

# Spring & Summer Weather Outlook

- Drought & water supply
- Fire season expectations
- NWS services update

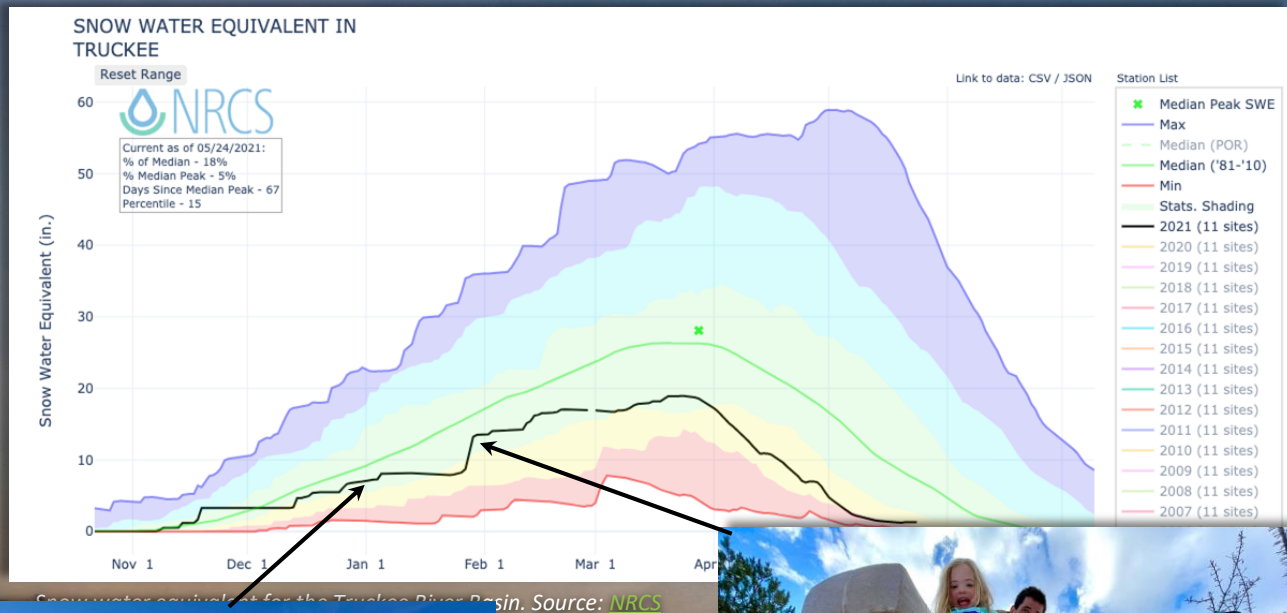
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*[chris.smallcomb@noaa.gov](mailto:chris.smallcomb@noaa.gov)*

*Last updated: 5/24/21*



Winter  
2020-21  
Unimpressive.  
At least we had late  
January...



Snowwater equivalent for the Truckee River Basin. Source: [NRCS](#)



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





AR Strength	AR Count
Weak	15
Moderate	20
Strong	11
Extreme	3
Exceptional	0

Regions Impacted by Each AR	
State/Region	AR Conditions
Washington	45
Oregon	48
Northern CA	30
Central CA	15
Southern CA	6

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

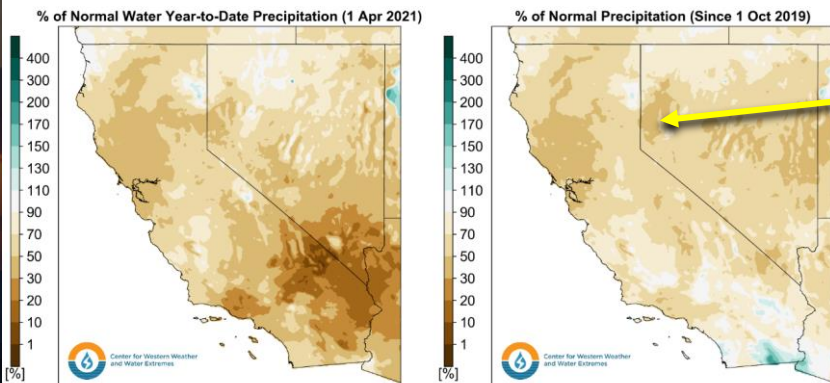


# Why Was it So Dry?

## Atmospheric River Shields Were Up!

Check out this great water year 2020 [summary](#) from the Center for Western Weather and Water Extremes.

