

# MAC-T Monthly Call

## Midwest Agriculture and Climate Team

June 3, 2020

For more information:

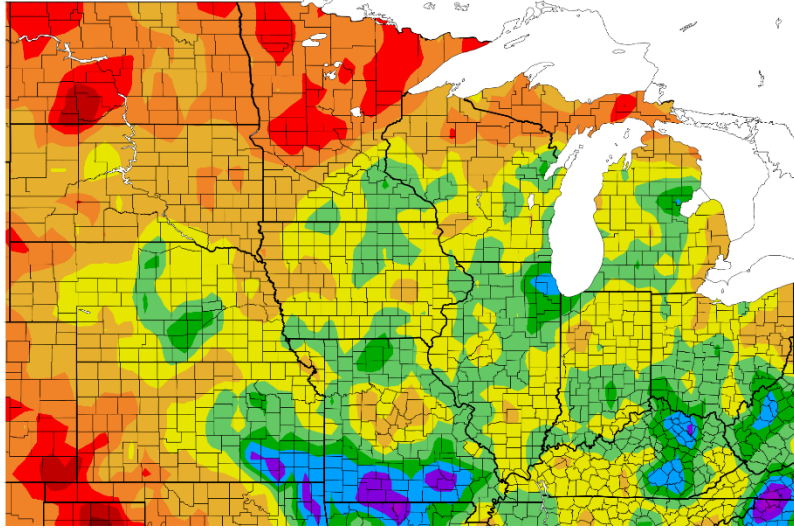
[Dennis.todey@usda.gov](mailto:Dennis.todey@usda.gov)



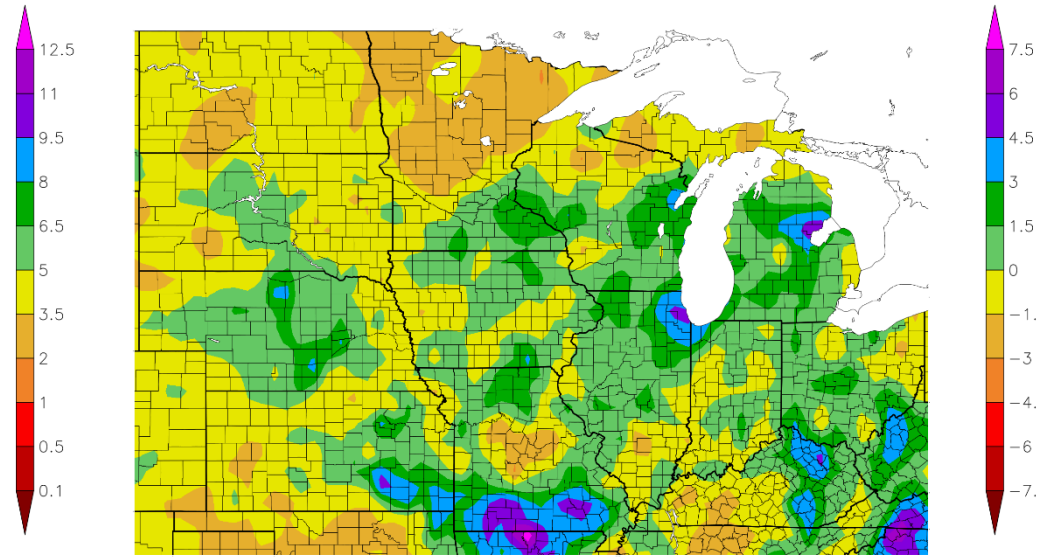
Midwest Climate Hub  
U.S. DEPARTMENT OF AGRICULTURE



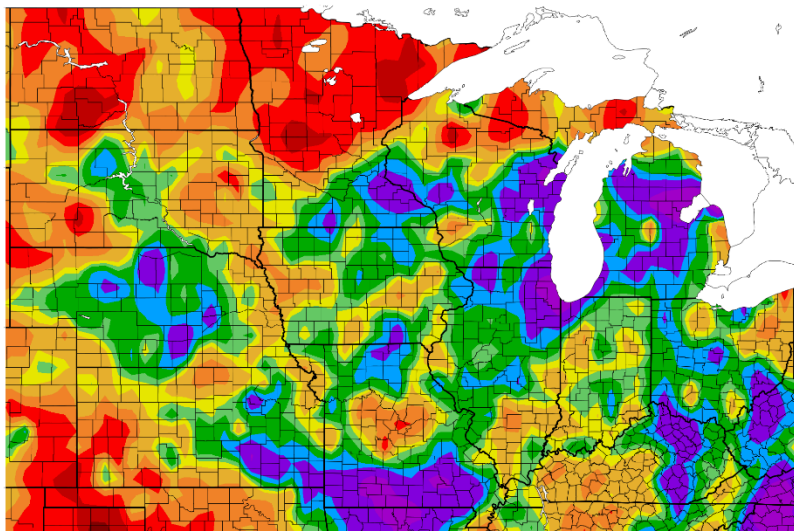
Precipitation (in)  
5/2/2020 - 5/31/2020



Departure from Normal Precipitation (in)  
5/2/2020 - 5/31/2020



Percent of Normal Precipitation (%)  
5/2/2020 - 5/31/2020

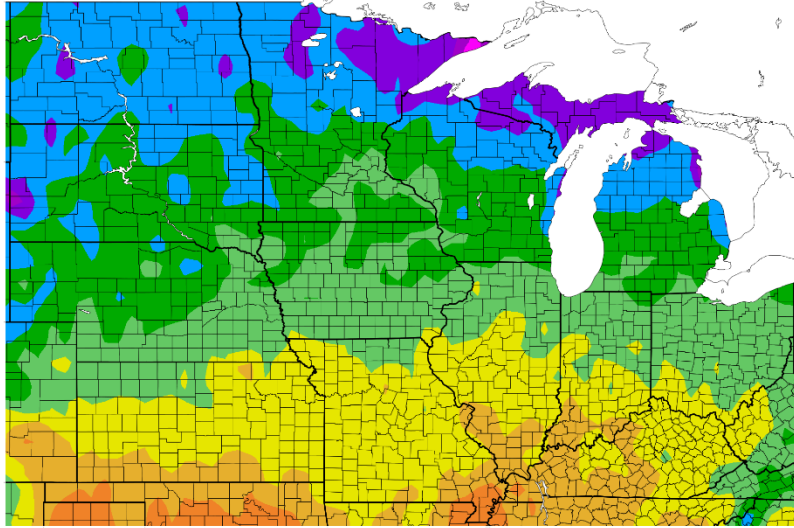


Generated 6/1/2020 at HPRCC using provisional data.

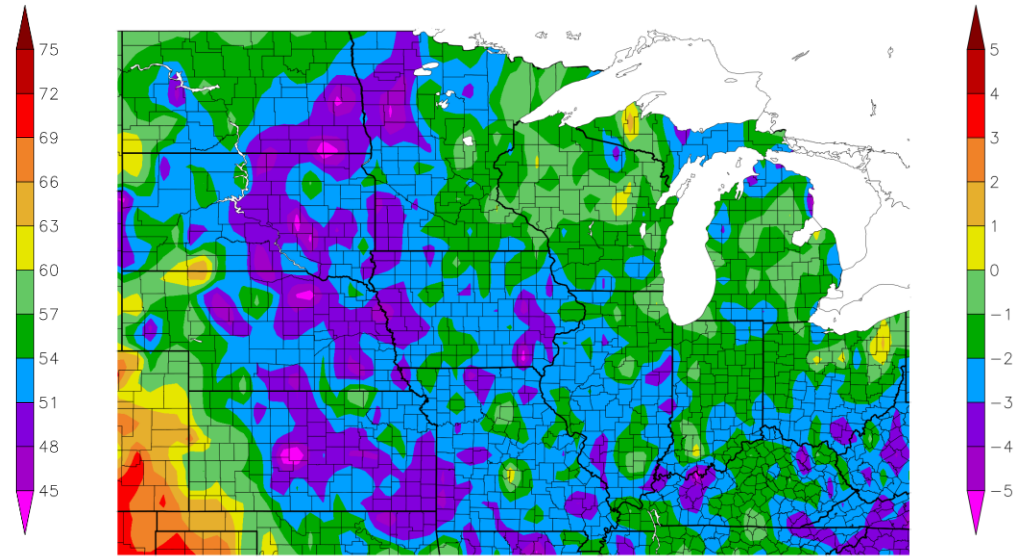
NOAA Regional Climate Center

- Wet southern Missouri and southern Great Lakes
  - Missouri slow planting
  - Replant in north-central Illinois
- Continued dry in north
  - Largest departures in northern Minnesota

Temperature (F)  
5/2/2020 – 5/31/2020



Departure from Normal Temperature (F)  
5/2/2020 – 5/31/2020



Generated 6/1/2020 at HPRCC using provisional data.

