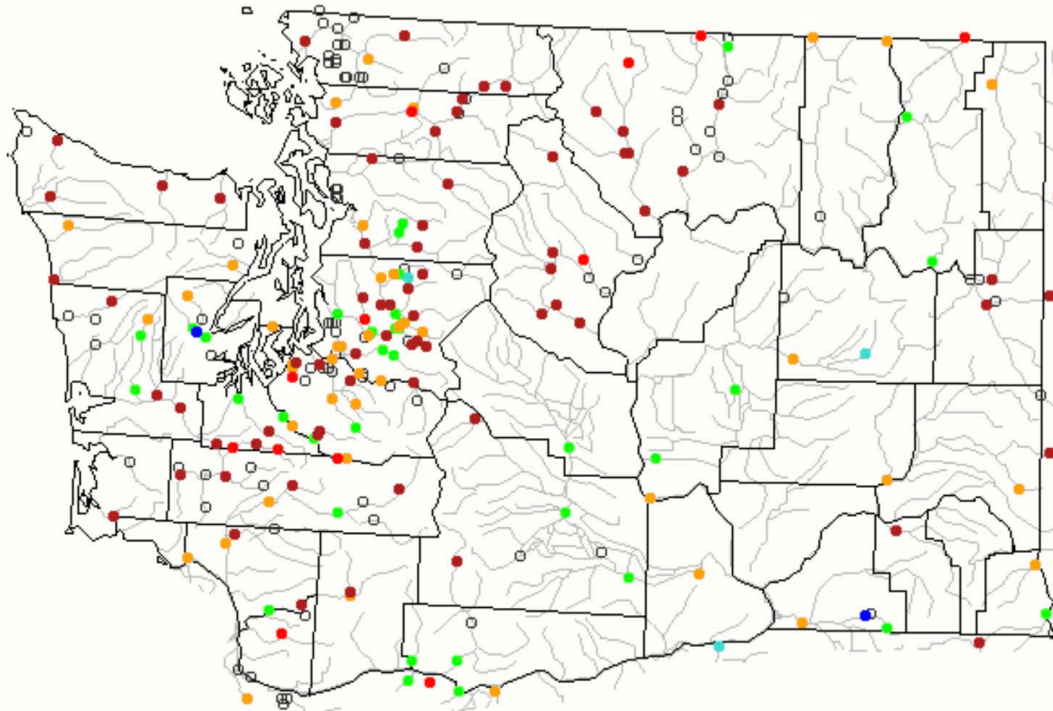
Duration hydrograph of 7-day average runoff for Washington



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	Runoff

# Recent Streamflows: Percentile Classes

Tuesday, July 25, 2023



Search USGS streamgage

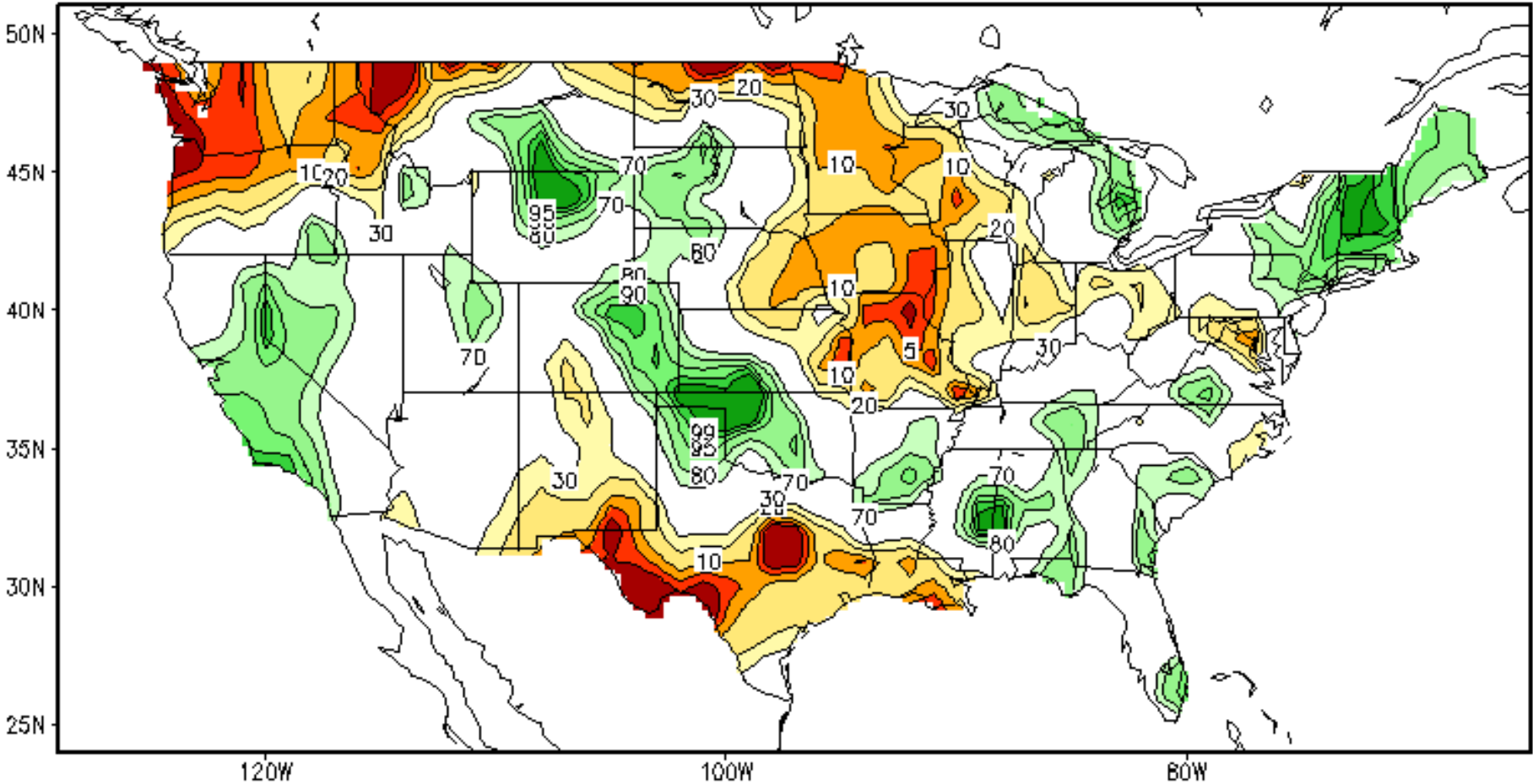
Choose a data retrieval option and select a location on the map

