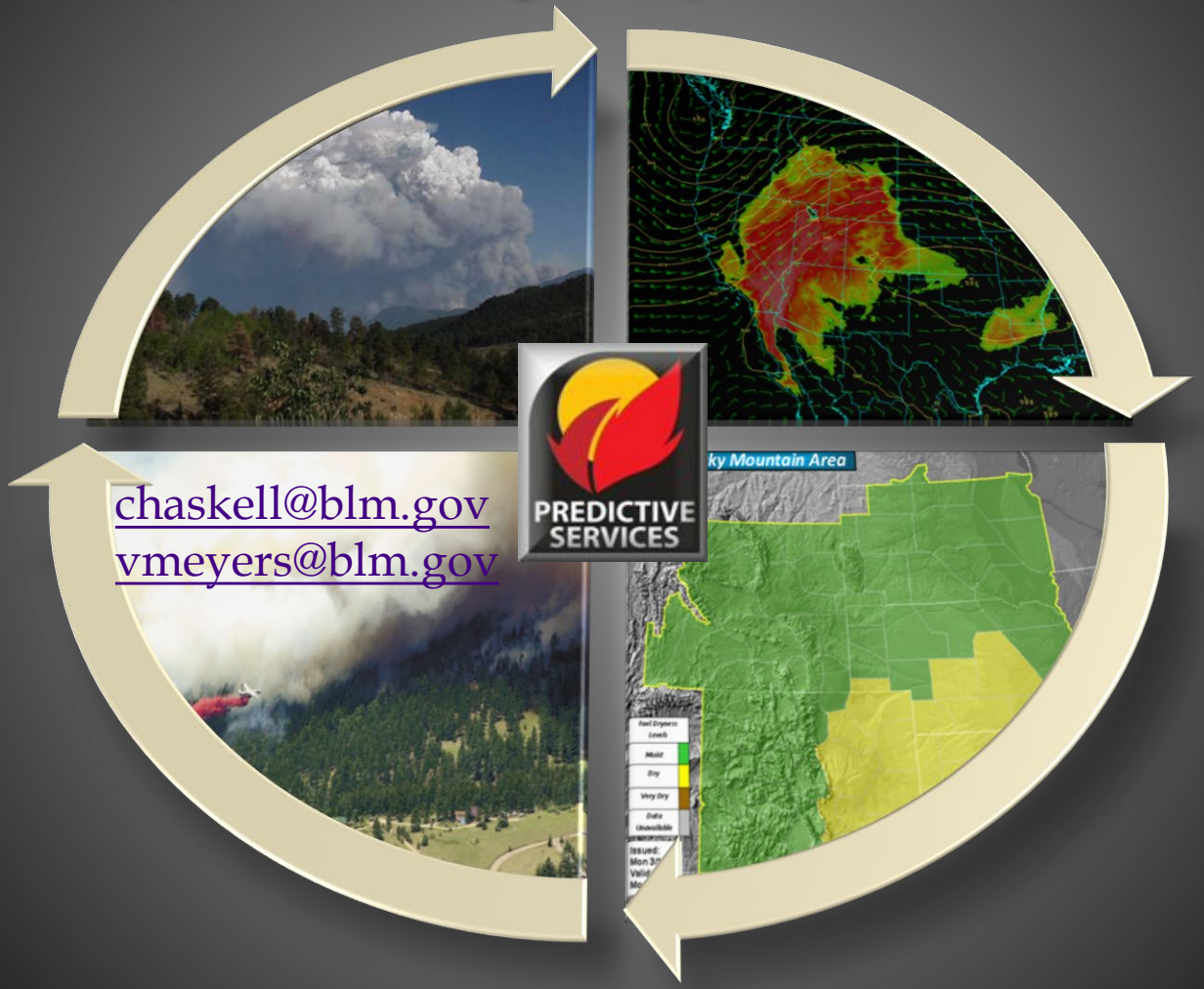
Rocky Mountain Area
120 Day Significant Fire Potential Outlook
June through September 2022



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June 2, 2022

120 Day Fire Potential Outlook Considerations and Summary

Antecedent Considerations

- Climate and Weather Patterns (seasonal)
- Temperature Anomalies
- Precipitation and Drought Comparisons
- Fuel Moisture and Fuel Loading
- Seasonal Green-up of Fuels
- Large Fire History

Prediction Considerations

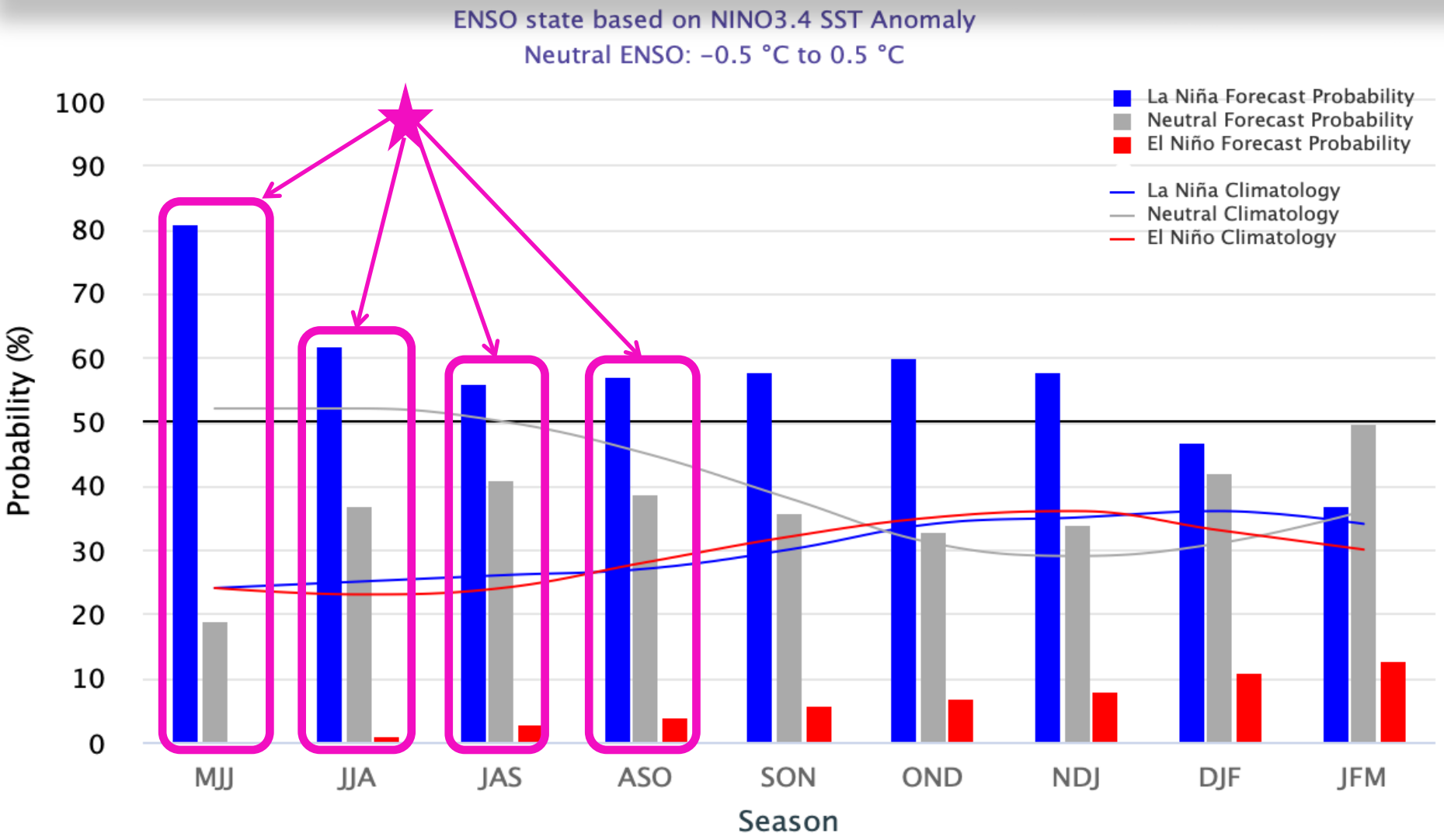
- Climate Trends including Sea Surface Temperature Anomalies and Predictions (El Nino, La Nina, MJO)
- Short Term and Long-Term Model Forecasts
- Climate Prediction Center Outlooks and Predictive Services Temperature/Precipitation Anomaly Forecasts
- Final Thoughts and Considerations for Summer 2022.

Outlook Summary

Above normal significant wildland fire potential is expected to continue across portions of the Rocky Mountain Area (RMA) through September 2022 due to long-term precipitation deficits and ongoing drought in conjunction with expansion of above normal temperatures and below normal precipitation during the outlook period. Areas with these conditions will see above normal fire potential due to the availability of receptive fuels for new fire ignitions in June and July with monsoon thunderstorms but also potential for rapid fire spread in fine fuels where dry and windy conditions overlap.

El-Nino/La-Nina Forecast (El-Nino Southern Oscillation (ENSO)

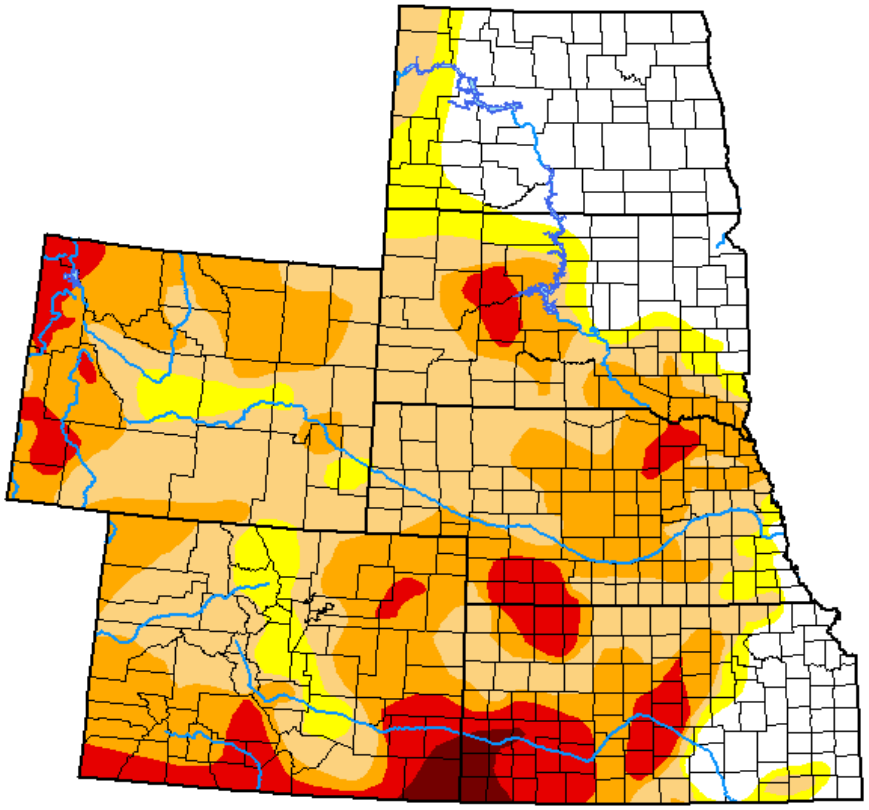
CPC/IRI objective outlook La Niña is favored to continue through the Northern Hemisphere summer and fall (55-60% chance through November 2022), with a decline toward neutral by early winter 2022-2023.



