

Weather and Water Outlook



Northern Nevada Forecast Meeting 4/15/2021

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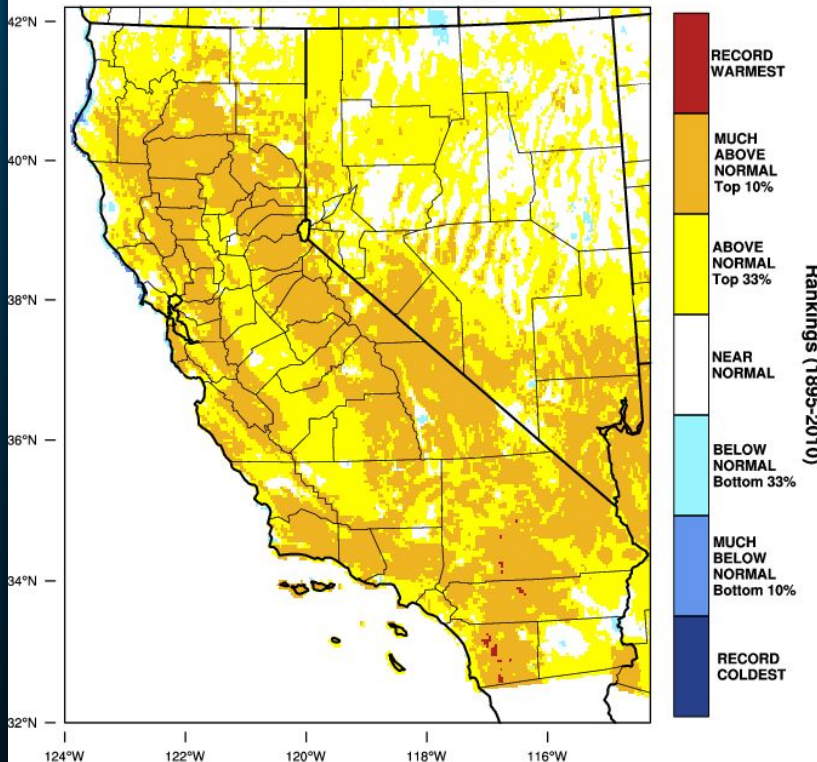
Reno National Weather Service
Forecasting for the Sierra and western Nevada since 1905



Water Year to Date

California - Mean Temperature

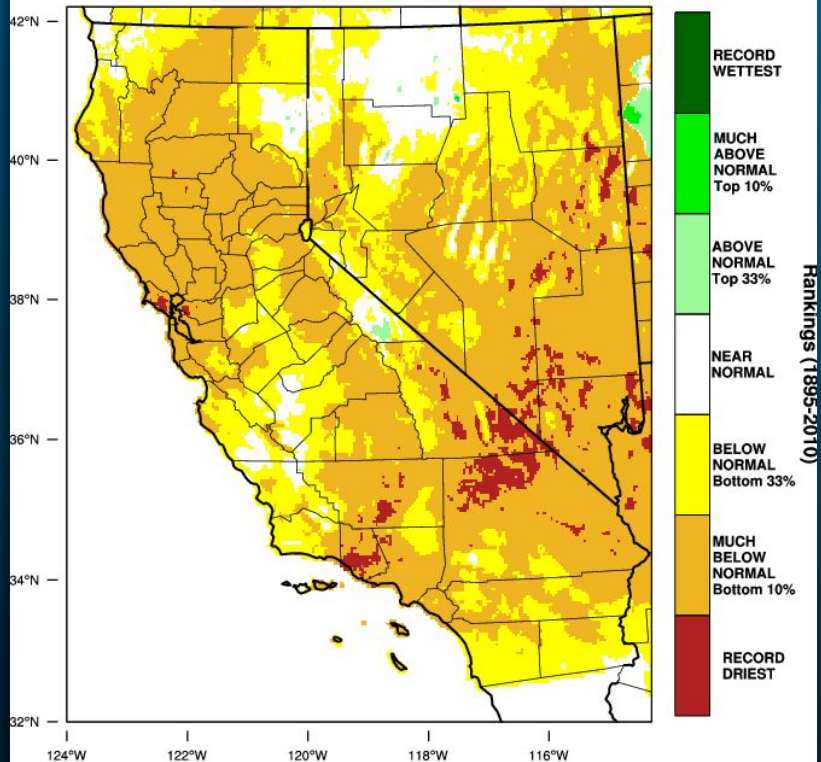
October-March 2021 Percentile



WestWide Drought Tracker, U Idaho/WRCC Data Source: PRISM (Prelim), created 11 APR 2021

California - Precipitation

October-March 2021 Percentile



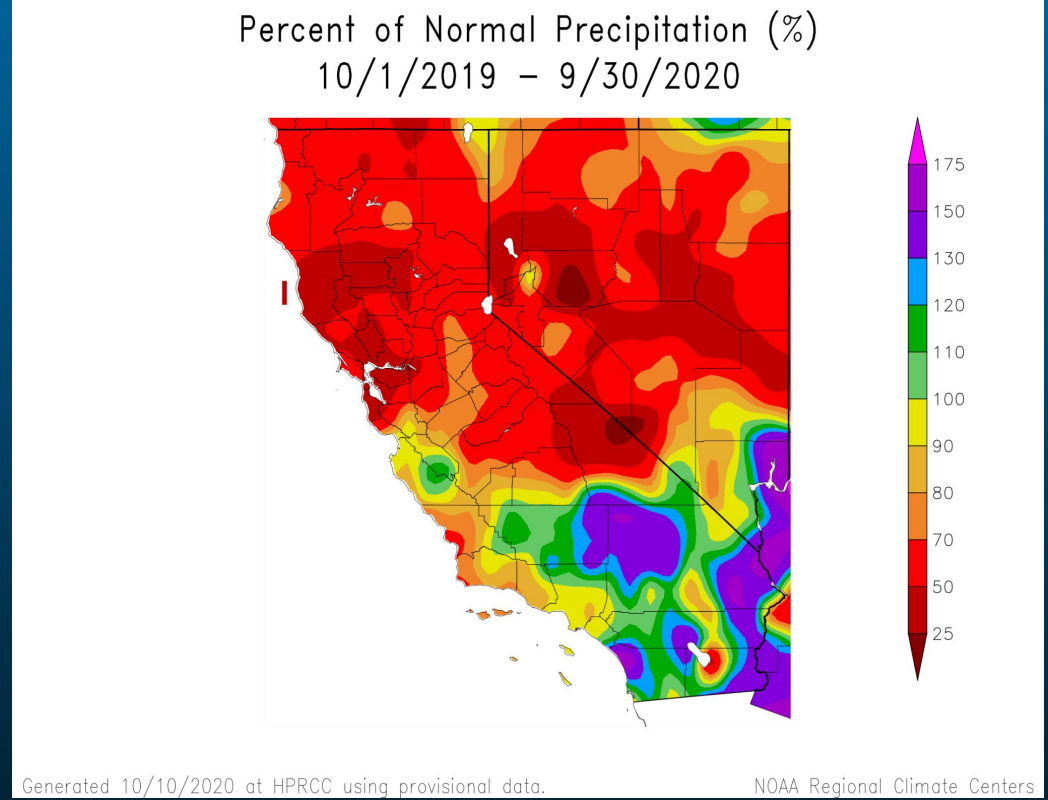
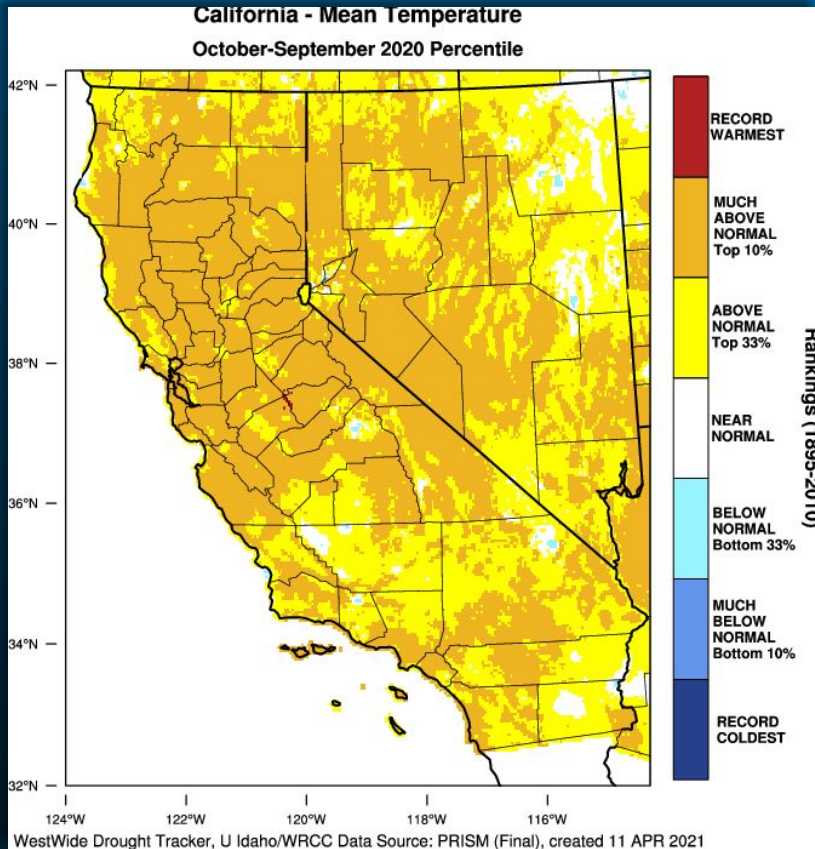
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Reno National Weather Service

