



DEPARTMENT OF
ECOLOGY
State of Washington

Water Year 2021

A Different Flavor of Drought

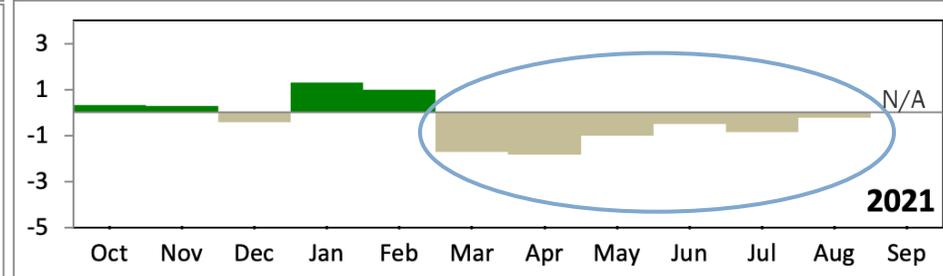
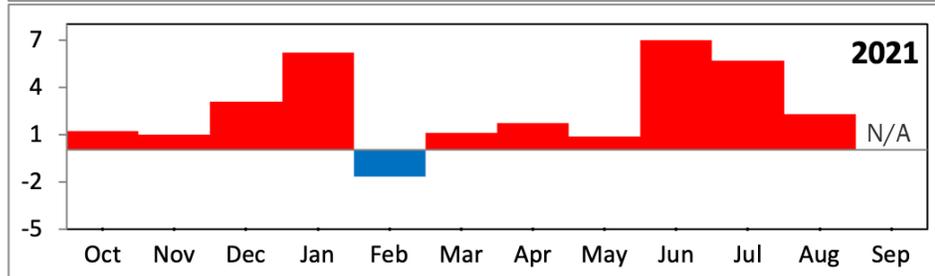
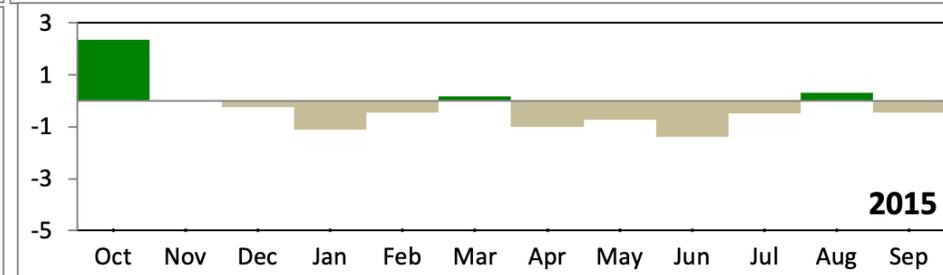
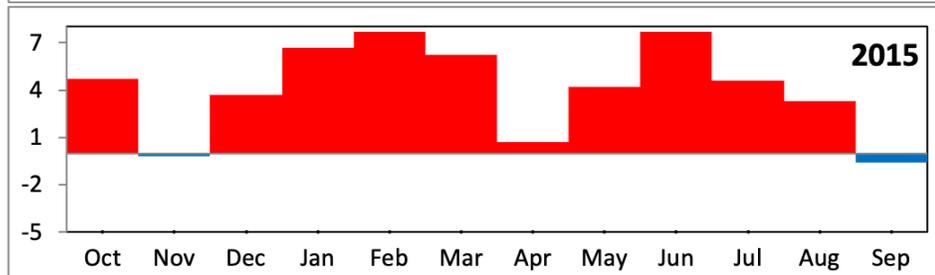
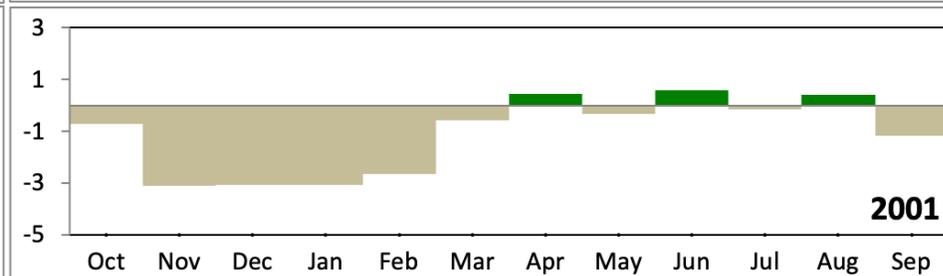
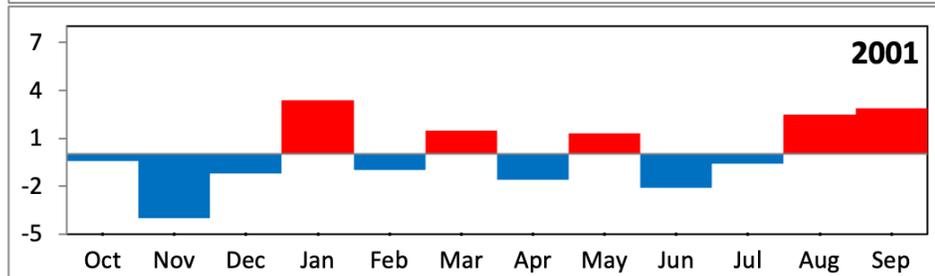
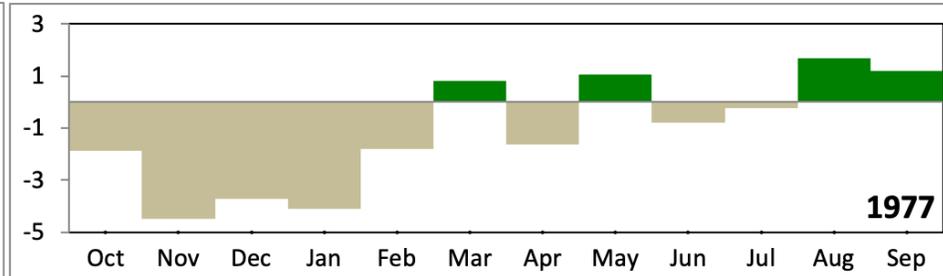
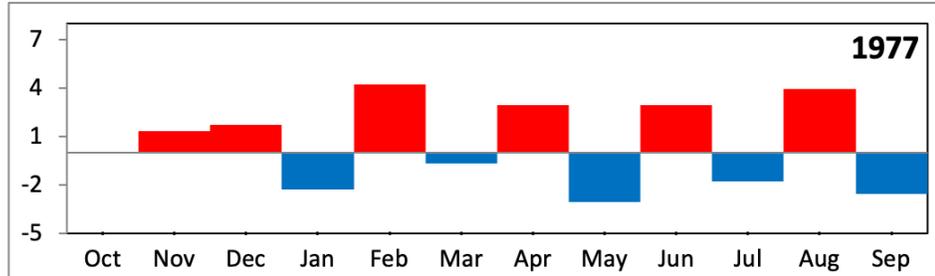
Jeff Marti, Water Resources Program