Long Term Drought Analysis
From the National Drought Mitigation Center

U.S. Drought Monitor
High Plains Climate Region

Current



May 24, 2022
(Released Thursday, May. 26, 2022)
Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	20.32	79.68	70.55	39.18	11.22	1.19
Last Week *05-17-2022*	19.90	80.10	71.92	40.45	11.82	1.19
3 Months Ago *02-22-2022*	7.88	92.12	78.36	38.56	5.89	0.00
Start of Calendar Year *01-04-2022*	12.84	87.16	64.81	34.56	8.63	0.00
Start of Water Year *09-28-2021*	14.24	85.76	63.58	43.69	18.57	0.86
One Year Ago *05-25-2021*	31.19	68.81	47.67	29.93	18.56	5.80

Intensity:

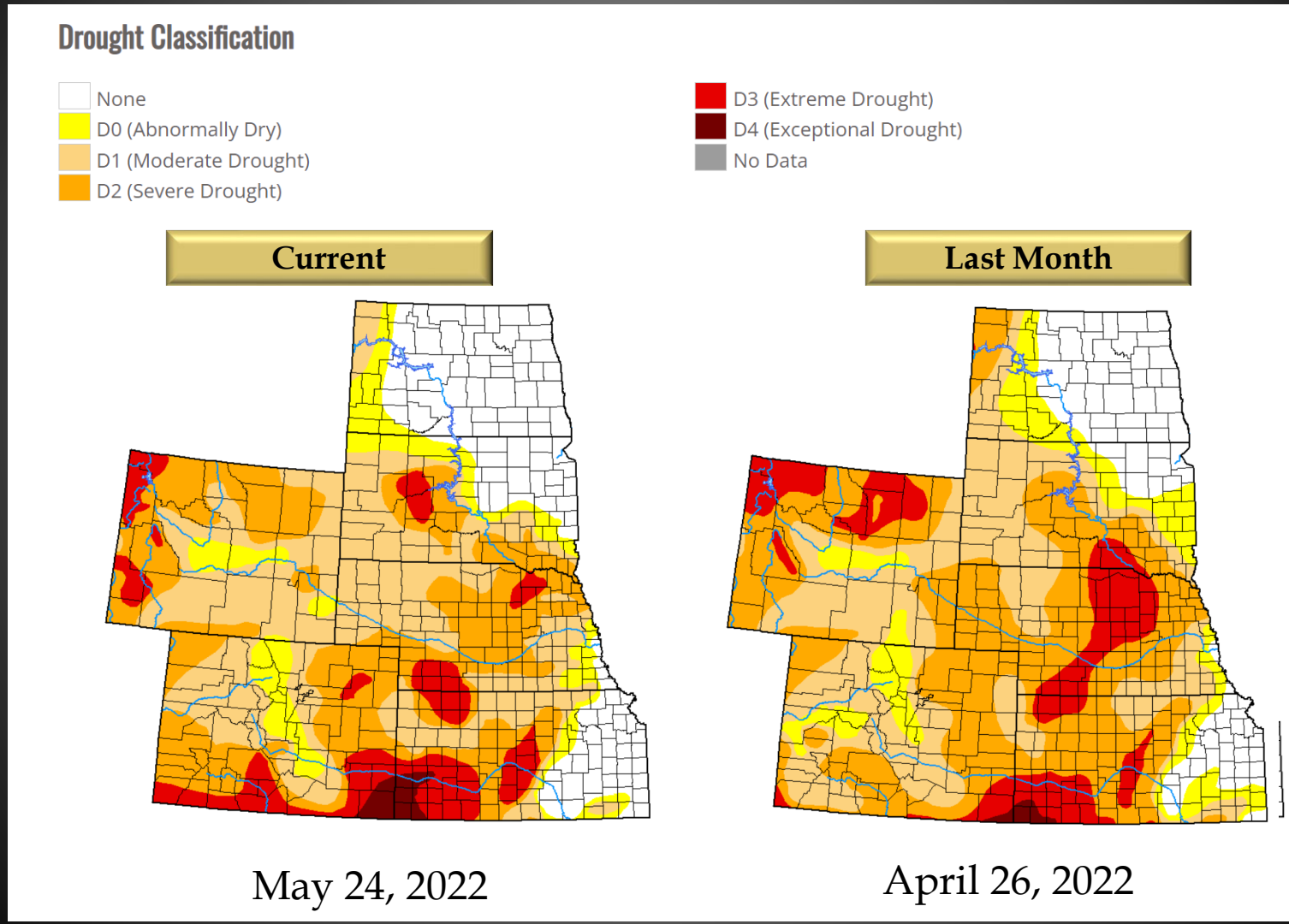
- None
- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

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

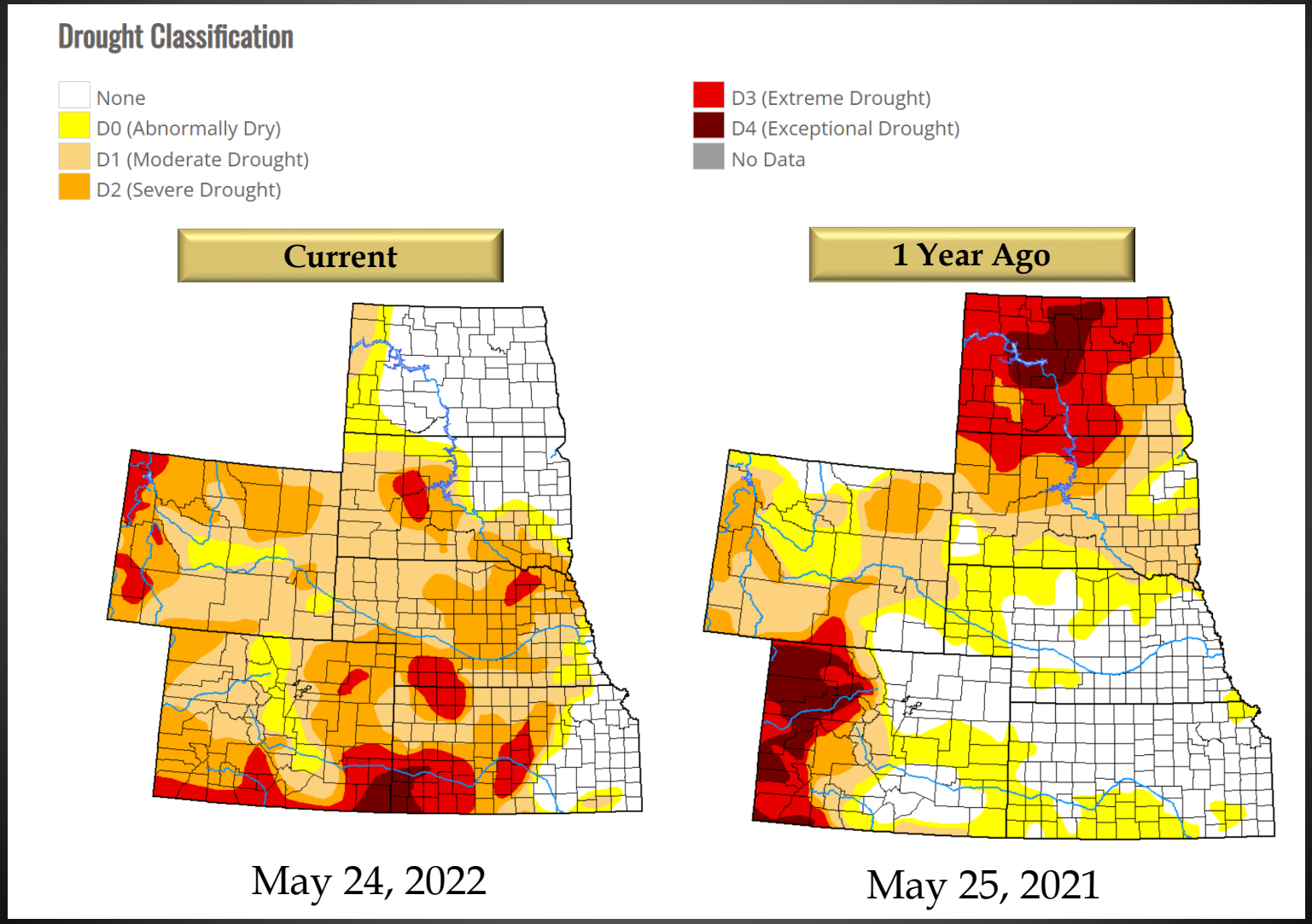
Author:
Richard Heim
NCEI/NOAA

droughtmonitor.unl.edu

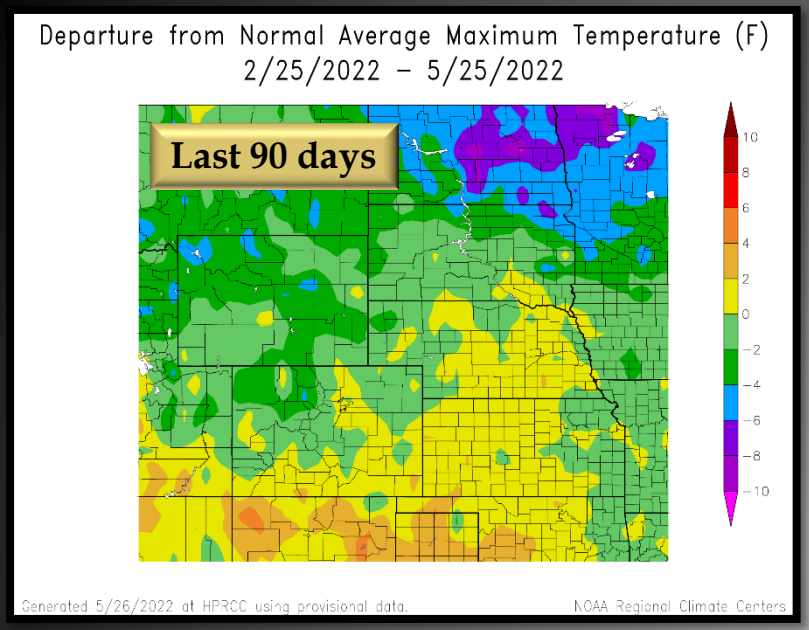
Long Term Drought Analysis from the National Drought Mitigation Center