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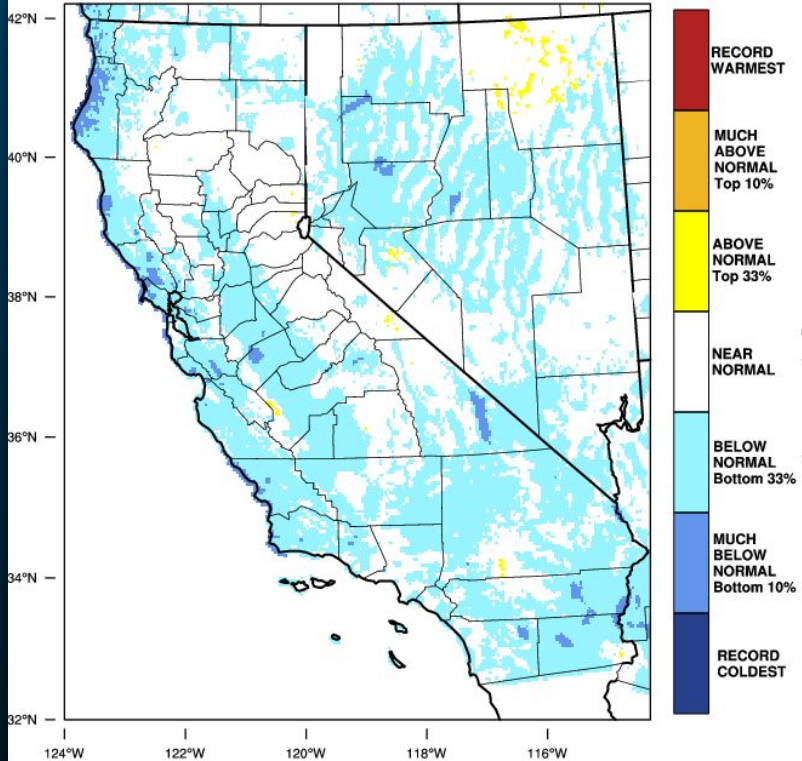


Don't forget Last year



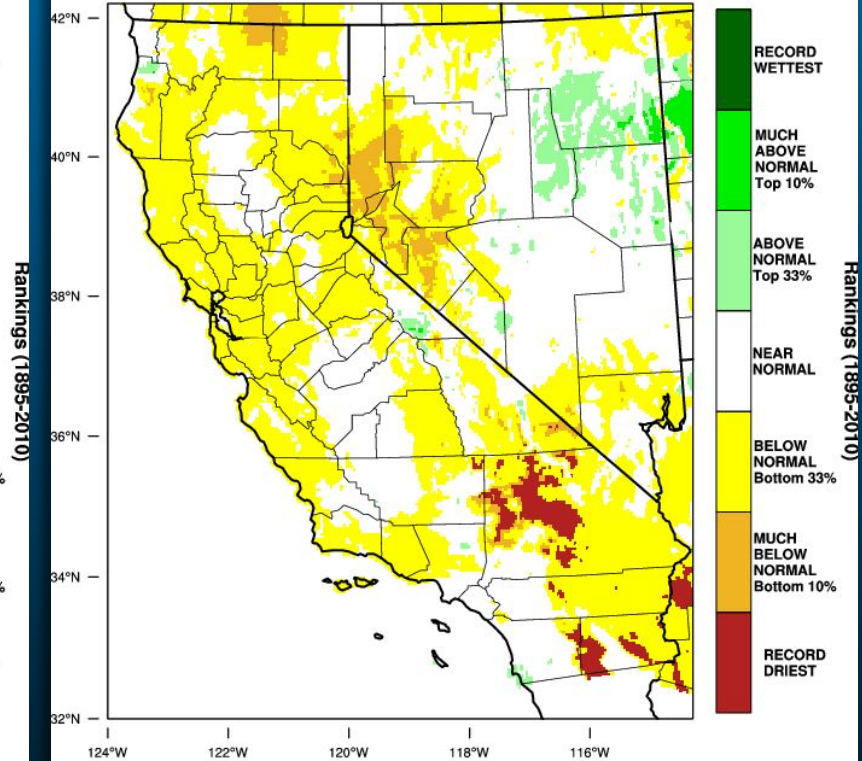
No Miracle this March

California - Mean Temperature
March 2021 Percentile



WestWide Drought Tracker, U Idaho/WRCC Data Source: PRISM (Prelim), created 11 APR 2021

California - Precipitation
March 2021 Percentile



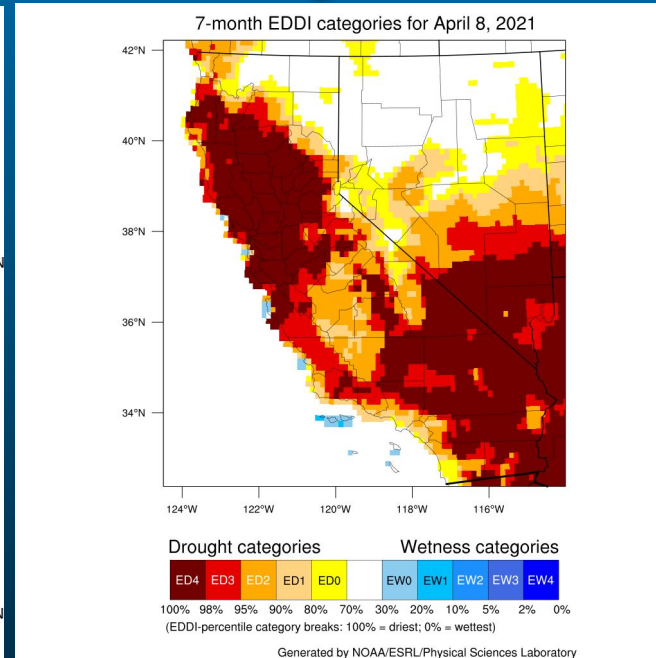
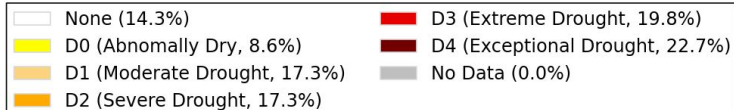
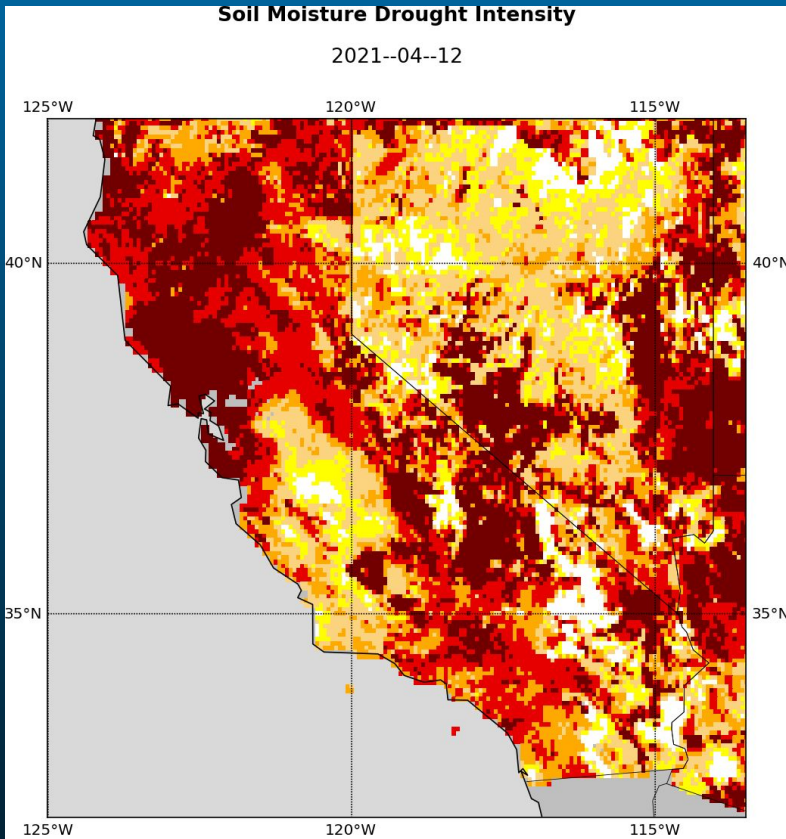
WestWide Drought Tracker, U Idaho/WRCC Data Source: PRISM (Prelim), created 11 APR 2021

Where did the ARs go?

49 atmospheric rivers have made landfall over the U.S. West Coast during WY 2021, a majority of which primarily impacted the Pacific Northwest