## CW3E End of Winter Summary: Current Conditions



\*Normals based on 1981–2010 Average Monthly Precipitation

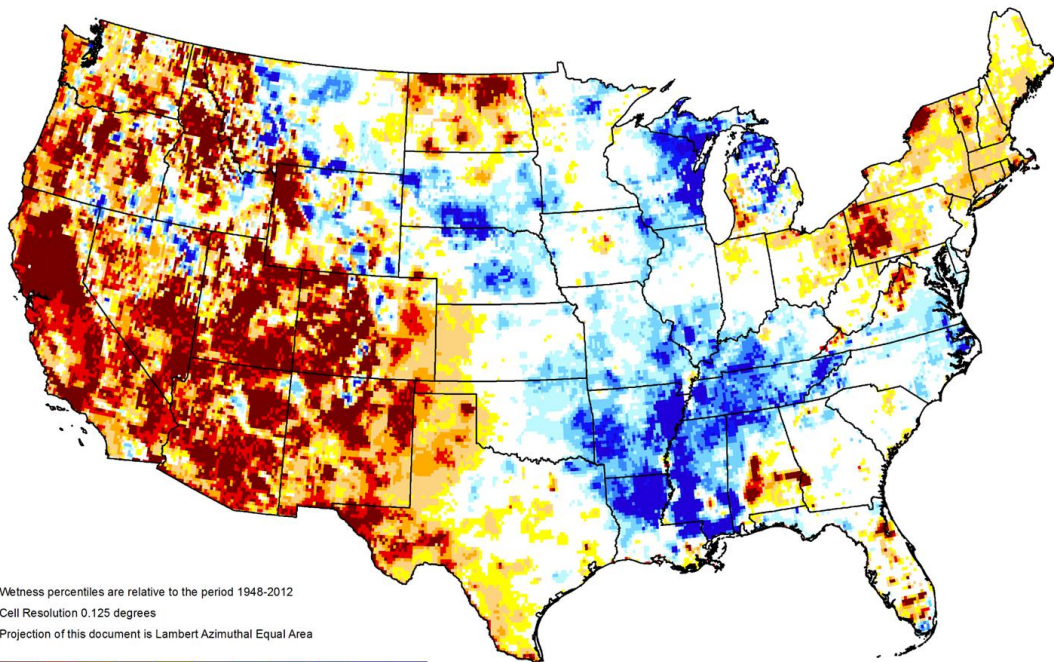
Data courtesy: PRISM Climate Group, Oregon

*Becoming a longer term precip deficit. Two dry winters...*



## GRACE-Based Shallow Groundwater Drought Indicator

May 10, 2021



Wetness percentiles are relative to the period 1948-2012  
Cell Resolution 0.125 degrees  
Projection of this document is Lambert Azimuthal Equal Area



<https://nasagrace.unl.edu>

# Dry Soils

Limits new grass growth, but also severely curtails snowmelt runoff



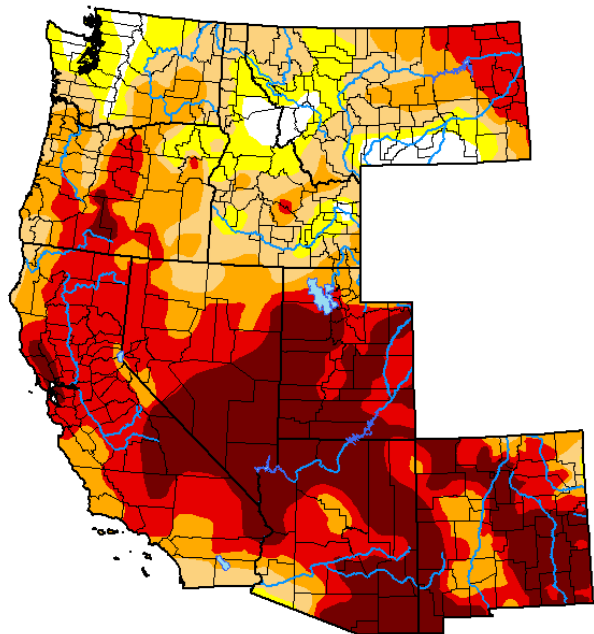
*This is the soil moisture ANOMALY - showing rare dryness across CA, NV and much of the west!*