- List of all stations  Single station  Nearest stations

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

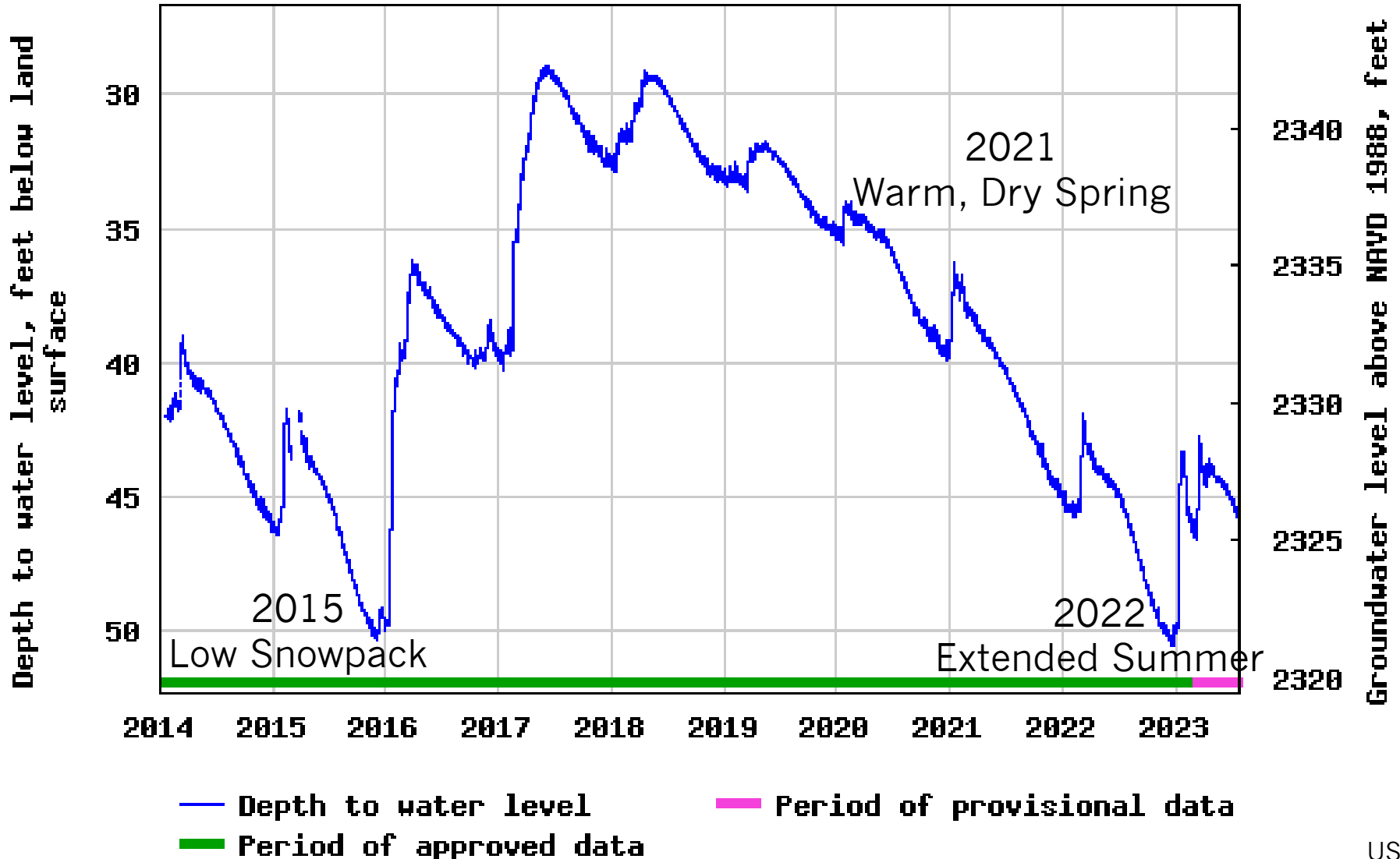


# Calculated Soil Moisture Ranking Percentile JUL 24, 2023



# Monitoring Well near Davenport, WA

USGS 473442118162201 24N/36E-16A01

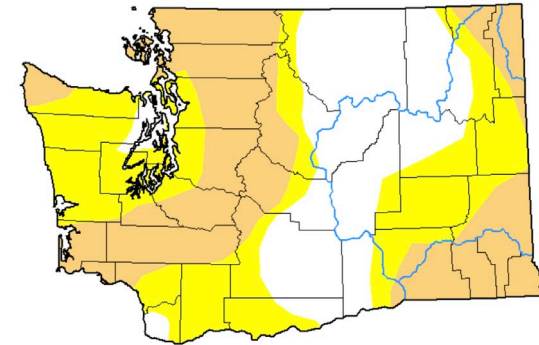
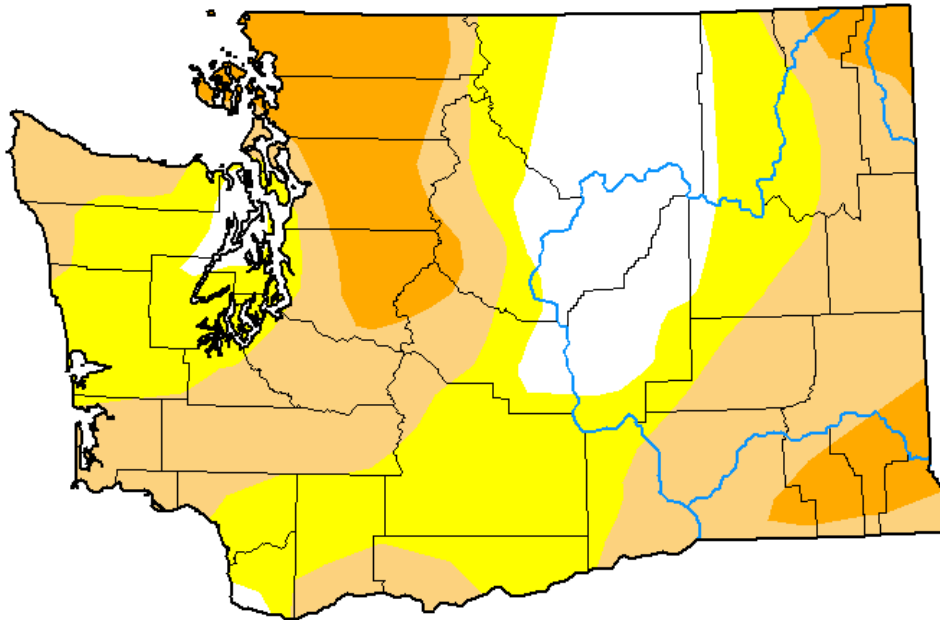


# U.S. Drought Monitor







## U.S. Drought Monitor Washington

**July 25, 2023**  
(Released Thursday, Jul. 27, 2023)  
Valid 8 a.m. EDT

**June 27, 2023**



### Intensity:

-  None
-  D0 Abnormally Dry
-  D1 Moderate Drought
-  D2 Severe Drought
-  D3 Extreme Drought
-  D4 Exceptional Drought

*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:

Brian Fuchs  
National Drought Mitigation Center



[droughtmonitor.unl.edu](https://droughtmonitor.unl.edu)