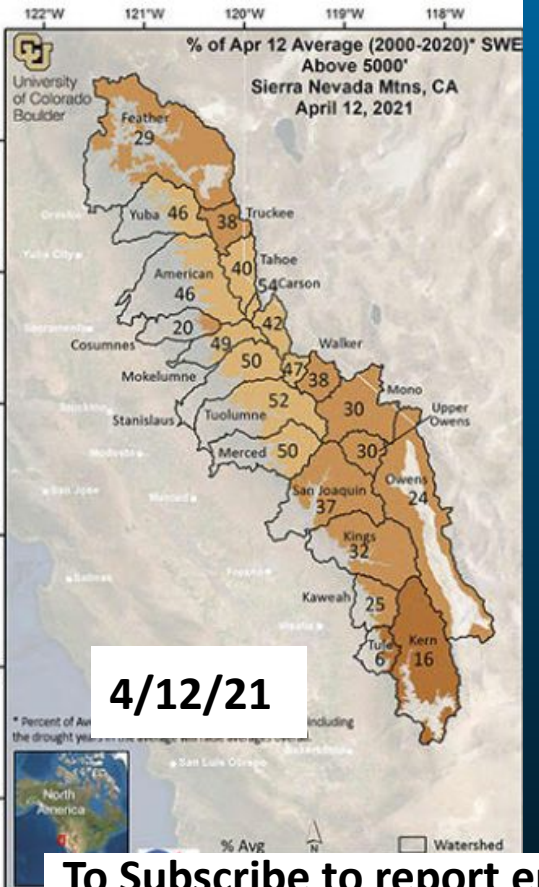
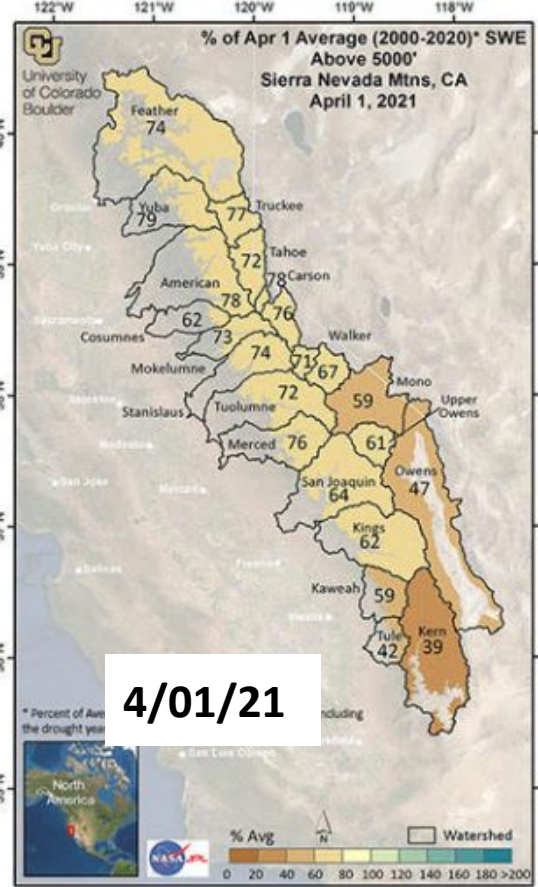
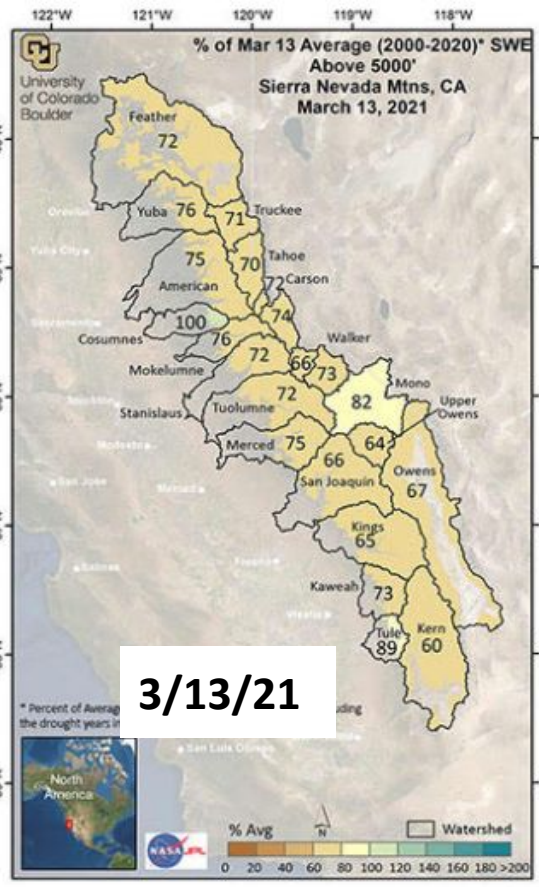
Modeled Soil Moisture and Evaporative Demand



Modeled Soil Moisture- similar picture to observations, including rangelands.

Evaporative Demand elevated for water year, but even worse summer and fall.

CU/JPL Distributed SWE Model



To Subscribe to report email:
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Situational Awareness - When Should I Freak Out?

NWS Reno's 7-14 Day Scan for Upcoming Weather across the Eastern Sierra and Western Nevada

	Wed 4/14	Thu 4/15	Fri 4/16	Sat 4/17	Sun 4/18	Mon 4/19	Tues 4/20	W2 4/21-28	
Wind	Lighter winds.		Breezy ENE winds, enhanced on the Sierra ridges.	Typical afternoon westerlies.				All is quiet on the western front. There is some potential to see a weak storm or two by the end of the month, but confidence is very low at this time.	
Snow/Rain	Rain and snow showers continue w/ best chances along the Sierra.	ZIP.							
Thunderstorms	10-20% chance. Isolated coverage.	ZILCH.							
Flooding	Does a puddle count? We may have a few of those today.								
Fire Weather	Cooler with more northerly flow. No real fire weather concerns.		Warming trend into the weekend. Still dry.						
Unusual Temps	Cooler. ~5-8 degrees below normal.	Gradual warm-up but nothing unusual.			Well above average by a good 10+ degrees.			Favoring above normal temps.	

What Does This Mean? Integrates impacts and confidence

No worries



Low freakoutness



Moderate freakoutness



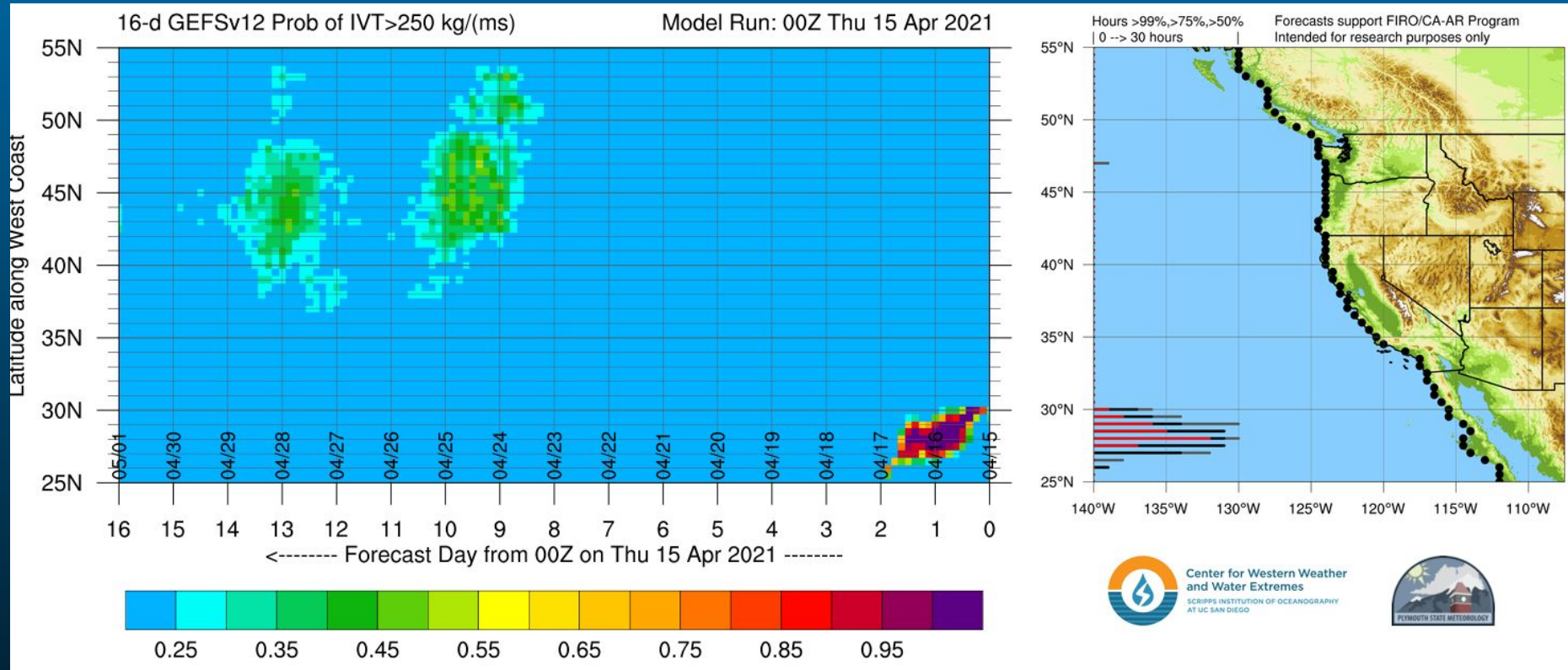
High freakoutness



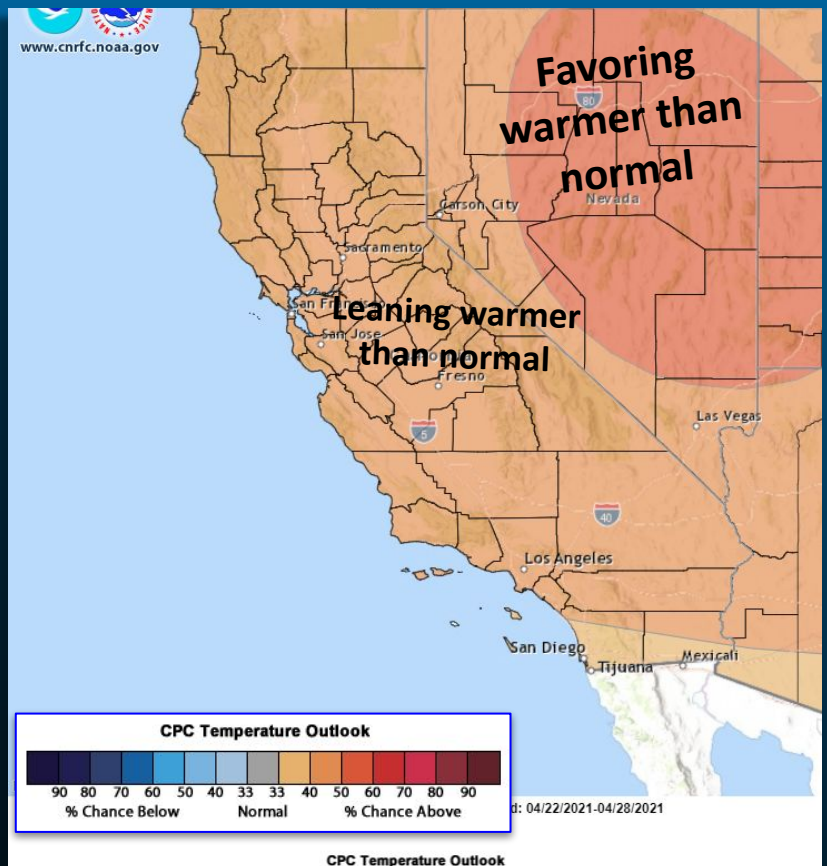
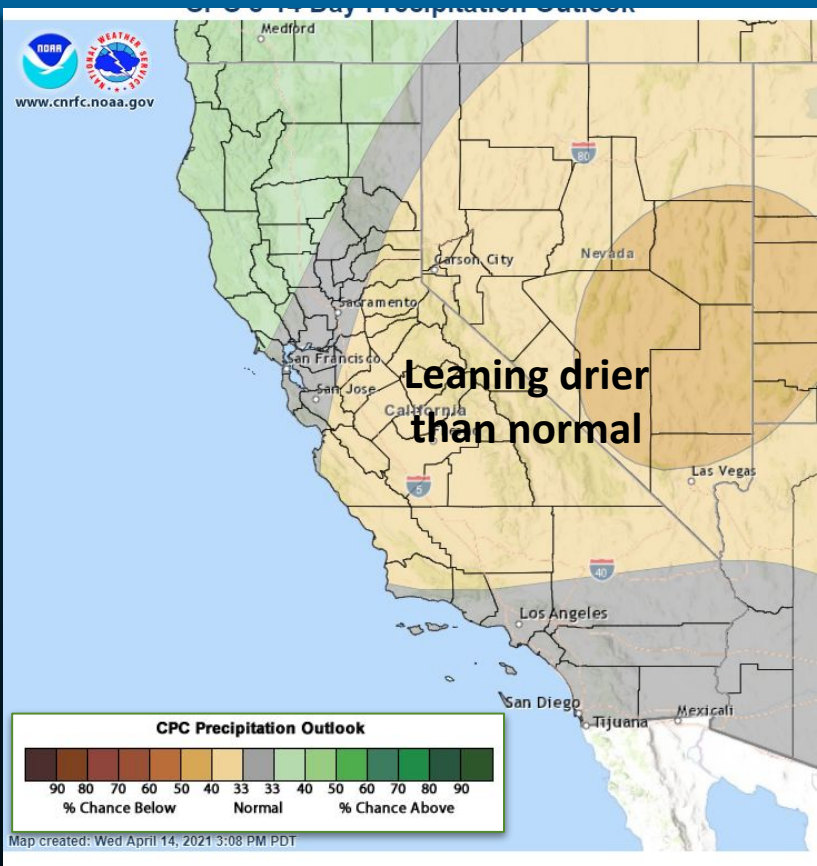
Really bad