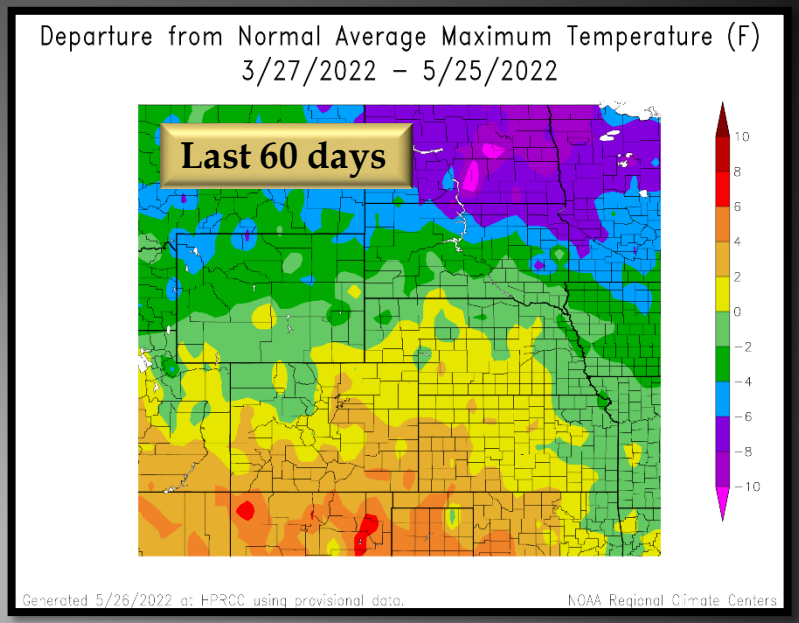


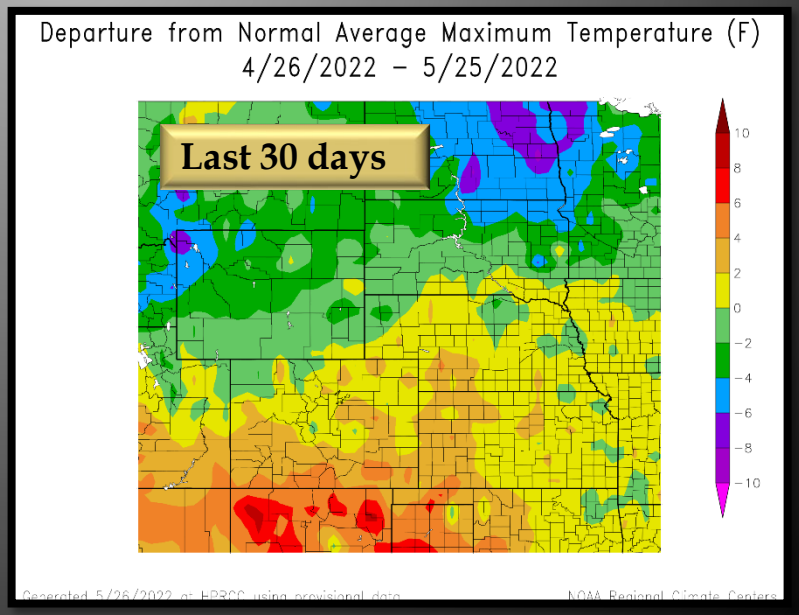
Long Term Drought Analysis from the National Drought Mitigation Center

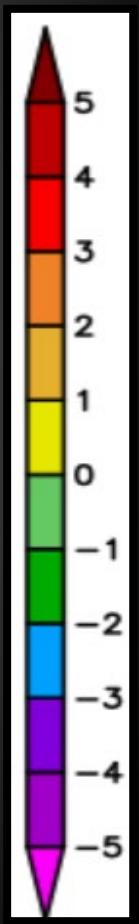


Temperature Anomalies





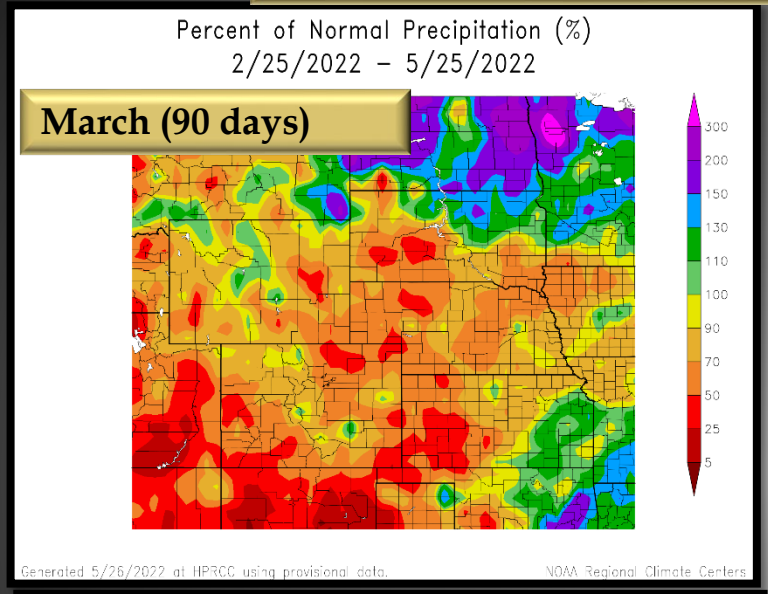


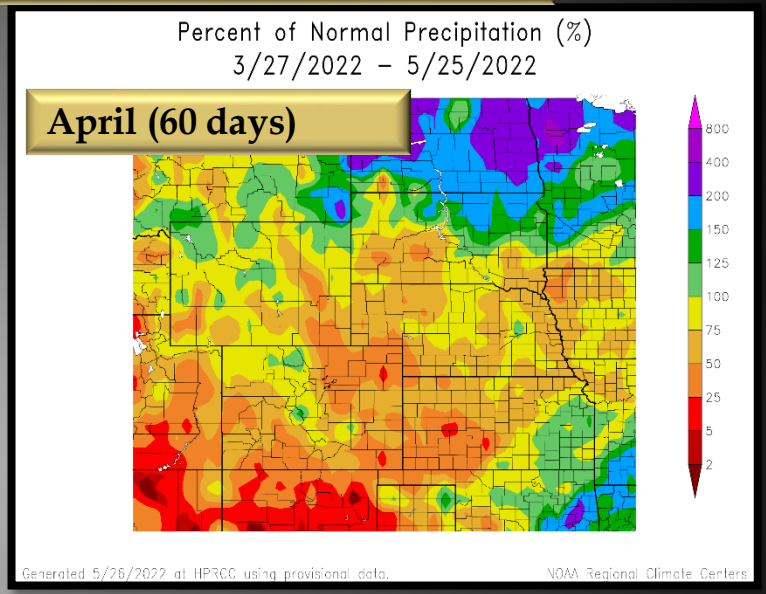


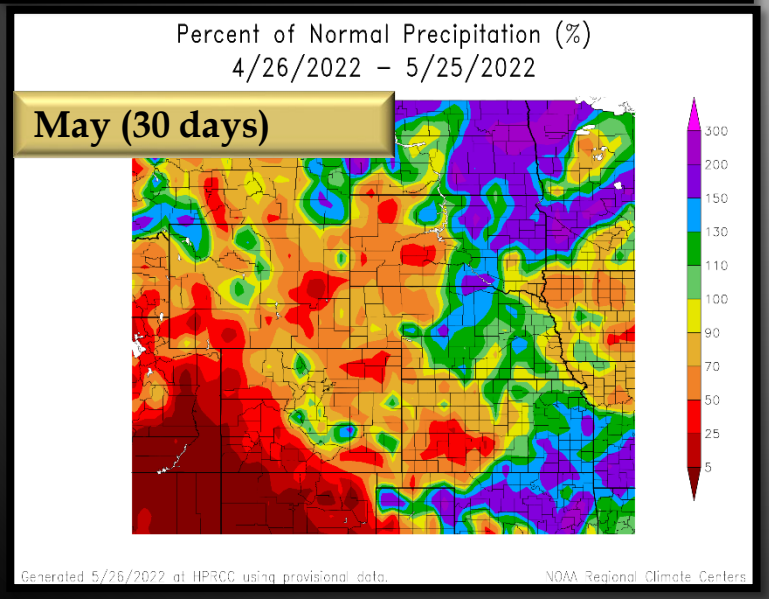
An above normal temperature signature expanded across Colorado, Kansas and Nebraska. Periods of cooler than normal temperatures are expected to persist across north portions of the RMA into the first week of June.

Percent of Normal Precipitation

Precipitation was lacking across most of the RMA in March and April, with above normal amounts observed across eastern portions of the High Plains.