December 7, 2021

Flavors of drought

Statewide Temperature Anomalies

Statewide Precipitation Anomalies



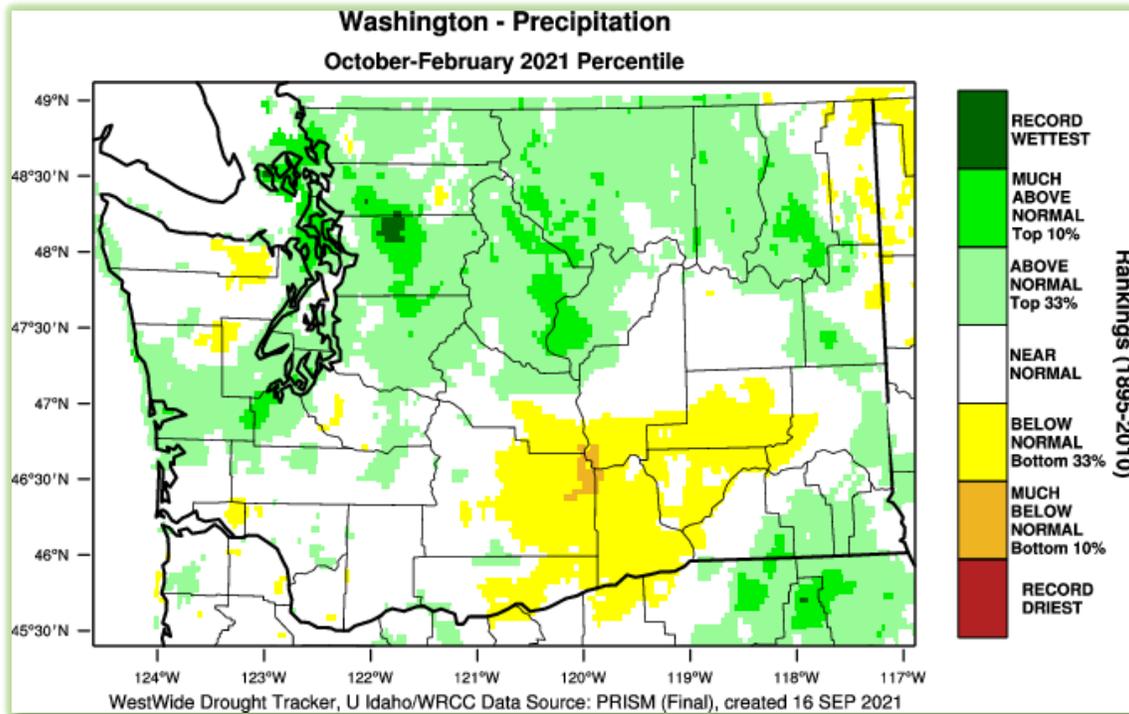
Anomalies compared to 1901-2000 mean

Slide courtesy of Karin Bumbaco, OWSC

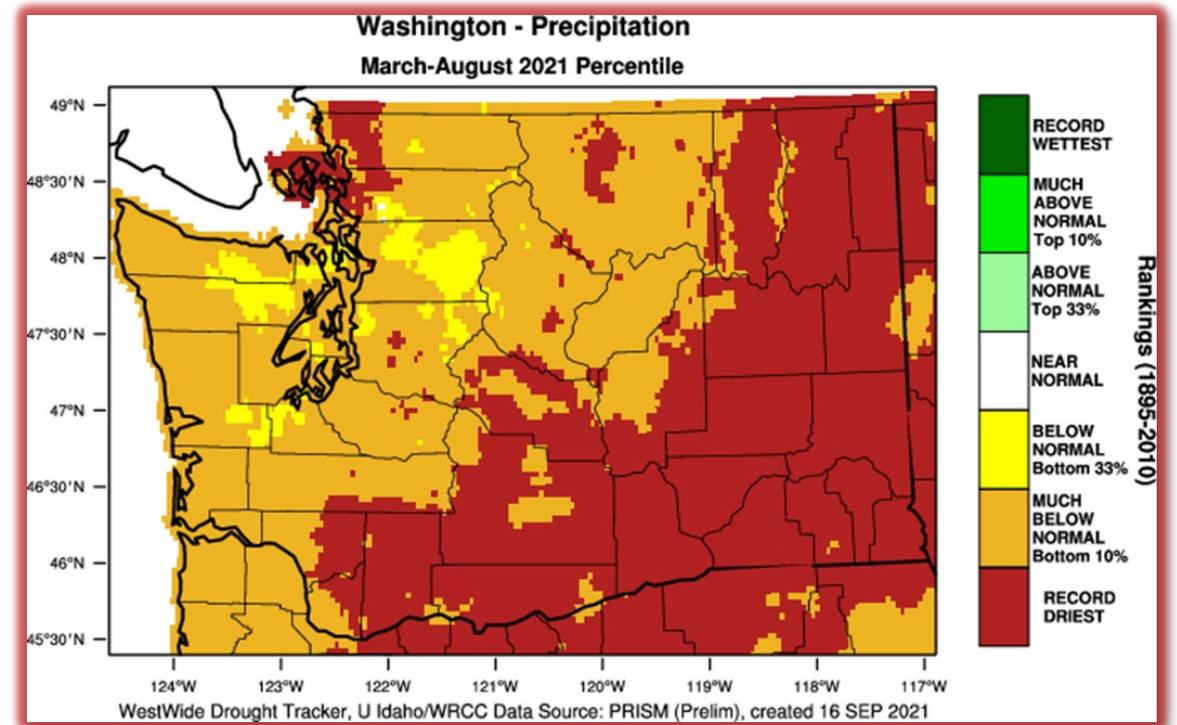