Atmospheric River Outlook

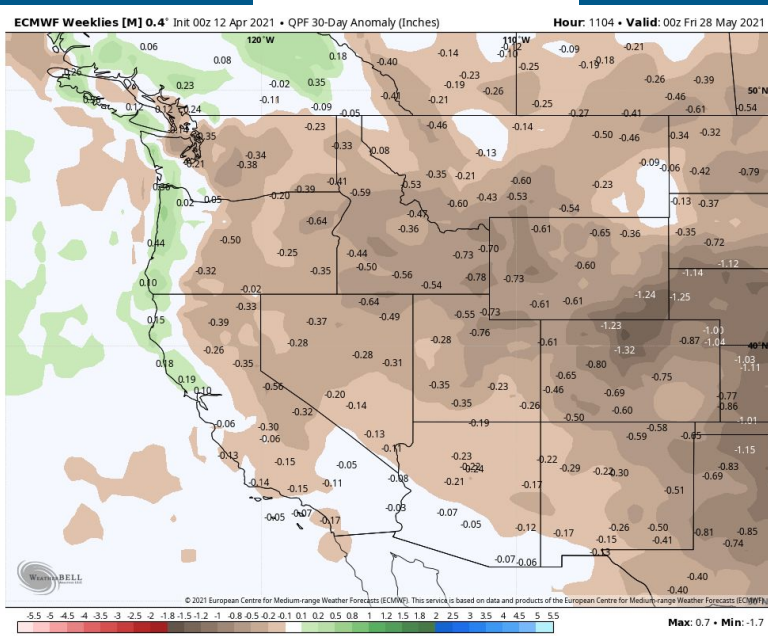


8-14day Precip and Temp outlook (4/22-4/28)

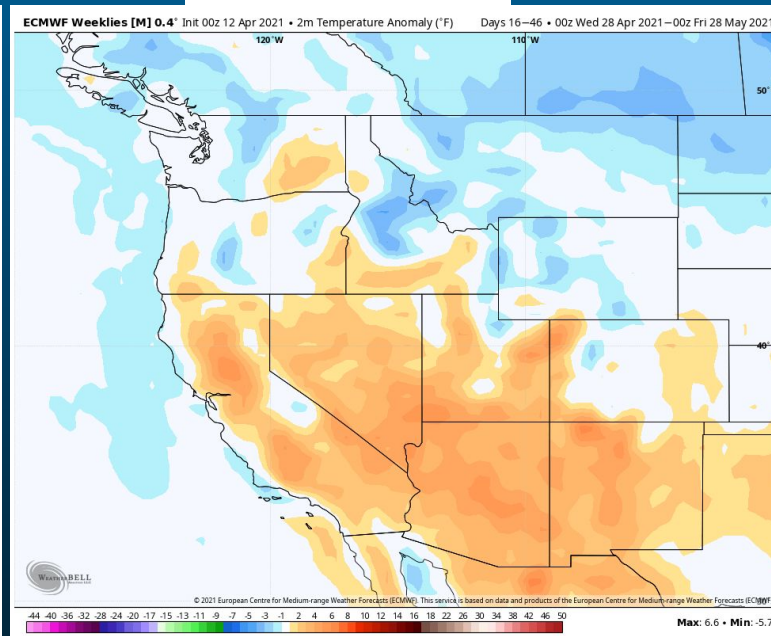


Late April - Late May Temp/Precip Outlook

Precipitation



Temperature



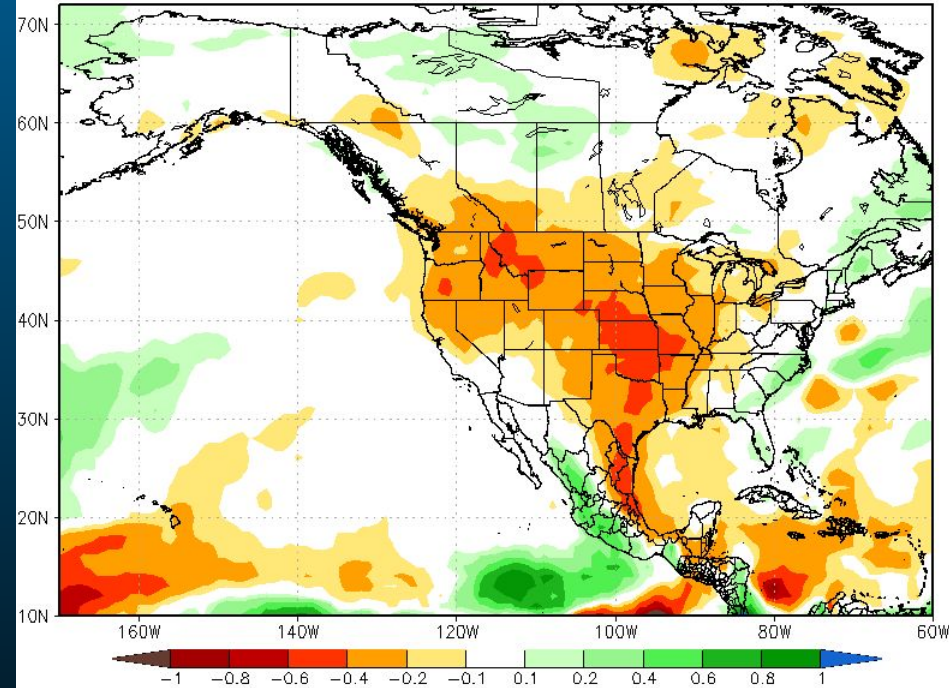
Precip outlook favors below normal.