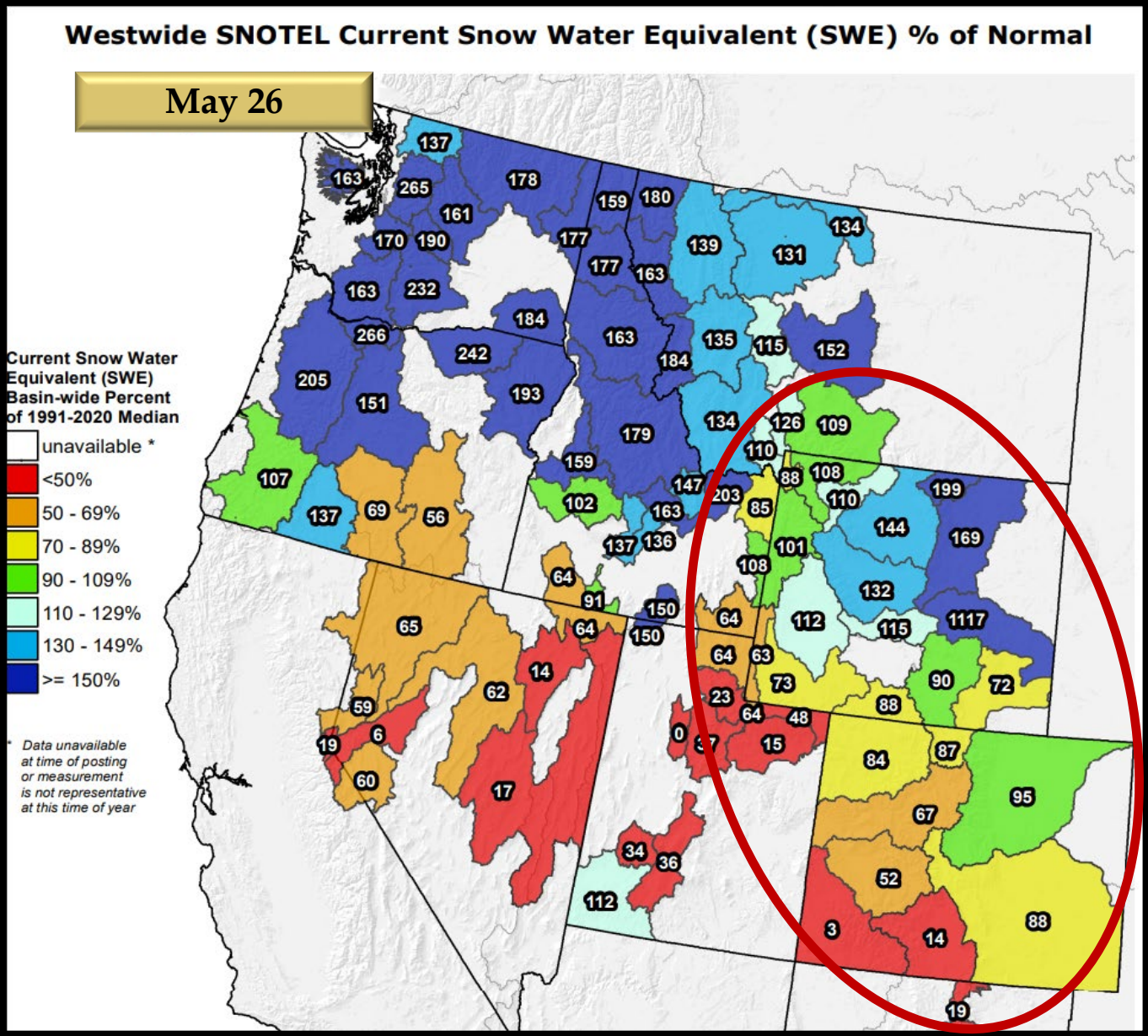






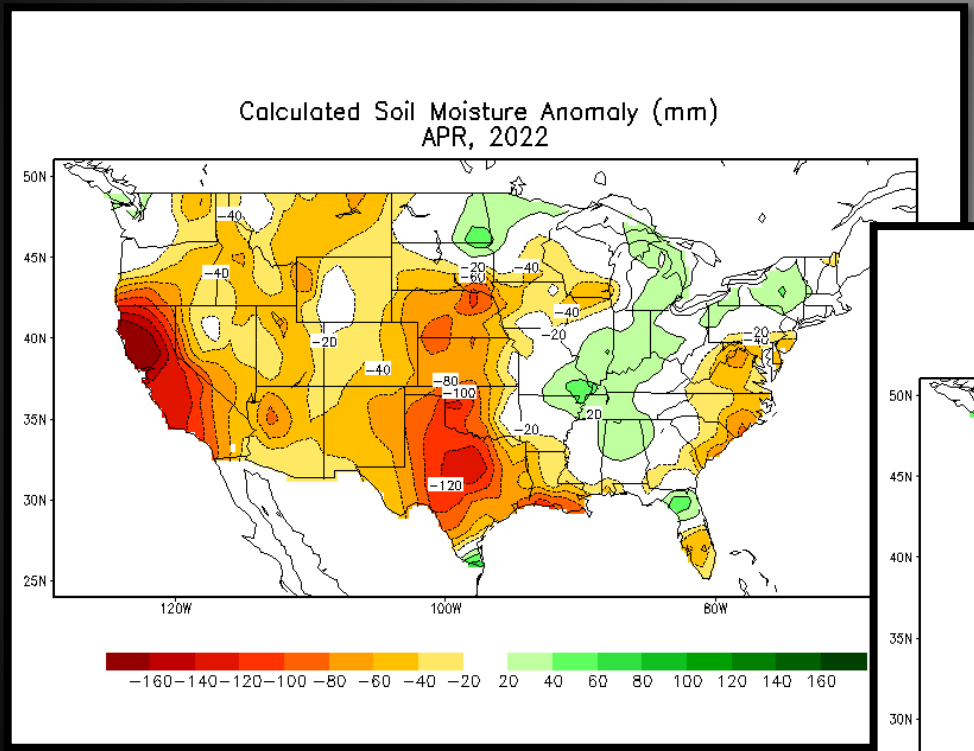
However, within the last 30 days, below normal precipitation anomalies have intensified across the western half of the RMA, especially across southwest Colorado and the Western Slope, with very dry conditions persisting in place across western South Dakota, the Nebraska Panhandle and western Kansas.

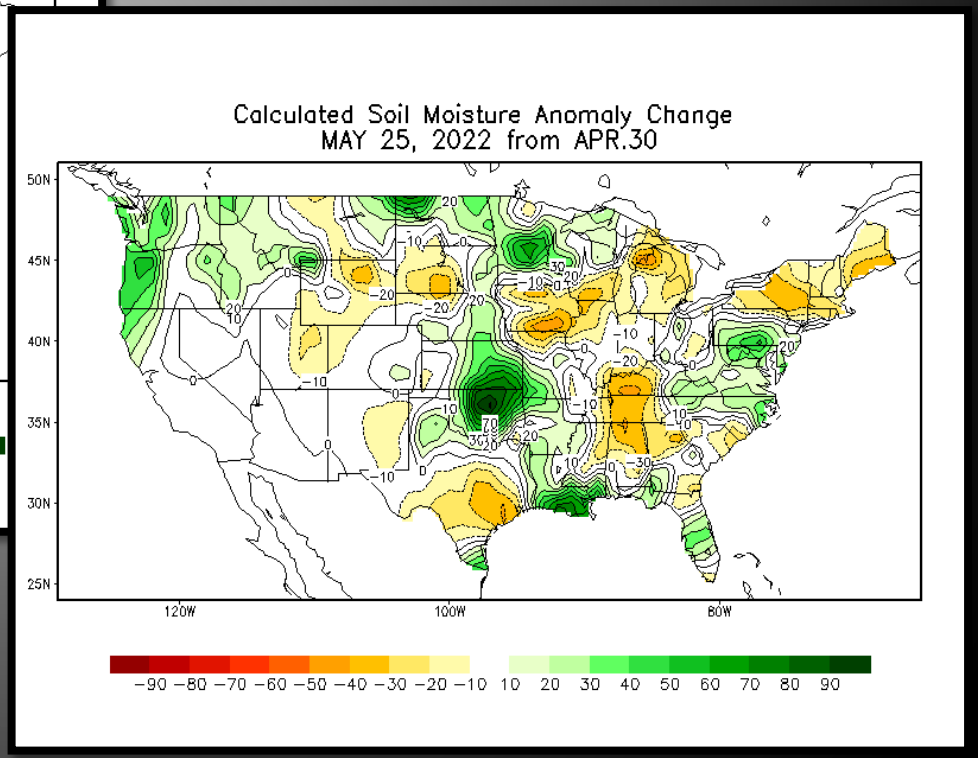
Snow Depth and Snow Water Equivalent (SWE) Percent of Average



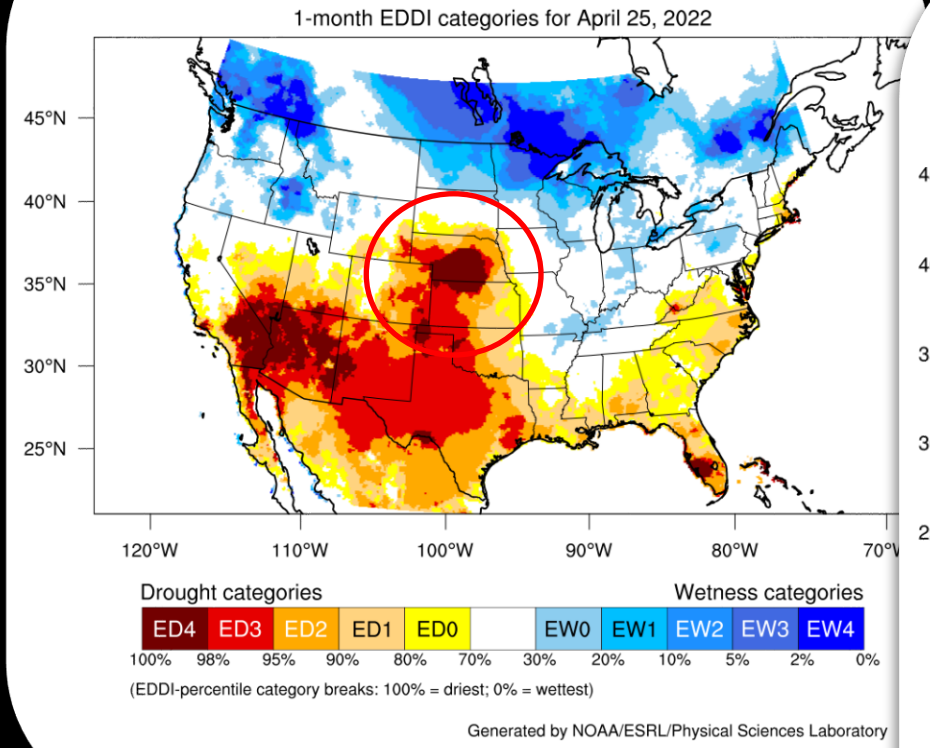
Soil Moisture Calculations

Soil moisture anomalies in May show continued drying (loss in soil moisture) across the Central and Southern Plains of the United States, especially across Oklahoma, Kansas, Nebraska and eastern Colorado.