Transition in precipitation anomalies

DEPARTMENT OF ECOLOGY
State of Washington

October – February to March - August



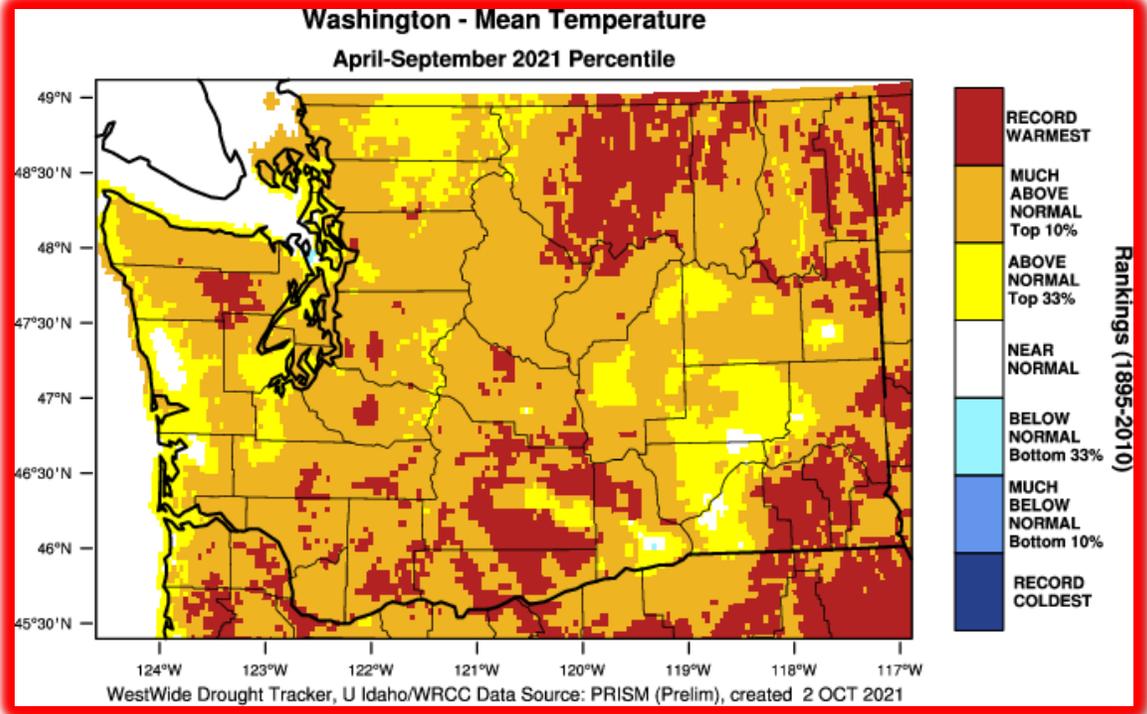
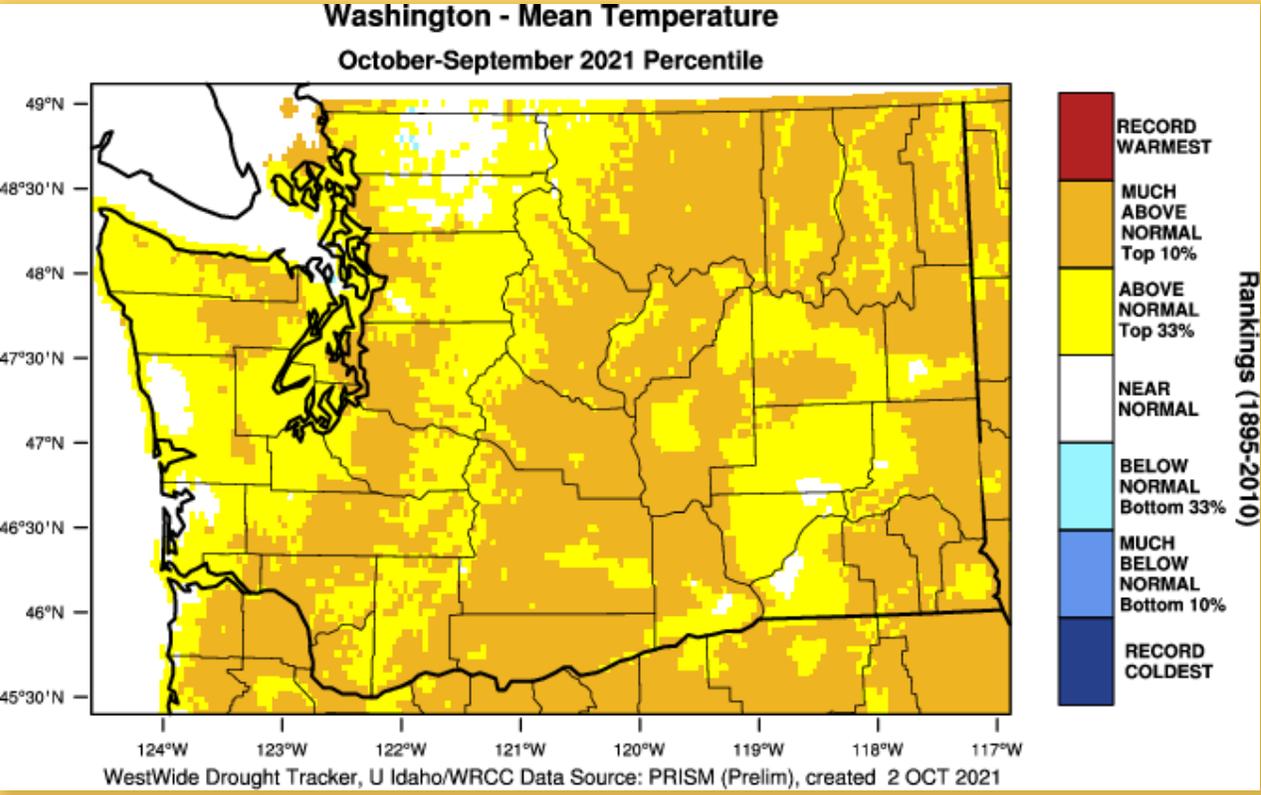
Oct – Feb: 45th Wettest Statewide since 1895
Wettest since 1999



