

State of the Colorado Headwaters:

12 April 2022



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Service Climatologist



COLORADO
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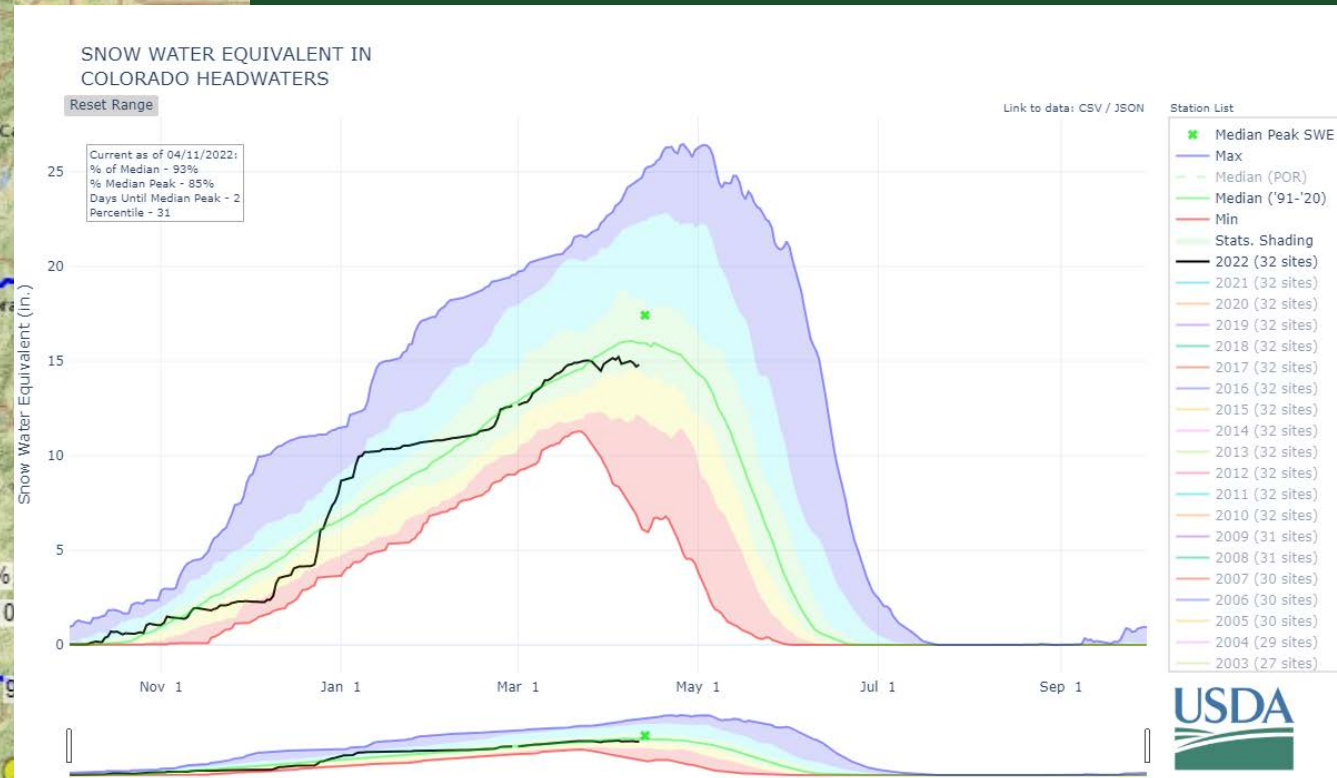
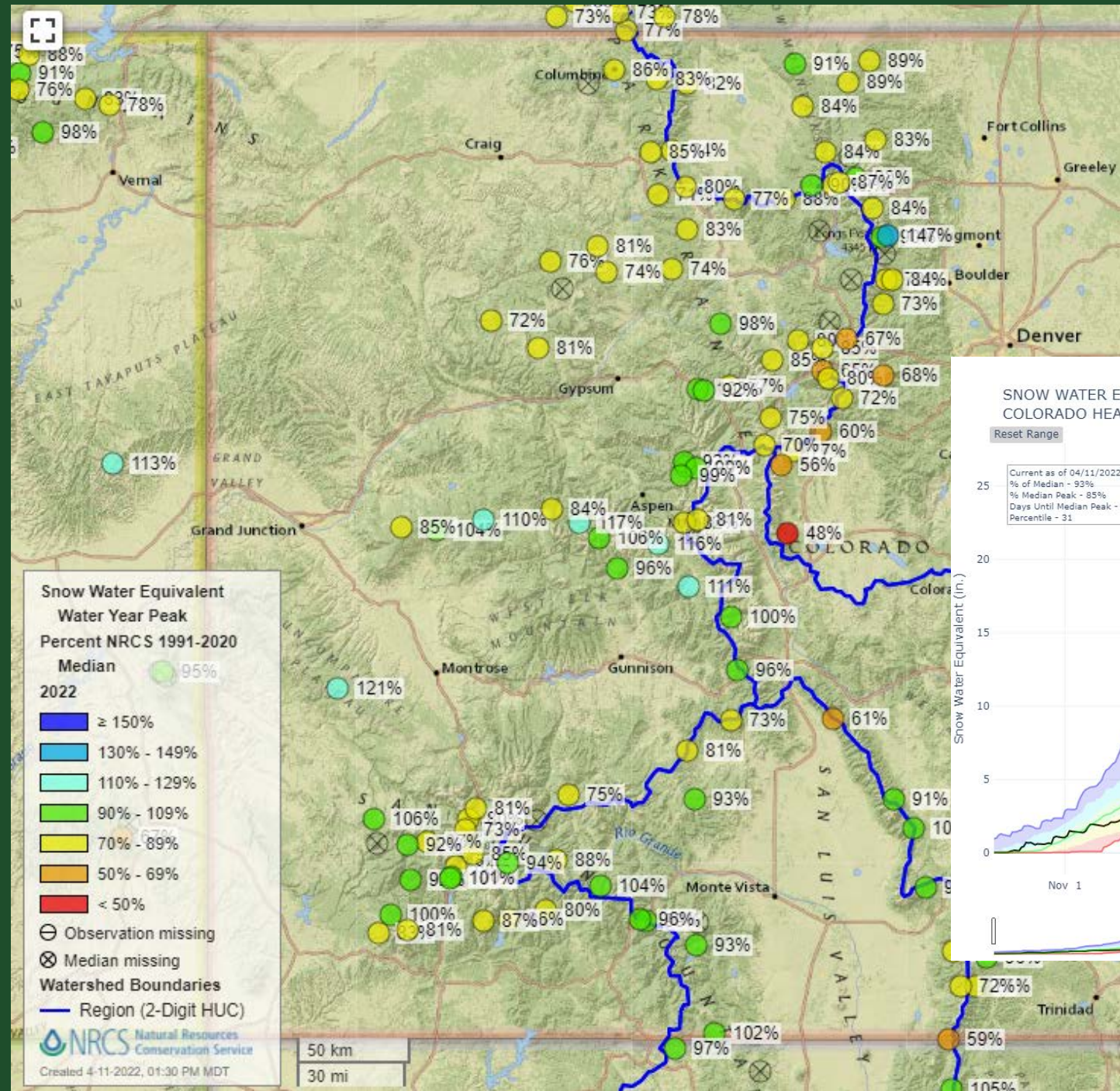
ATMOSPHERIC SCIENCE
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Today's Roadmap

- Summation of Current Hydrological Conditions
- Seasonal Weather Outlook
- Implications for the Summer Season



Below Normal Peak Snowpack for most of CO



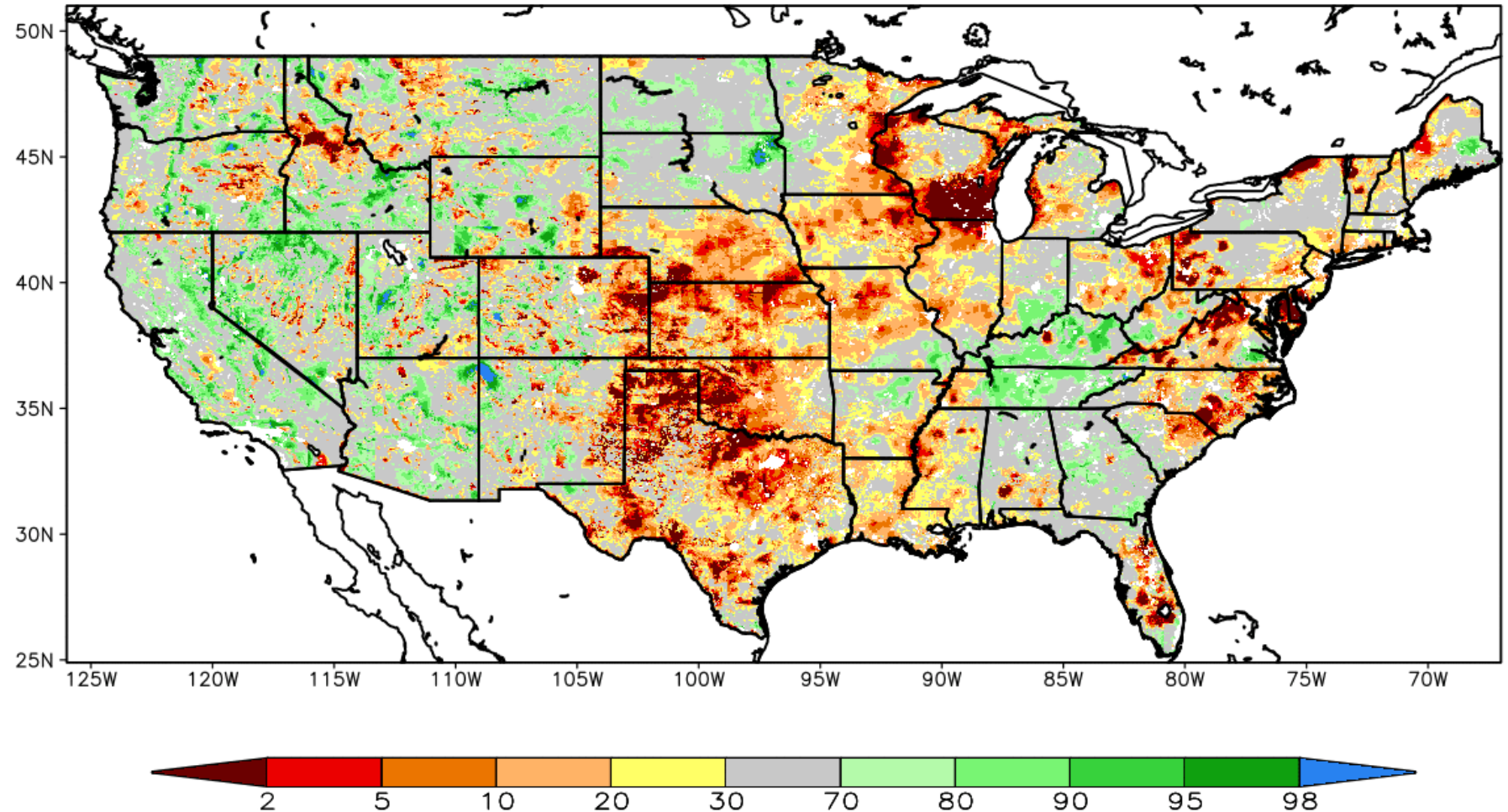
Dry soil Conditions Reduce Runoff Efficiency