# Climate models projecting a warm, but not extreme, late summer into fall

C3S multi-system seasonal forecast

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

Mean 2m temperature anomaly

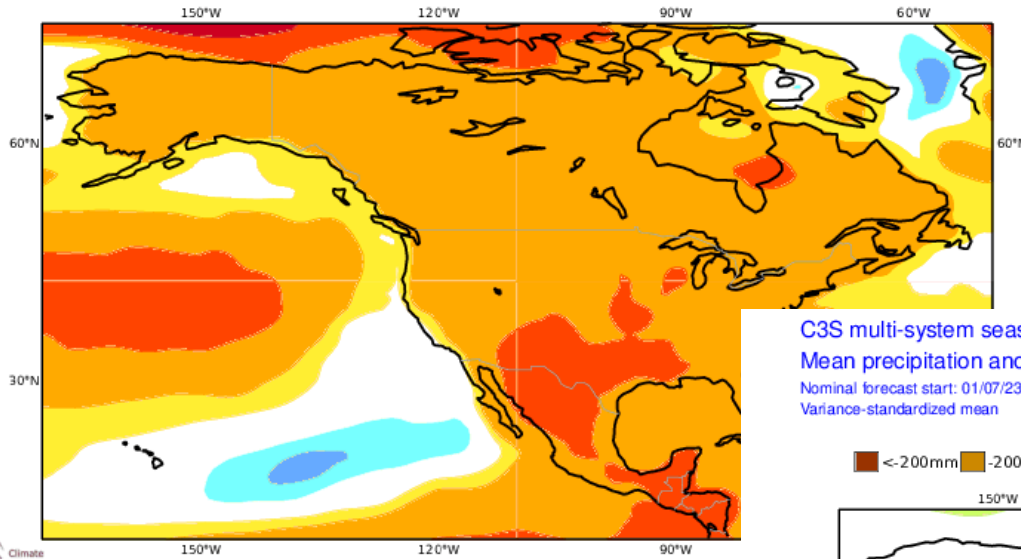
ASO 2023

Nominal forecast start: 01/07/23

Variance-standardized mean

## Temperature

■ <-2.0°C ■ -2.0..-1.0 ■ -1.0..-0.5 ■ -0.5..-0.2 ■ -0.2..0.2 ■ 0.2..0.5 ■ 0.5..1.0 ■ 1.0..2.0 ■ > 2.0°C



C3S multi-system seasonal forecast

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