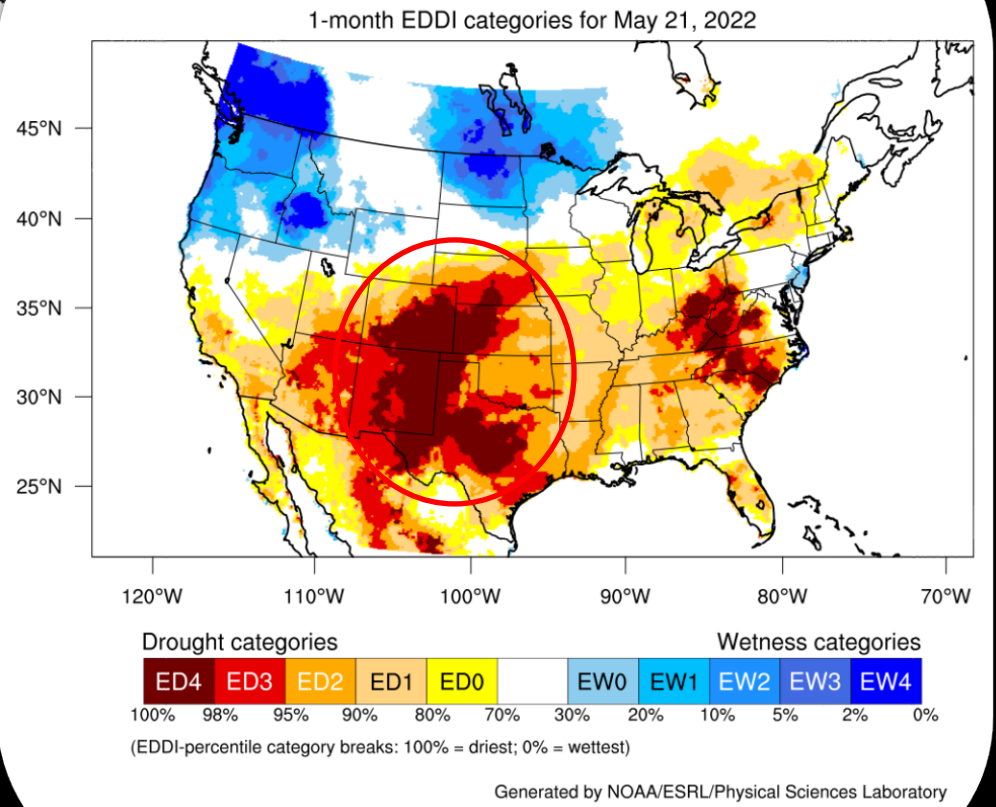




Evaporative Demand Drought Index "EDDI"
The Monthly "thirst of the atmosphere"

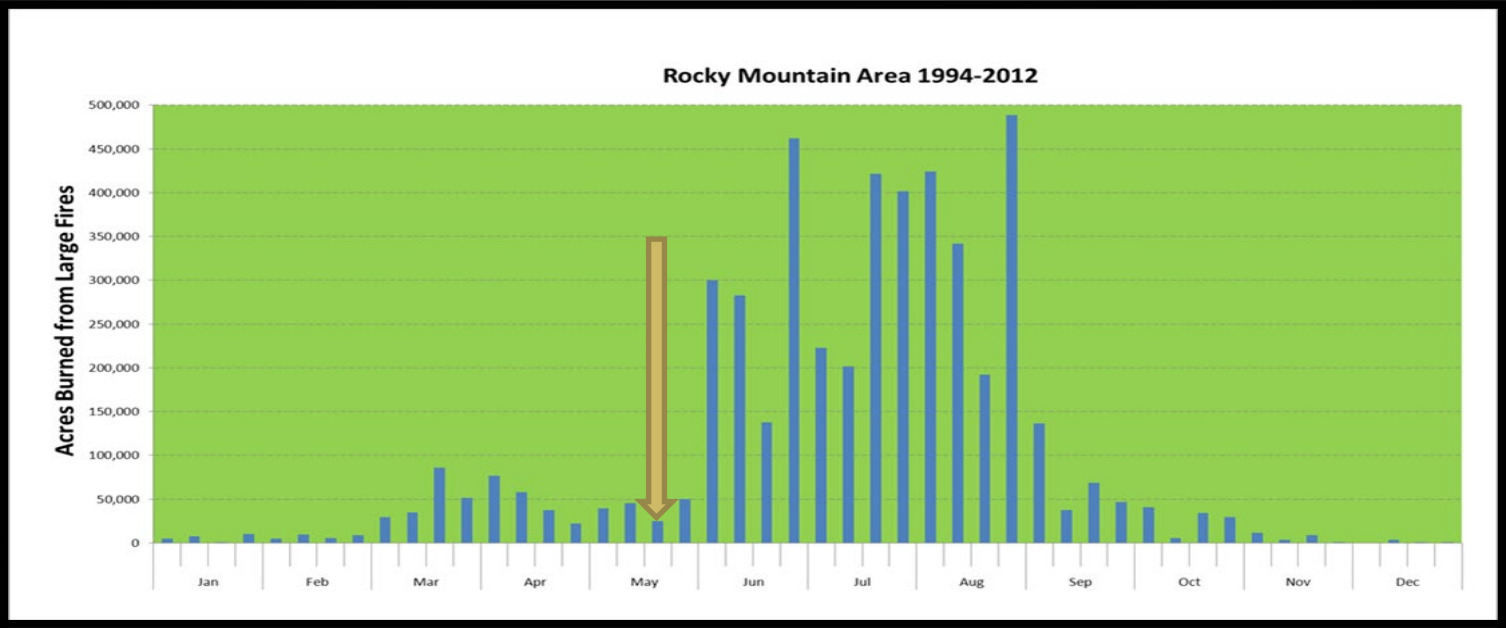


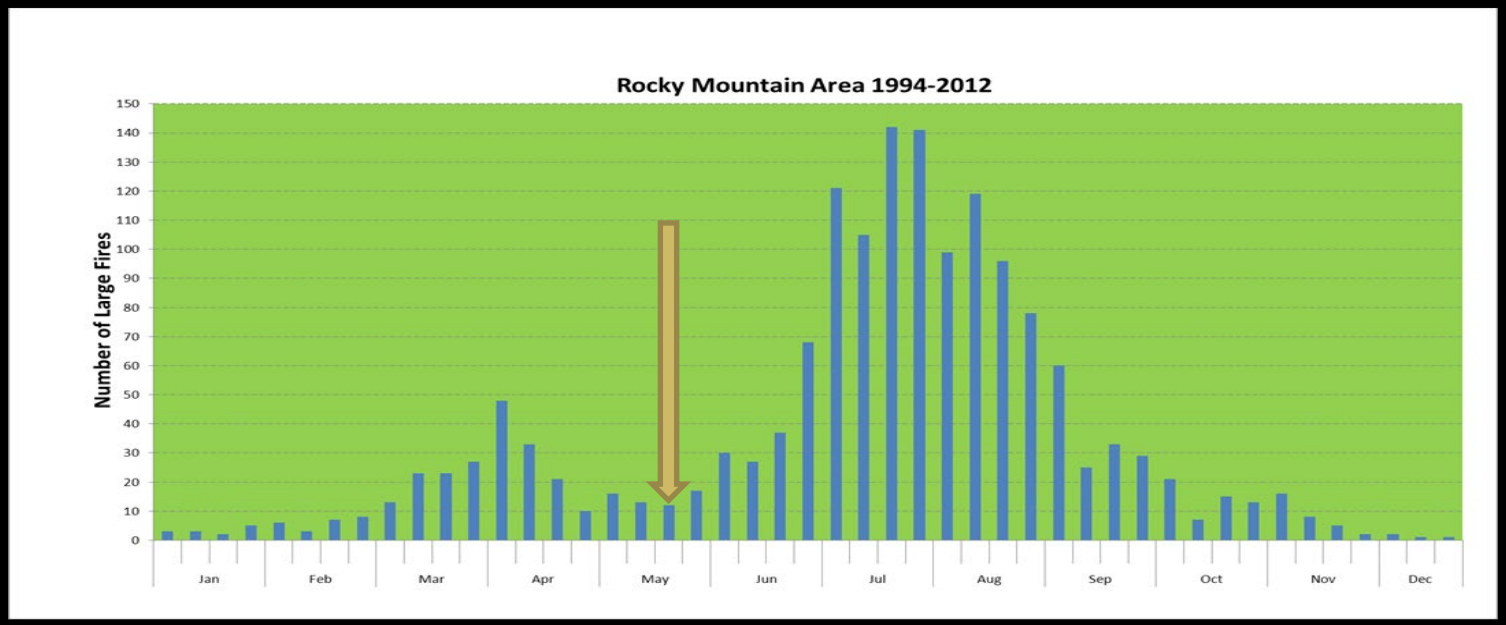
Look at the change in just one month!



Images provided by the NOAA/ESRL Physical Sciences Laboratory, Boulder, Colorado
https://psl.noaa.gov/eddi/

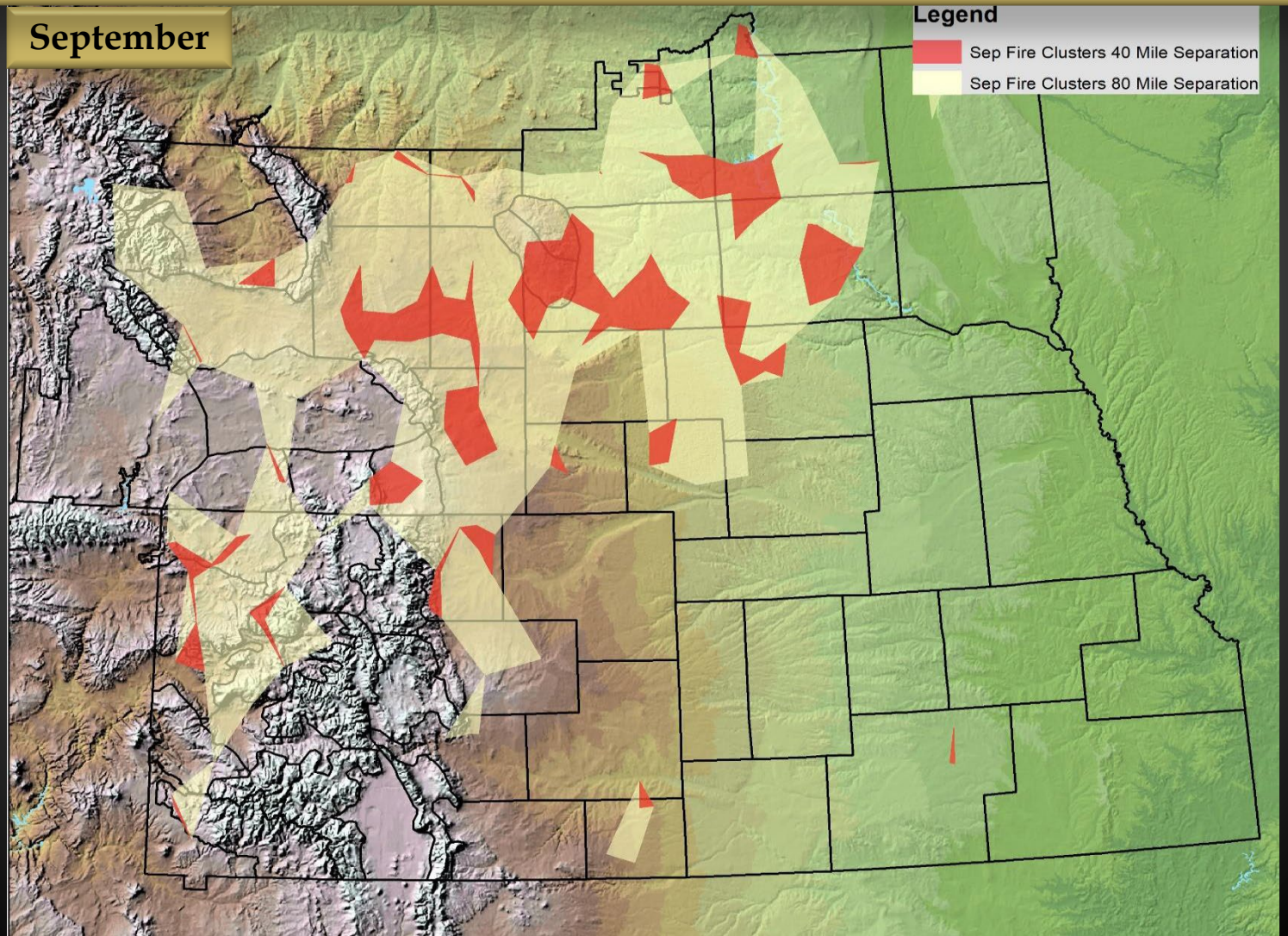
Rocky Mountain Area Fire History





Rocky Mountain Area Fire History

Historical fire data 1992-2015 (large fire clustering analysis) in September shows a decrease overall in fire activity across the RMA, with most large fires across eastern Wyoming, western South Dakota, northwest Nebraska, and to a less extent northern Colorado.