NOAA Regional Climate Center Generated 6/1/2020 at HPRCC using provisional data.

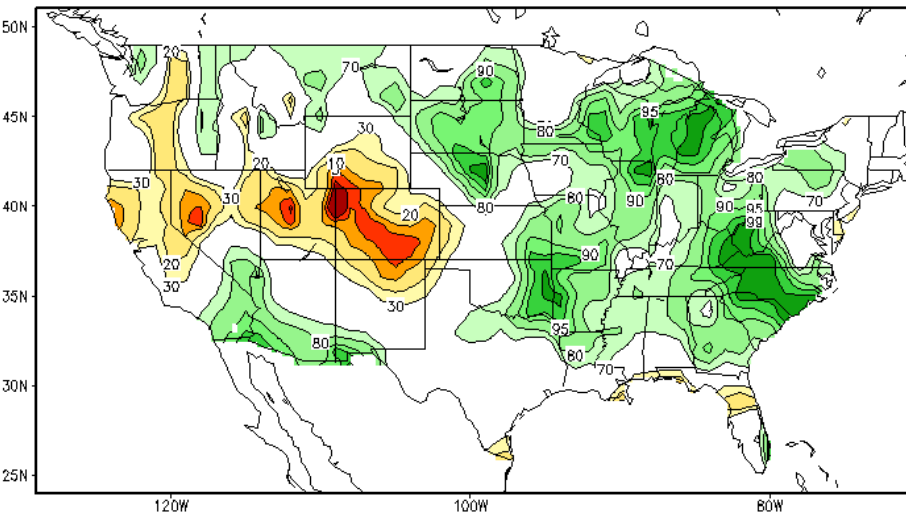
NOAA Regional Climate Centers

- *Still* mostly colder than average
- Deeper to the west, 4-5 degree departures
- Northeast and far southwest closer to average

# Soil Moisture

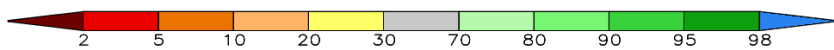
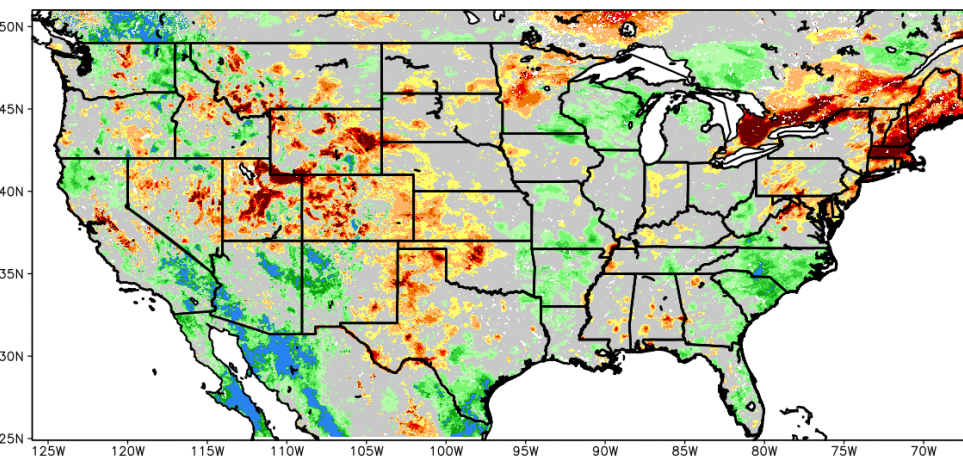
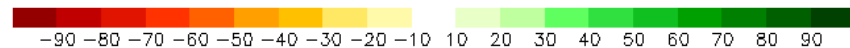
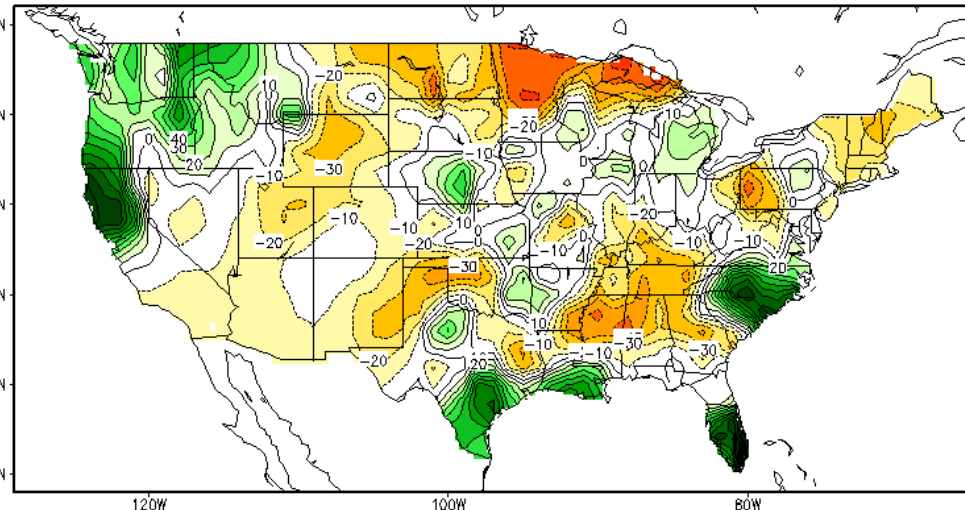
[http://www.cpc.ncep.noaa.gov/products/Soilmst\\_Monitoring/US/Soilmst/Soilmst.shtml#](http://www.cpc.ncep.noaa.gov/products/Soilmst_Monitoring/US/Soilmst/Soilmst.shtml#)

Calculated Soil Moisture Ranking Percentile  
MAY 31, 2020



SPoRT-LIS 0-40 cm Soil Moisture percentile valid 02 Jun 2020

Calculated Soil Moisture Anomaly Change  
MAY 31, 2020 from APR.30

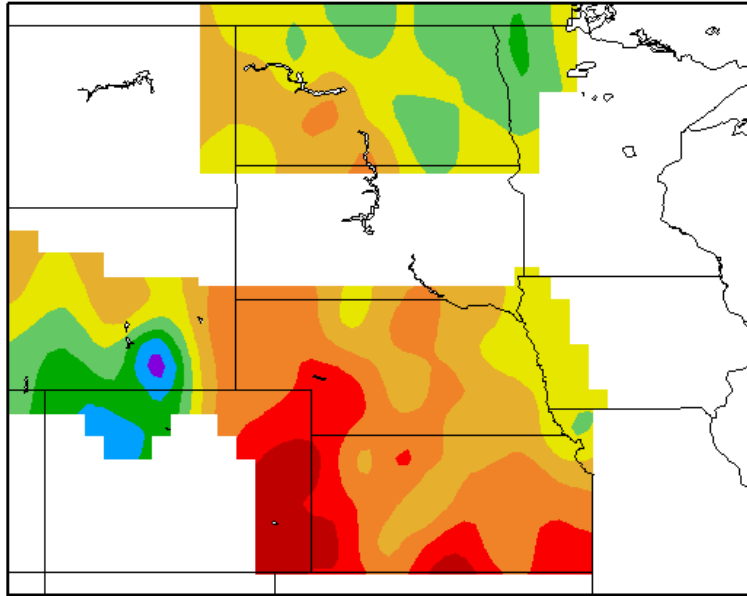


- Overall soils drying trend, particularly in northern region and southeast
- Throughout the region, most of the moisture is in the 40-100 cm column, much more drying near surface

[https://weather.msfc.nasa.gov/sport/case\\_studies/lis\\_CONUS.html](https://weather.msfc.nasa.gov/sport/case_studies/lis_CONUS.html)