Mar – Aug: 2nd Driest Statewide since 1895
Driest since 1924

Temperature

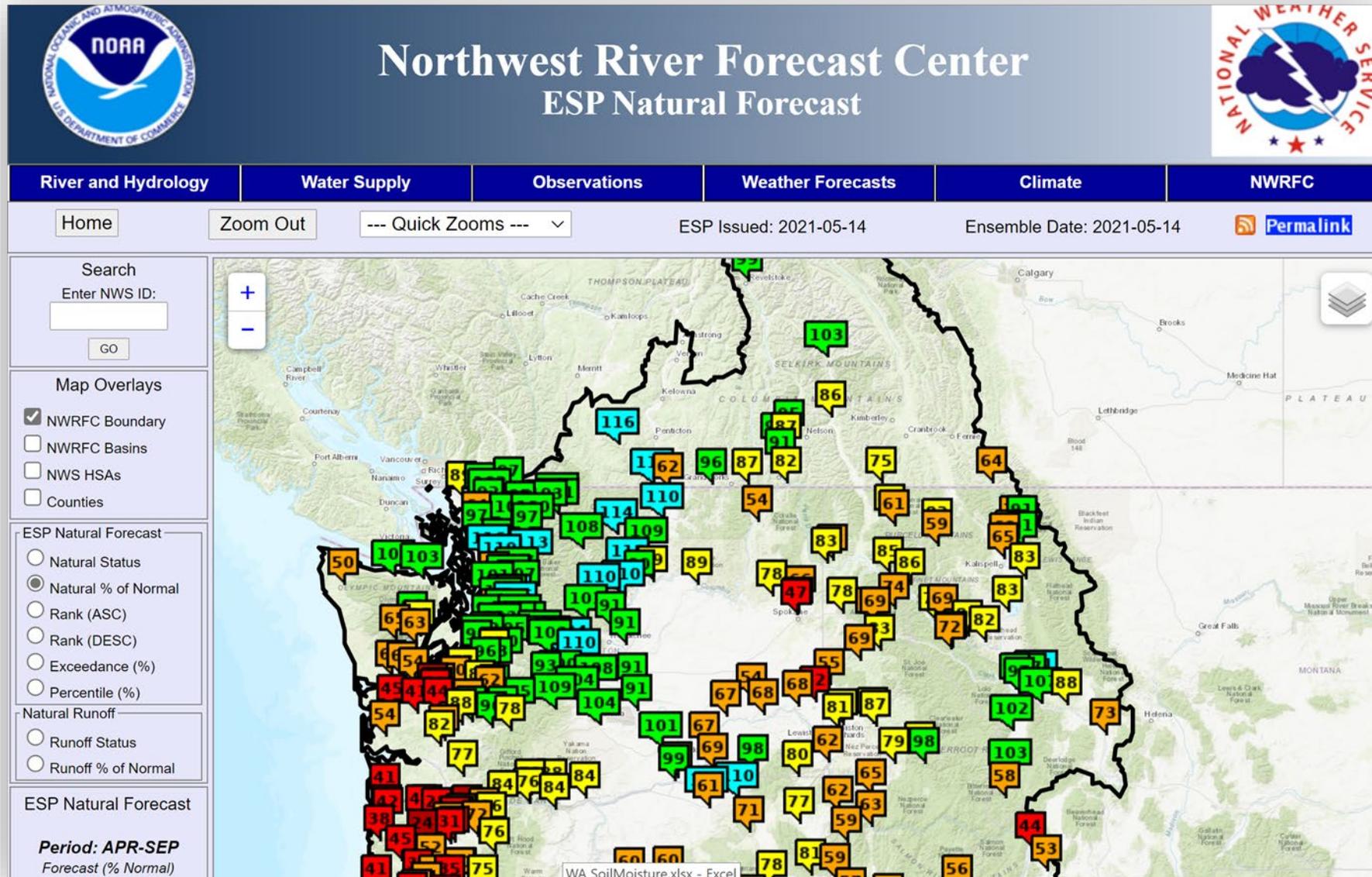
Water Year and Growing Season



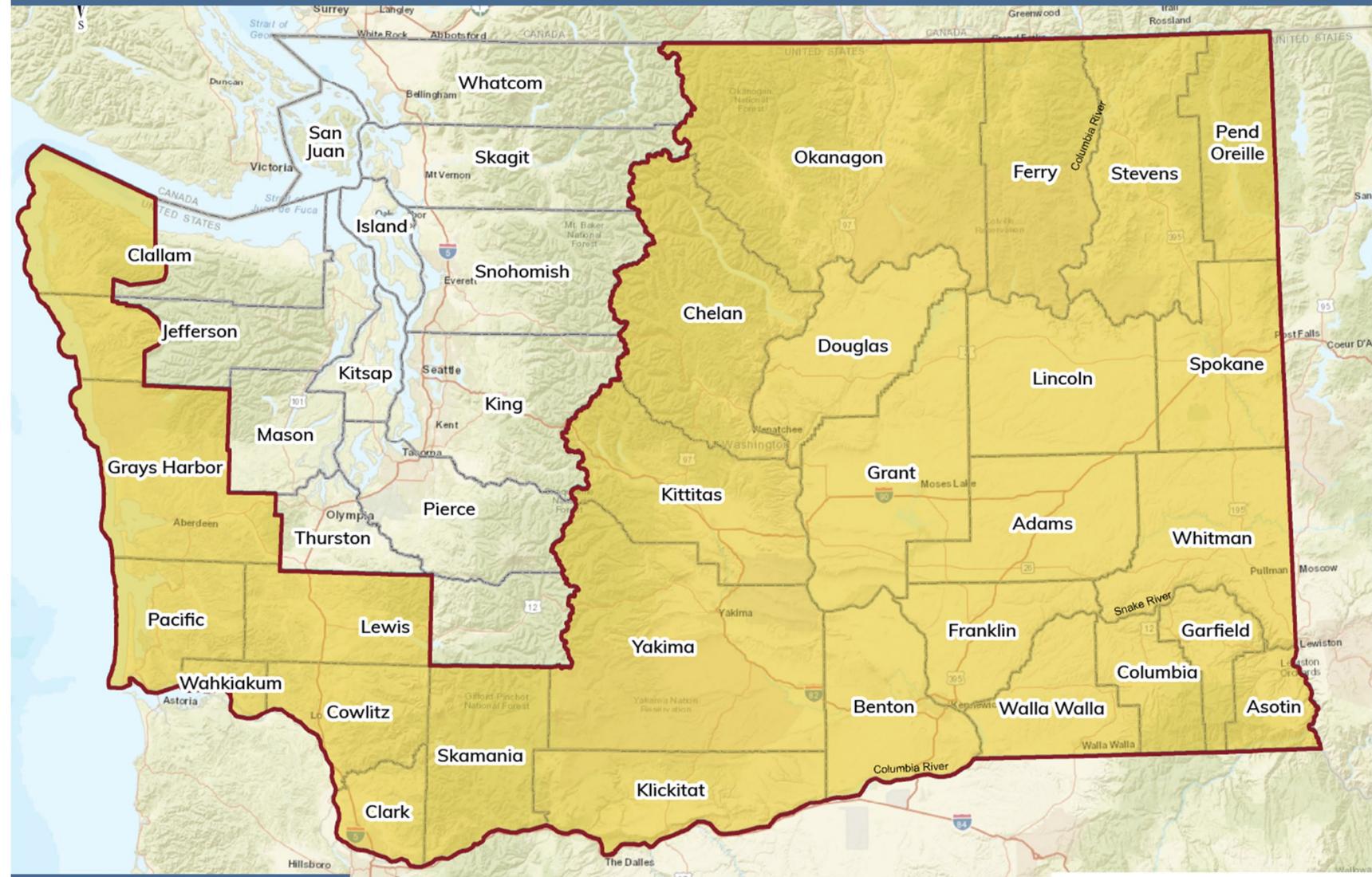
Oct – Sept: 8th Warmest since 1895

Apr – Sept: 2nd Warmest since 1895
June – Sept: Warmest

Mid-May Streamflow Forecasts