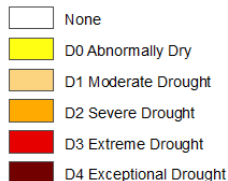


## U.S. Drought Monitor West

May 18, 2021  
(Released Thursday, May. 20, 2021)  
Valid 8 a.m. EDT



### 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:

Adam Hartman  
NOAA/NWS/NCEP/CPC



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

# Drought is Back

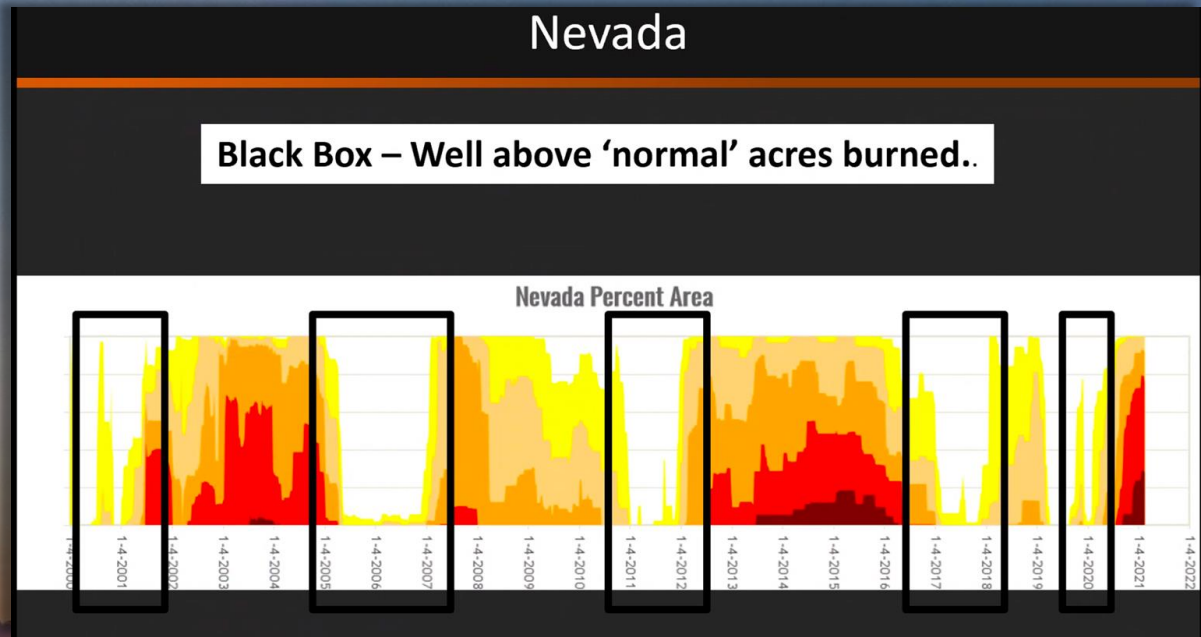
Fairly rapid onset  
since last summer.

Significant rural,  
mountain water resource  
impacts this summer.



# Drought & Fire

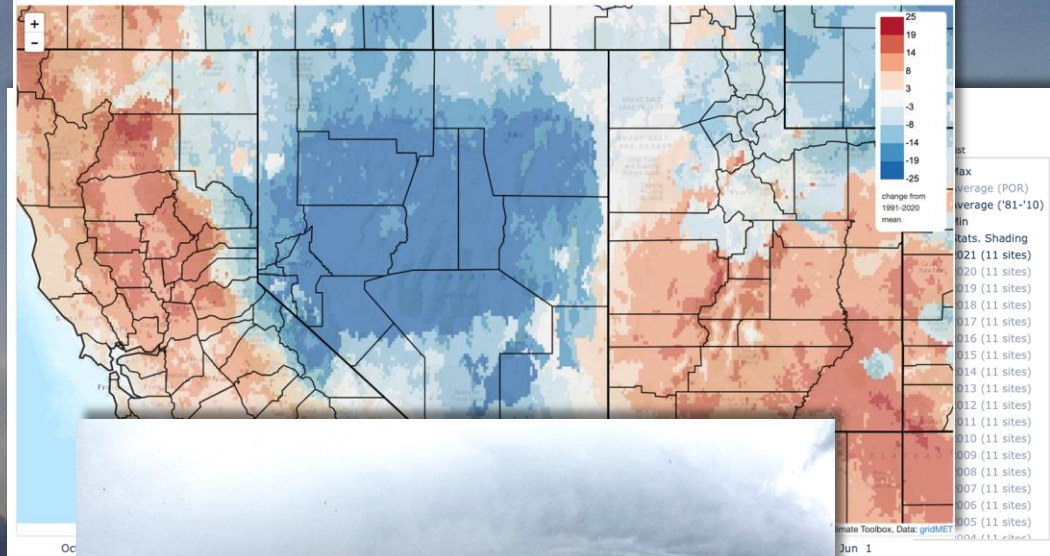
Not the correlation  
you might expect,  
at least in the Great  
Basin grassy fuels



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

*"After windshield survey of the district, I can say that I have not seen such low grass fuel loadings in the 20 years I've fought fire here." - Ryan Elliott, Carson City BLM Fuels 5/5/21*





# Has Recent Rain & Snow Helped?

Yes...

Probably bought us a couple extra weeks before fire season really kicks in.