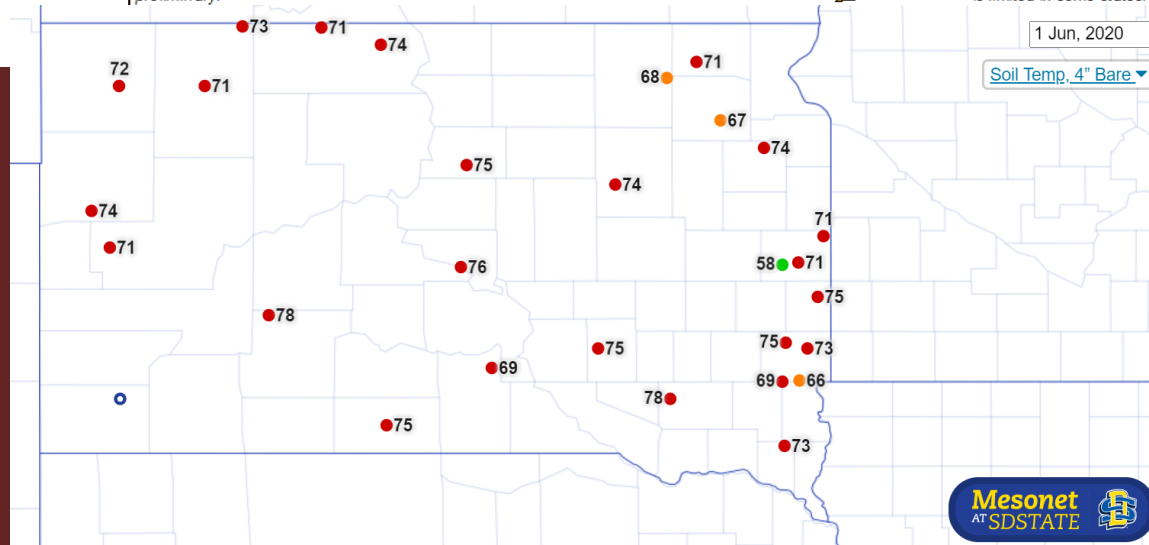
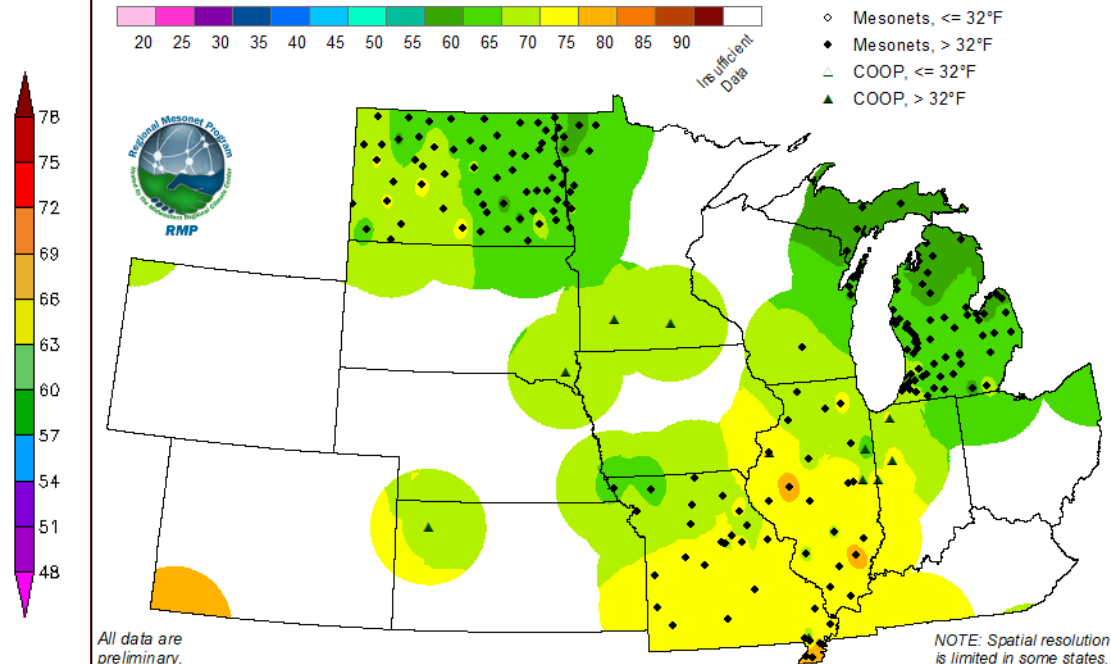
# Soil Temperature

Soil Temperature (F at 4 inches)  
5/31/2020 – 5/31/2020



High Plains Regional Climate Center  
Generated 6/1/2020 using AWDN data.

4" Soil Temperature (°F) (Bare)



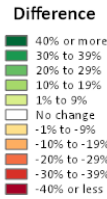
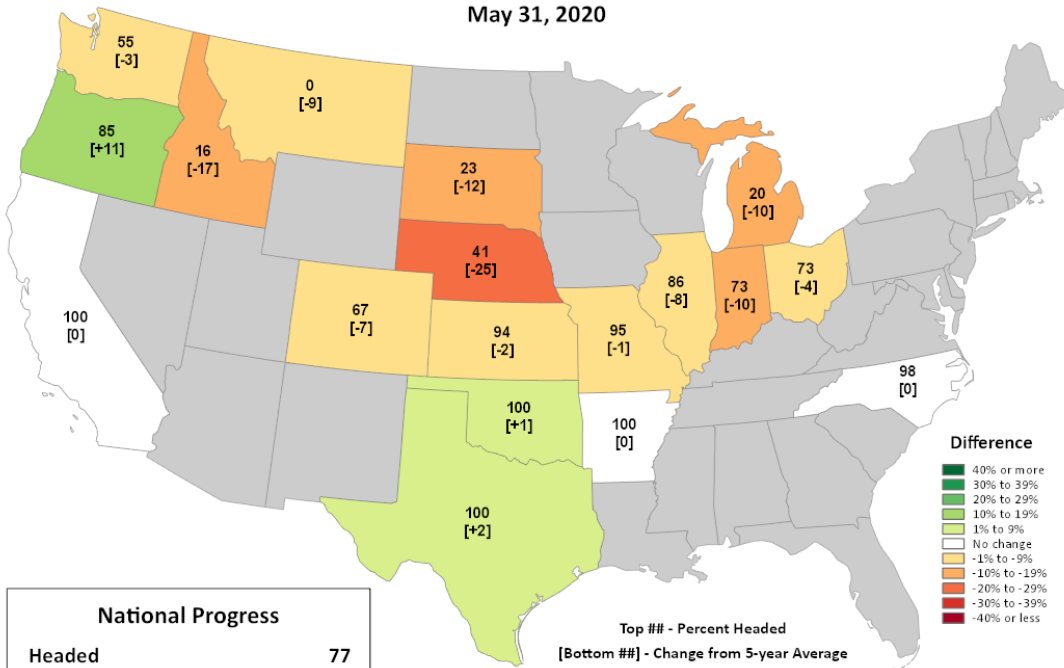
- 4" bare soil temperatures in 60s and 70s from South Dakota to Kentucky
- 50s and low 60s in northern areas

<https://mrcc.illinois.edu/RMP/currentMaps.html>  
<https://hprcc.unl.edu/maps.php?map=AWDNMaps>  
<http://climate.sdstate.edu>

# Winter Wheat Progress

## Percent Headed

May 31, 2020



| National Progress          |    |
|----------------------------|----|
| Headed                     | 77 |
| Change from 5-year Average | -4 |

Top ## - Percent Headed  
 [Bottom ##] - Change from 5-year Average

Data obtained from USDA National Agricultural Statistics Service weekly Crop Progress reports.

# USDA NASS Crop Progress Winter Wheat

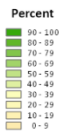
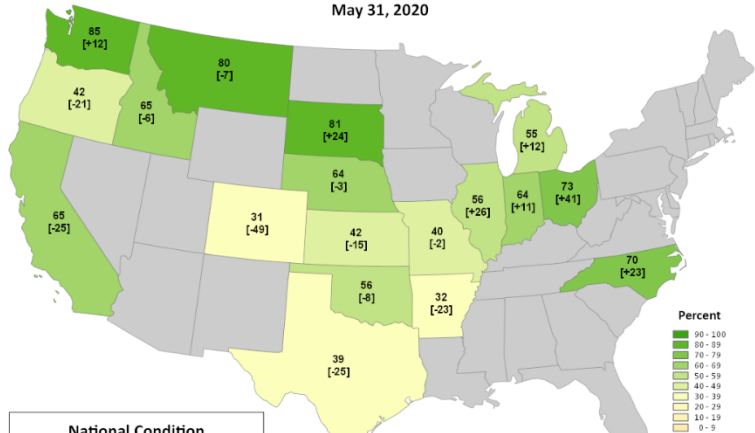
Winter wheat progress a little behind 5 year avg (-4%).

Much improved over last year in East, drought and freeze impacting condition in West?