GrassCast

https://grasscast.unl.edu

Not syncing

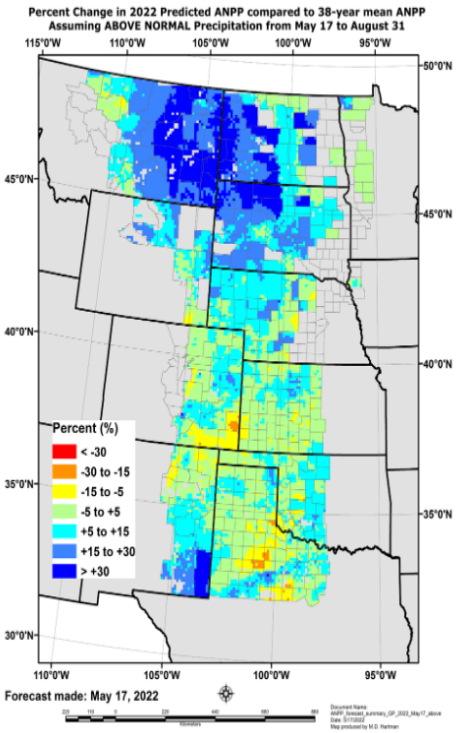
- Grass-Cast Static Maps
- Grass-Cast Zoomable Maps
- About Our Maps
- Introductory Video
- How to Read the Maps
- Grass-Cast Handout
- Science Webinars
- Acknowledgements
- Historical Productivity

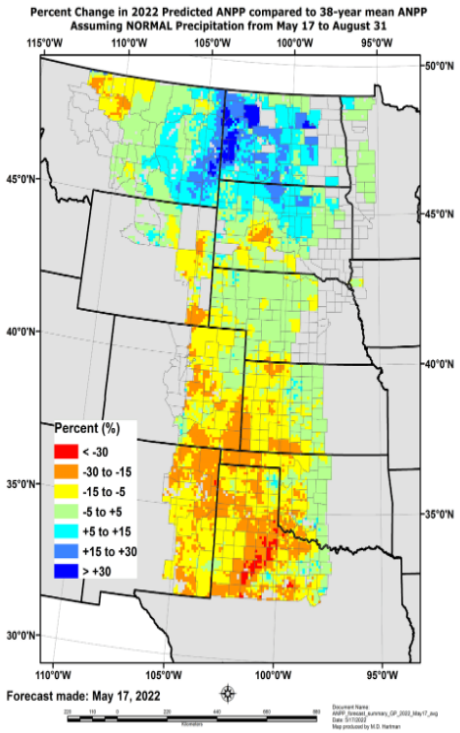
Select an area:

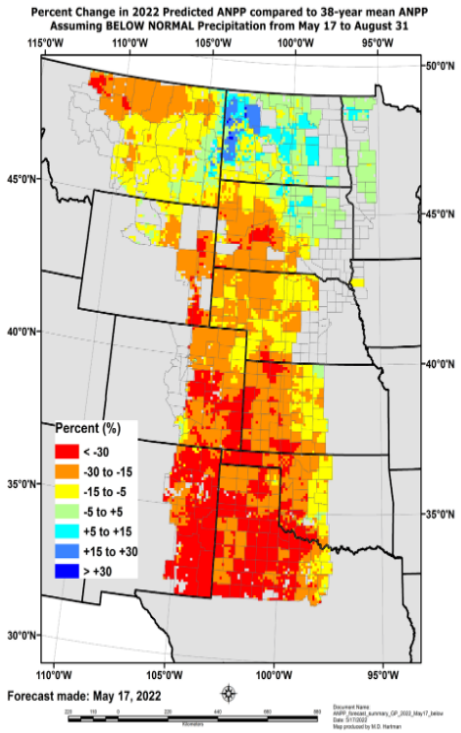
(•) Great Plains ( ) Southwest

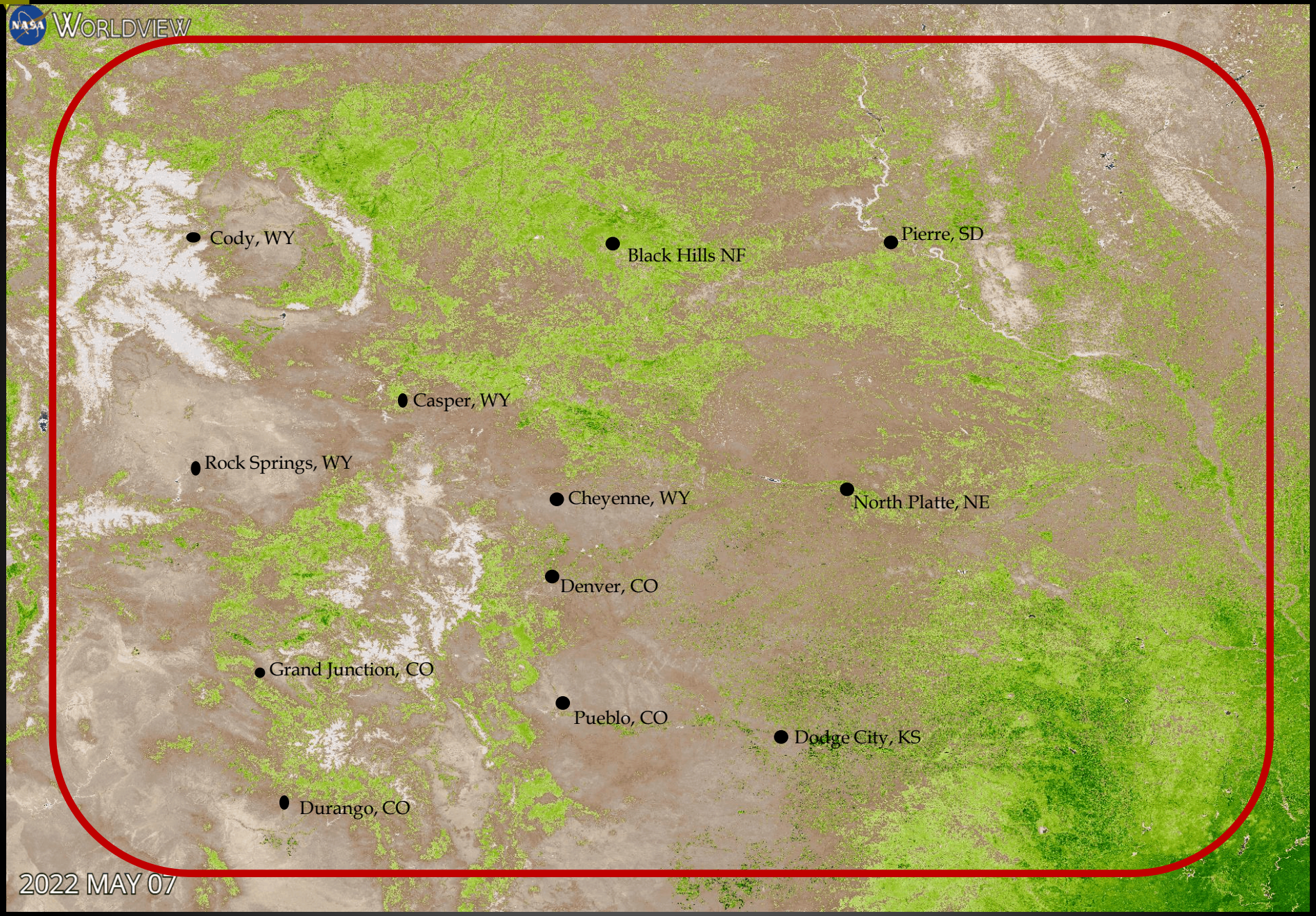
% Change in Grassland Production for Your Area this Summer Compared to Its 38-yr Average - Forecast Made: May 17, 2022

For the 3 maps (scenarios) below: "If precipitation between now and August 31st is above (left map), near(middle), or below (right)normal, we estimate that grassland production in your area(at lbs / acre of peak biomass) will be ___ % more or less than its 38-year average."