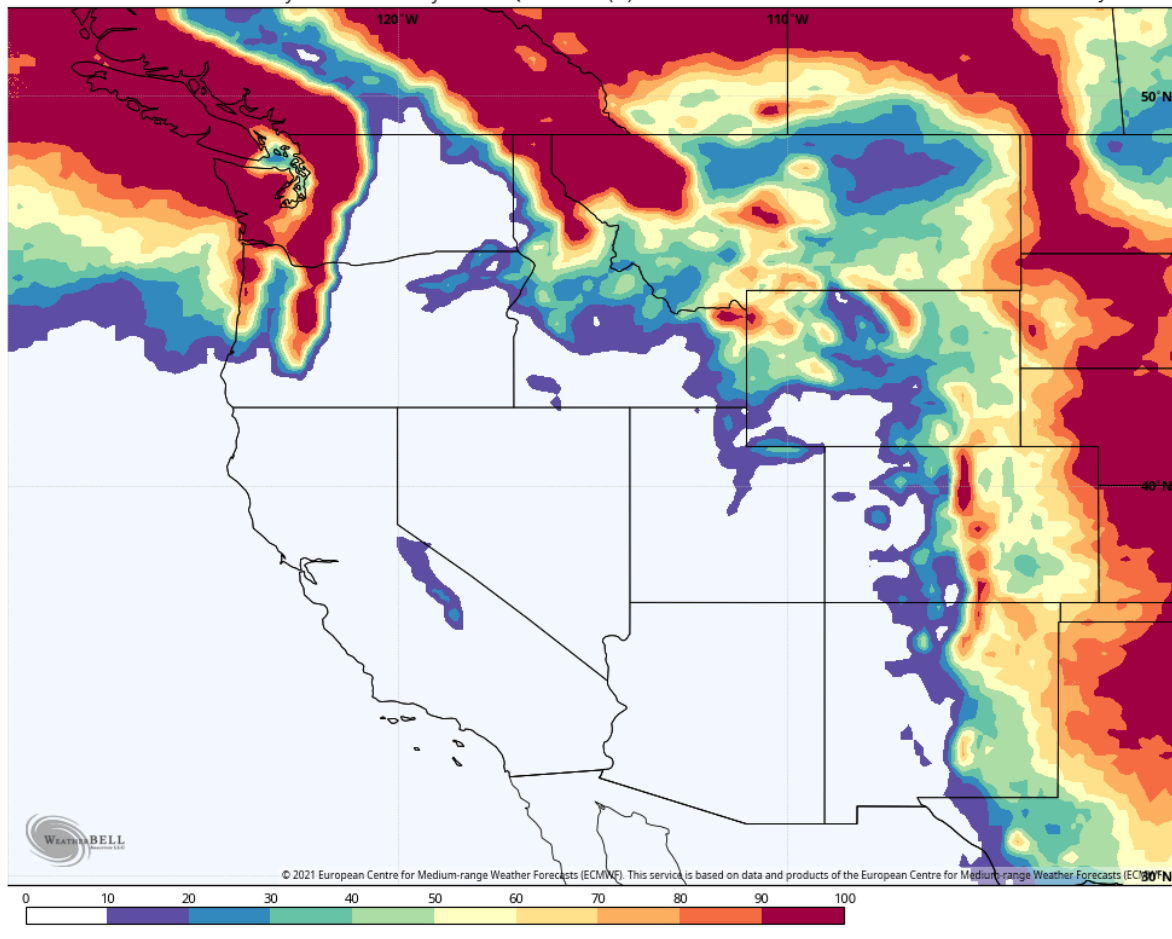


# So, What's the Forecast?

Shopping for storms...