## Winter Wheat Conditions

### Percent Good to Excellent

May 31, 2020



Top ## - Percent Good to Excellent  
 [Bottom ##] - Change from Last Year

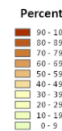
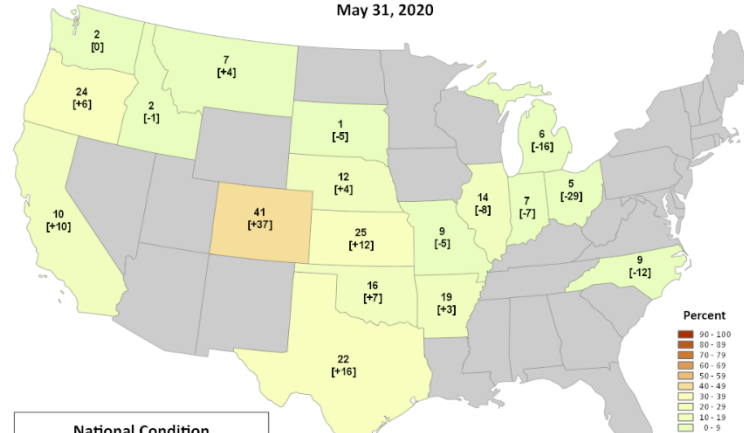
Data obtained from USDA National Agricultural Statistics Service weekly Crop Progress reports.

| National Condition    |     |
|-----------------------|-----|
| Good to Excellent     | 51  |
| Change from Last Year | -13 |

## Winter Wheat Conditions

### Percent Poor to Very Poor

May 31, 2020



Top ## - Percent Poor to Very Poor  
 [Bottom ##] - Change from Last Year

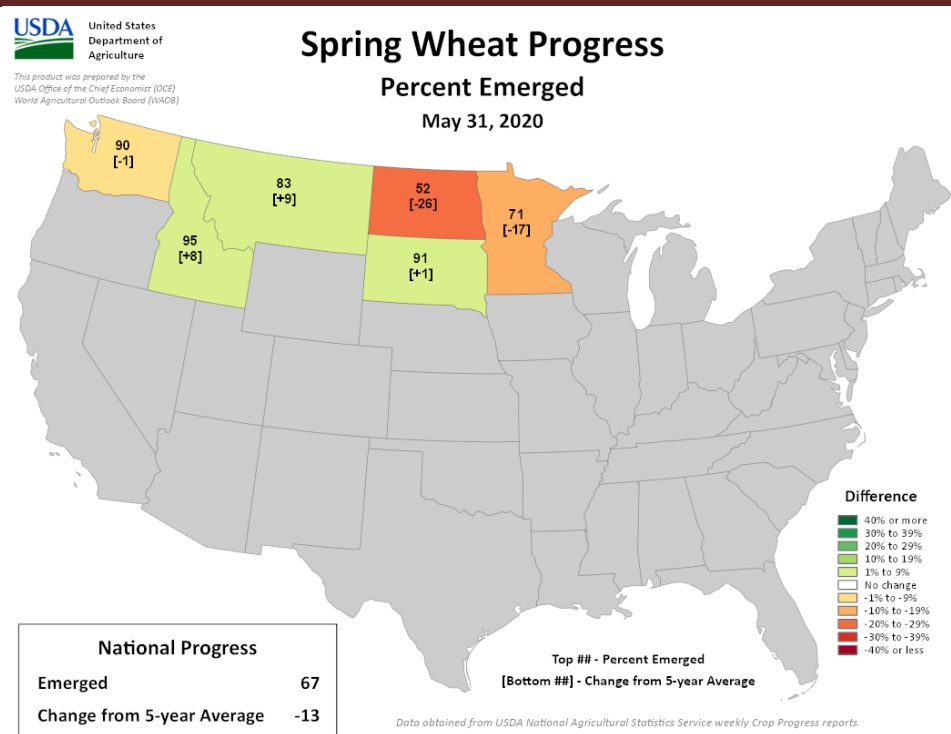
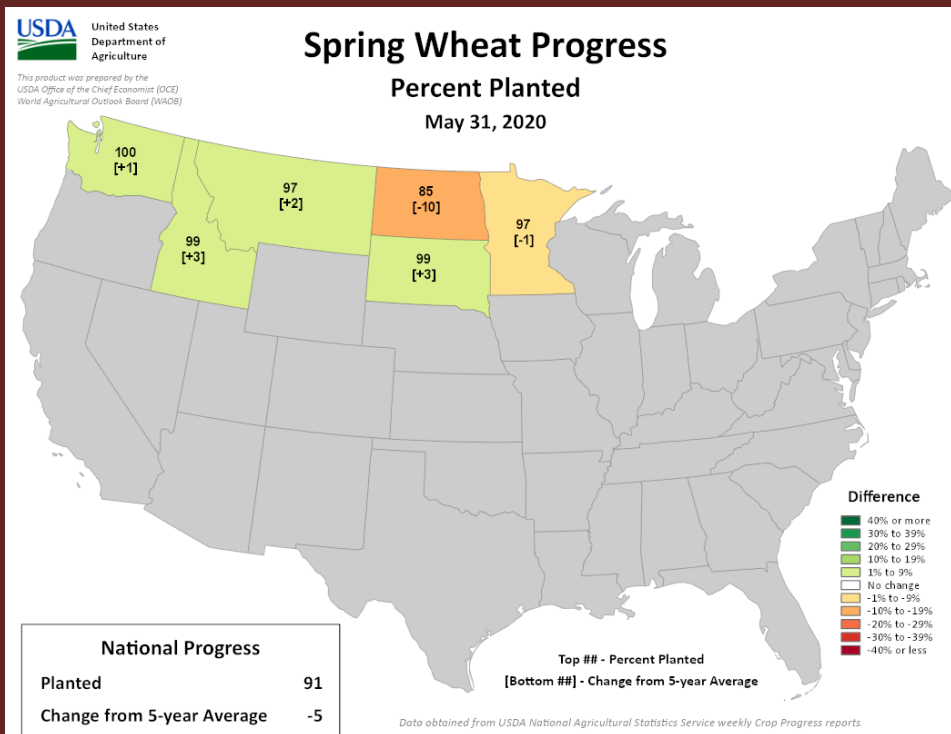
Data obtained from USDA National Agricultural Statistics Service weekly Crop Progress reports.

| National Condition    |     |
|-----------------------|-----|
| Poor to Very Poor     | 19  |
| Change from Last Year | +10 |

# USDA NASS Crop Progress

## Spring Wheat

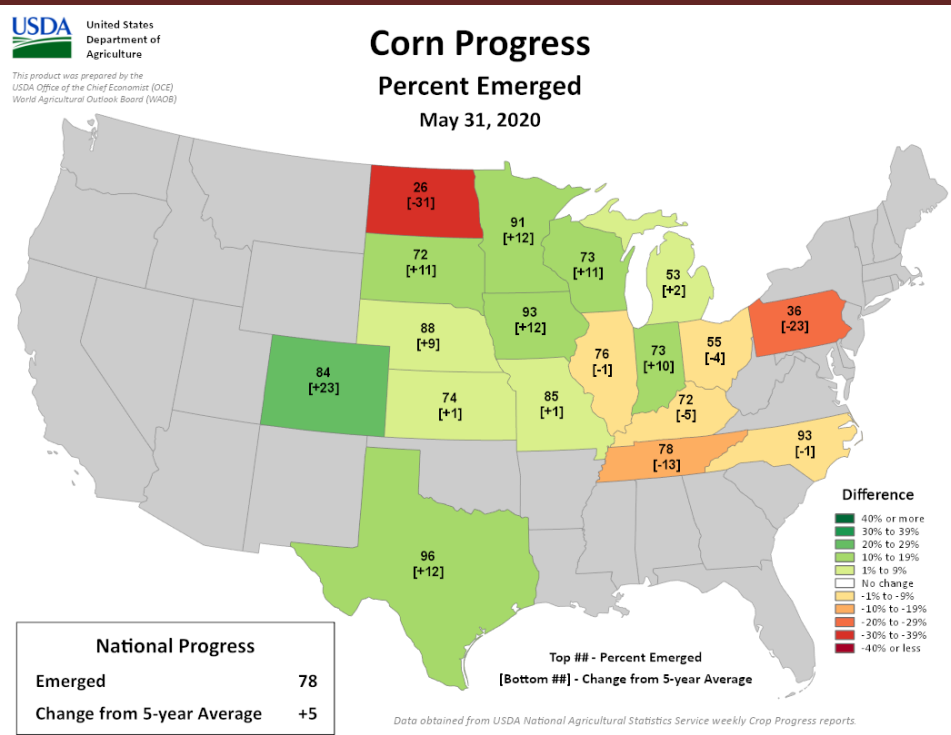
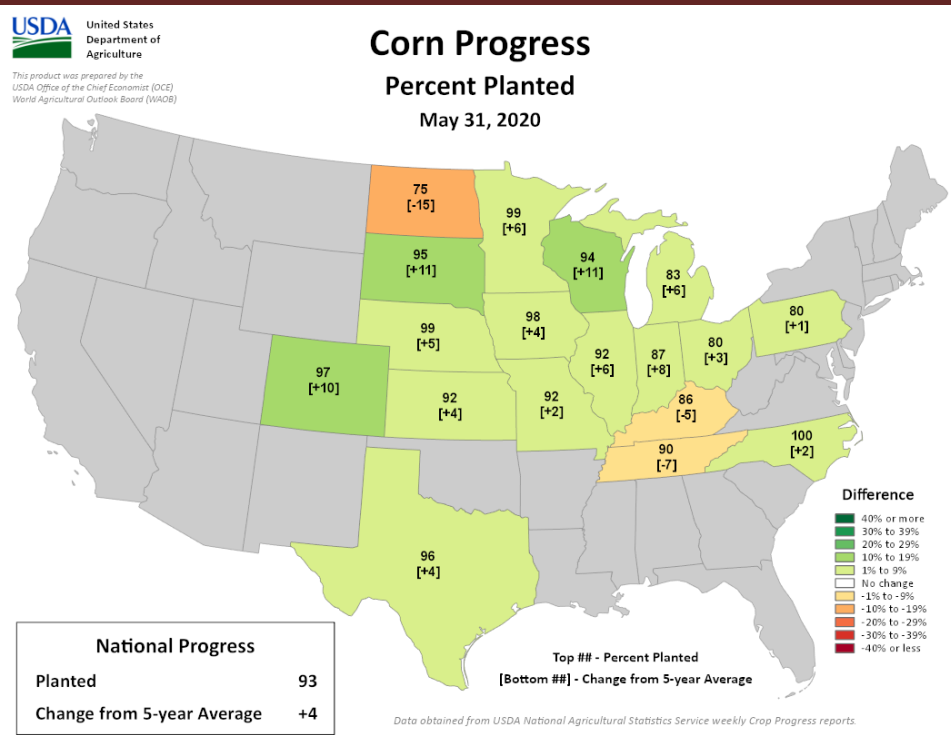
- Spring wheat progress behind 5 year avg in ND, MN