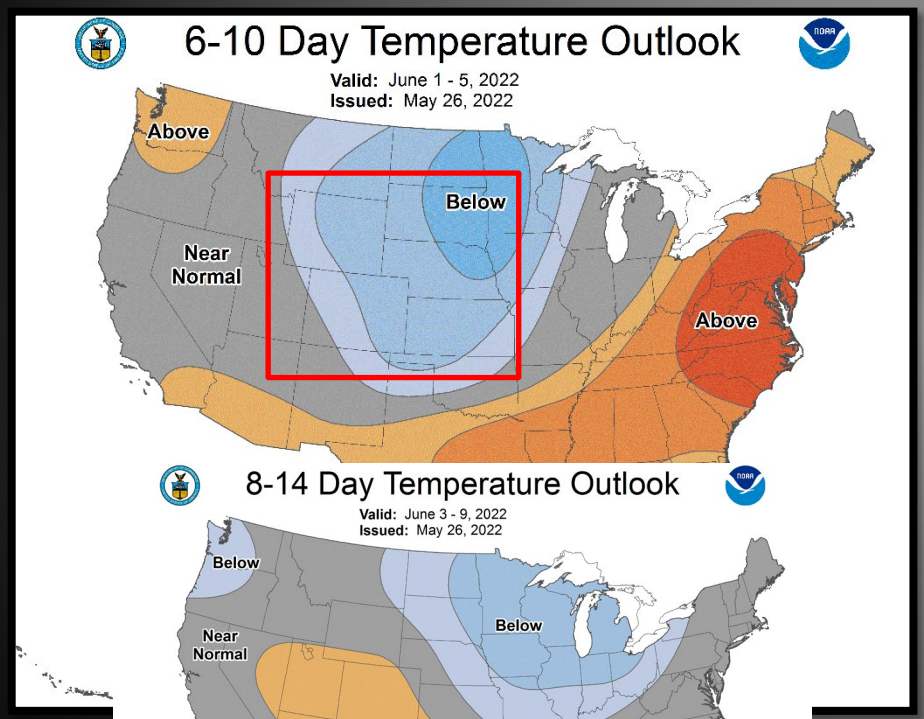


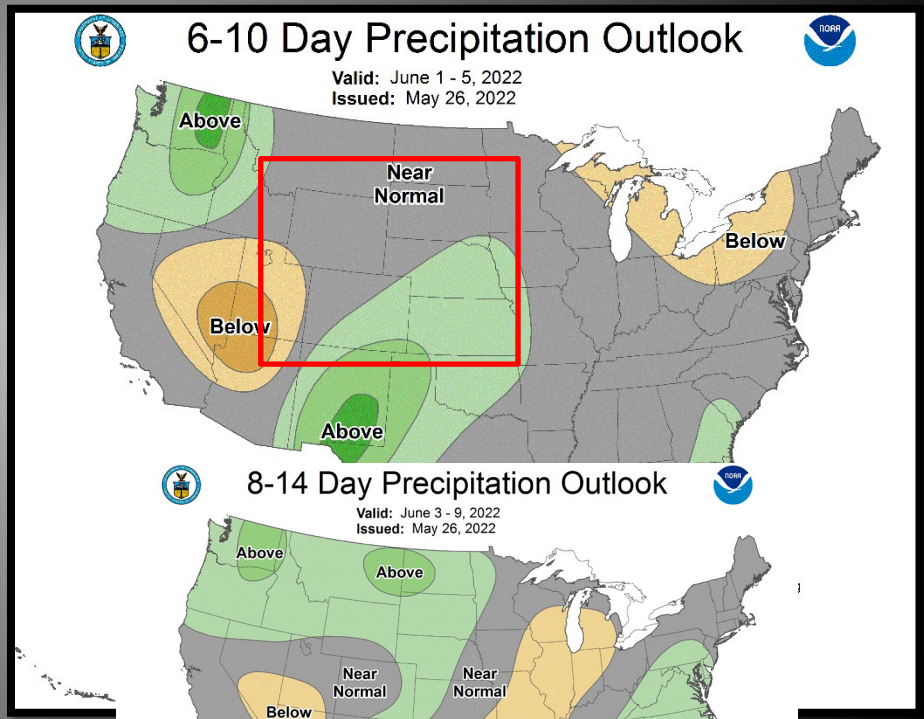


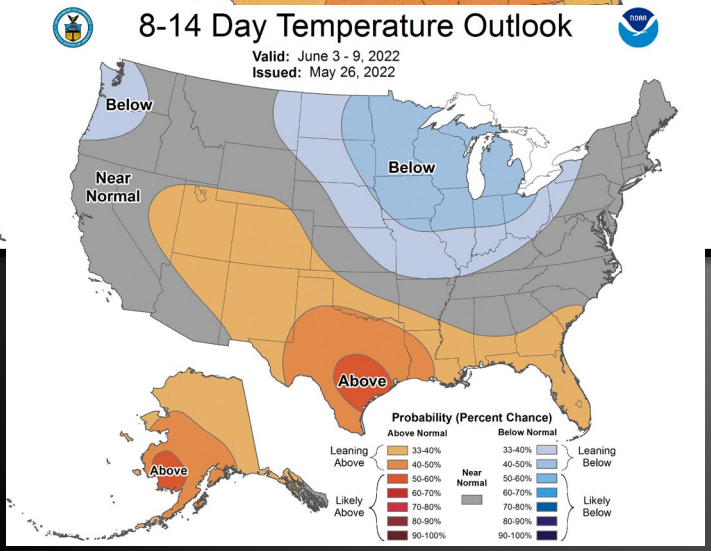


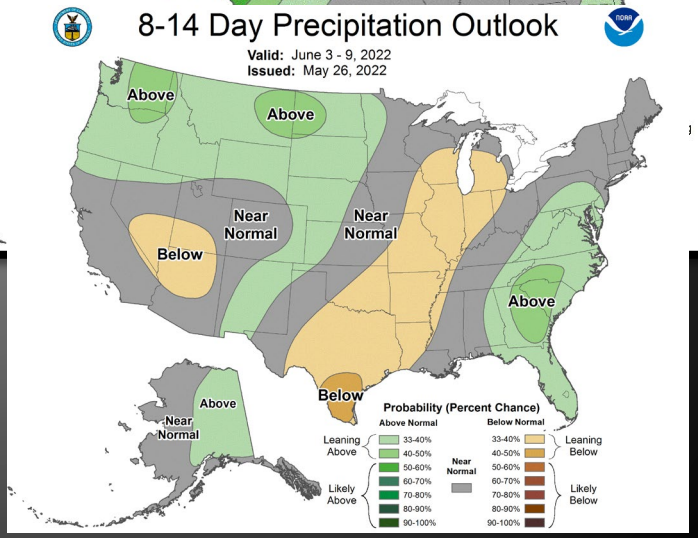

WORLDVIEW
Cody, WY
Black Hills NF
Pierre, SD
Casper, WY
Rock Springs, WY
Cheyenne, WY
North Platte, NE
Denver, CO
Grand Junction, CO
Pueblo, CO
Dodge City, KS
Durango, CO
2022 MAY 07

Climate Prediction Center (CPC)
Temperature and Precipitation Outlooks
Through June 9, 2022

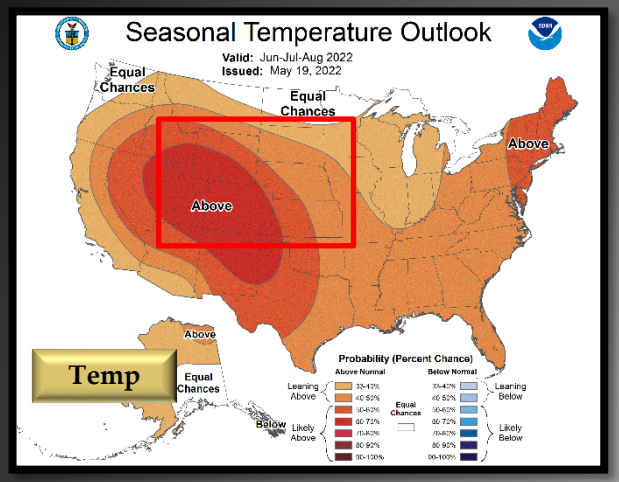






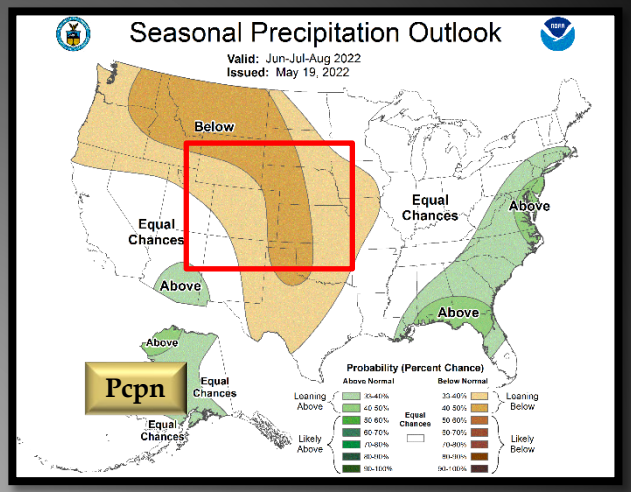


Climate Prediction Center (CPC)
Temperature and Precipitation Anomaly Forecasts

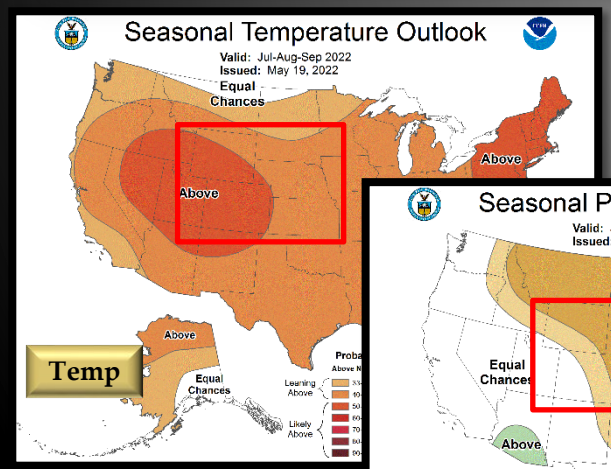


June-Aug

Temp

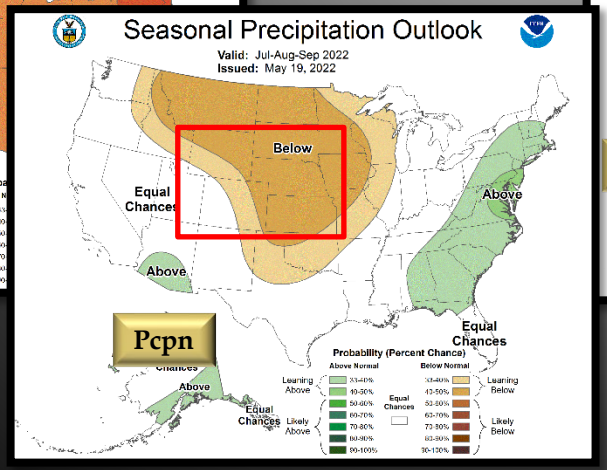


Pcpn



July-Sep

Temp



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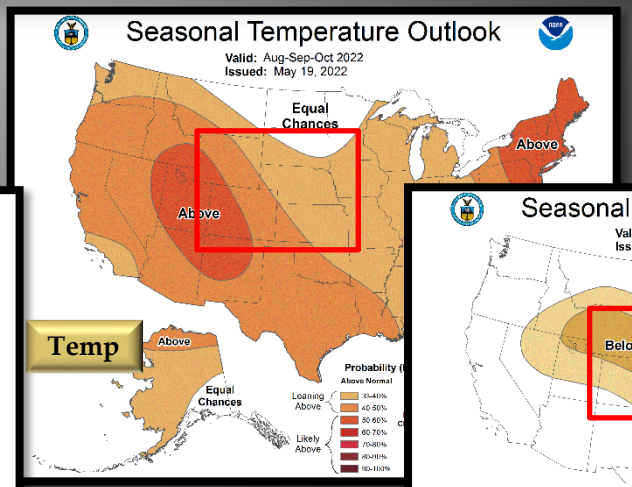
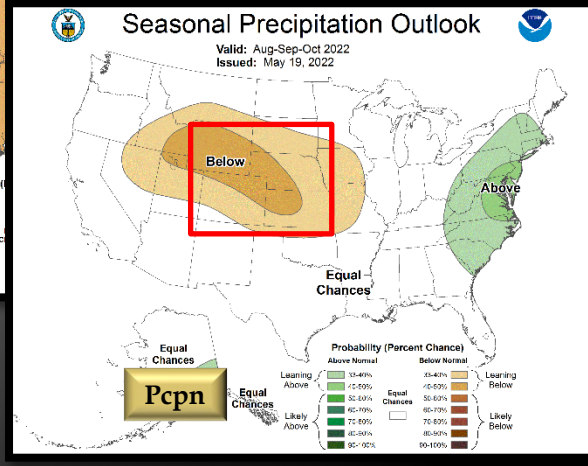