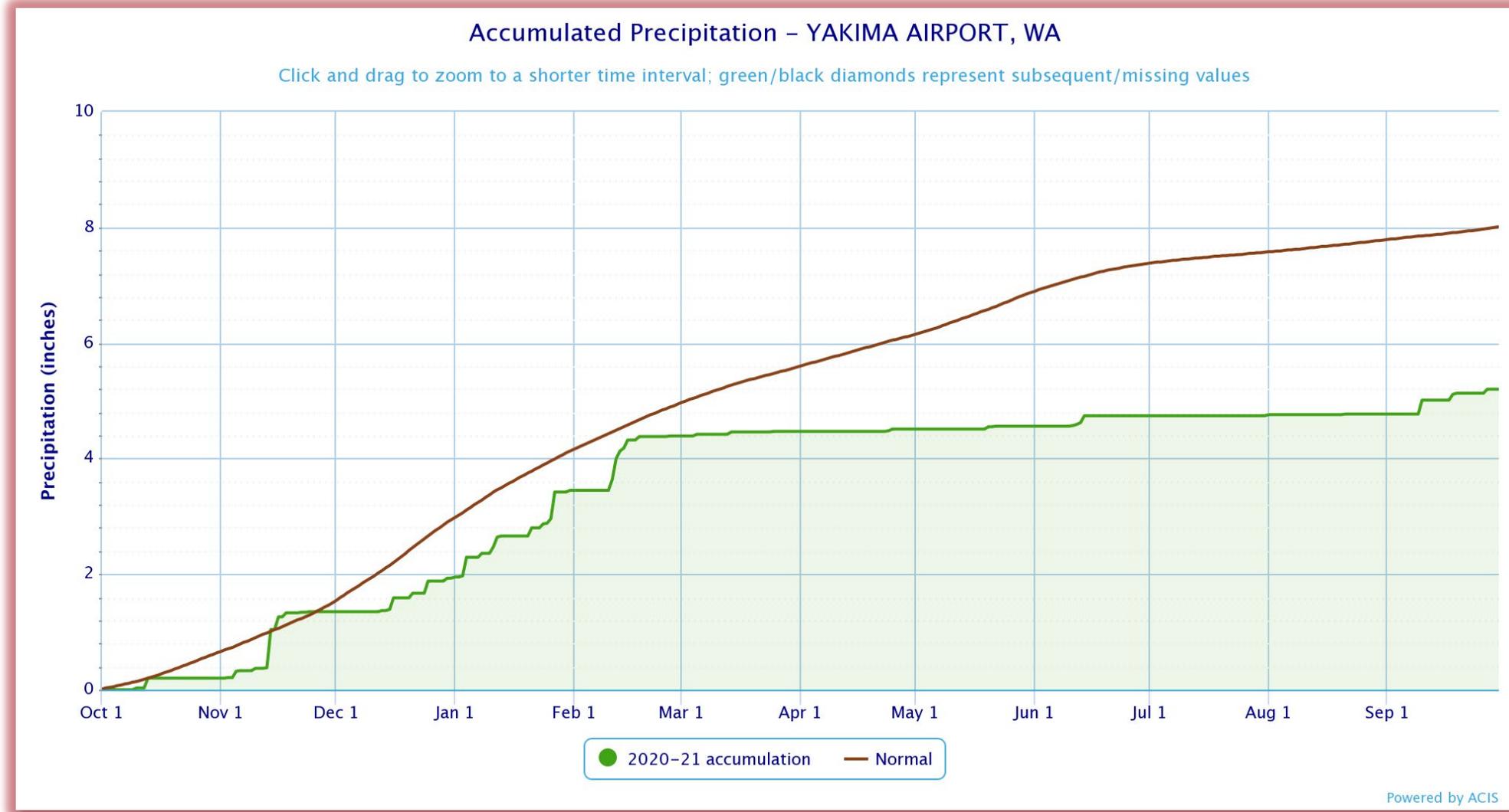


2021 Drought Advisory by County



 Drought Advisory Boundary
 County Line

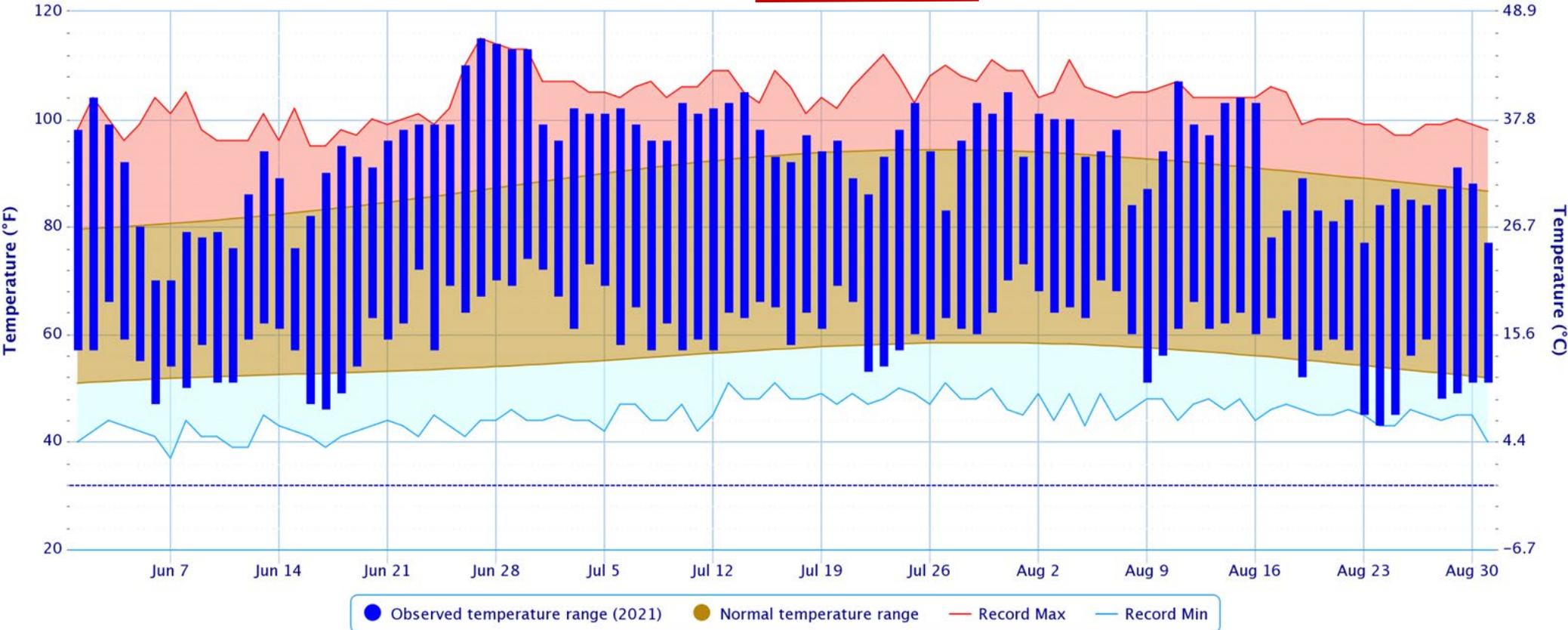
Flat-lining of Precipitation Yakima Airport Station



Historic Heatwave

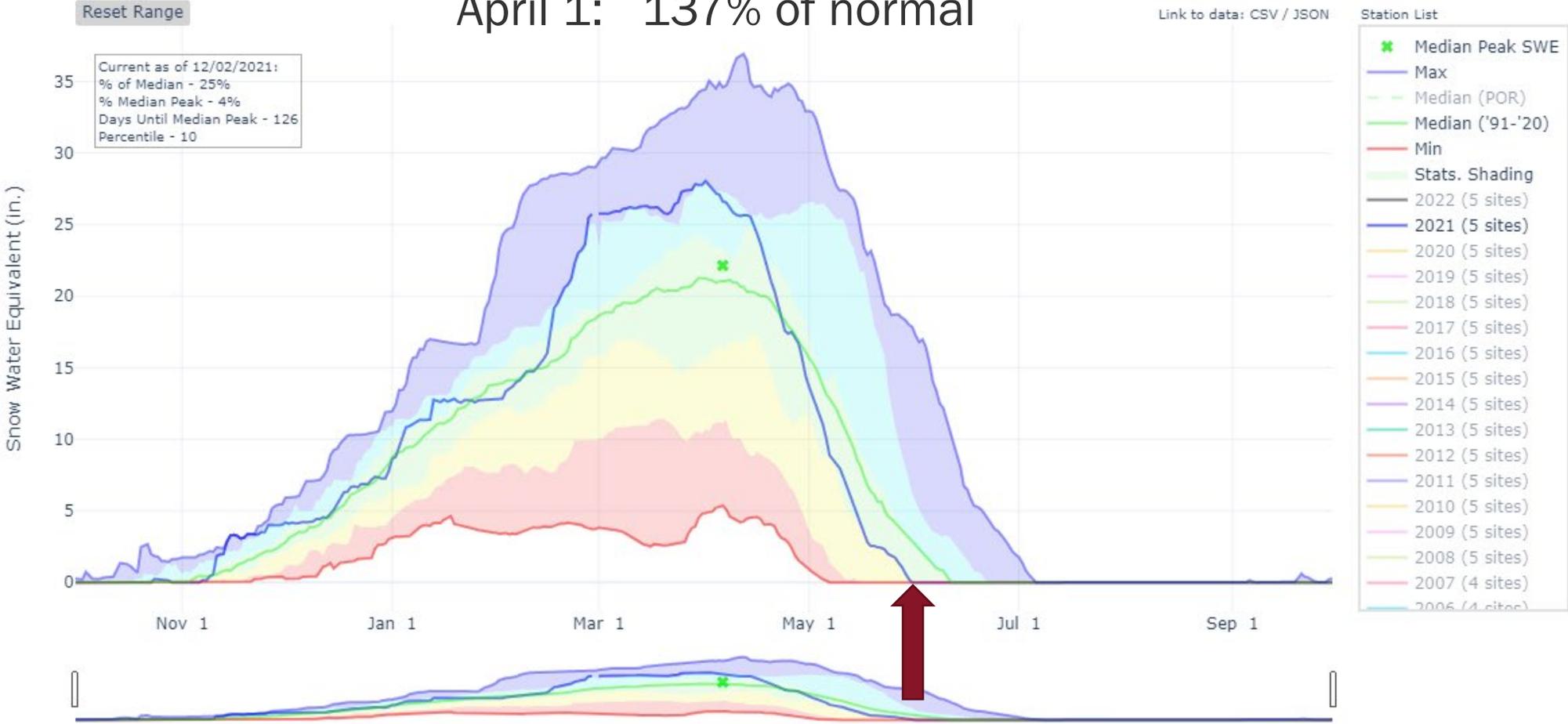
Daily Temperature Data – PASCO TRI CITIES AIRPORT, WA