# USDA NASS - Crop Progress

## Corn

- Planting ahead of 5 year avg except ND (+4%).
- Emergence better in Upper Midwest and West, less so in East (+5%).

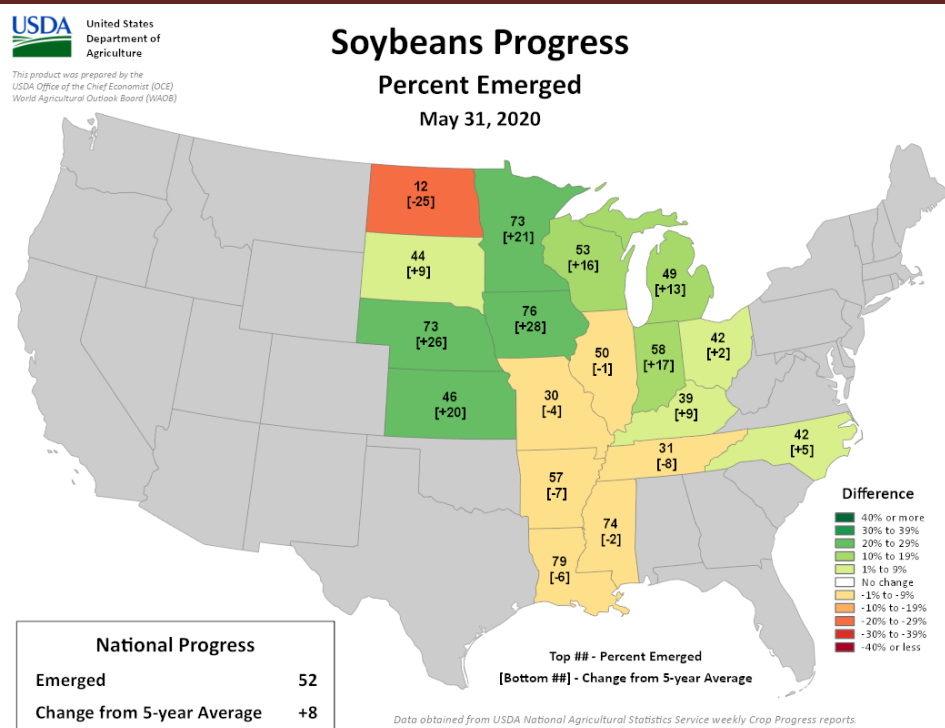
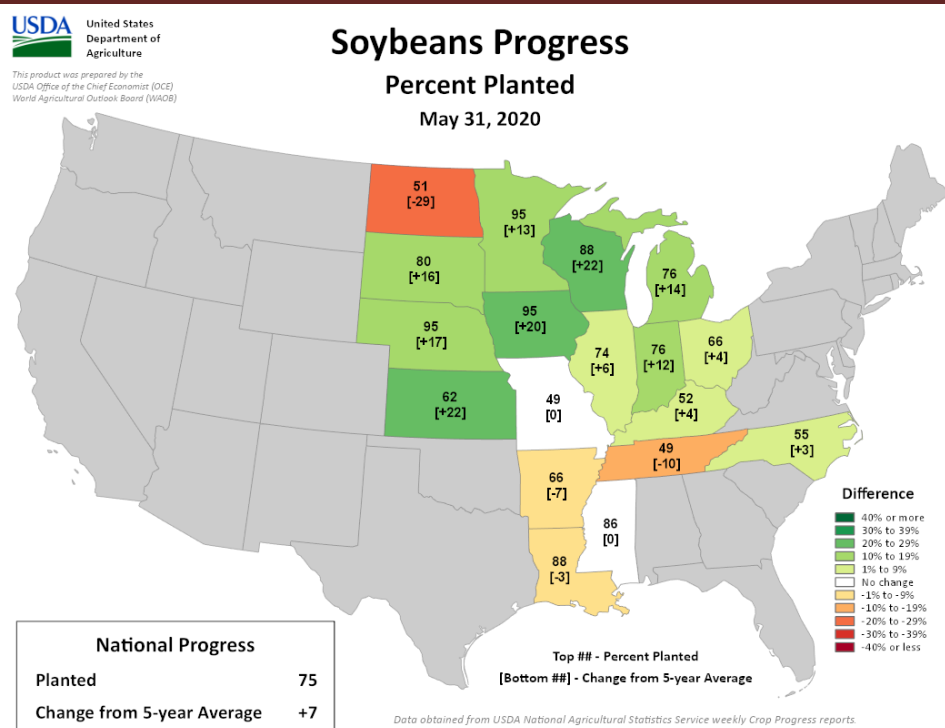




# USDA NASS Crop Progress

## Beans

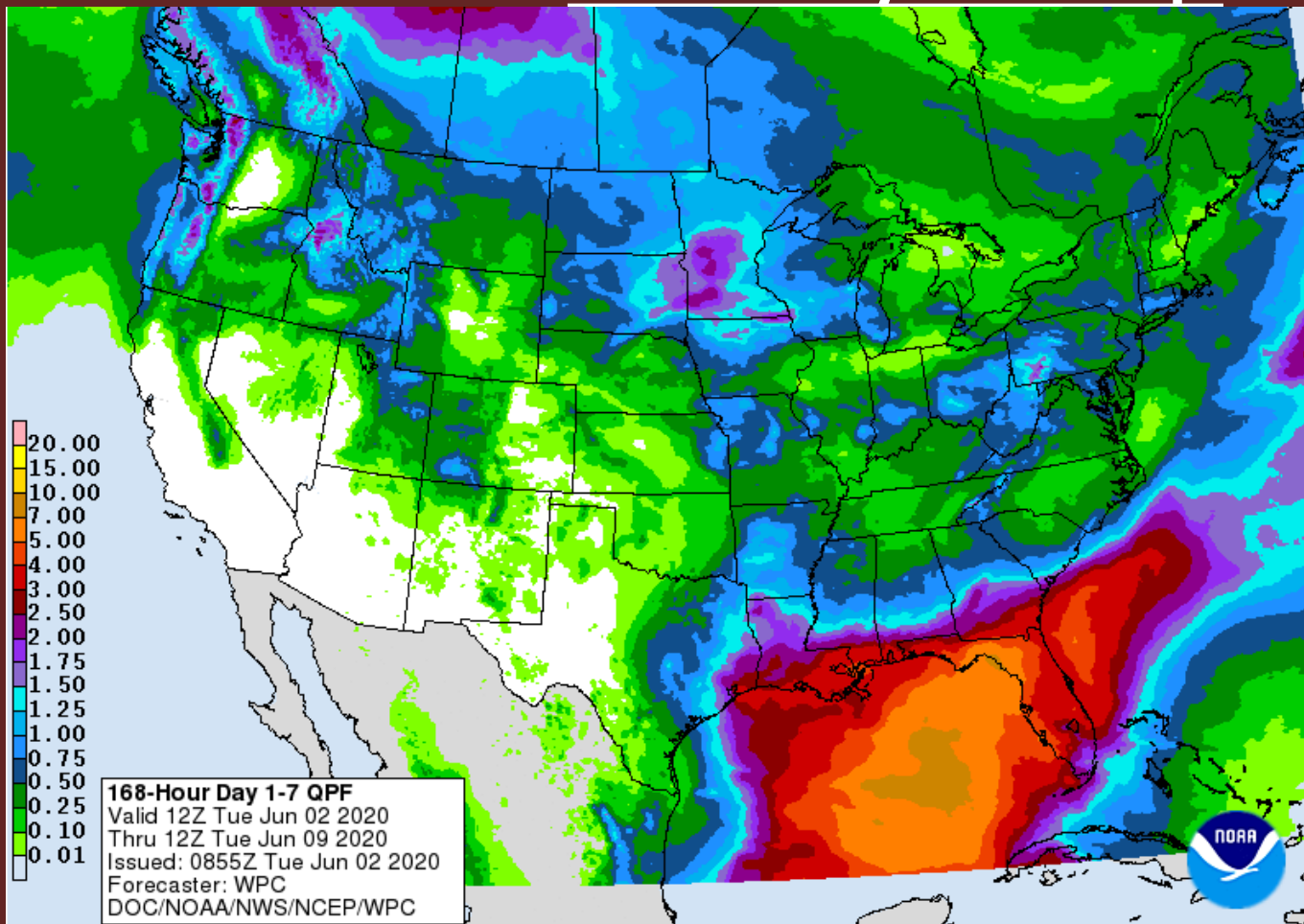
- Planting ahead of 5 year avg except ND – similar to corn (+7%).
- Emergence much better in most places, MO and IL cold & wet (+8%)