Aug-Oct

Temp



Pcpn

Monsoon Resources

RESEARCH ARTICLE Accepted: 14 October 2018 Published on: 21 November 2018
Impact of the North American monsoon on wildfire activity in the southwest United States
Nicholas J. Nauslar1,2 John F. Mejia1

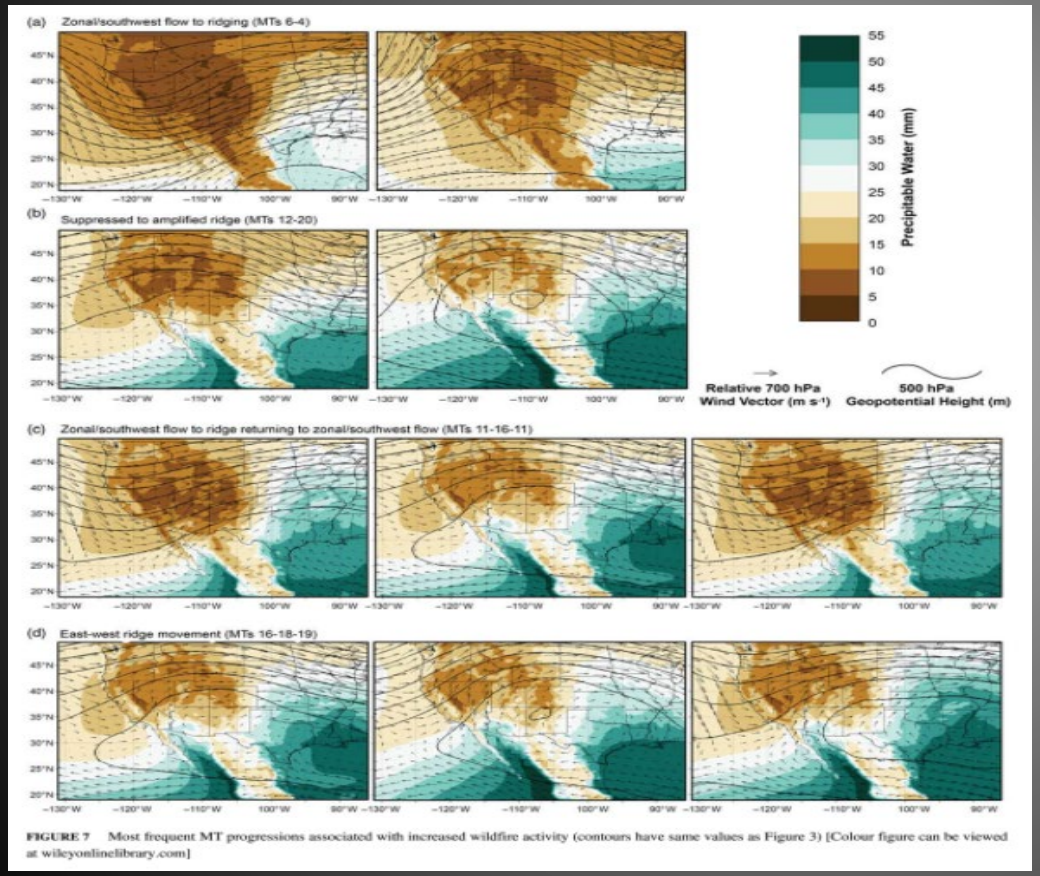
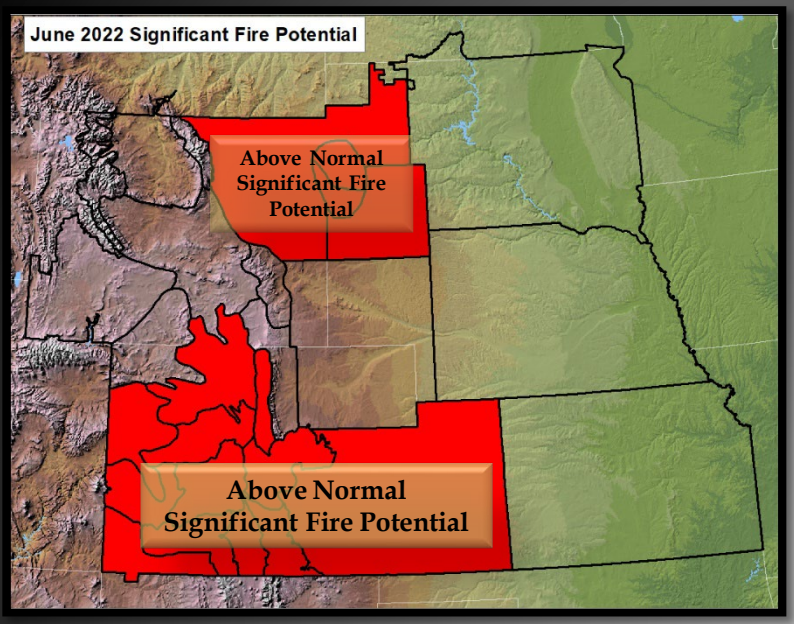


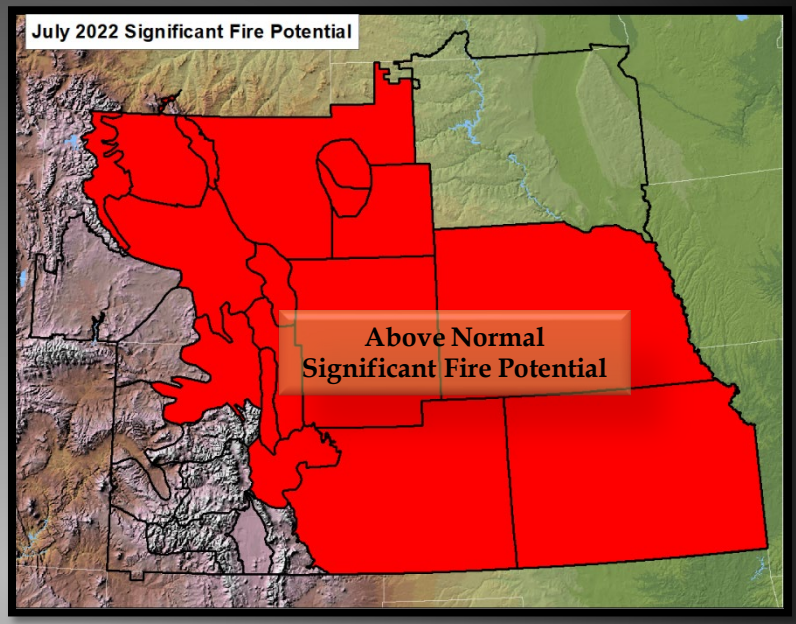
FIGURE 7 Most frequent MT progressions associated with increased wildfire activity (contours have same values as Figure 3) [Colour figure can be viewed at wileyonlinelibrary.com]

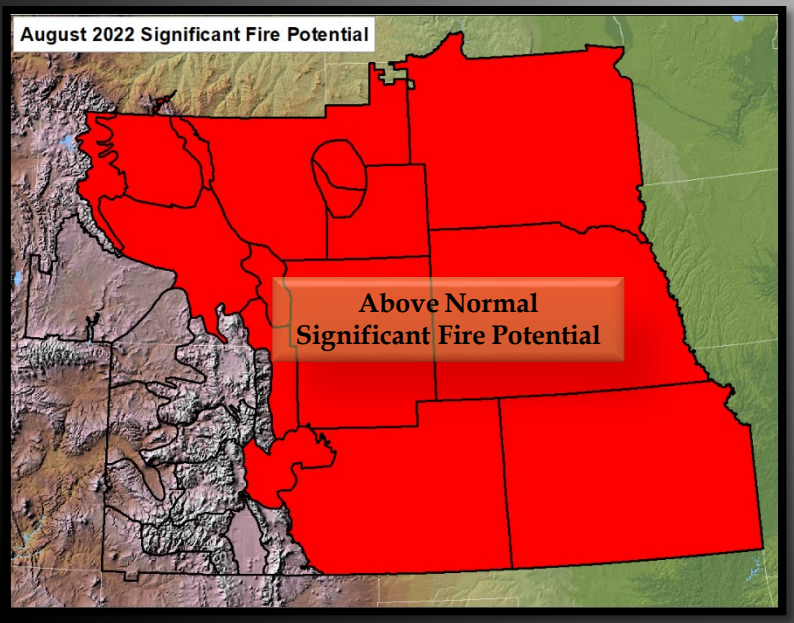
One of the four recurring synoptic weather patterns that facilitates increased wildfire activity related to the North American Monsoon is a Zonal (west-to-east) or southwest flow transition to a ridge of high pressure.

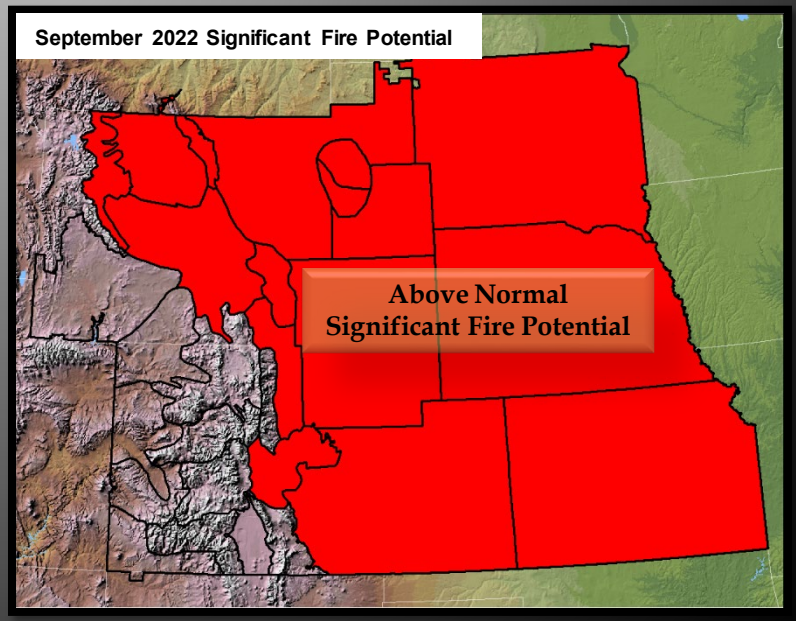
https://www.spc.noaa.gov/publications/nauslar/Nauslar_et_al-2019-International_Journal_of_Climatology.pdf

Significant Fire Potential Outlook – New 28 PSA's for 2022









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120 Day Significant Fire Potential Outlook

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Morgan Creek Fire July 2021 Routt NF, Colorado Photo Courtesy Inciweb