Temperature outlook favors warmer

May-July Precipitation and Temperature Outlook

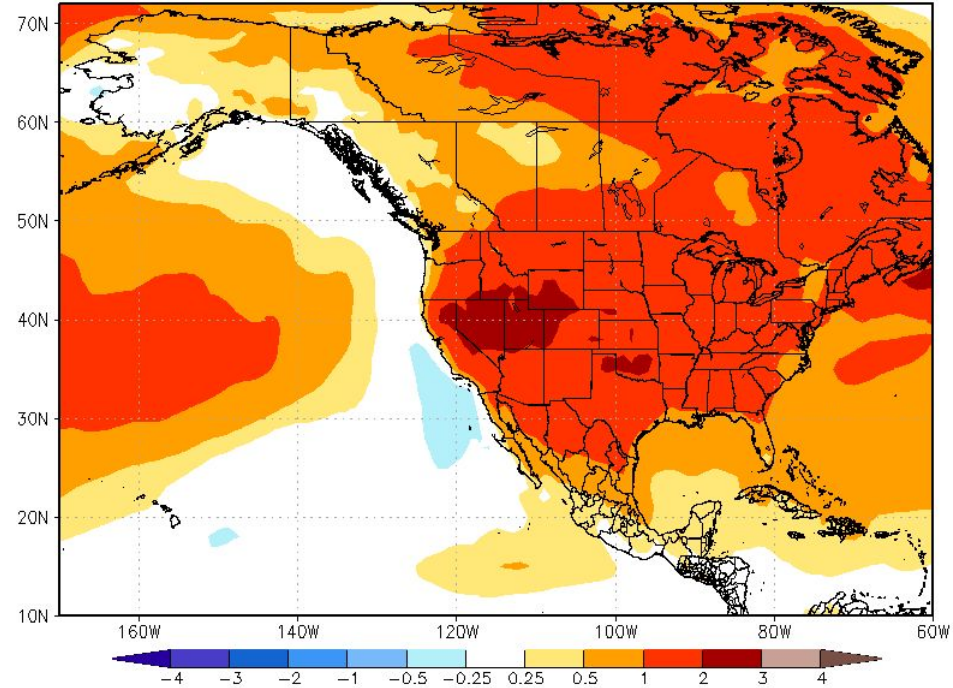
Precipitation

NMME Forecast of Prec. rate Anom IC=202104 for Lead 1 2021MJJ

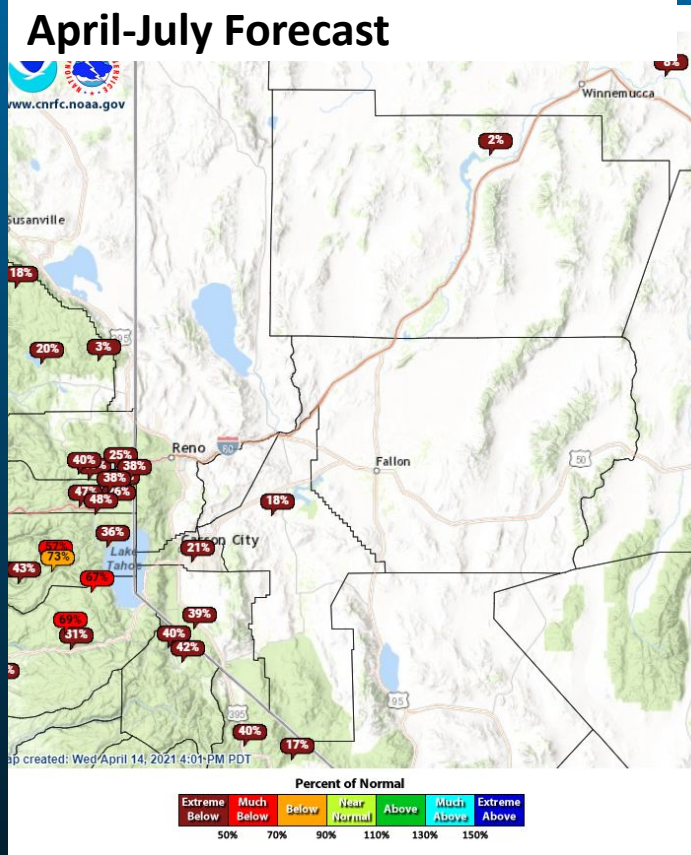
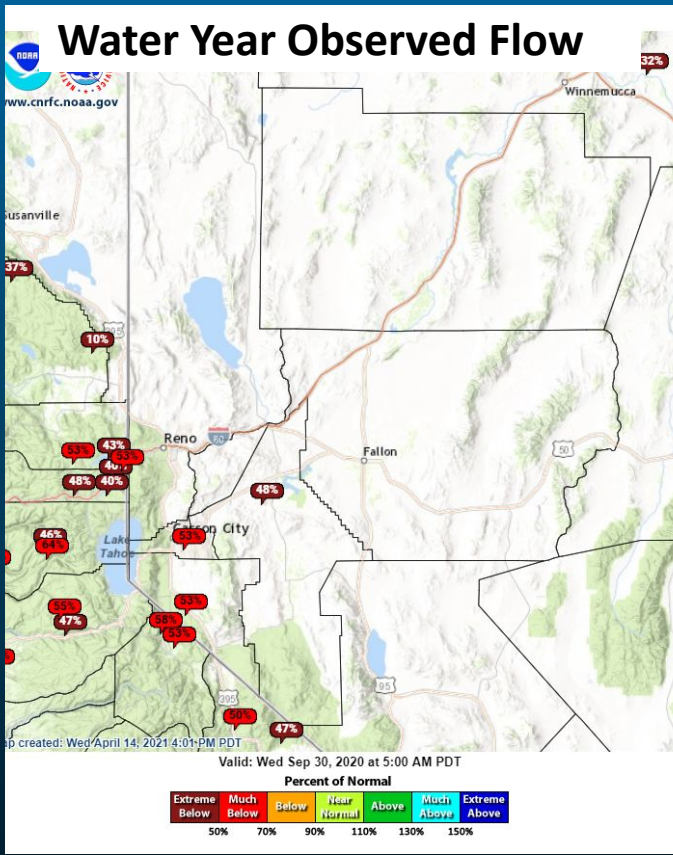


Temperature

NMME Forecast of TMP2m Anom IC=202104 for Lead 1 2021MJJ

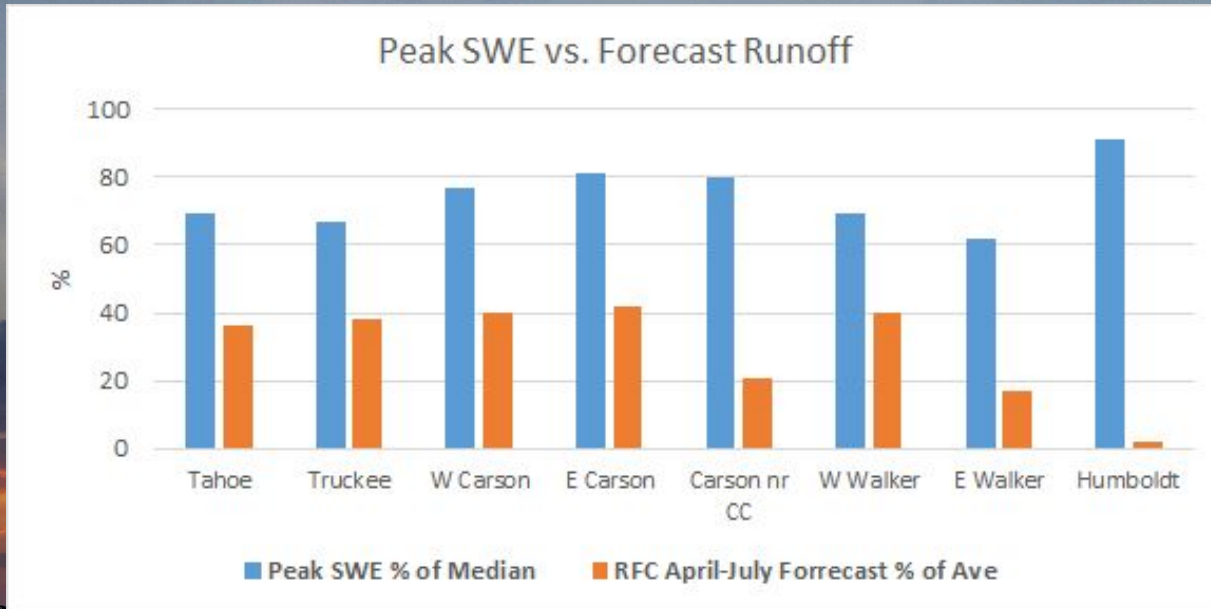


Observed Flow and Water Supply Forecasts



Forecasts have declined significantly with dry spring and snowpack losses. NWS Forecasts are significantly lower than NRCS for the same points

Where's All The Snowpack Going!?



Peak Snowpack was below average, but not horrible...

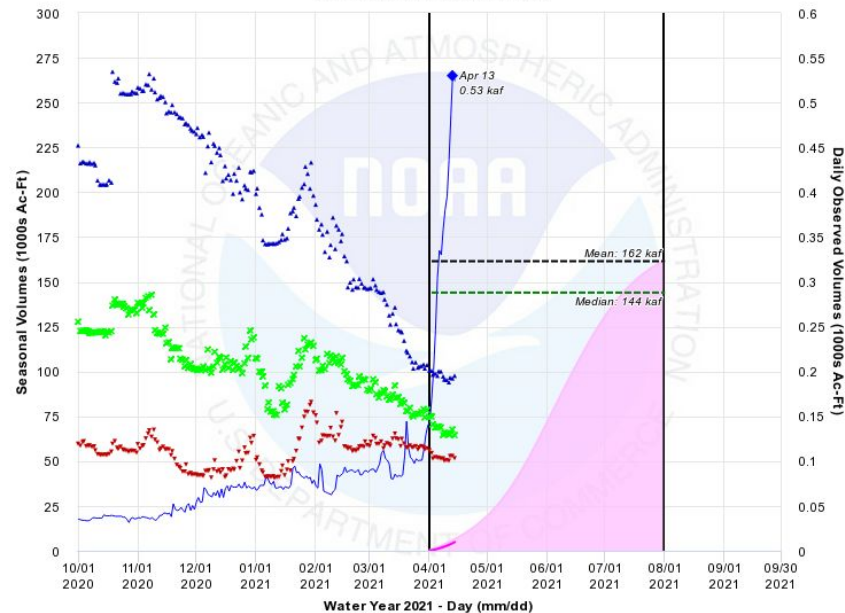
But anticipated runoff is closer to the horrible category due primarily to very dry soils, and low groundwater contributions after a very dry 2020 water year.

Water Supply

WEST WALKER - LTL WALKER, BLO, COLEVILLE, NR (WWBC1) 04/14/2021

Median Forecast: **64.5 kaf** | 40% of Mean | 45% of Median

Created: 04/14/2021 at 09:38 AM PDT



Observed Season to Date Percent of Mean: 74% (4.85 kaf) Season to Date Mean: 6.53 kaf

Historical Apr-Jul Vol Max: 410 kaf in 2017 Historical Apr-Jul Vol Min: 35.1 kaf in 1977

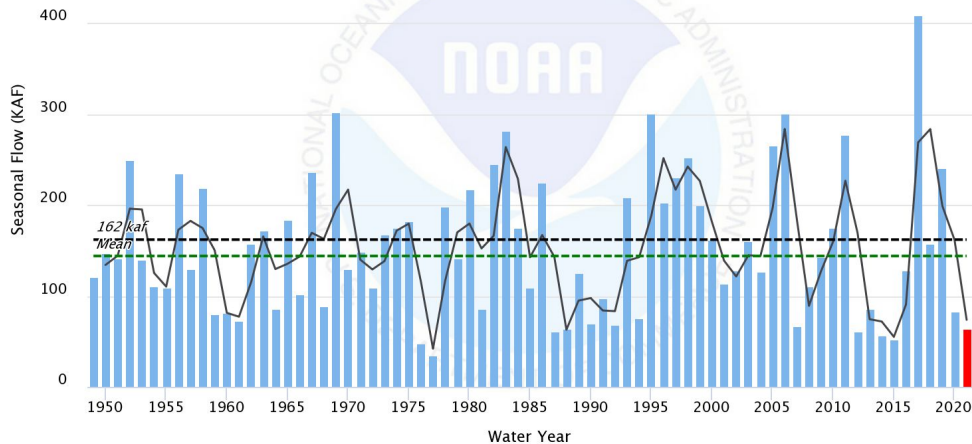
This product only considers meteorological uncertainty and does not account for hydrologic uncertainty.