# Assorted AG Issues

- Planting moved ahead quickly except for ND and pockets other places.
- Emergence picked up except for IL and MO
- PP very likely in ND
  
- Impacts from ongoing dryness in MN, ND?
- Replant in north-central Illinois due to excess moisture
- Rain welcomed many places NE-IA-MN helping recent dryness

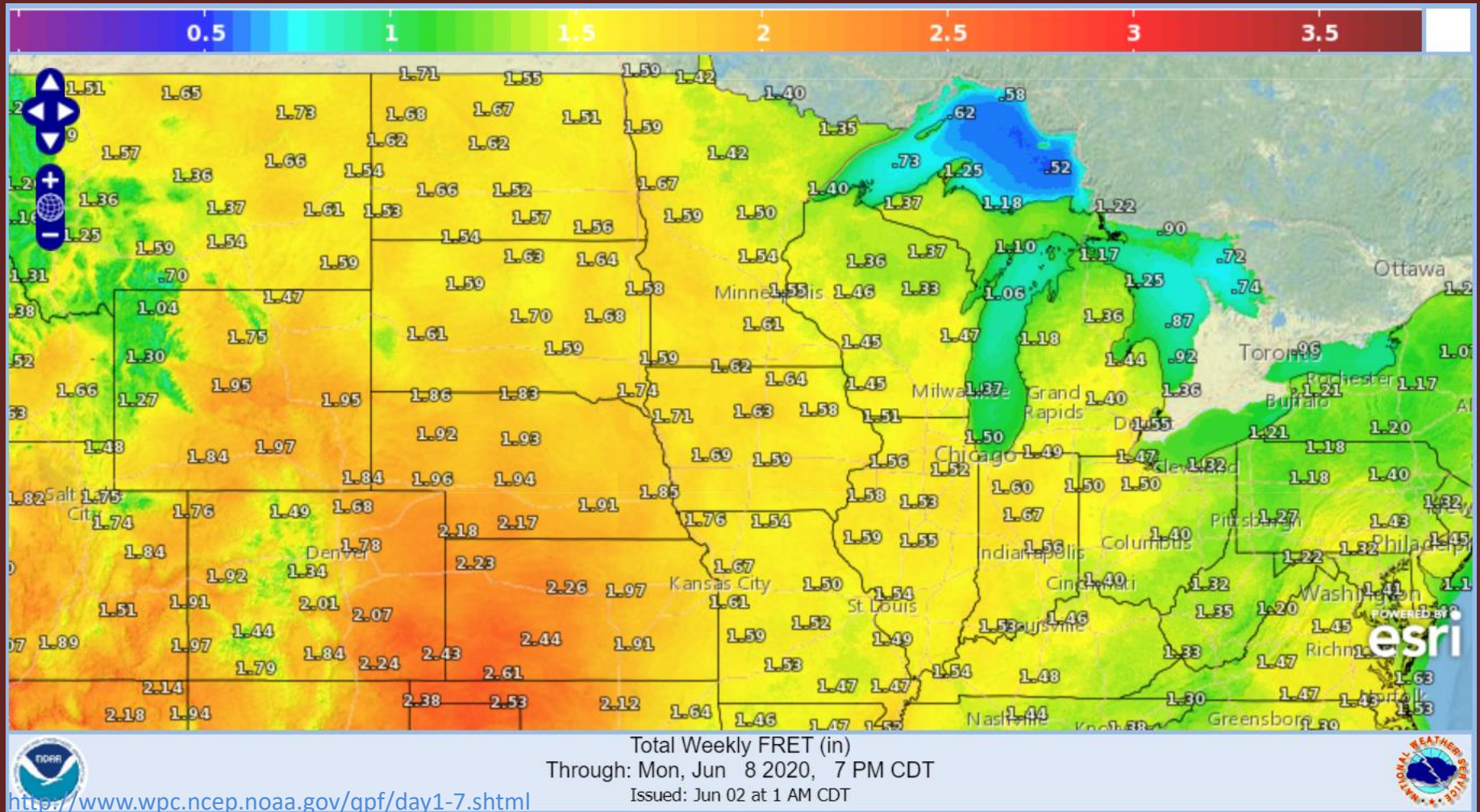
# 1-7 Day Precip



- Heavy rain, severe weather expected in northern plains, upper Midwest
- Drier next week for eastern Great Lakes