Dry soils prior to snowpack season could reduce runoff

This is not as important as snowpack for predicting runoff

Not as bad as the last two years

SPoRT-LIS 0-2 m RSM percentile valid 15 Jan 2022



****NOTE****
****Experimental****



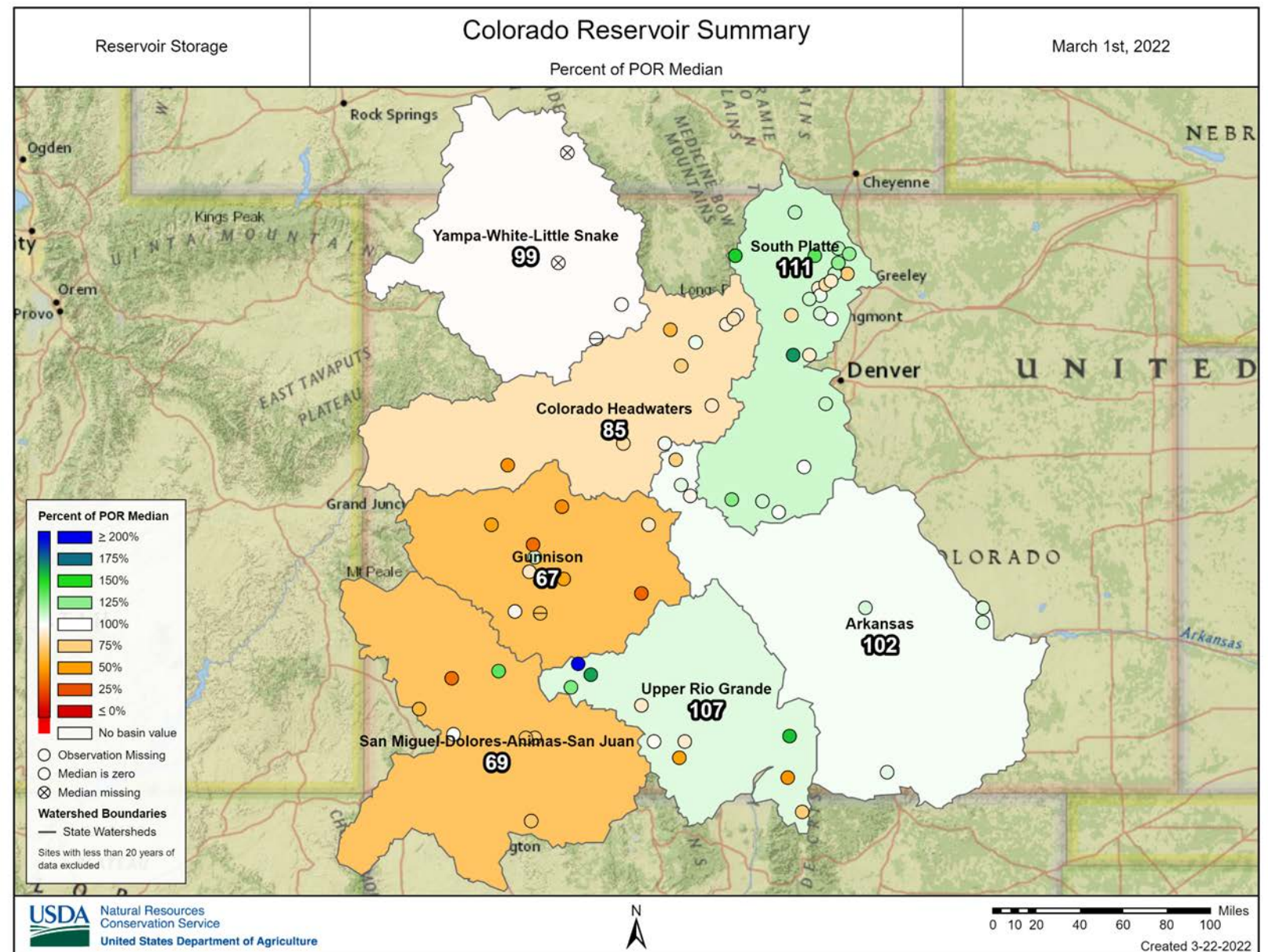
Current Reservoir Storage

Reservoir storage is average east of the divide, but generally low in western Colorado

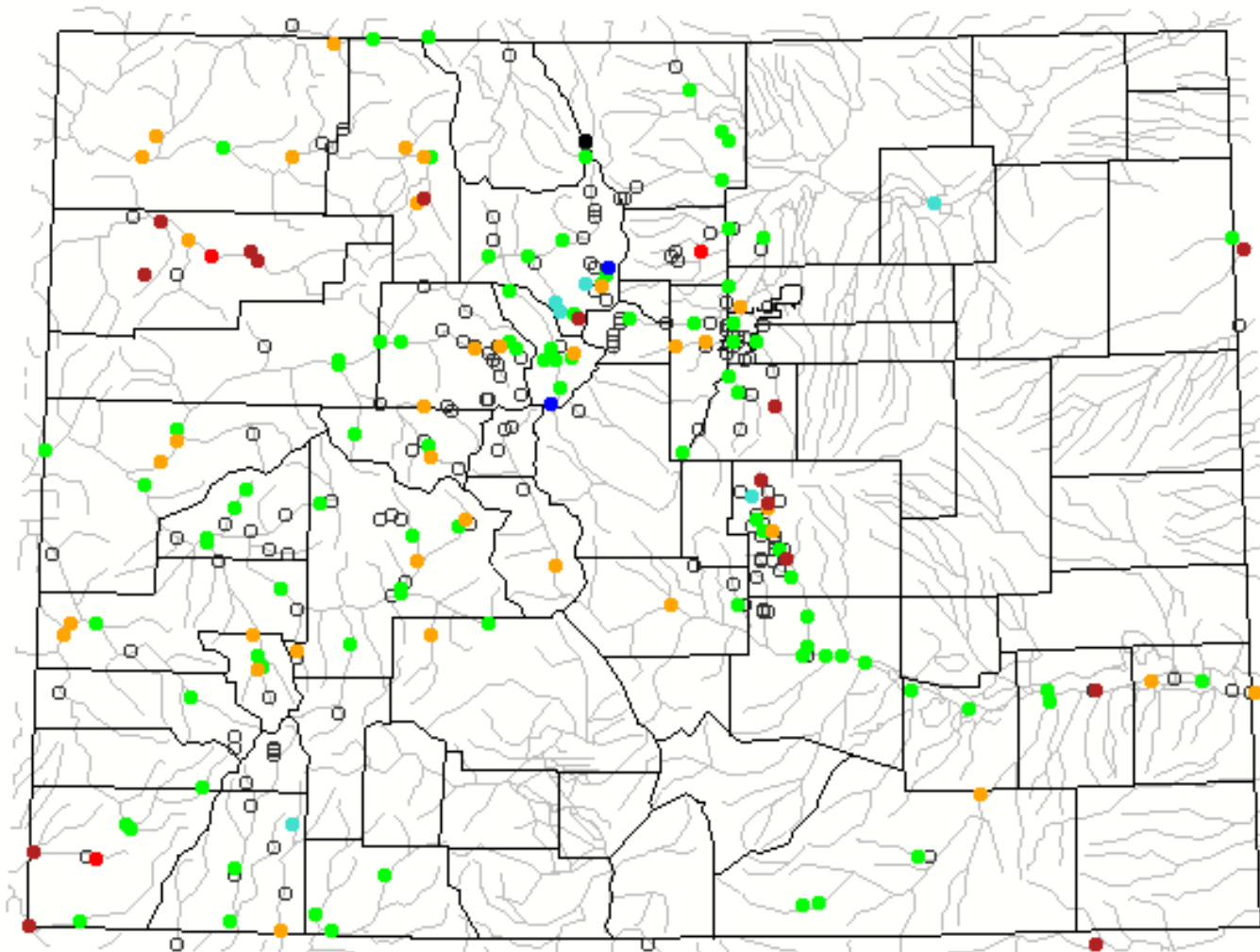
Blue Mesa 52% of normal storage (record low through winter)

Reversible in one great year or several good years

Local Conditions Vary



Monday, April 11, 2022 15:30ET



Current streamflows are mixed: above, below, and near normal with lots of gages still ice affected