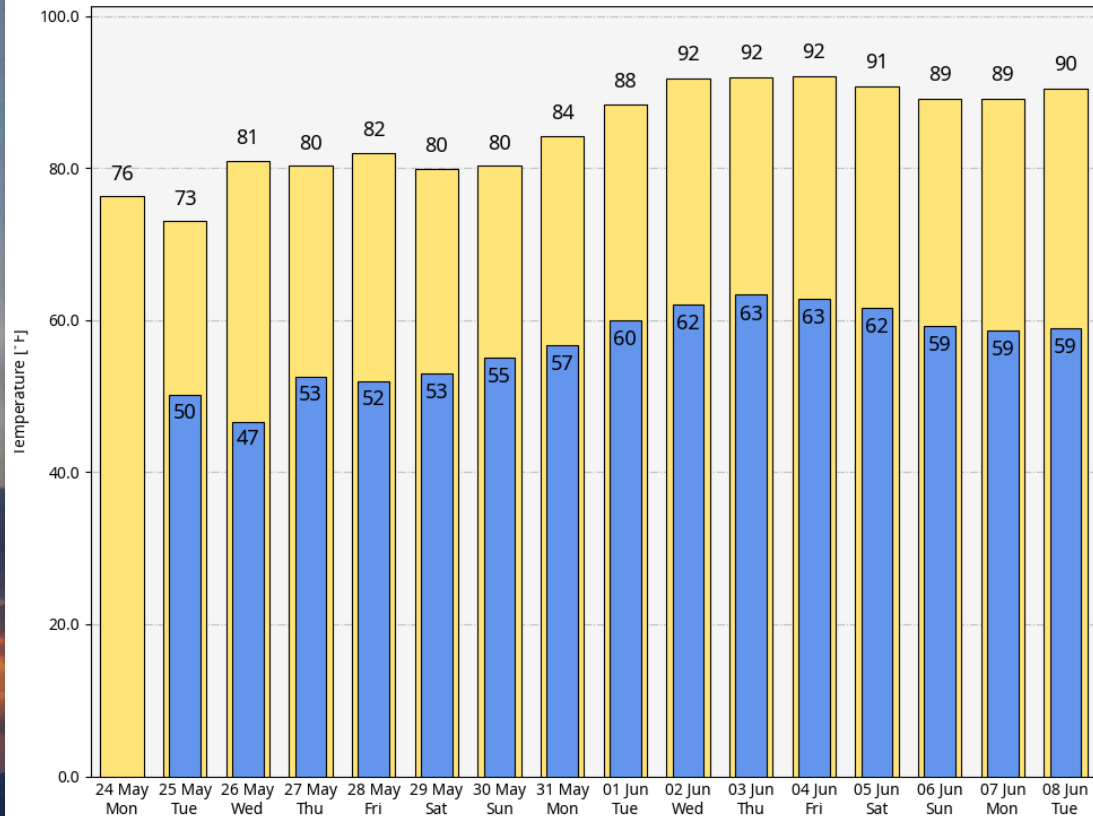






# Next 2 Weeks

Potential t-storms over  
Memorial Day  
weekend.  
Otherwise no big  
wetting rains...



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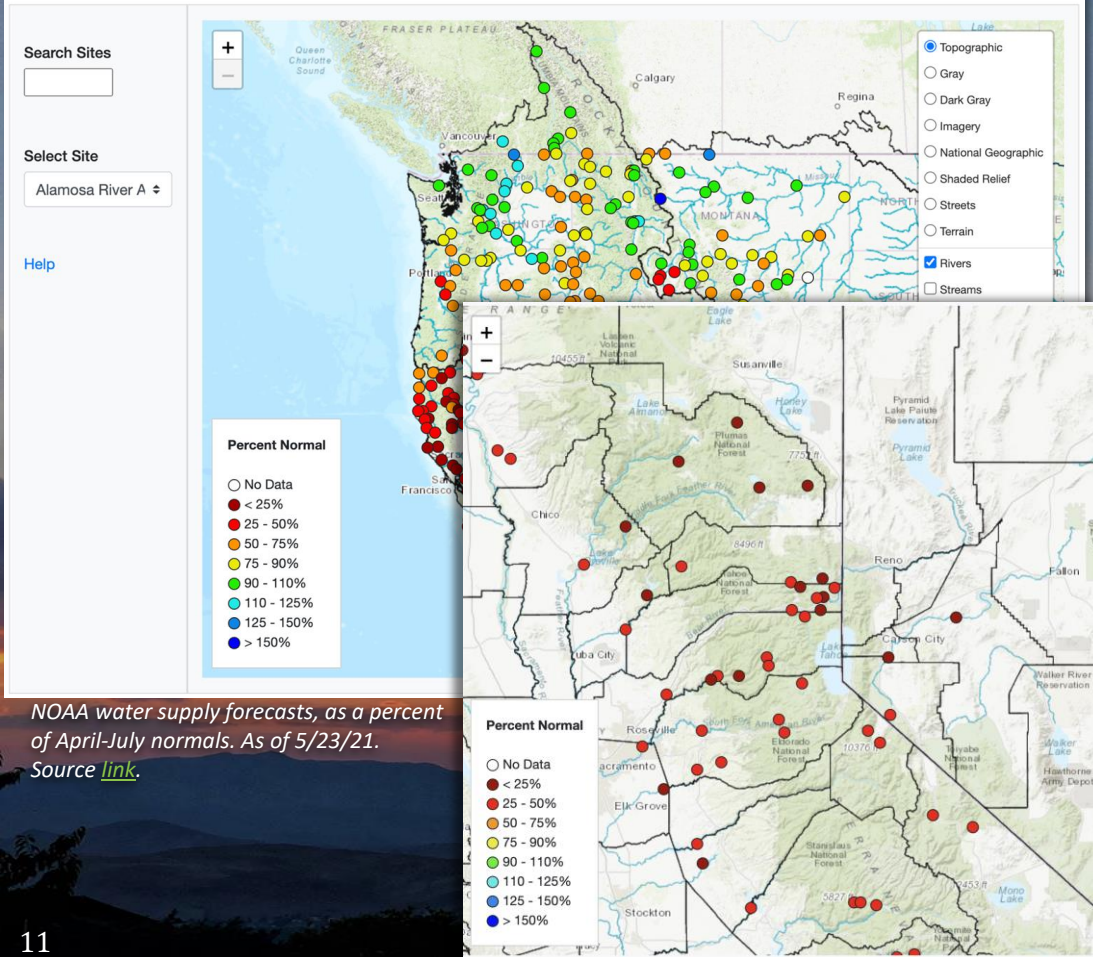
GFS (American model) ensemble mean temperature forecast for Reno.