<http://www.wpc.ncep.noaa.gov/qpf/day1-7.shtml>

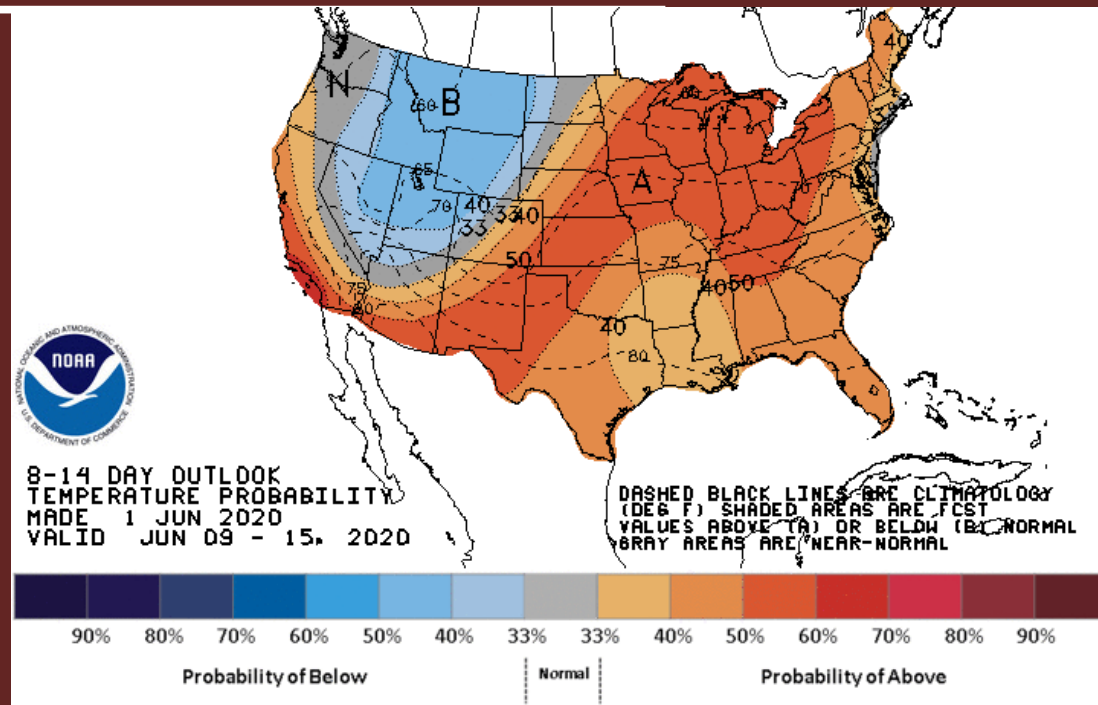
# 7-day Reference ET



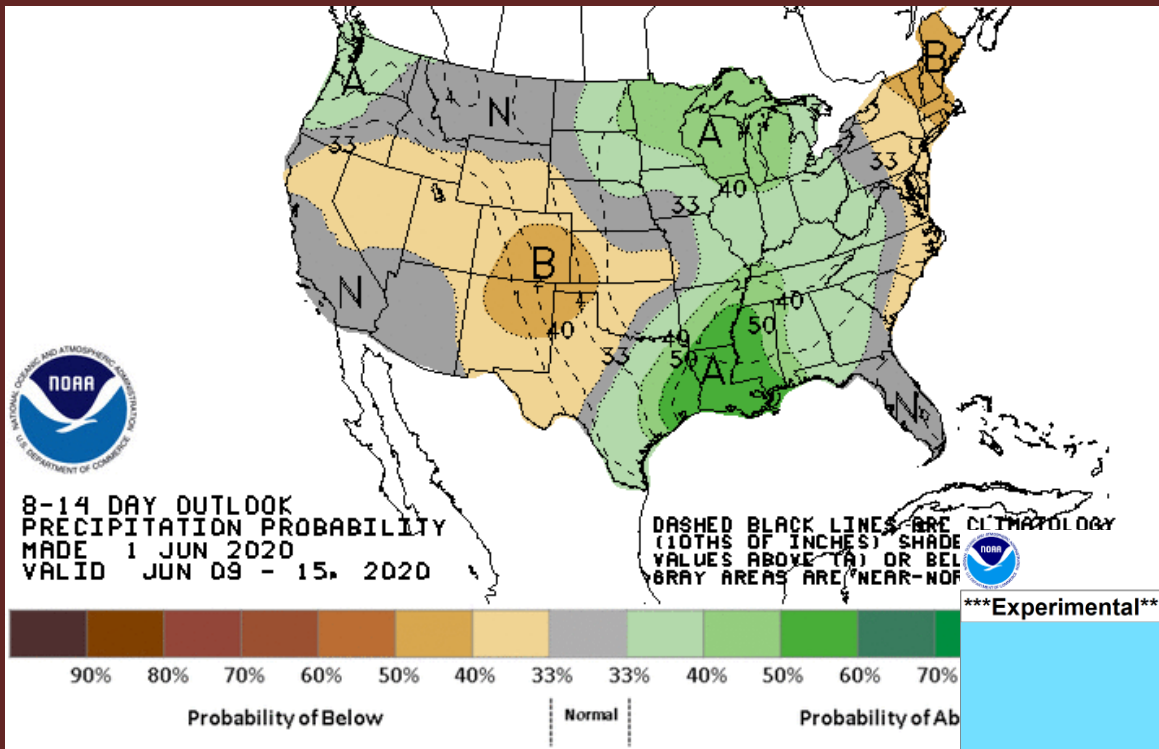
- Elevated evaporative demand driven by warmer than average conditions
- 2"+ in southwest part of the region, 1.5"+ totals throughout

# Temperature Outlook

- Warmer than avg. likely to continue throughout region into week 2.
- Higher chances in Great Lakes region
- Today's highs forecasted in mid 80s to mid 90s across region: 94 in St. Louis



# Precipitation Outlook

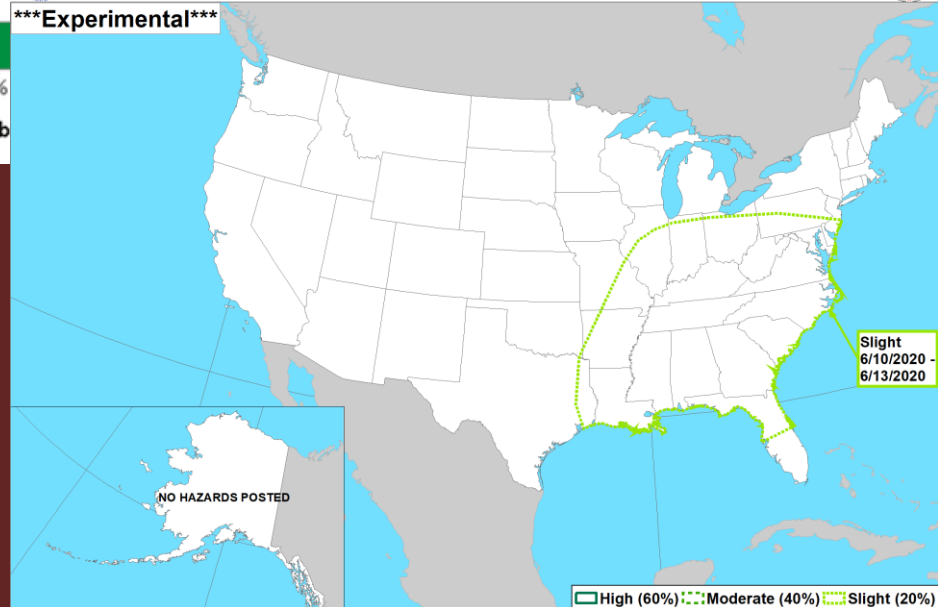


- Moderately elevated odds of wetter than normal conditions in upper Midwest, southeast
- Slightly elevated odds of drier than normal conditions in southwest

Risk of Heavy Precipitation  
Valid: 06/10/2020-06/16/2020



\*\*\*Experimental\*\*\*



Climate Prediction Center  
Made: 06/02/2020 3PM EDT

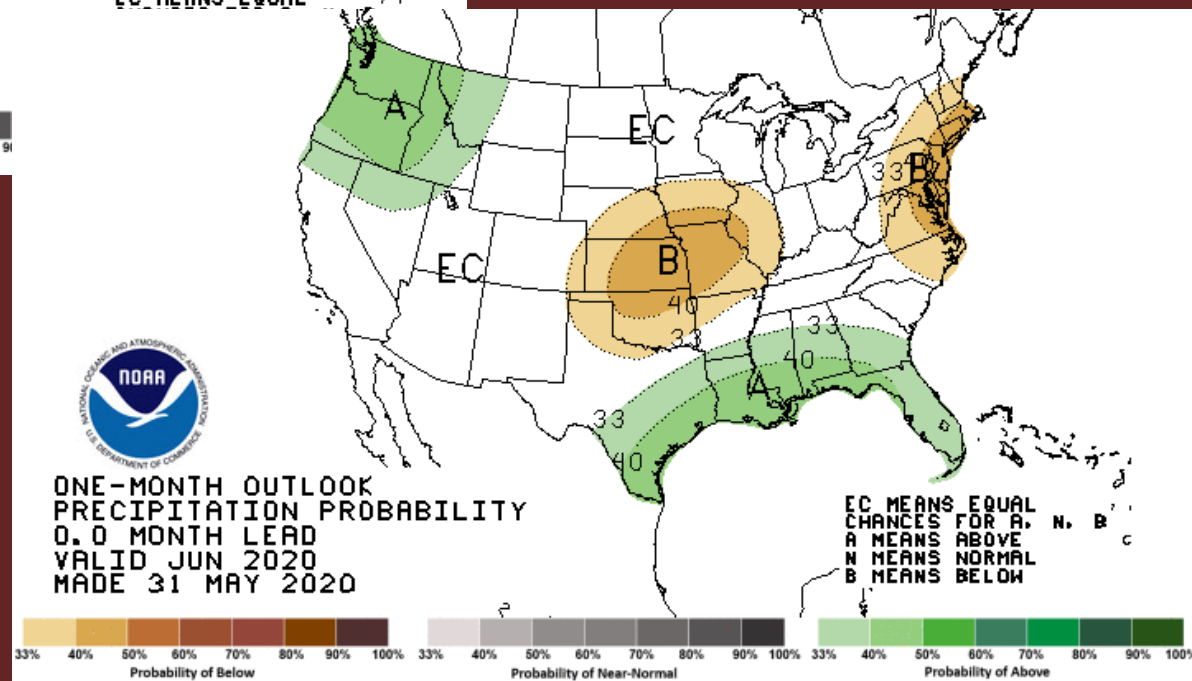
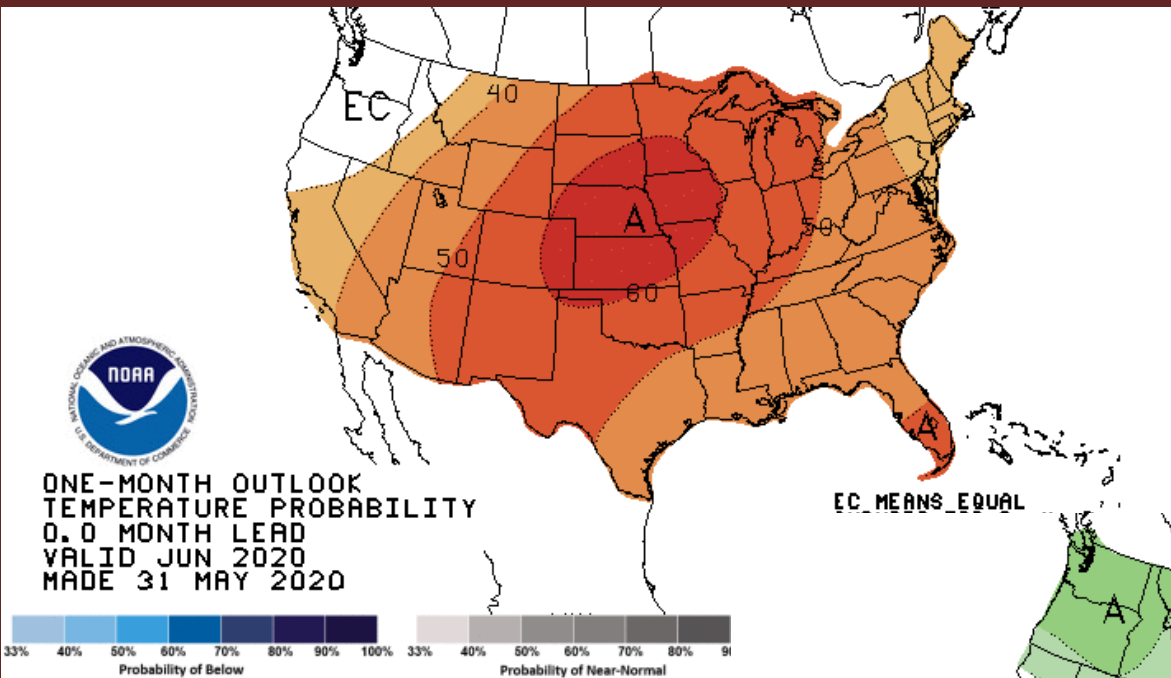
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[www.cpc.ncep.noaa.gov](http://www.cpc.ncep.noaa.gov)