It's too early to tell what kind of a run off season we're in for based on streamgages



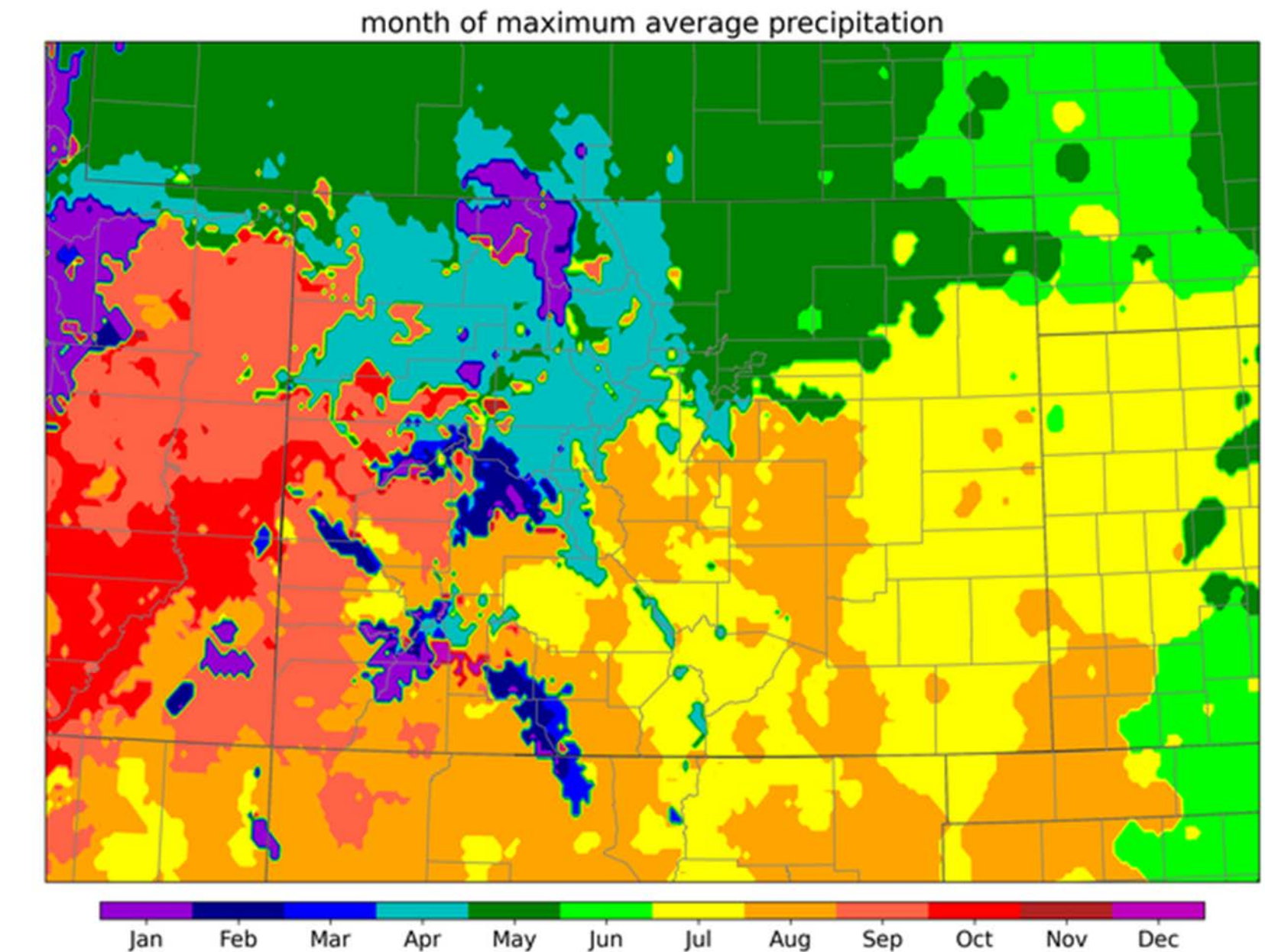
Explanation - Percentile classes							
Low	<10	10-24	25-75	76-90	>90	High	Not-ranked
	Much below normal	Below normal	Normal	Above normal	Much above normal		

What is happening now is important

April and May is the wettest time of year in northern Colorado, and therefore impacts runoff greatly

Think of April 1st forecasts as a 1st draft. Sometimes major revisions are made (think 1995, 2015)

So what's coming up?

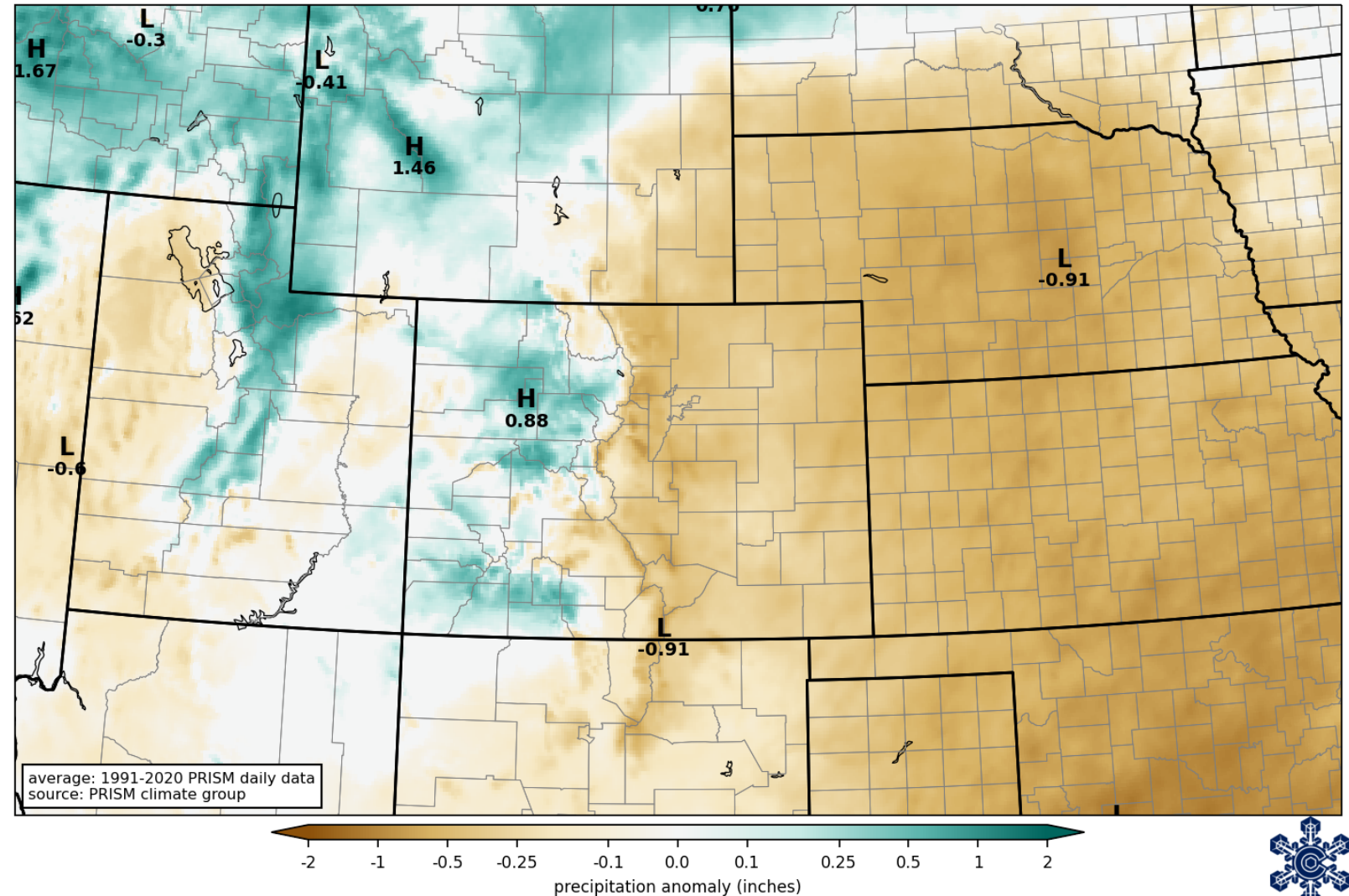


7-Day Forecast

Possibly enough snow
for a new peak in the
northern Rockies

NOAA Weather Prediction Center
7-day precip forecast departure from average

forecast issued 1200 UTC Mon 11 Apr 2022
precipitation in 168 hrs ending 1200 UTC Mon 18 Apr 2022