# Next 2 Weeks

## Here. Comes. Summer.







NOAA water supply forecasts, as a percent of April-July normals. As of 5/23/21.  
 Source [link](#).

# Water Supply

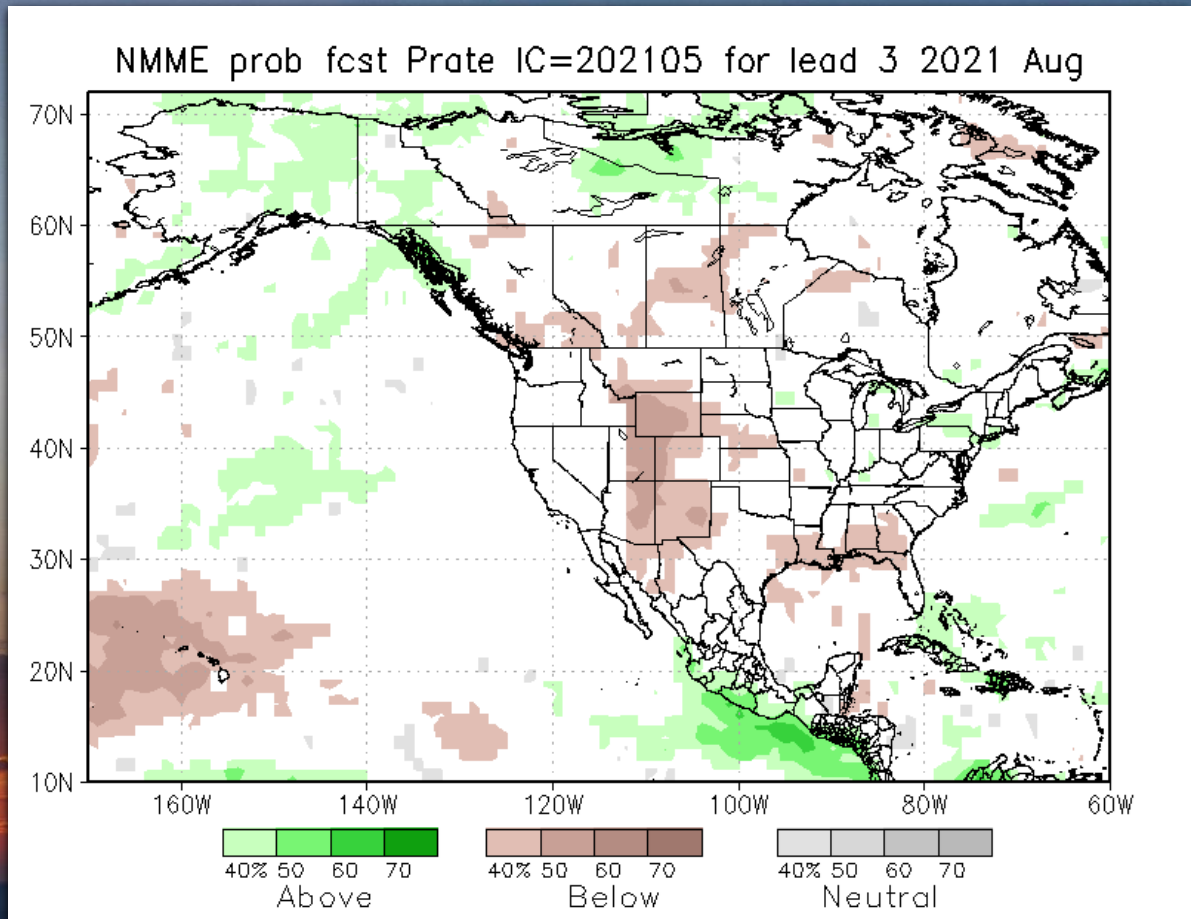
Remarkably low stream flows for April-July period.  
 Low winter precip but extremely dry soils are a BIG culprit.



# Summer Outlook

No clear signal on precipitation. Mixed confidence.

However some individual models are showing a more robust monsoon.