Mean precipitation anomaly

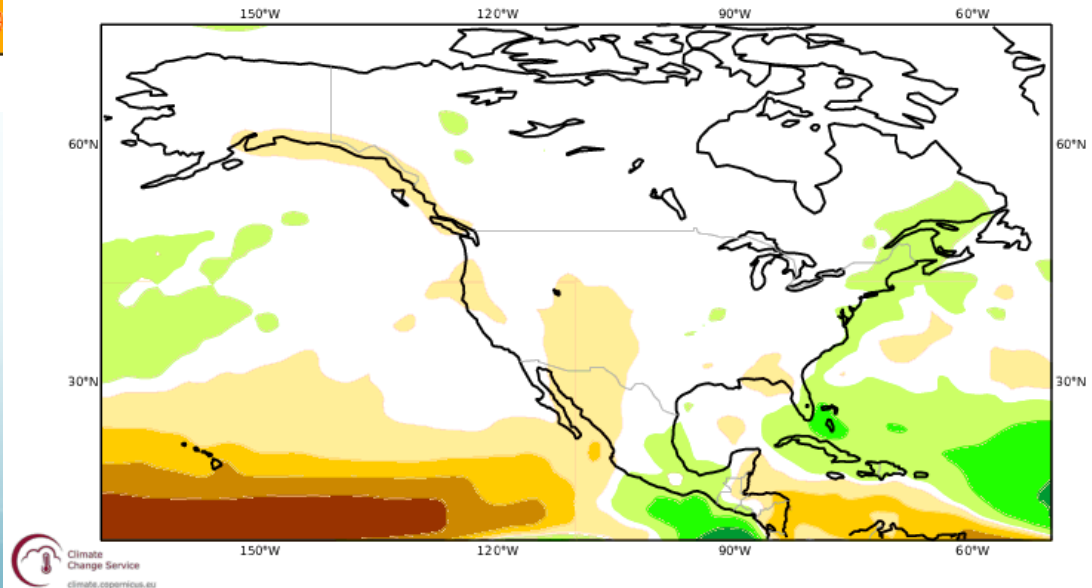
ASO 2023

Nominal forecast start: 01/07/23

Variance-standardized mean

## Precipitation

■ <-200mm ■ -200..-100 ■ -100..-50 ■ -50..-10 ■ -10..10 ■ 10..50 ■ 50..100 ■ 100..200 ■ > 200mm

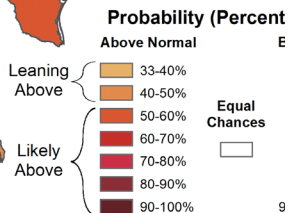
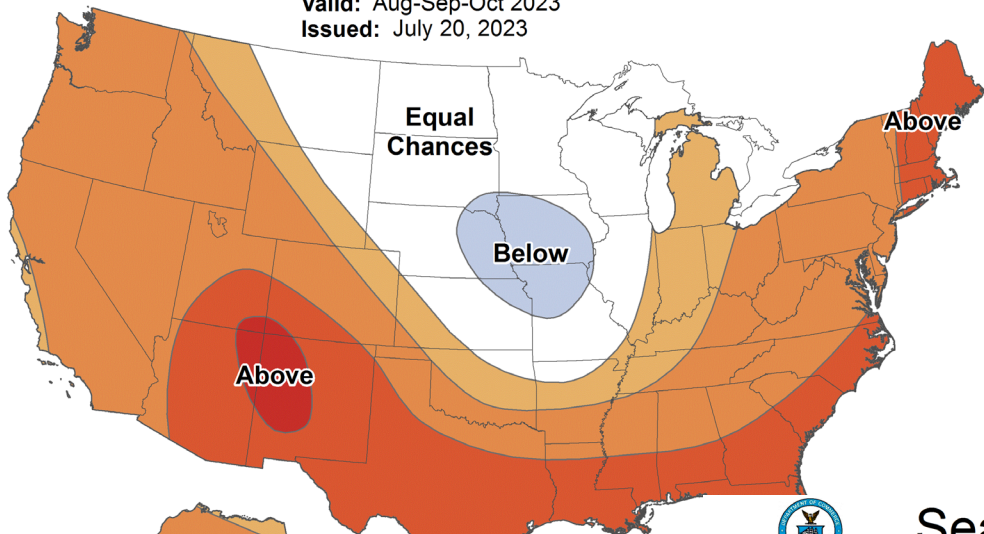




# Seasonal Temperature Outlook



Valid: Aug-Sep-Oct 2023  
Issued: July 20, 2023

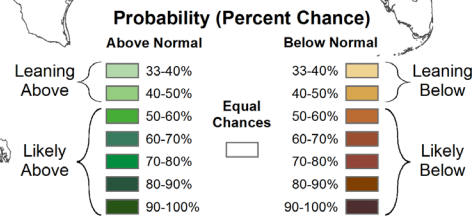
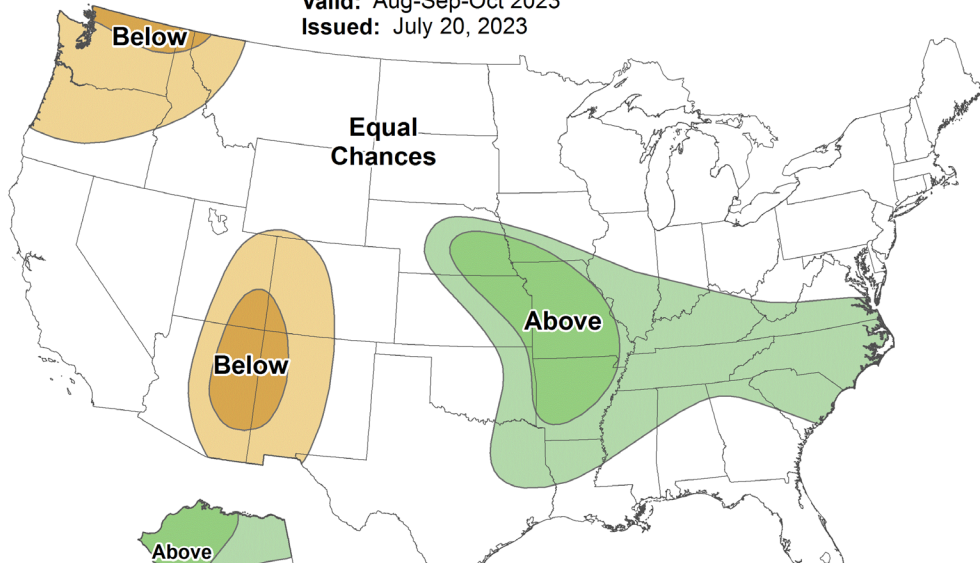