8-14 Days

Next week looks cool, but dry

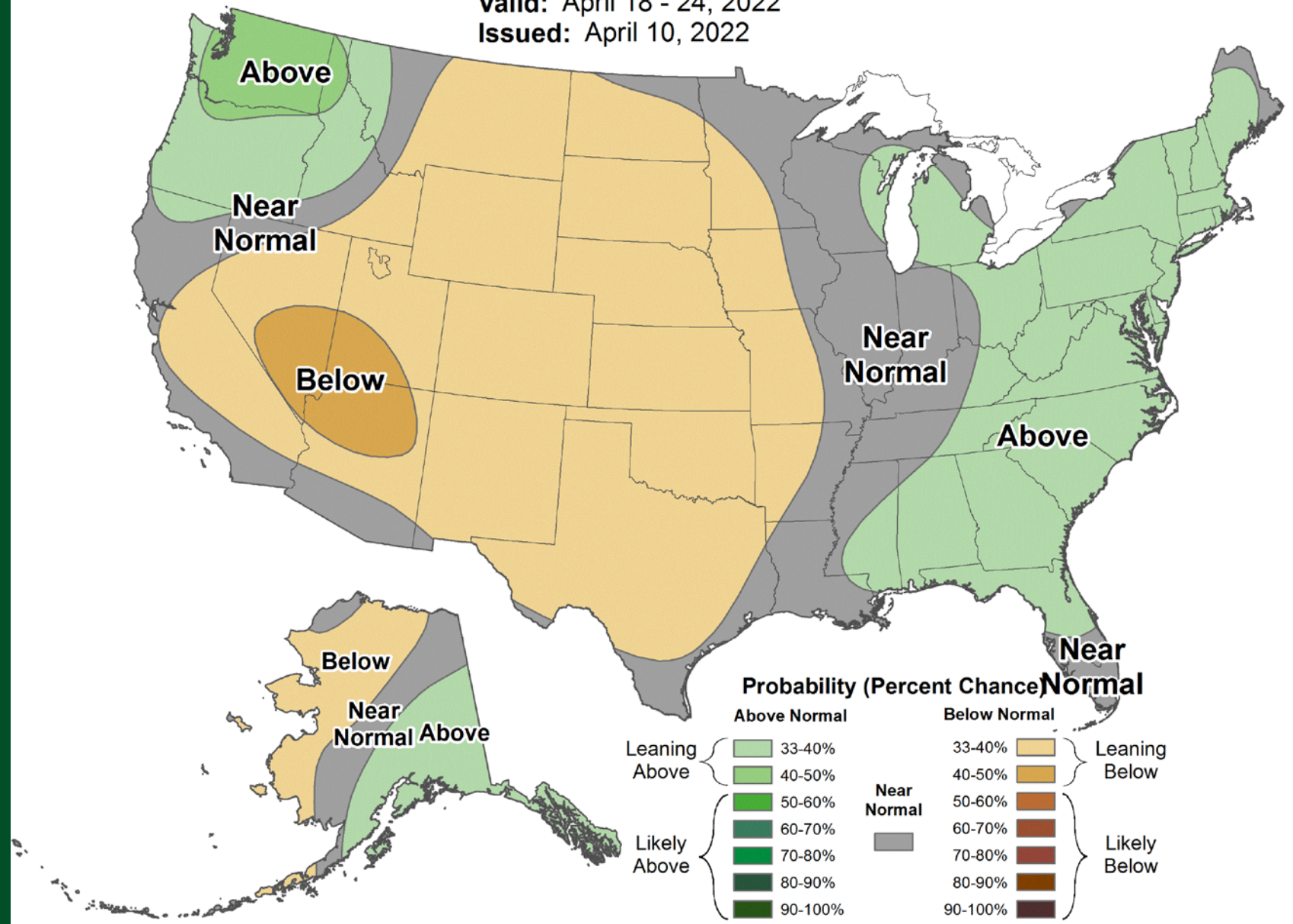


8-14 Day Precipitation Outlook

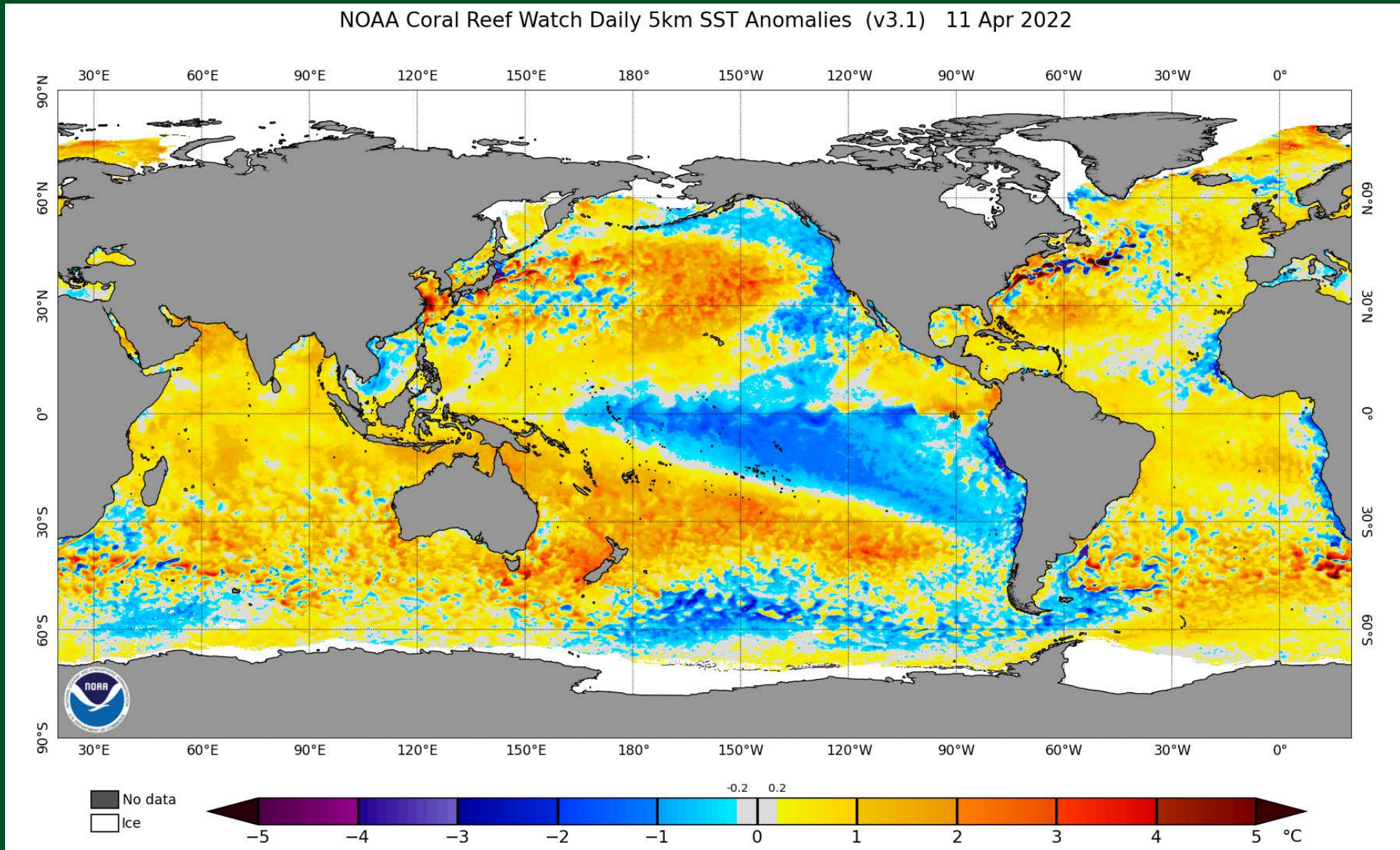


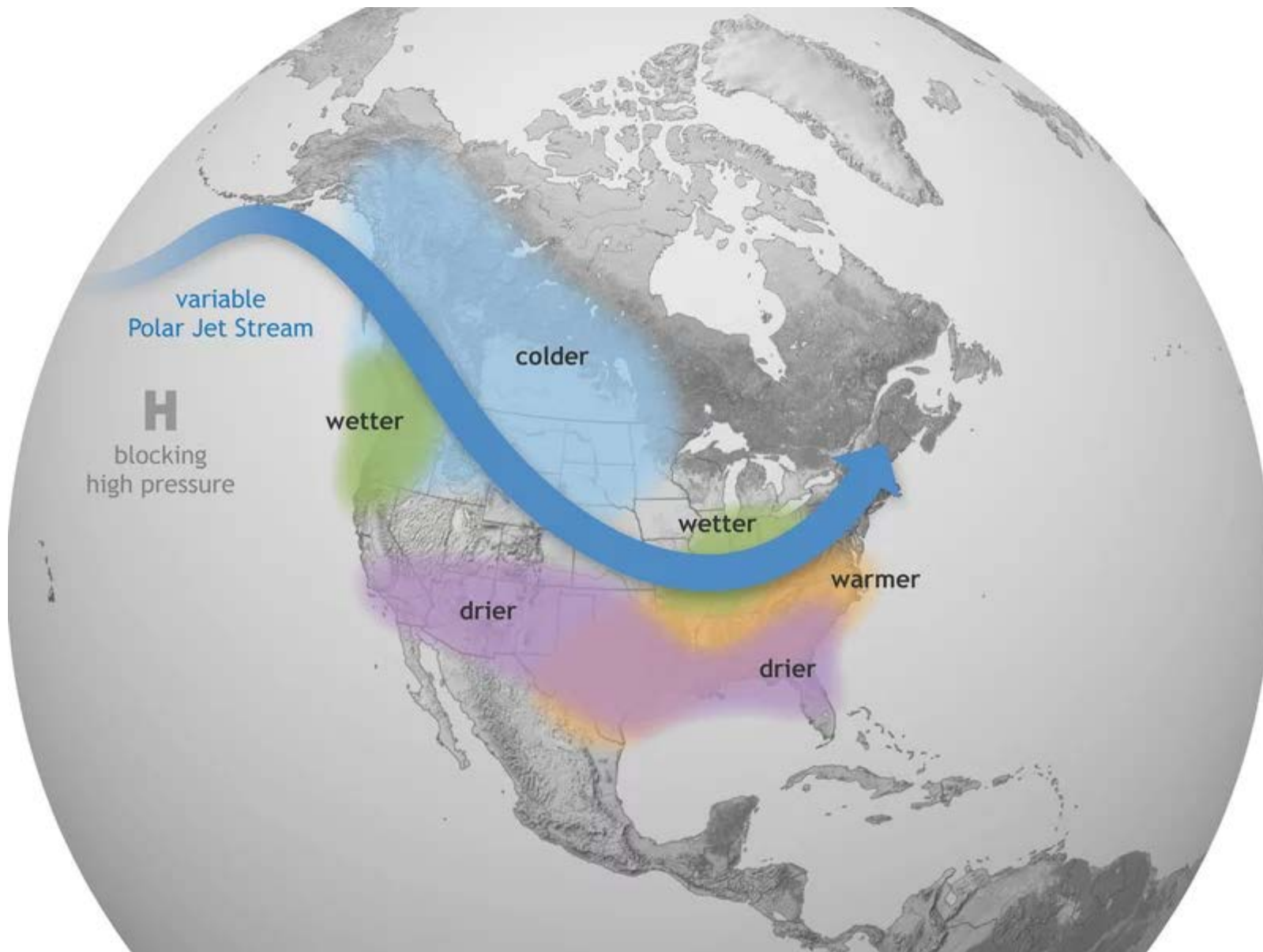
Valid: April 18 - 24, 2022

Issued: April 10, 2022



La Nina Conditions Persist



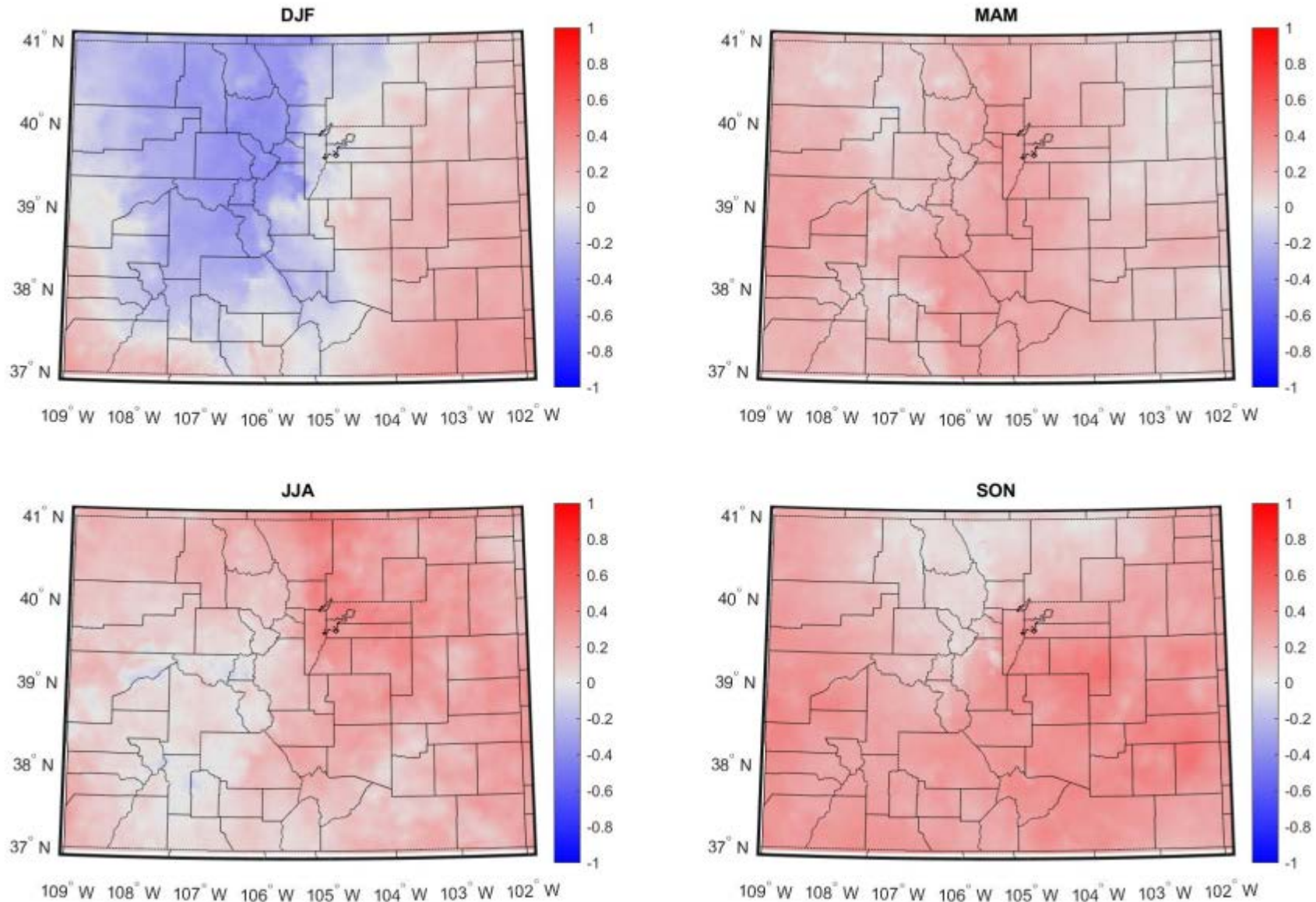


La Niña Impacts:
usually colder and
wetter

Climate.gov



Correlation Between ENSO ONI and Seasonal Precipitation in Colorado (1951-2020)

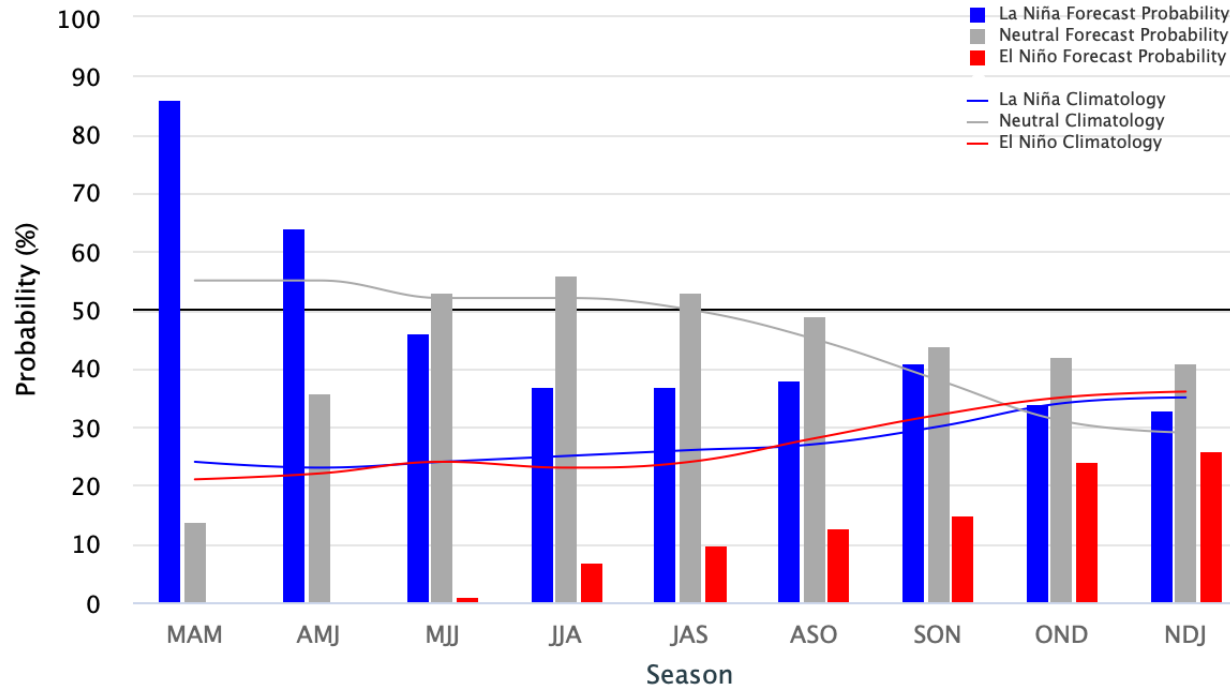


Blue = La Niña wetter Red = El Niño wetter

La Niña Projections

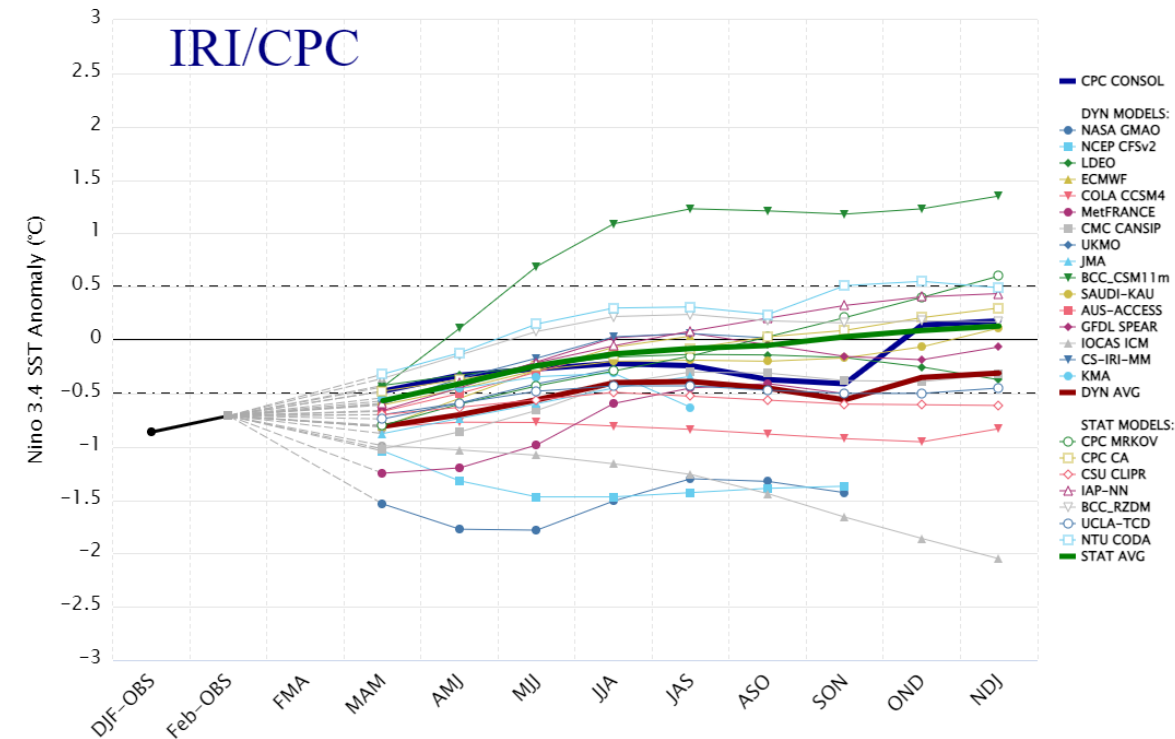
Mid-March 2022 IRI/CPC Model-Based Probabilistic ENSO Forecasts