Legend entries below can be toggled on/off.

-- Apr-Jul Vol Mean -- Apr-Jul Vol Median Season to Date Mean NWS Apr-Jul Fcst Season to Date Obs
 -- Daily Obs -- Obs Peak -- ESP Apr-Jul Fcst 10% -- ESP Apr-Jul Fcst 25% -- ESP Apr-Jul Fcst 50%
 -- ESP Apr-Jul Fcst 75% -- ESP Apr-Jul Fcst 90%

Seasonal (Apr-Jul) Historical Flow for WWBC1

West Walker blw Little Walker



● Seasonal Flow — 2-Year Mean - - Volume Median (144 kaf) - - Volume Mean (162 kaf)

Reno National Weather Service

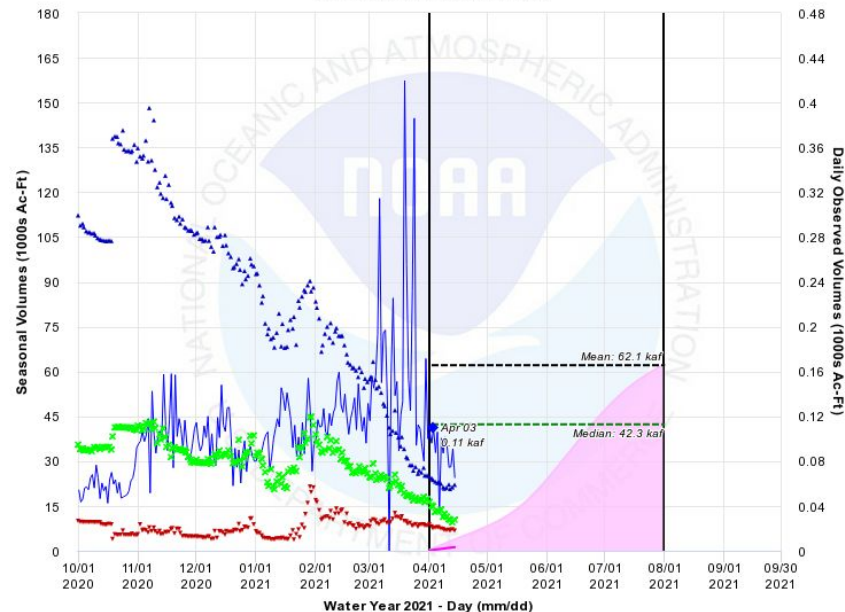
Forecasting for the Sierra and western Nevada since 1905



Water Supply

EAST WALKER - BRIDGEPORT, NR (BPRC1) 04/14/2021
Median Forecast: 10.4 kaf | 17% of Mean | 25% of Median

Created: 04/14/2021 at 09:38 AM PDT



Observed Season to Date Percent of Mean: 33% (1.23 kaf) Season to Date Mean: 3.77 kaf
 Historical Apr-Jul Vol Max: 209 kaf in 1969 Historical Apr-Jul Vol Min: 6.67 kaf in 1976

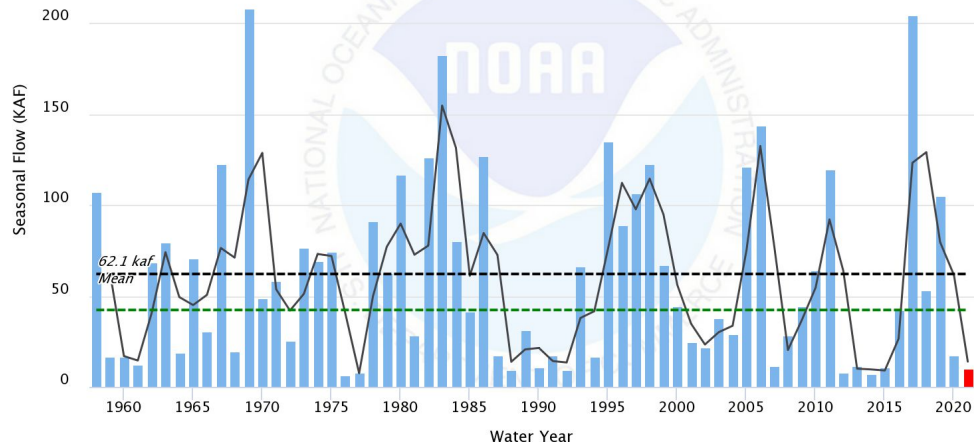
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Legend entries below can be toggled on/off.

- Apr-Jul Vol Mean -- Apr-Jul Vol Median Season to Date Mean NWS Apr-Jul Fcst Season to Date Obs
- Daily Obs — Obs Peak — ESP Apr-Jul Fcst 10% — ESP Apr-Jul Fcst 25% — ESP Apr-Jul Fcst 50%
- ESP Apr-Jul Fcst 75% — ESP Apr-Jul Fcst 90%

Seasonal (Apr-Jul) Historical Flow for BPRC1

East Walker Bridgeport



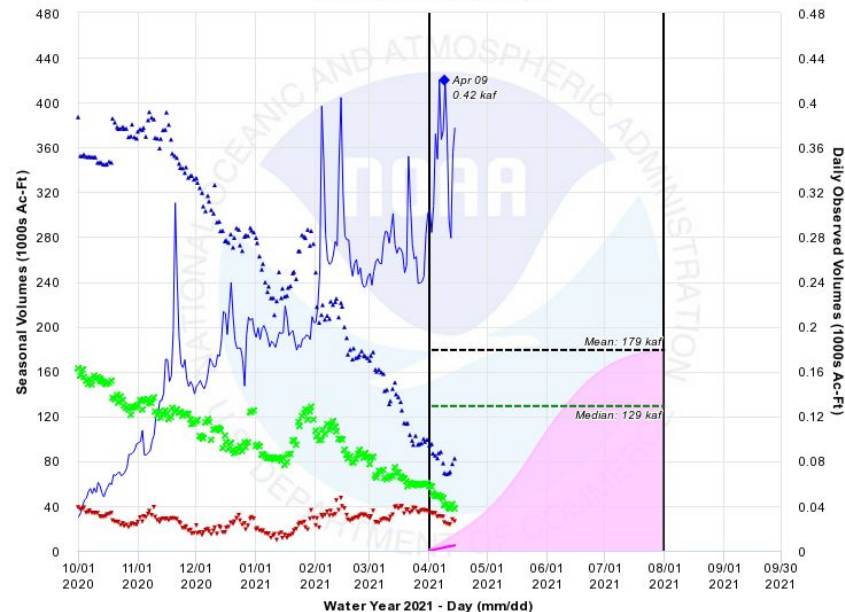
- Seasonal Flow — 2-Year Mean - - Volume Median (42.3 kaf) - - Volume Mean (62.1 kaf)



Water Supply

CARSON - CARSON CITY, NR (STWN2) 04/14/2021
Median Forecast: 37.7 kaf | 21% of Mean | 29% of Median

Created: 04/14/2021 at 09:38 AM PDT



Observed Season to Date Percent of Mean: 34% (4.88 kaf) Season to Date Mean: 14.2 kaf
 Historical Apr-Jul Vol Max: 554 kaf in 2017 Historical Apr-Jul Vol Min: 11.5 kaf in 2015

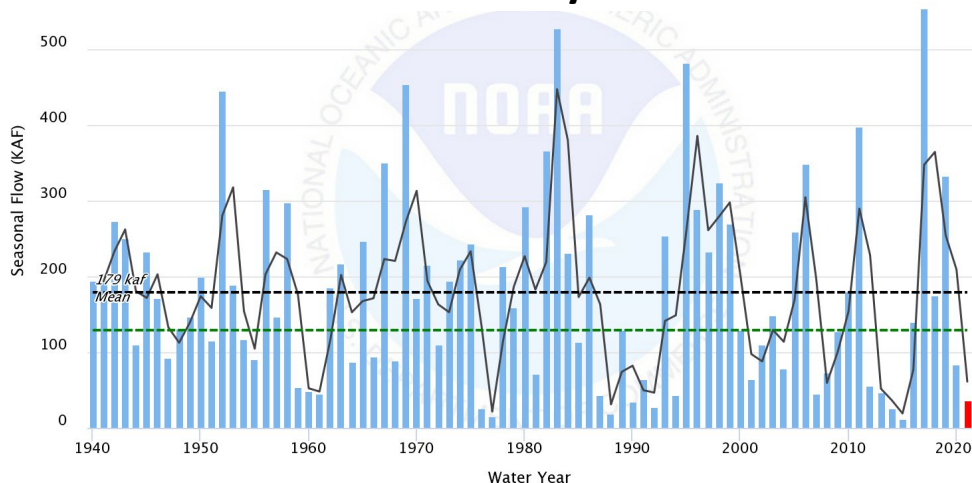
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Legend entries below can be toggled on/off.