# NOAA/CPC Forecasts for Aug-Oct 2023

# Seasonal Precipitation Outlook

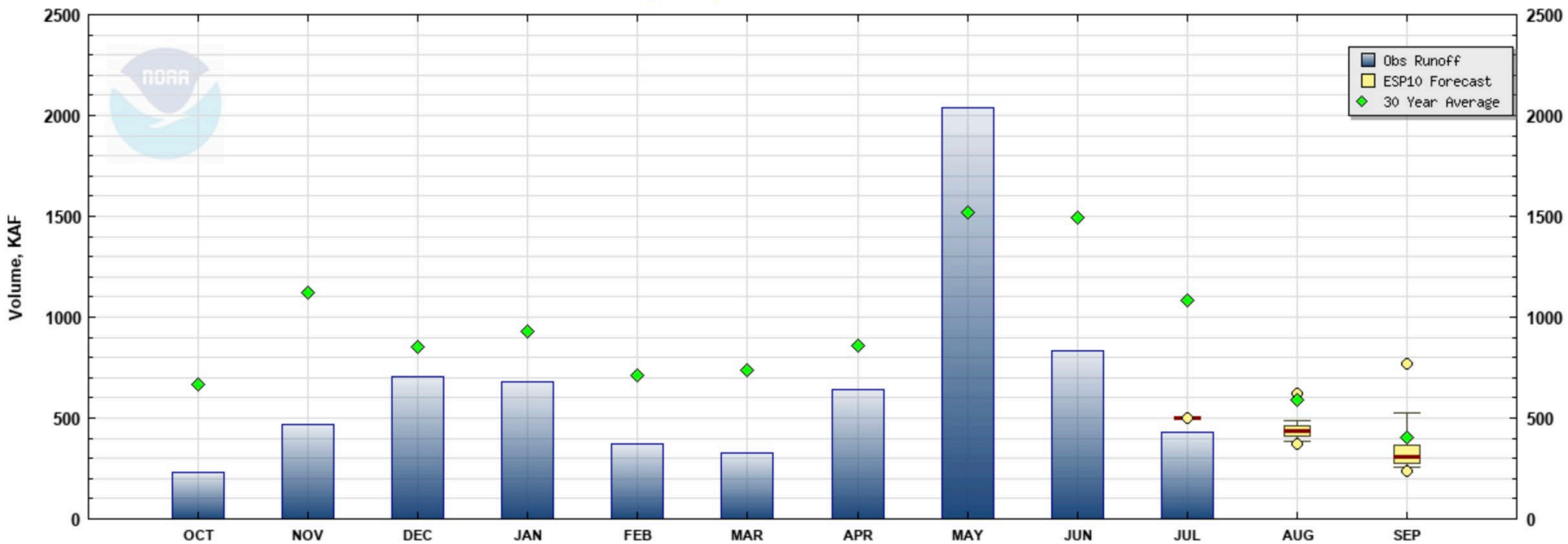


Valid: Aug-Sep-Oct 2023  
Issued: July 20, 2023



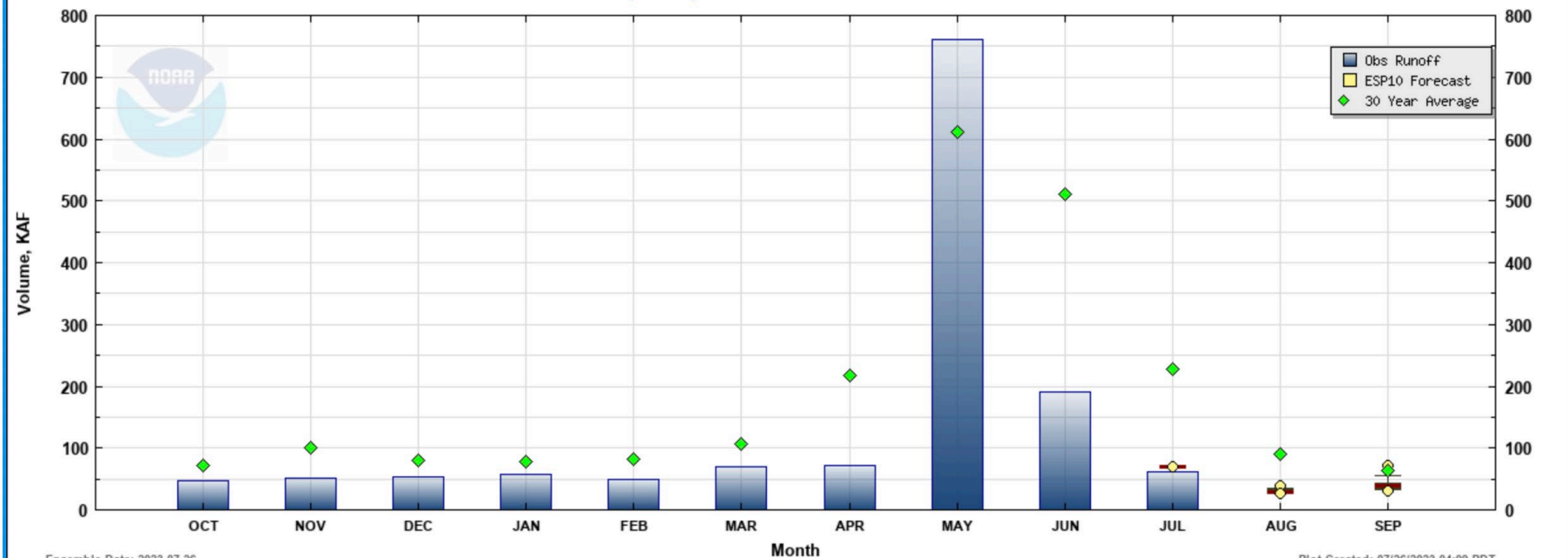
### Water Supply Volume Monthly Forecasts (ESP10) for Water Year 2023