Period of Record - 1945-04-01 to 2021-12-05. Normals period: 1991-2020. Click and drag to zoom chart.



SNOW WATER EQUIVALENT IN
WALLA WALLA

April 1: 137% of normal



Based on 1991-2020 Normals

Washington Drought Declaration Areas



Declaration Date:
July 14th

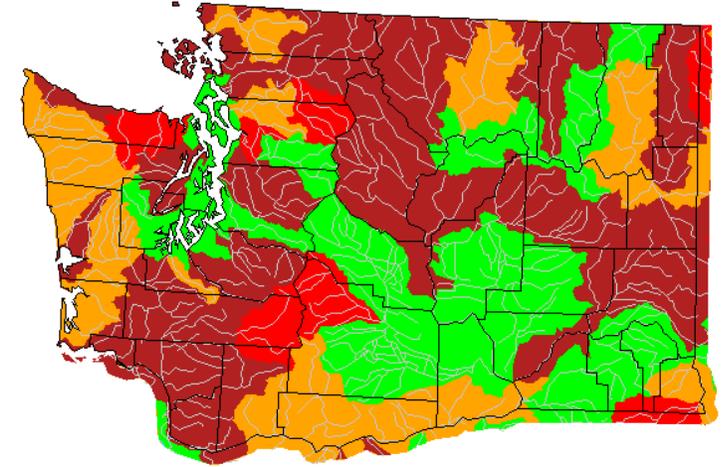
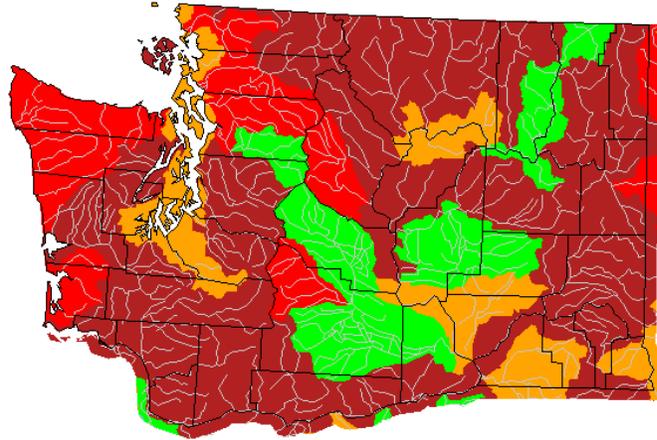
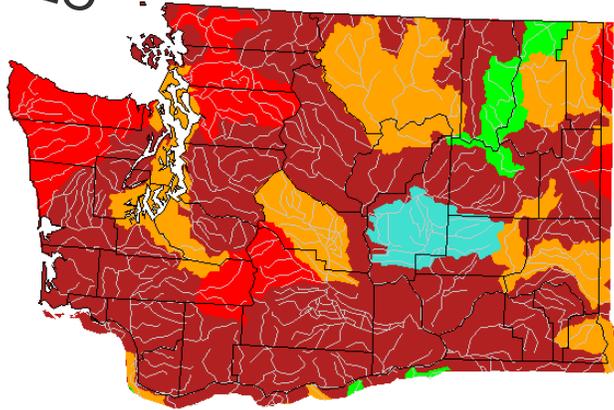
2015 v 2021 Monthly Runoff June - August

Tuesday, September 01, 2015

2015

Wednesday, July 01, 2015

Saturday, August 01, 2015



USGS

USGS

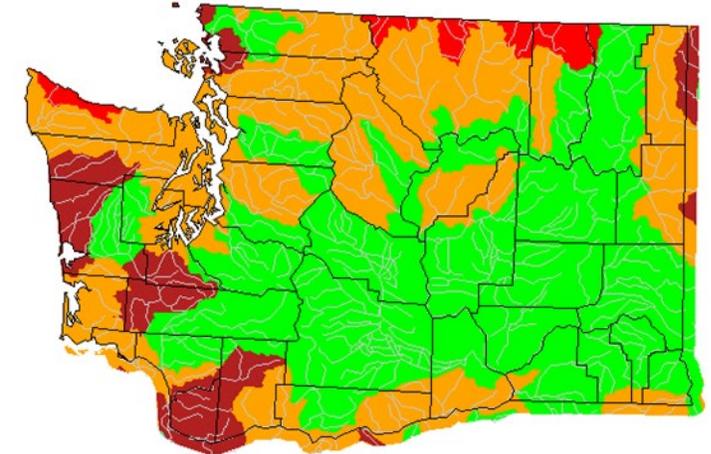
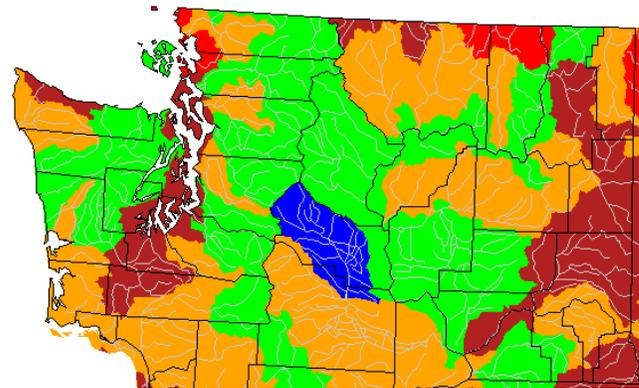
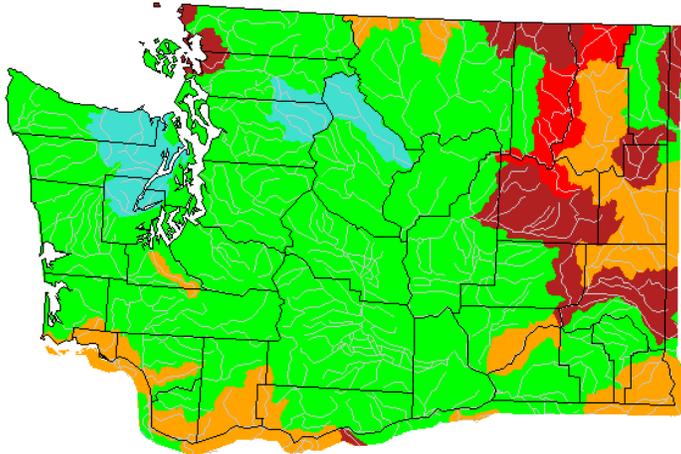
USGS