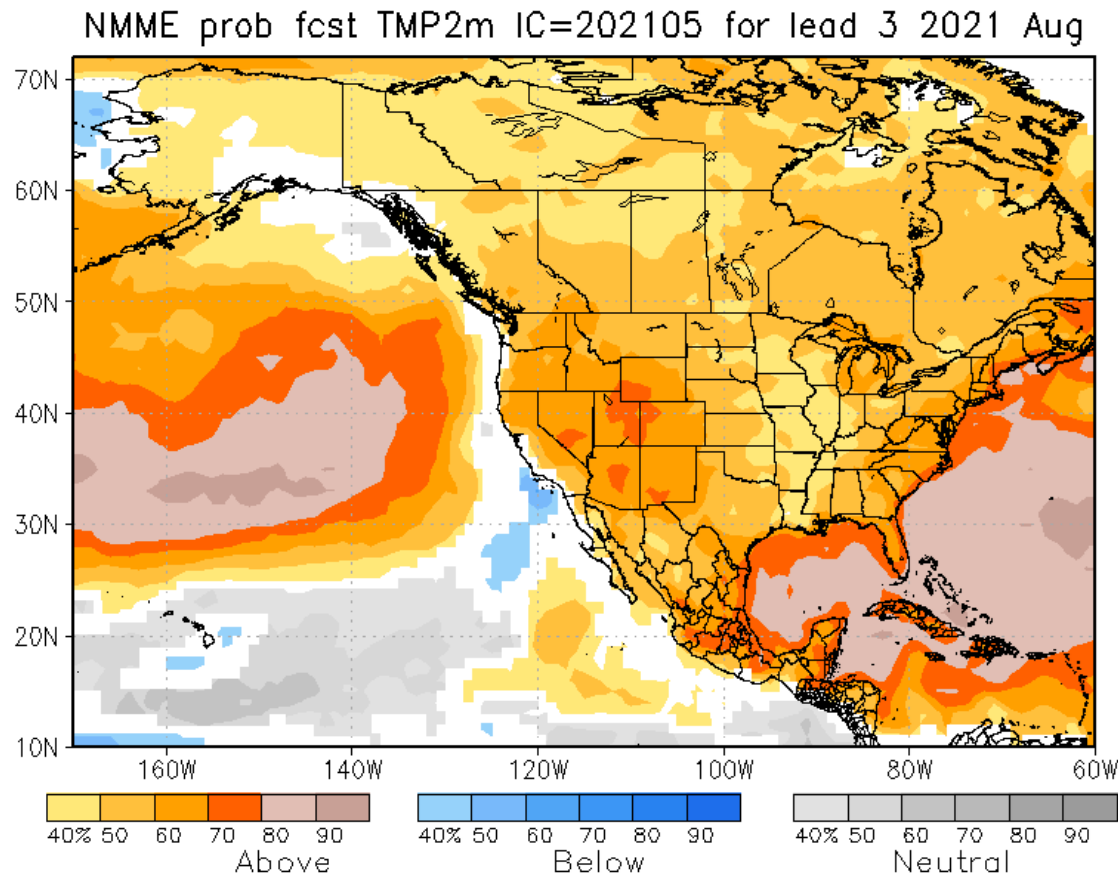


NMME forecast products from [CPC](#).