- Slight risk of heavy precipitation in east due to TC Christobol

# 1-Month Outlook

- Strongly elevated odds of above normal temperatures across the region



- Elevated odds of below normal precipitation from Kansas to Illinois
- Equal chance everywhere else

# Drought in the Midwest

## U.S. Drought Monitor NWS Central Region

**May 26, 2020**  
(Released Thursday, May 28, 2020)  
Valid 8 a.m. EDT

Drought Conditions (Percent Area)

|   | None  | D0-D4 | D1-D4 | D2-D4 | D3-D4 | D4   |
|---|-------|-------|-------|-------|-------|------|
| <b>Current</b>                              | 72.72 | 27.28 | 9.36  | 4.77  | 1.76  | 0.00 |
| <b>Last Week</b><br>05-19-2020              | 71.33 | 28.67 | 9.15  | 5.00  | 1.76  | 0.00 |
| <b>3 Months Ago</b><br>02-25-2020           | 91.54 | 8.46  | 4.29  | 0.44  | 0.00  | 0.00 |
| <b>Start of Calendar Year</b><br>12-31-2019 | 87.81 | 12.19 | 5.33  | 2.11  | 0.00  | 0.00 |
| <b>Start of Water Year</b><br>10-01-2019    | 79.05 | 20.95 | 8.02  | 2.19  | 0.14  | 0.00 |
| <b>One Year Ago</b><br>05-28-2019           | 95.34 | 4.66  | 0.22  | 0.00  | 0.00  | 0.00 |

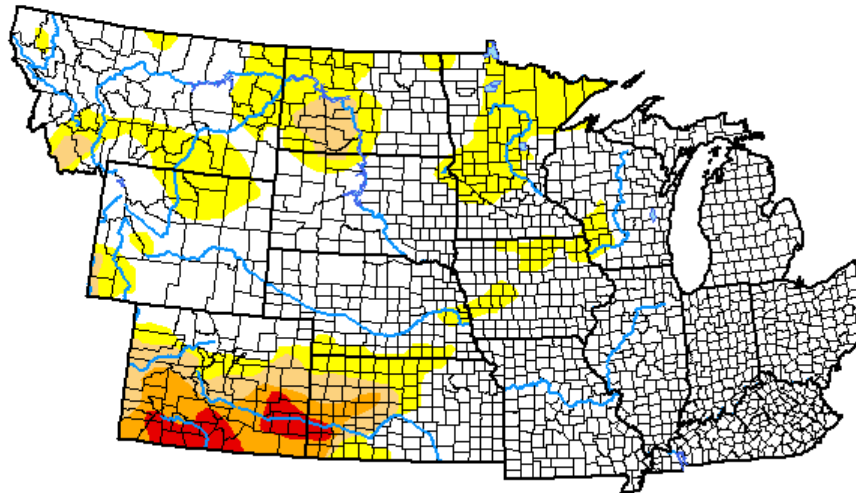
### Intensity:

|   |  |
|---|--|
|  None                |  D2 Severe Drought      |
|  D0 Abnormally Dry   |  D3 Extreme Drought     |
|  D1 Moderate 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:

Curtis Riganti  
National Drought Mitigation Center



- Drought expansion occurred in North Dakota and Minnesota
- Persistence in western Kansas
- Otherwise areas, especially east, remain drought free



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

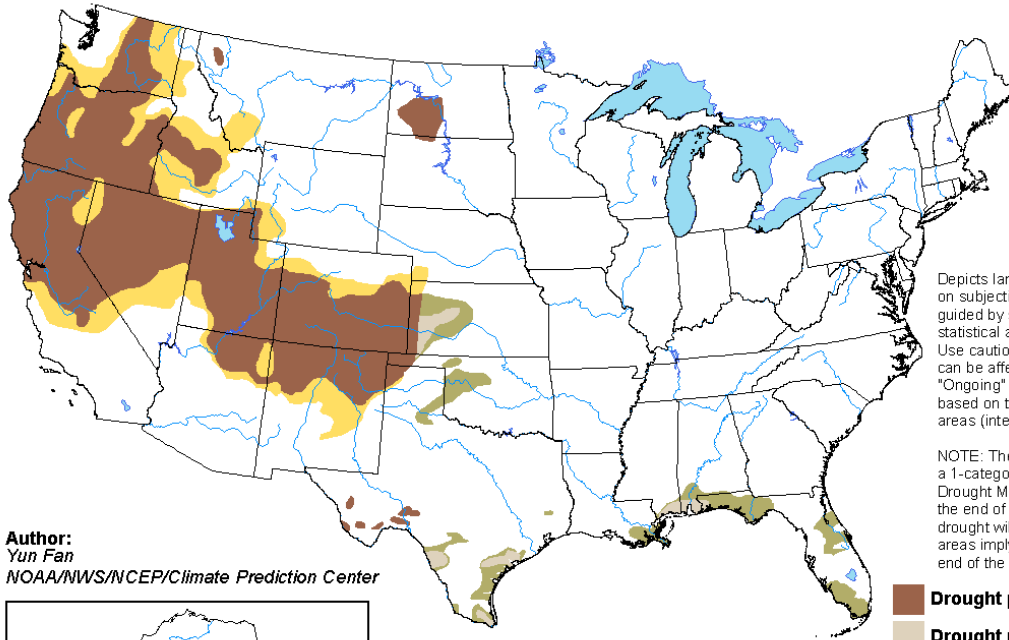
<http://droughtmonitor.unl.edu/>



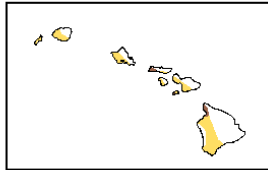
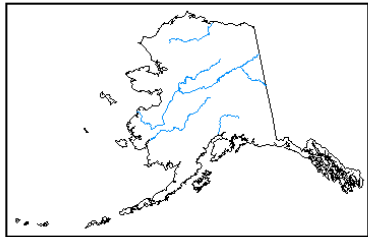
# Drought in the Midwest

## **U.S. Seasonal Drought Outlook** Drought Tendency During the Valid Period

Valid for May 21 - August 31, 2020  
Released May 21



Author:  
Yun Fan  
NOAA/NWS/NCEP/Climate Prediction Center



Depicts large-scale trends based on subjectively derived probabilities guided by short- and long-range statistical and dynamical forecasts. Use caution for applications that can be affected by short lived events. "Ongoing" drought areas are based on the U.S. Drought Monitor areas (intensities of D1 to D4).

NOTE: The tan areas imply at least a 1-category improvement in the Drought Monitor intensity levels by the end of the period, although drought will remain. The green areas imply drought removal by the end of the period (D0 or none).

- Drought persists**
- Drought remains but improves**
- Drought removal likely**
- Drought development likely**



<http://go.usa.gov/3eZ73>

- Summer outlook suggests drought persists in North Dakota, improves in western Kansas
- No drought development in the region

# Summary

- Generally good news – rains helped some dryness, dryness helped some wet spots
- Some issues in IL – re-plant.
- Dryness persists in northern areas
- May was colder than average for most of the region, not a lot of GDD accumulated
- Warmth will help some drying and quicken growth this week into next, but also could exacerbate dryness in some spots
- Precipitation late this week could help alleviate dryness in northern Plains and Upper Midwest

# Next MAC-T Monthly Call

Next Call  
**June 3rd, 2020**