ENSO state based on NINO3.4 SST Anomaly
Neutral ENSO: -0.5°C to 0.5°C



IRI/CPC ENSO Forecasts:
<https://iri.columbia.edu/our-expertise/climate/forecasts/enso/current/>

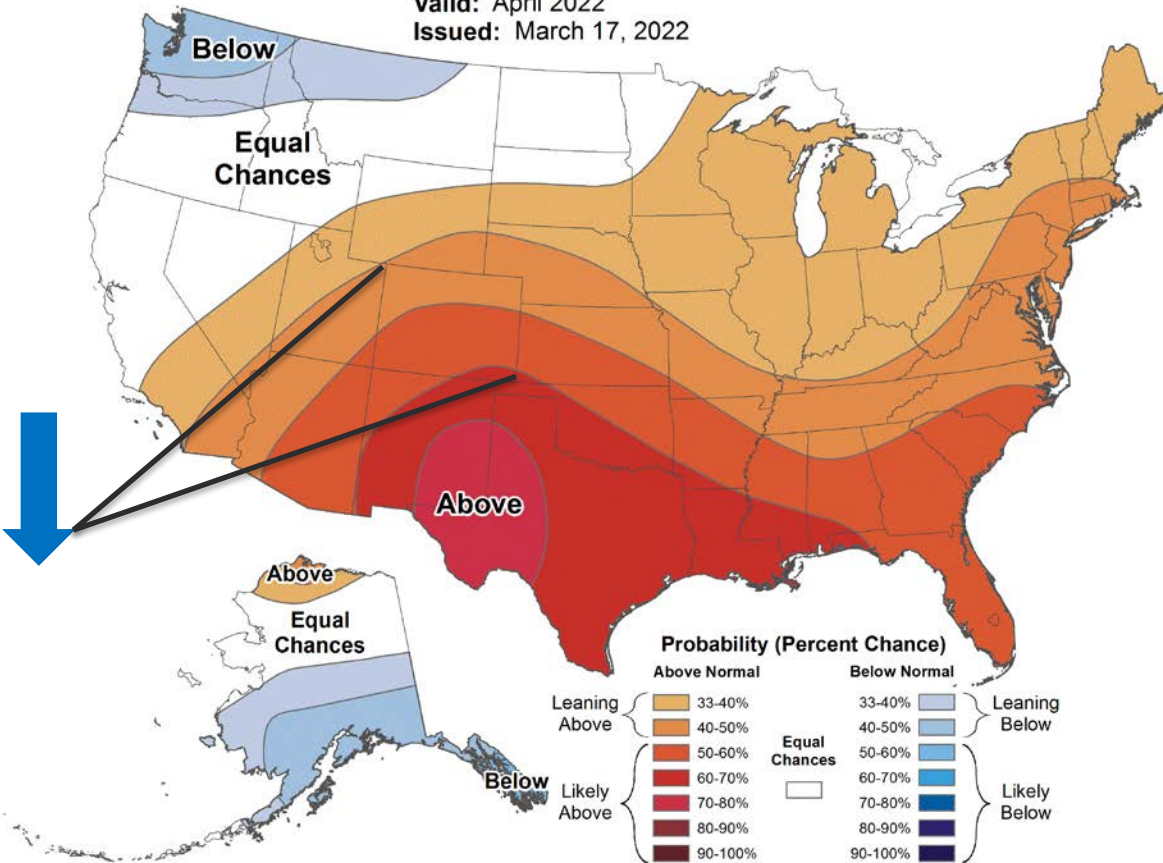
Model Predictions of ENSO from Mar 2022





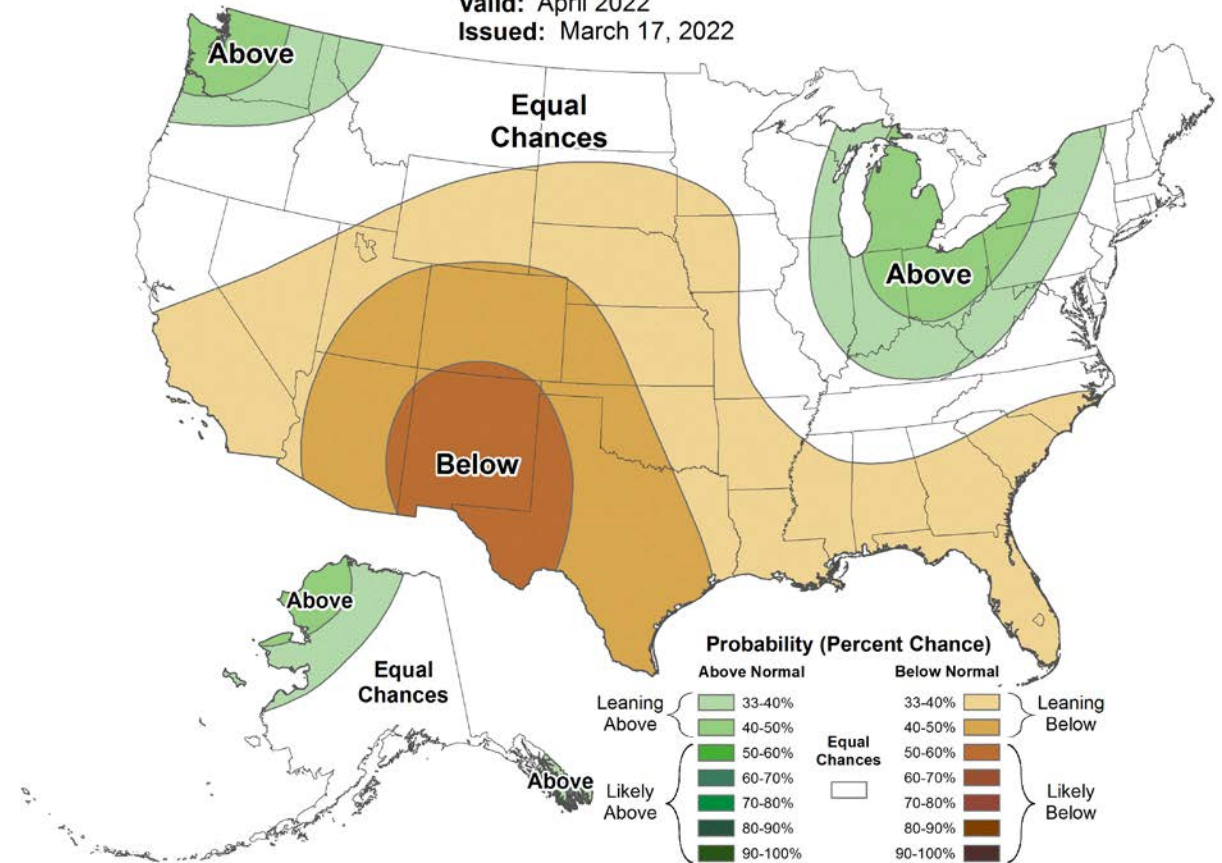
Monthly Temperature Outlook

Valid: April 2022
Issued: March 17, 2022



Monthly Precipitation Outlook

Valid: April 2022
Issued: March 17, 2022



Seasonal Outlook –April May June

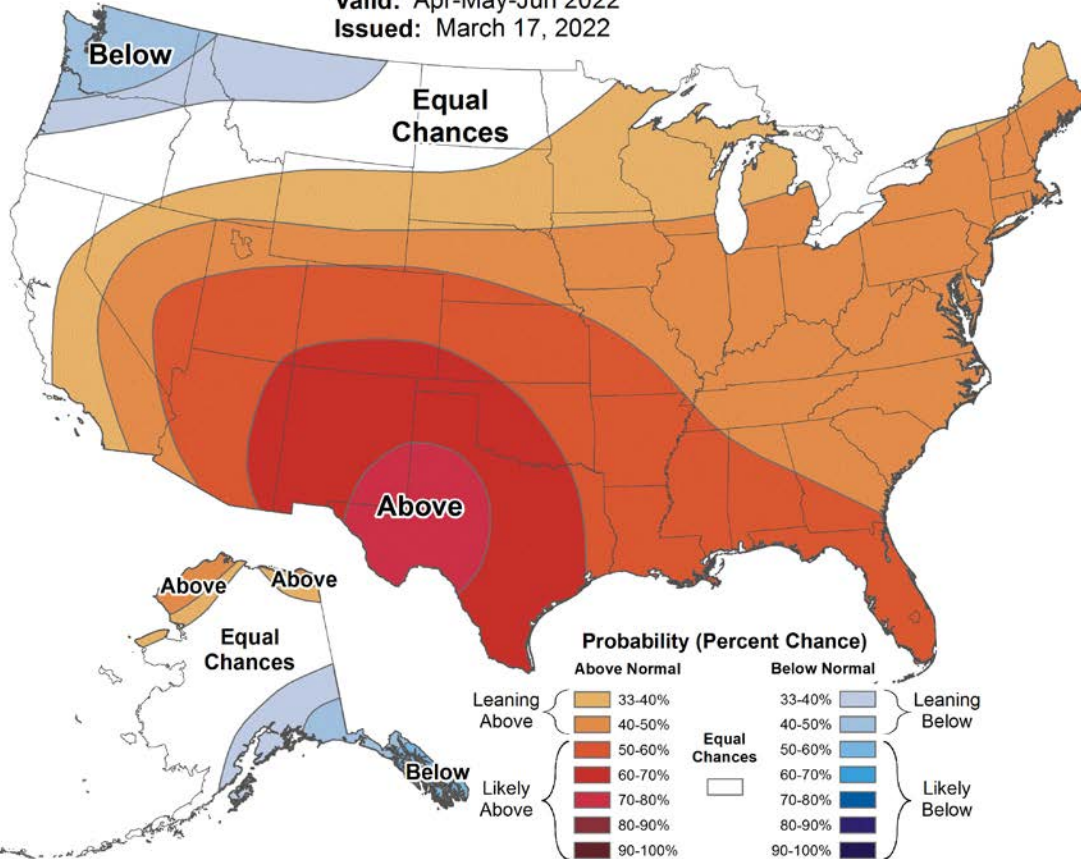
<https://www.cpc.ncep.noaa.gov>



Seasonal Temperature Outlook



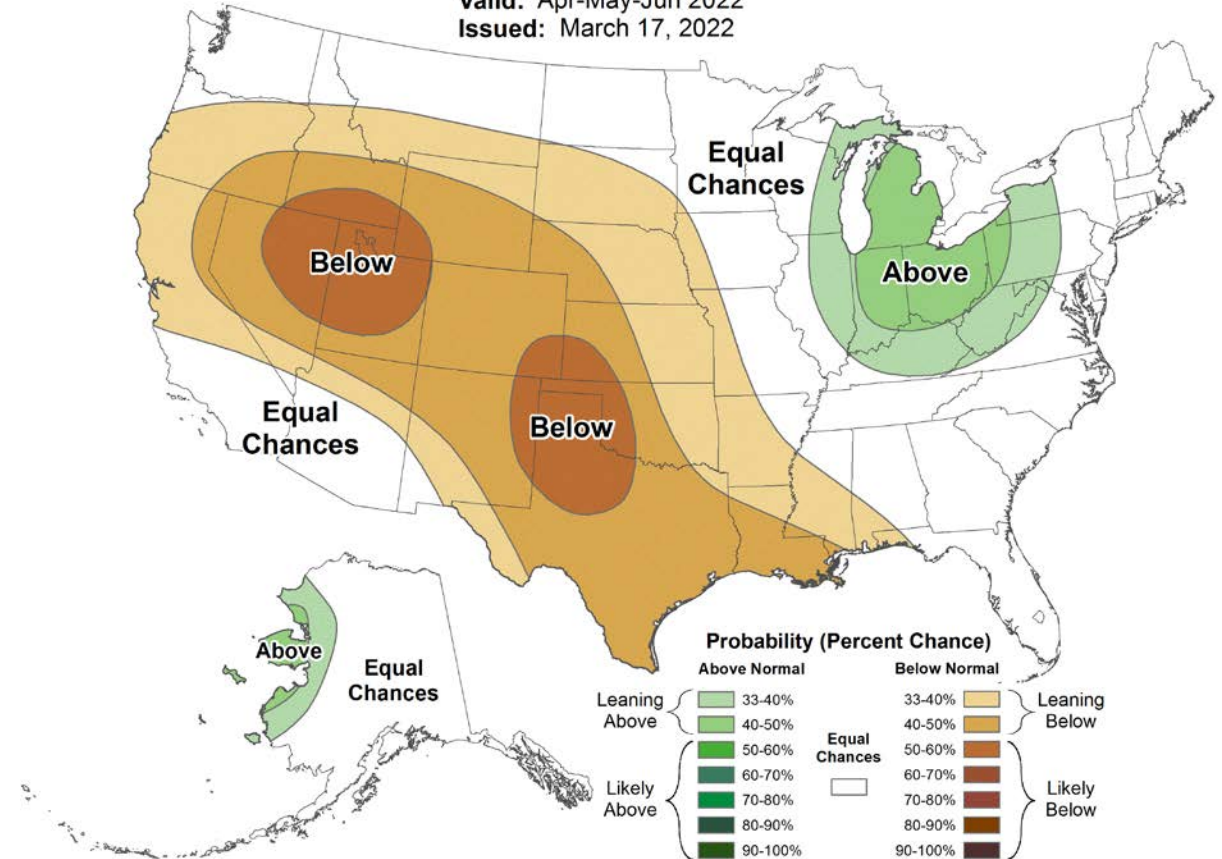
Valid: Apr-May-Jun 2022
Issued: March 17, 2022