(CONW1) SKAGIT - NEAR CONCRETE



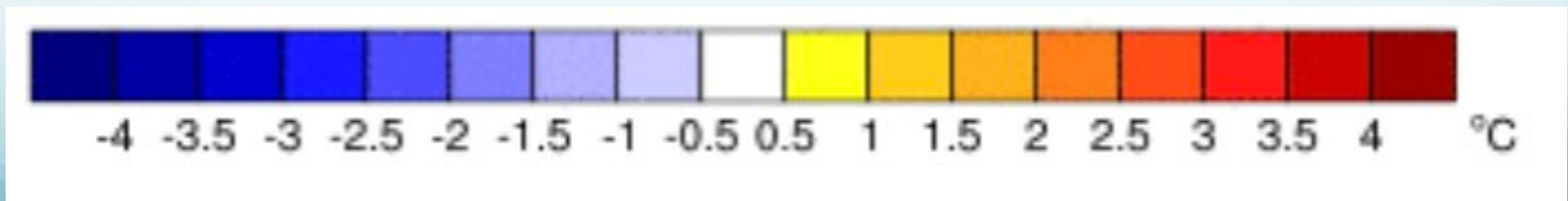
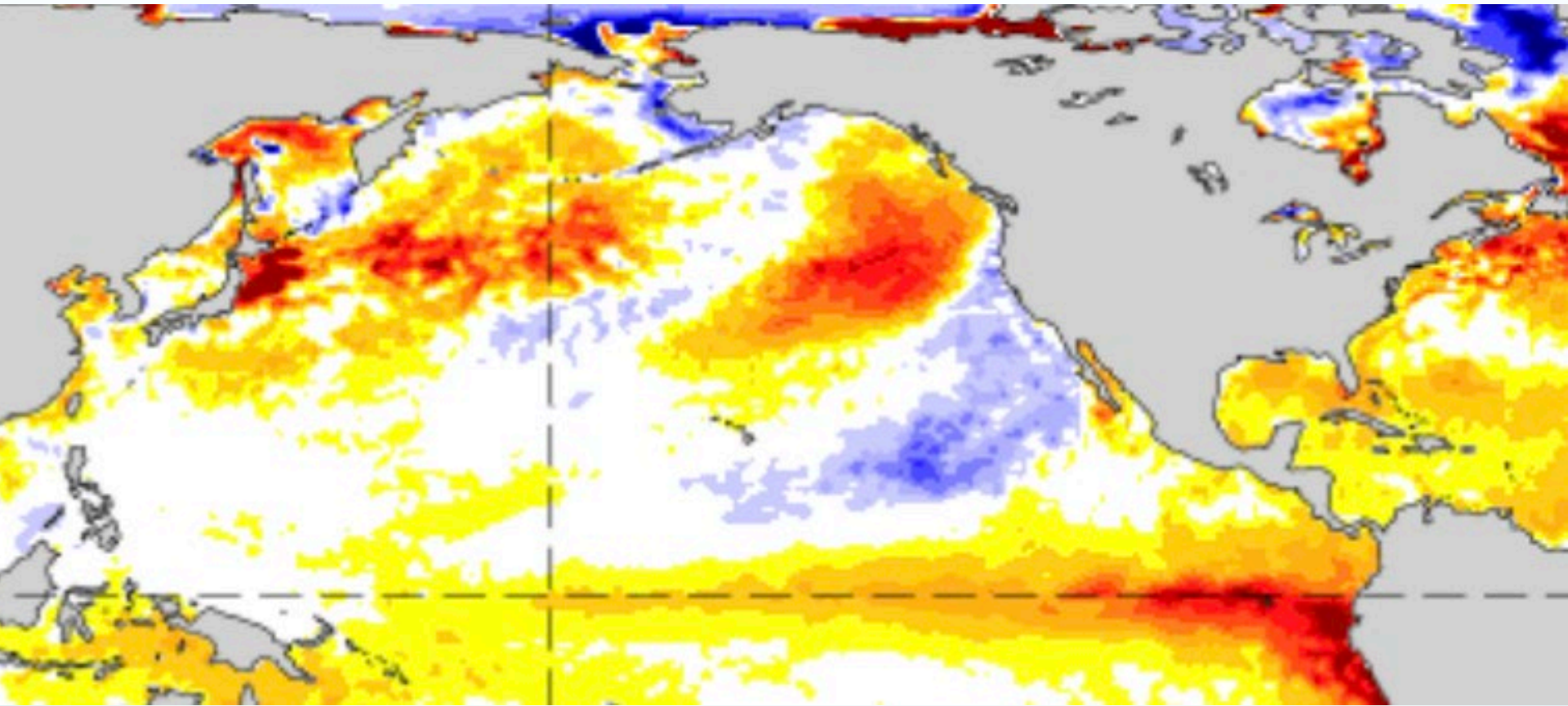
### Water Supply Volume Monthly Forecasts (ESP10) for Water Year 2023