- Apr-Jul Vol Mean -- Apr-Jul Vol Median Season to Date Mean NWS Apr-Jul Fcst Season to Date Obs
- Daily Obs — Obs Peak — ESP Apr-Jul Fcst 10% — ESP Apr-Jul Fcst 25% — ESP Apr-Jul Fcst 50%
- ESP Apr-Jul Fcst 75% — ESP Apr-Jul Fcst 90%

Seasonal (Apr-Jul) Historical Flow for STWN2

Carson nr Carson City



- Seasonal Flow — 2-Year Mean — Volume Median (129 kaf) -- Volume Mean (179 kaf)

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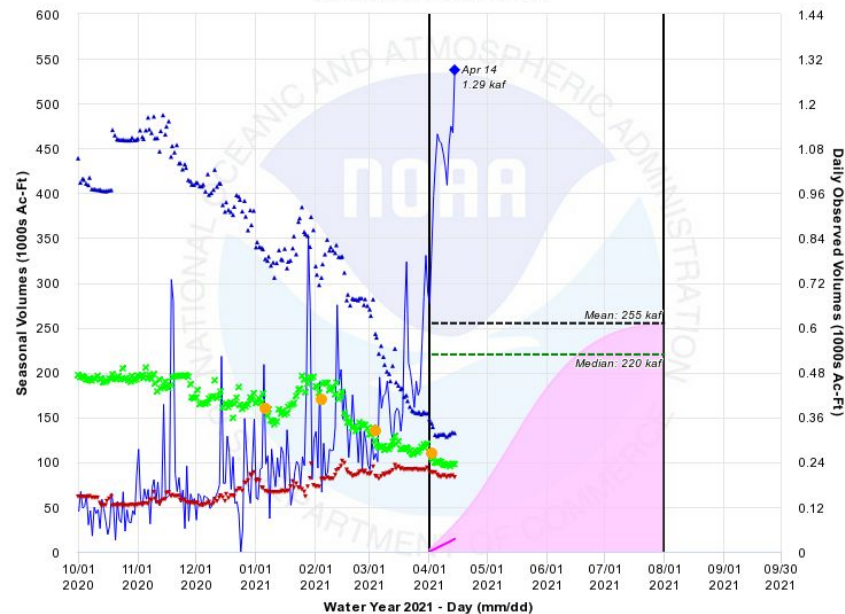


Water Supply

TRUCKEE - FARAD (FARC1) 04/14/2021

Median Forecast: **97.8 kaf** | **38% of Mean** | **44% of Median**

Created: 04/14/2021 at 09:38 AM PDT



Observed Season to Date Percent of Mean: 47% (14.5 kaf) Season to Date Mean: 30.6 kaf

Historical Apr-Jul Vol Max: 713 kaf in 1983 Historical Apr-Jul Vol Min: 37.1 kaf in 2015

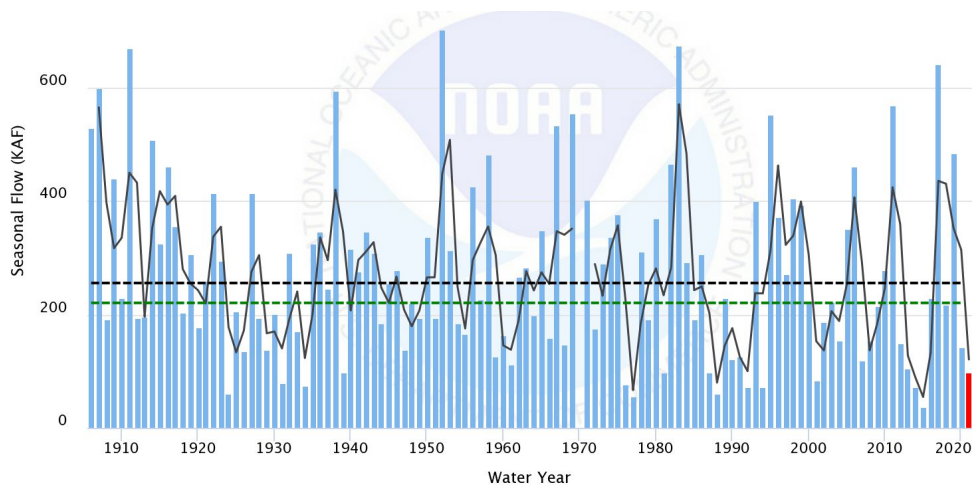
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Legend entries below can be toggled on/off.

- Apr-Jul Vol Mean -- Apr-Jul Vol Median Season to Date Mean NWS Apr-Jul Fcst Season to Date Obs
- Daily Obs — Obs Peak — ESP Apr-Jul Fcst 10% — ESP Apr-Jul Fcst 25% — ESP Apr-Jul Fcst 50%
- ESP Apr-Jul Fcst 75% — ESP Apr-Jul Fcst 90%

Seasonal (Apr-Jul) Historical Flow for FARC1

Truckee Farad



- Seasonal Flow — 2-Year Mean - - Volume Median (220 kaf) - - Volume Mean (255 kaf)

Reno National Weather Service

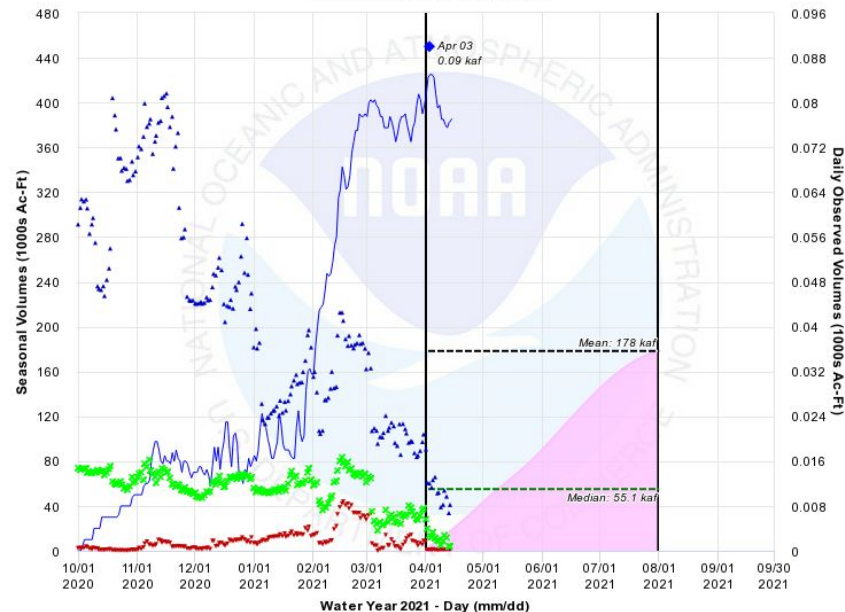
Forecasting for the Sierra and western Nevada since 1905



Water Supply

HUMBOLDT - IMLAY, NR (HRIN2) 04/14/2021
Median Forecast: 4.16 kaf | 2% of Mean | 8% of Median

Created: 04/14/2021 at 09:49 AM PDT



Observed Season to Date Percent of Mean: 6% (1.12 kaf) Season to Date Mean: 18.2 kaf
 Historical Apr-Jul Vol Max: 1110 kaf in 1984 Historical Apr-Jul Vol Min: 3.16 kaf in 2014

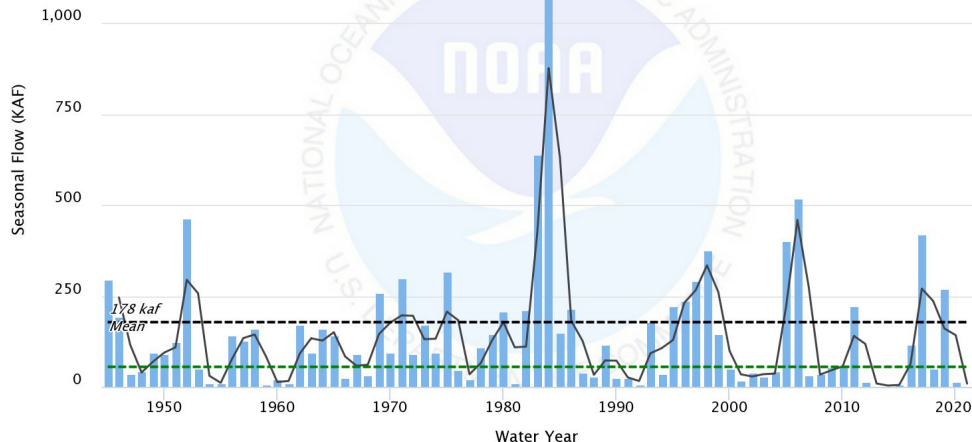
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Legend entries below can be toggled on/off.

- Apr-Jul Vol Mean -- Apr-Jul Vol Median Season to Date Mean NWS Apr-Jul Fcst Season to Date Obs
- Daily Obs ● Obs Peak ● ESP Apr-Jul Fcst 10% ● ESP Apr-Jul Fcst 25% ● ESP Apr-Jul Fcst 50%
- ESP Apr-Jul Fcst 75% ● ESP Apr-Jul Fcst 90%

Seasonal (Apr-Jul) Historical Flow for HRIN2

Humboldt nr Imlay

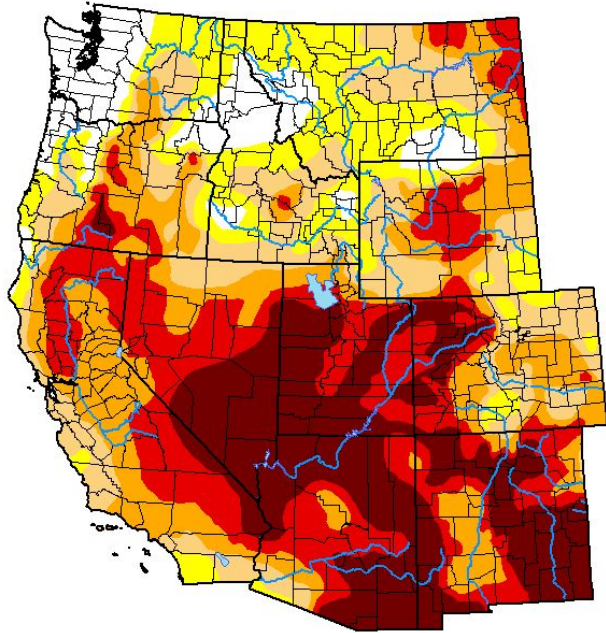


- Seasonal Flow — 2-Year Mean - - Volume Median (55.1 kaf) - - Volume Mean (178 kaf)








U.S. Drought Monitor West

April 13, 2021
(Released Thursday, Apr. 15, 2021)
Valid 8 a.m. EDT



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:

Deborah Bathke
National Drought Mitigation Center



droughtmonitor.unl.edu

Drought is Back

Fairly rapid onset
since last summer.