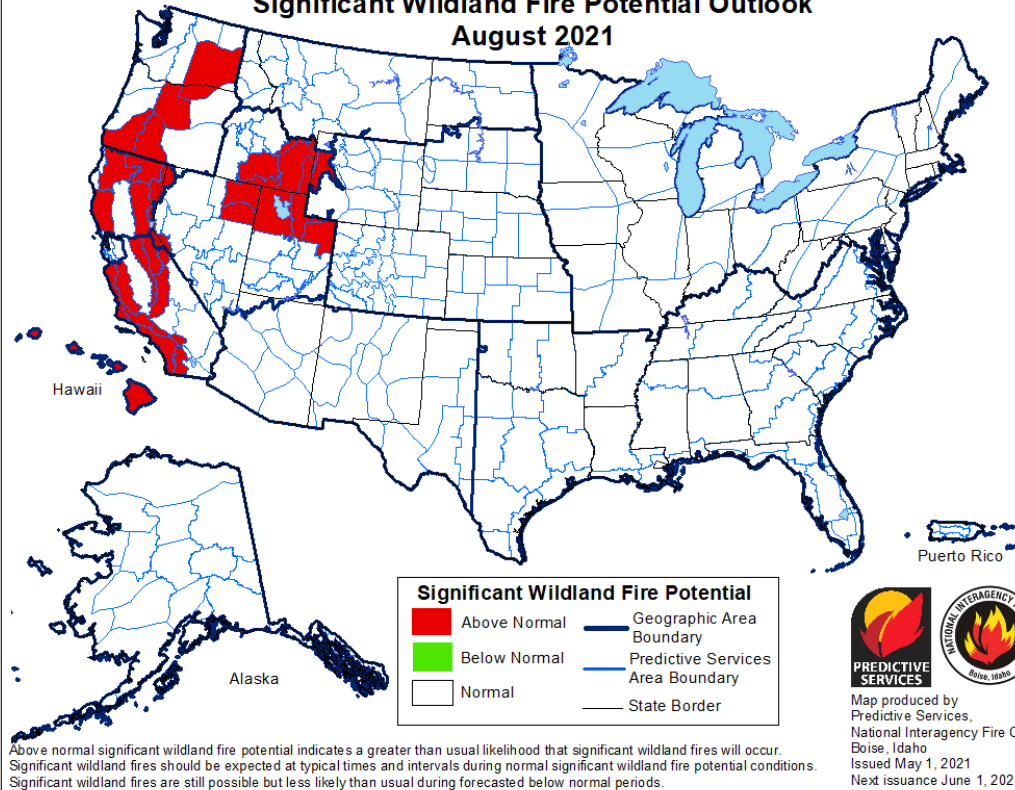
# Summer Outlook

Heavily favoring  
warmer than normal  
for much of the  
west. High  
confidence.



NMME forecast products from [CPC](#).

## Significant Wildland Fire Potential Outlook August 2021



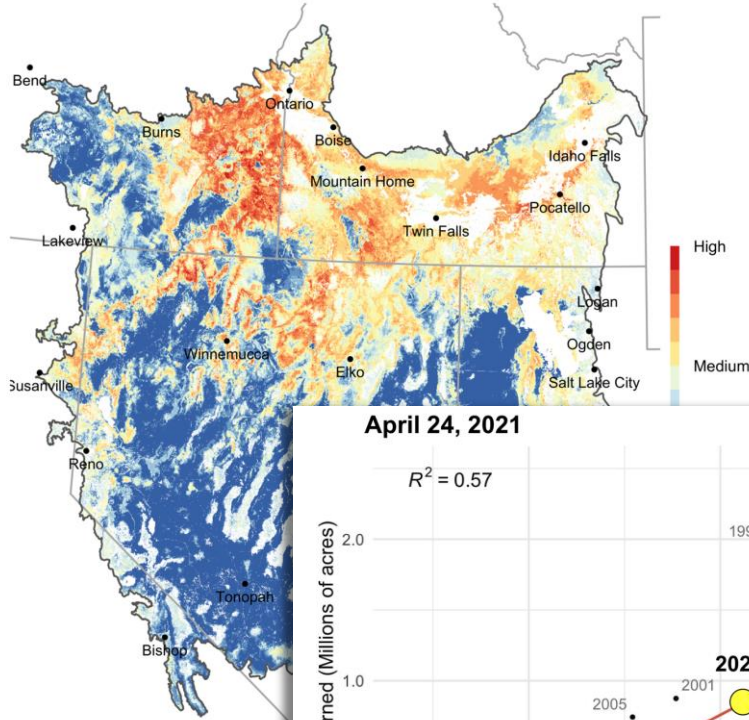
# Fire Season 2021

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 August right now.

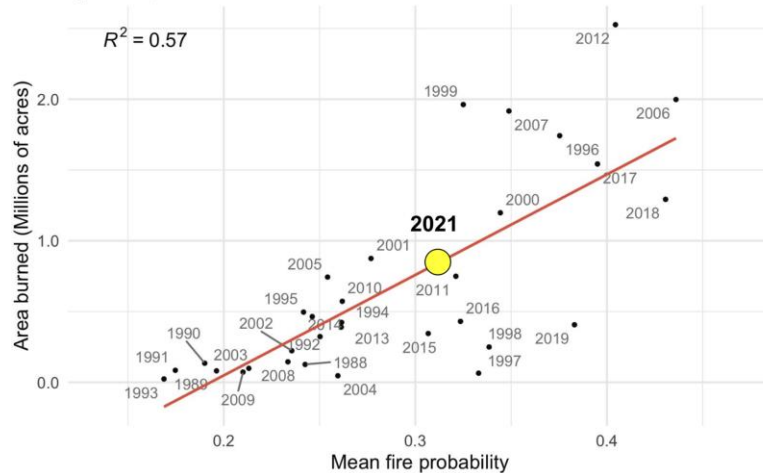


Great Basin Rangeland Fire Probability  
April 24, 2021



Source: [rangelands.app/great-b](https://rangelands.app/great-b)

April 24, 2021



# Great Basin Rangeland

Neat experimental outlook showing wide variability in fire potential.



# What keeps it from becoming a big year?

- Strong monsoon that results in widespread rain & t-storm days.
- Fewer days with breezy afternoon winds (Washoe Zephyr).
- Luck



# NWS Reno Fire Wx Services



*Sometimes I need help with the Freakout Chart...*



*NWS Reno IMETs  
Alex Hoon and Tony  
Fuentes on  
California incidents  
in 2020.*

Freakout Charts.  
Fire Weather Planning  
Forecast 2x/day.  
Spot Weather.  
IMETs on Large Incidents.



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