(TONW1) OKANOGAN - NEAR TONASKET



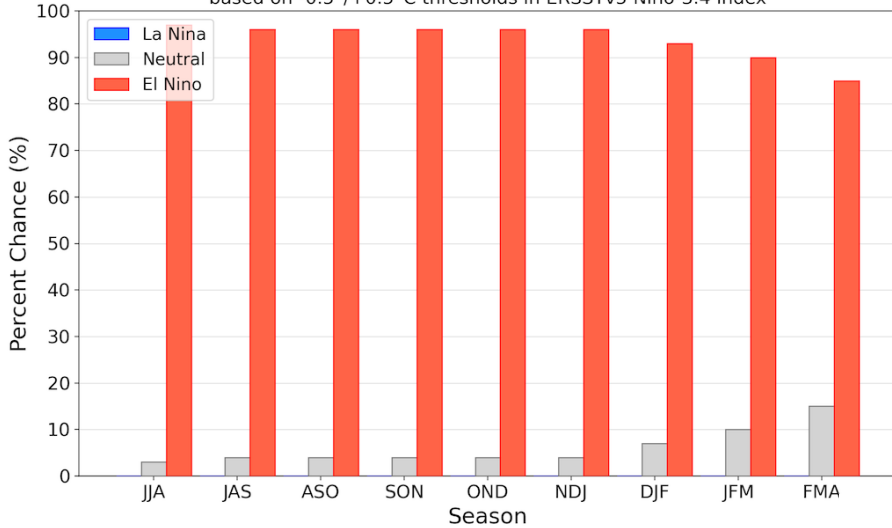


# Sea Surface Temperature Anomalies: 16-22 July 2023



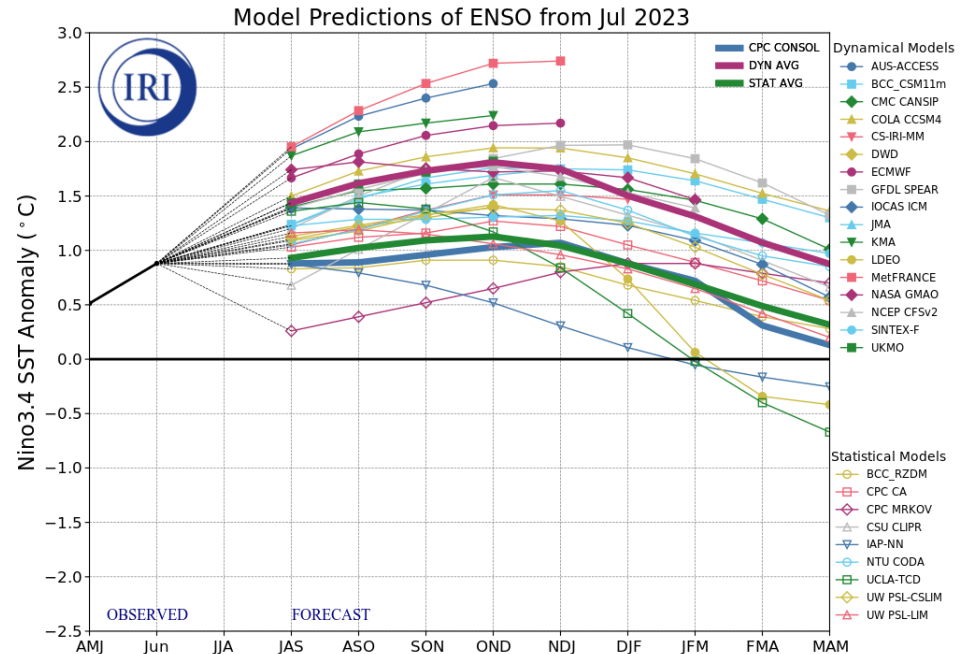
## Official NOAA CPC ENSO Probabilities (issued July 2023)