2021

June 2021

July 2021

August 2021



USGS

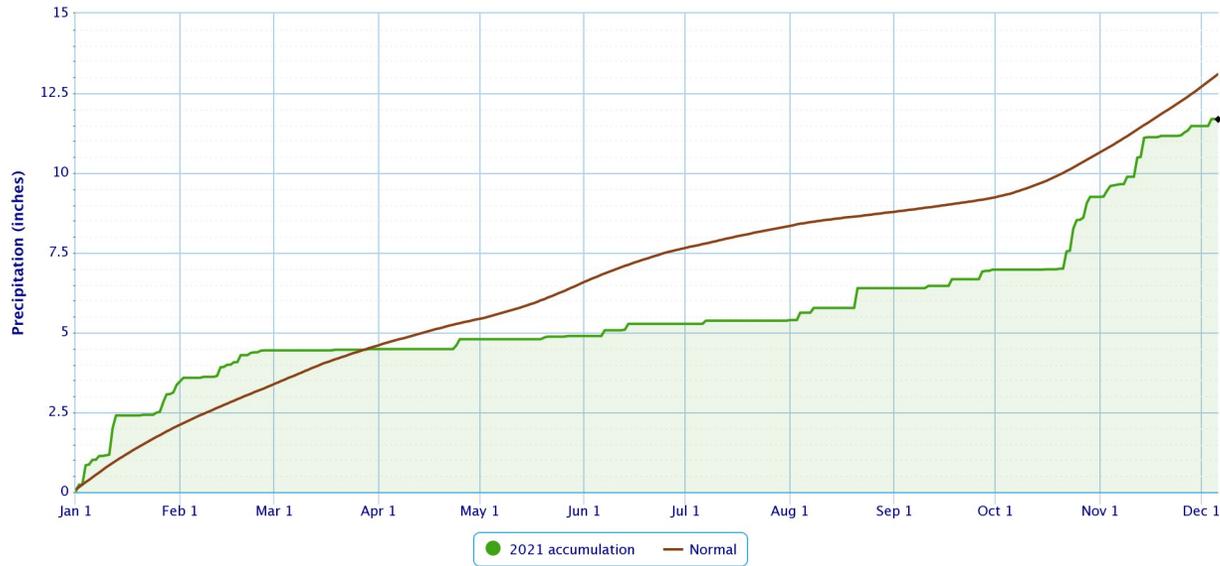
USGS

Explanation - Percentile classes

Low	<10	10-24	25-75	76-90	>90	High	No Data
	Much below normal	Below normal	Normal	Above normal	Much above normal		

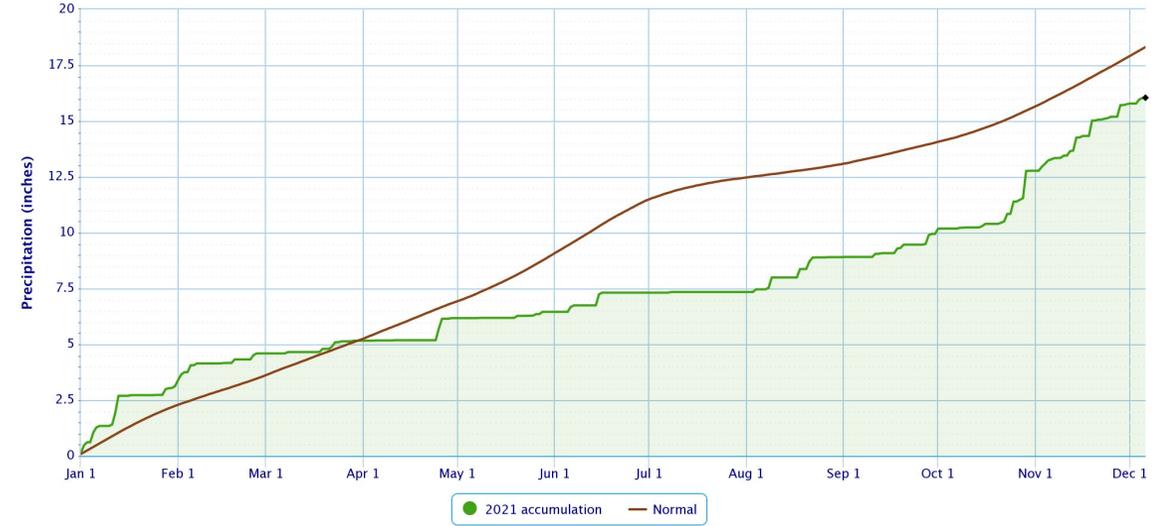
Accumulated Precipitation – WINTHROP 1 WSW, WA

Click and drag to zoom to a shorter time interval; green/black diamonds represent subsequent/missing values



Accumulated Precipitation – NORTHPORT, WA

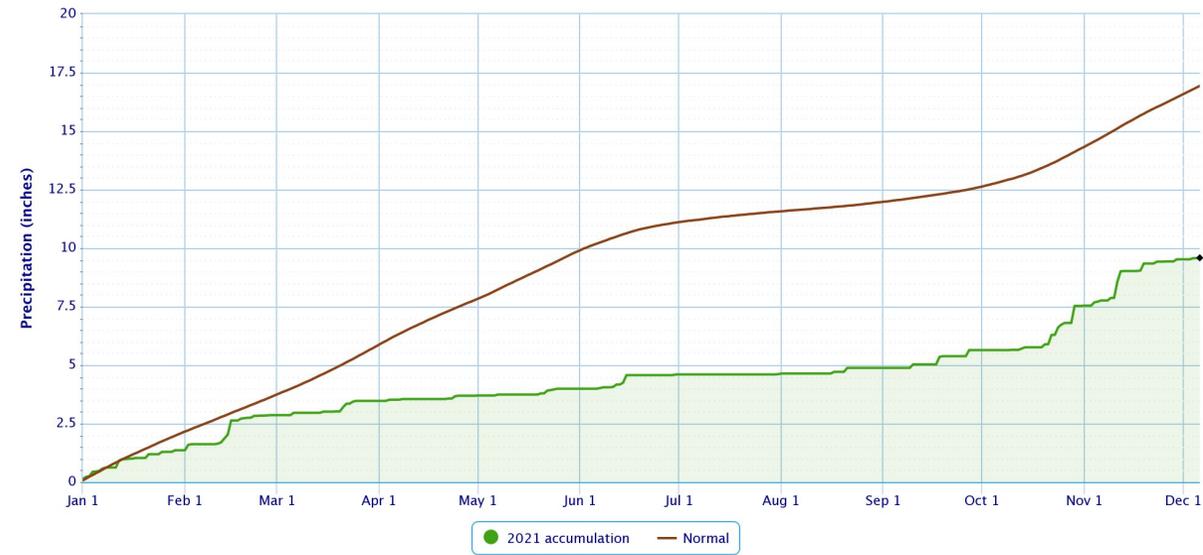
Click and drag to zoom to a shorter time interval; green/black diamonds represent subsequent/missing values