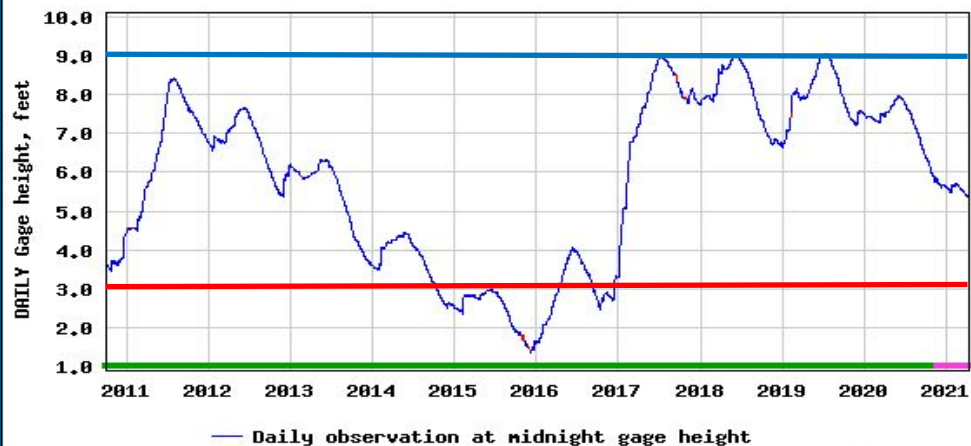
Significant rural,
mountain water resource
impacts this summer.



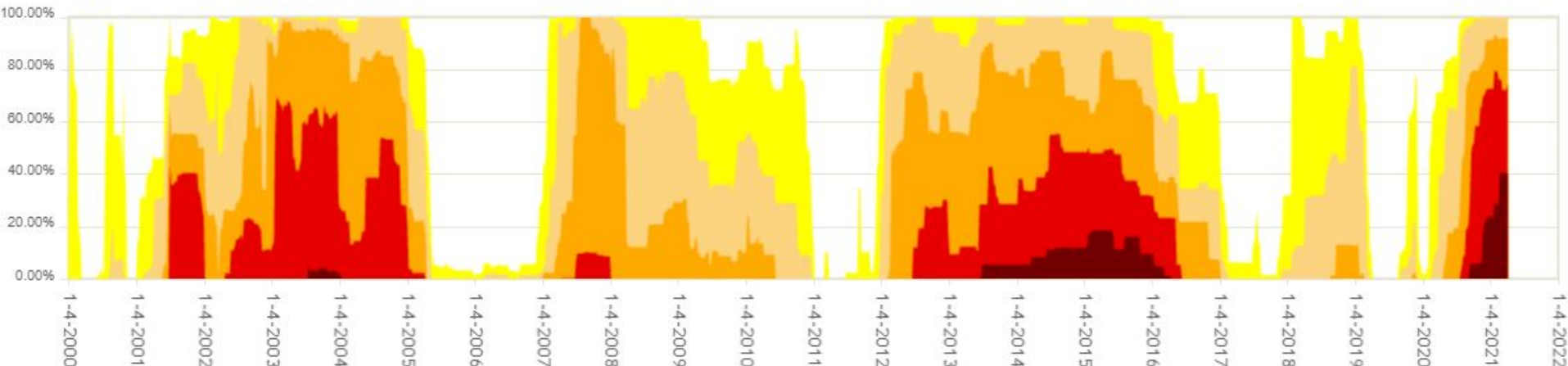
Drought



USGS 10337000 LAKE TAHOE A TAHOE CITY CA

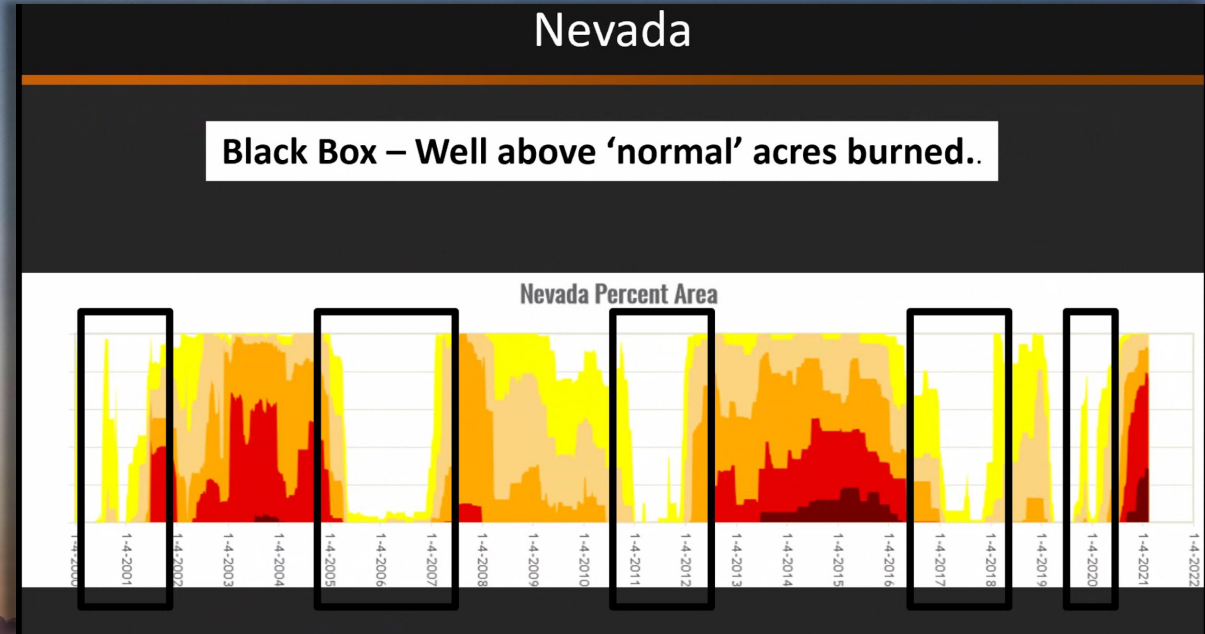


Nevada Percent Area



Drought & Fire

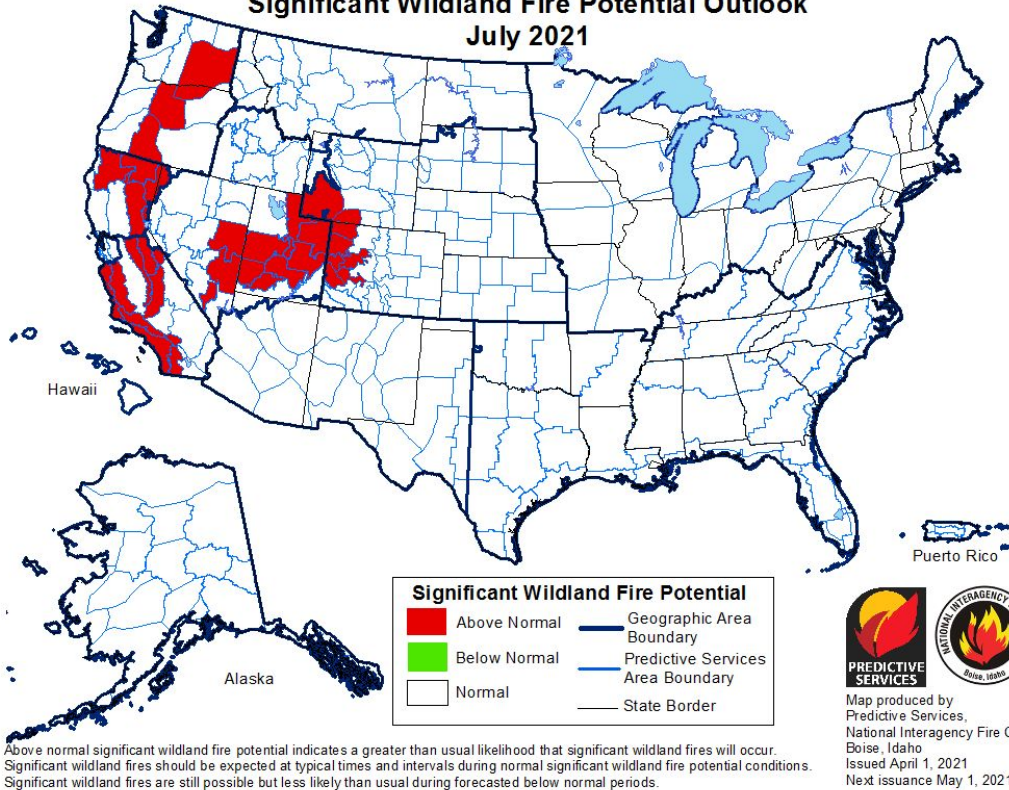
Not the correlation you might expect, at least in the Great Basin grassy fuels



Great Basin GACC Predictive Services analysis of US Drought Monitor in Nevada vs busy fire seasons.

Big Caveat: if we end up with a particularly wet spring and robust new grass growth, then the correlation may not entirely fit for this summer.

Significant Wildland Fire Potential Outlook July 2021



Above normal significant wildland fire potential indicates a greater than usual likelihood that significant wildland fires will occur. Significant wildland fires should be expected at typical times and intervals during normal significant wildland fire potential conditions. Significant wildland fires are still possible but less likely than usual during forecasted below normal periods.

Fire Season 2021

Leaning near (or maybe below?) normal Great Basin lowlands, but could be big for GB mountains and Sierra

GACC Predictive Services [seasonal forecasts](#) go out through July right now.

Key Points

- Drought is back, significant impacts to range, Ag., and expanding to other sectors.
- Drought improvement is unlikely over next 6+ months.
- Water Supply way below normal, early meltout, early peak flows, and early return to low flows.
- Odds of snowmelt flooding issues extremely low.
- Spring-summer outlooks favor drier, warmer than normal, but storms and t-storms outbreaks still possible at times. **No “nonsoon” signal**
- Watch the mountains this fire season. Potential early peak season start, and extended and/or big year.
- Lower elevation Great Basin grasses, near (or below) normal fire hazard do to limited fuels.



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