Seasonal Precipitation Outlook



Valid: Apr-May-Jun 2022
Issued: March 17, 2022



Seasonal Outlook – May June July

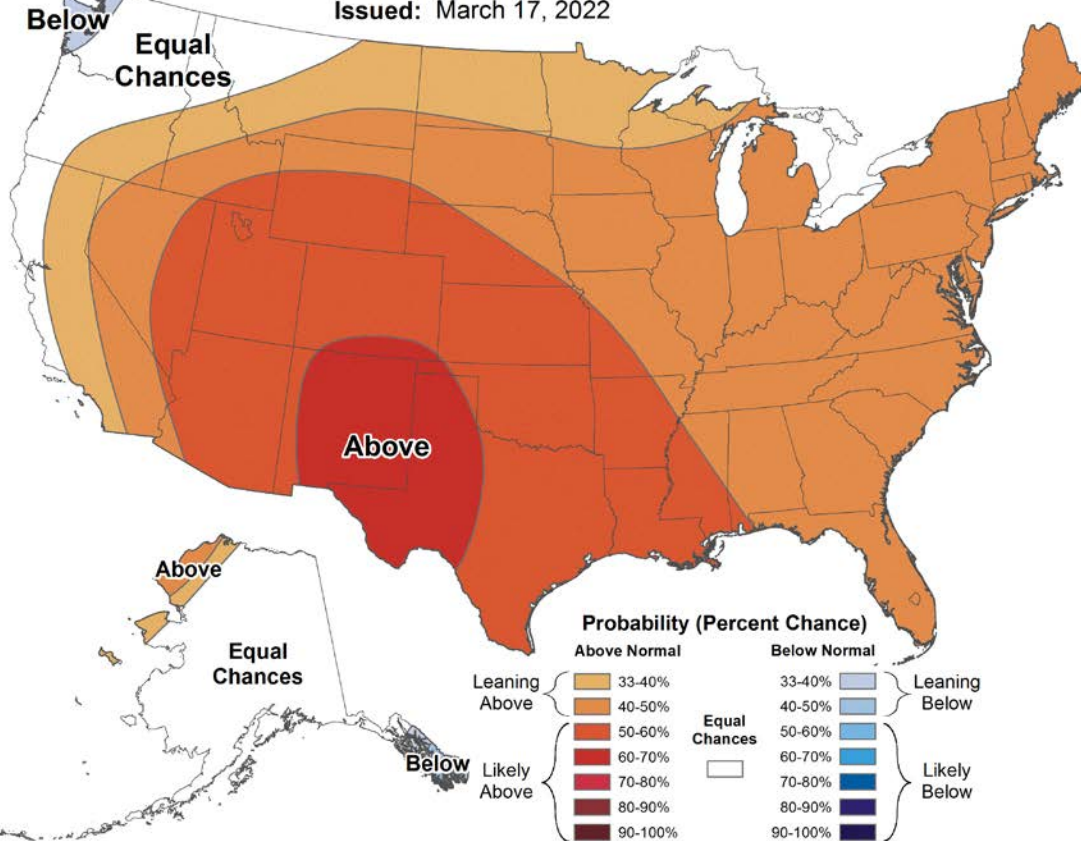
<https://www.cpc.ncep.noaa.gov>



Seasonal Temperature Outlook



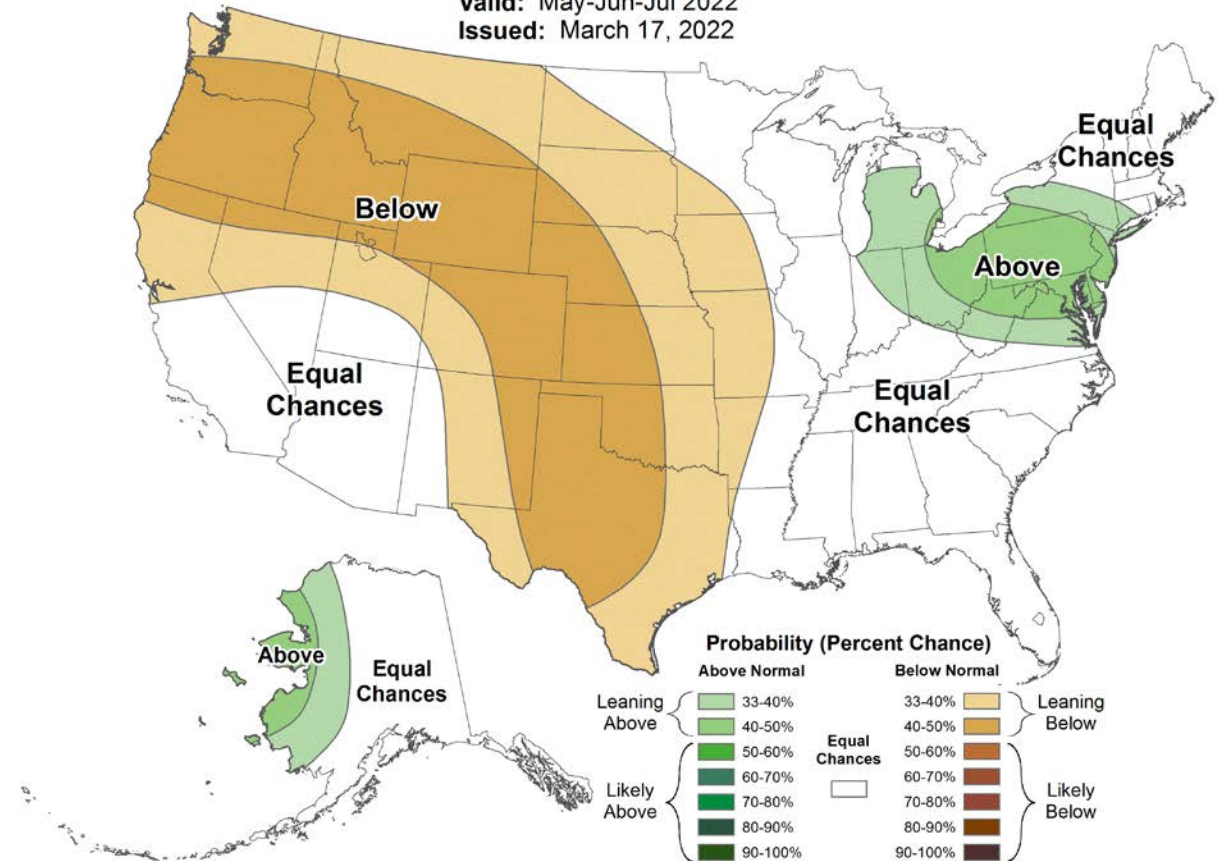
Valid: May-Jun-Jul 2022
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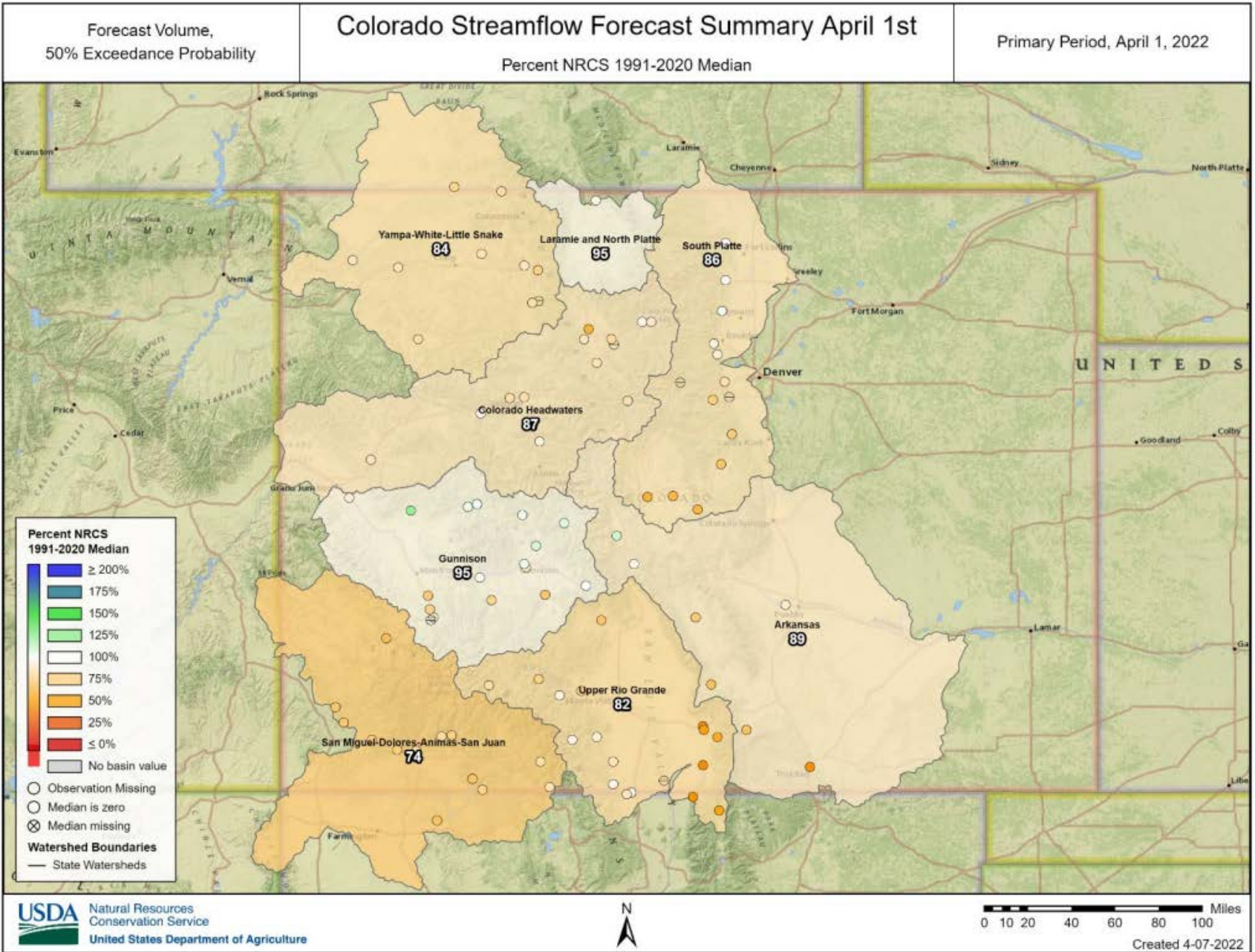


Seasonal Precipitation Outlook



Valid: May-Jun-Jul 2022
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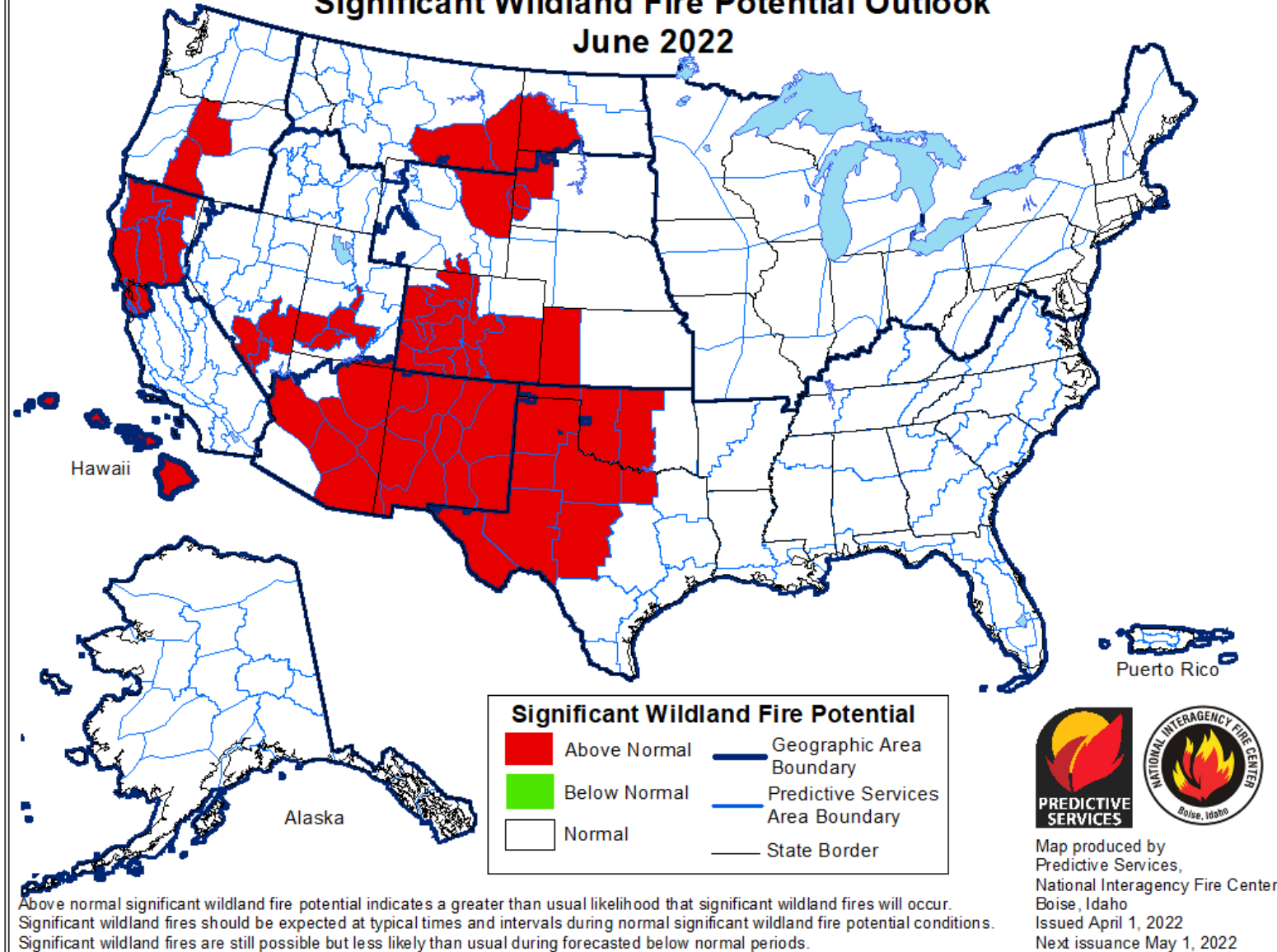




Streamflows are likely to be a little on the lighter side this summer despite the decent snowpack.

This will be pretty normal going forward with warmer temperatures

Significant Wildland Fire Potential Outlook June 2022



Warmer than normal spring conditions give most of the high country an elevated significant fire threat this summer

Conclusions

- Colorado headwaters snowpack will peak at below normal levels
- Dry antecedent conditions will hamper the efficiency of this year's runoff
- The next eight weeks are critical and can change things
- La Niña springs tend to be drier than normal, or at least reduce the probability of a wet extreme. The current outlook favors above normal temperatures and below normal precipitation this spring, which could reduce runoff below currently forecasted levels
- This summer will likely be warmer than our historical averages. Warmer summers decrease water availability, and elevate fire risk



Thank you!

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COLORADO **CLIMATE** CENTER

Providing information and expertise on Colorado's complex climate