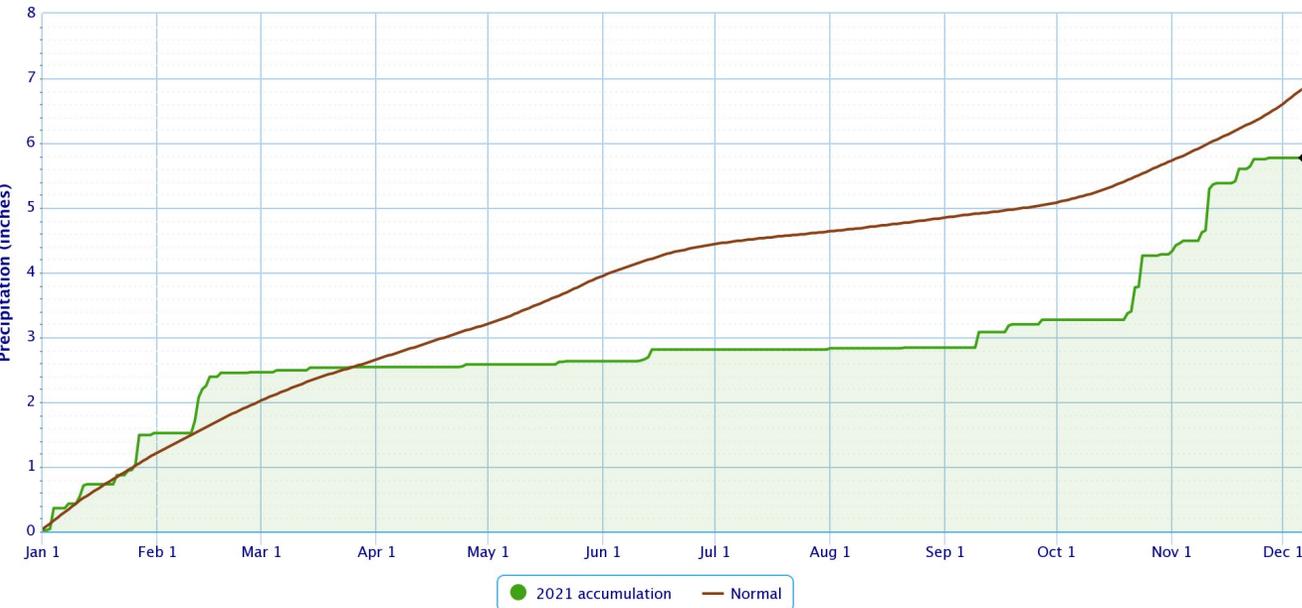
Powered by ACIS

Accumulated Precipitation – WALLA WALLA REGIONAL AP, WA

Click and drag to zoom to a shorter time interval; green/black diamonds represent subsequent/missing values

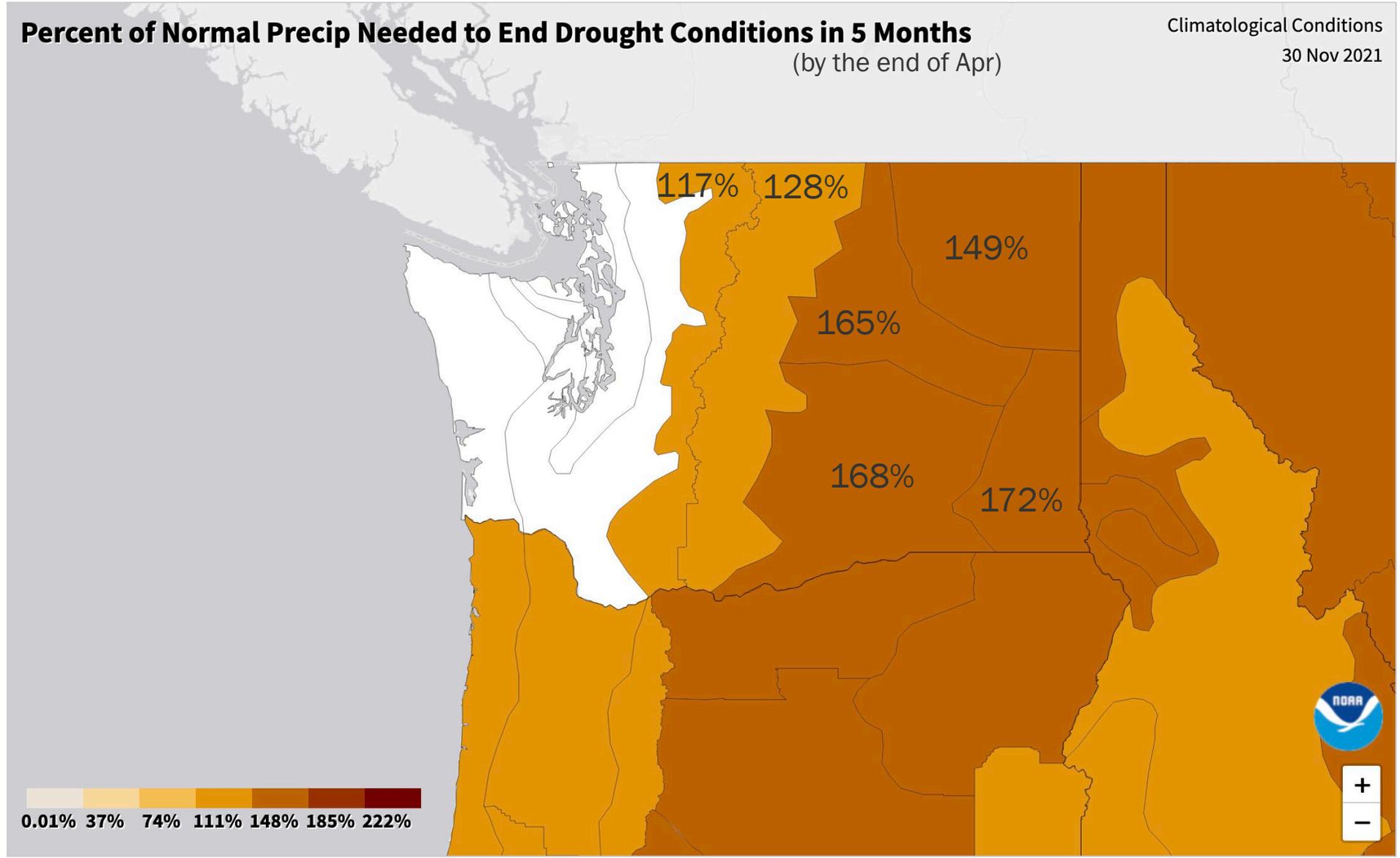


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Precipitation Required to End the Drought



(uses 1981-2010 normal)

Thank you

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