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

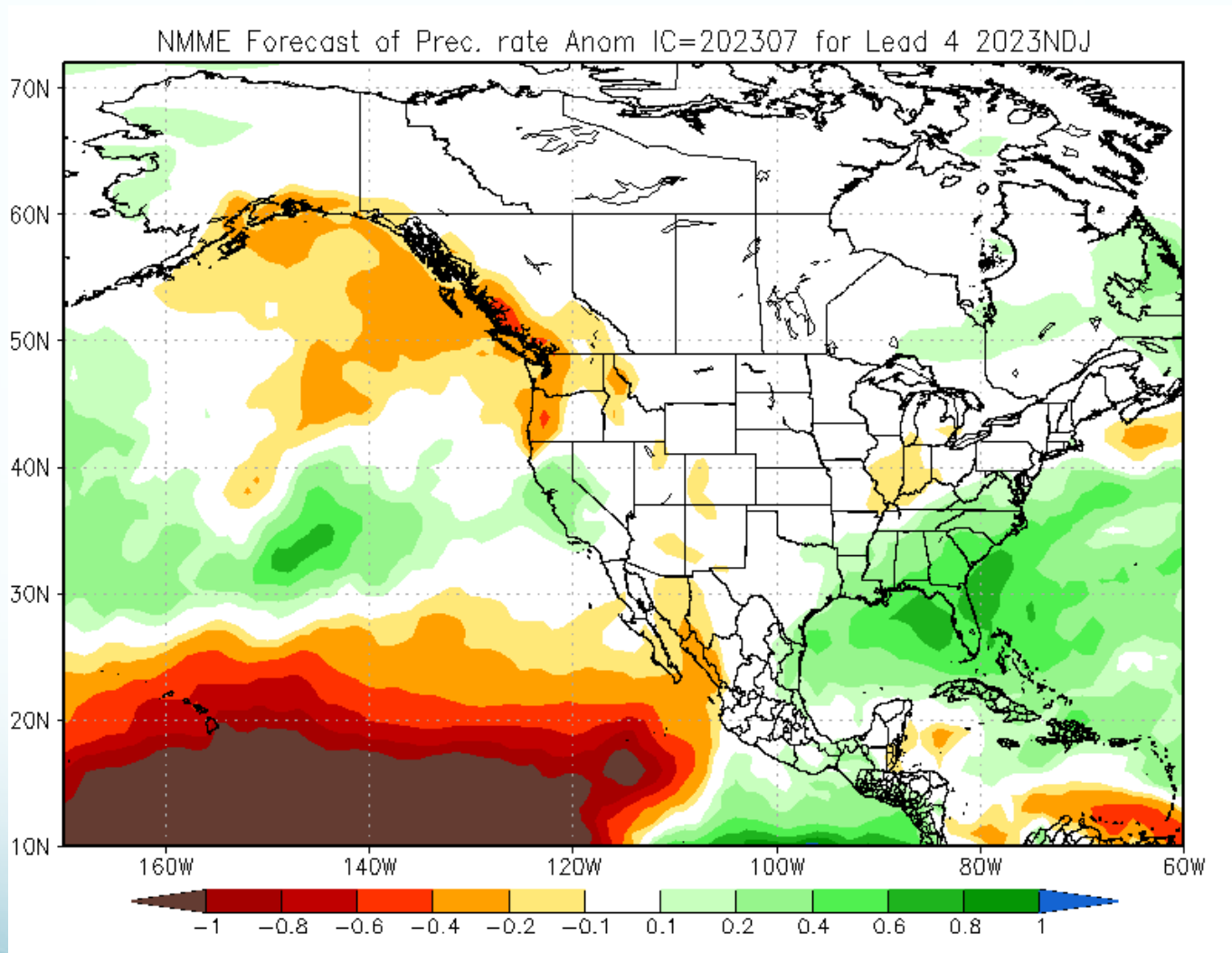


**El Niño during the upcoming fall and winter is essentially a sure thing**

**The small number of winters with strong El Niño events have not been especially dry**

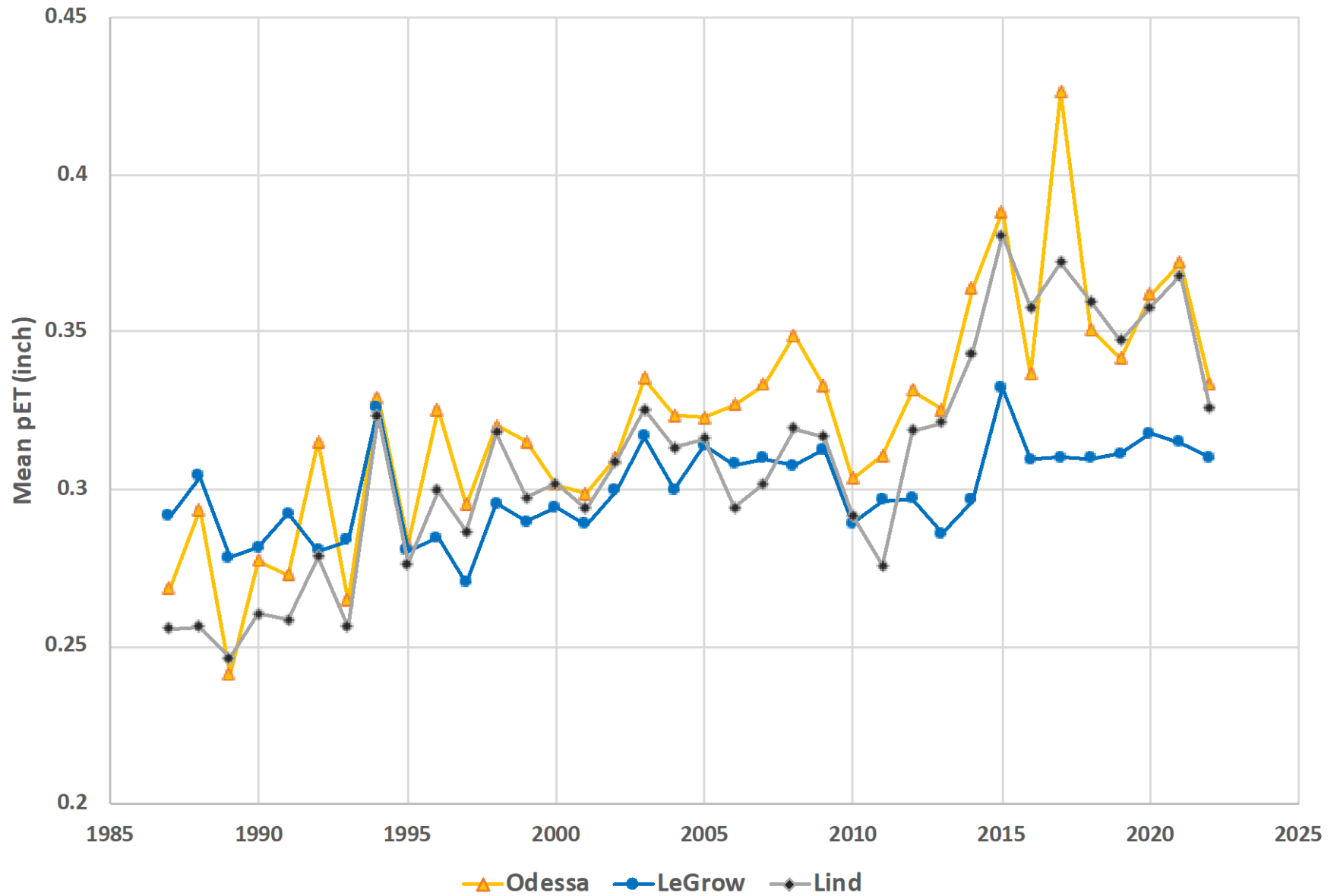


# Nov 2023-Jan 2024 NMME Precipitation Forecast





# Seasonal Mean Potential Evapotranspiration



# Summary

- Year-to-date temperatures have become greater than normal for most of WA state
- Averaged statewide, January-June precipitation has been 79% of normal (14<sup>th</sup> driest)
- The first half of summer has brought a continuation of the mostly warm and dry weather that began with a record warm May
- The remainder of summer into fall is apt be warm, and now also expected to be dry, relative to seasonal norms