

MAC-T Monthly Call

Midwest Agriculture and Climate Team

Sept 4, 2019

For more information:

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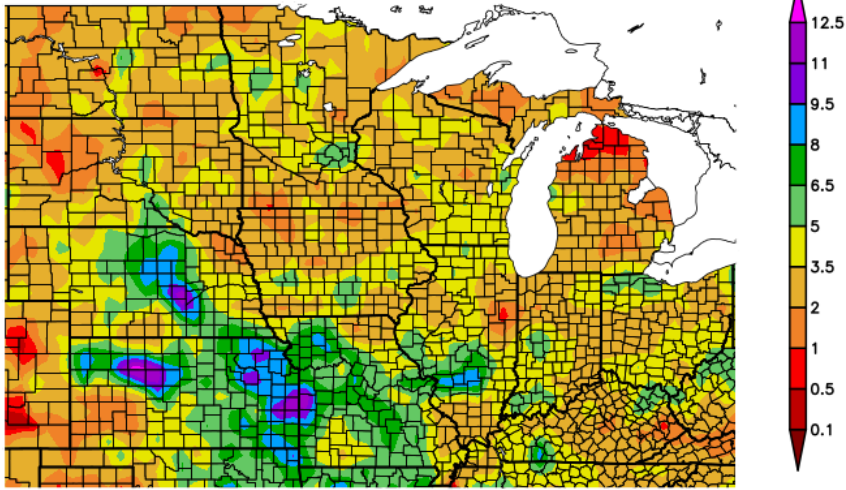
Charlene.Felkley@ars.usda.gov



Midwest Climate Hub

U.S. DEPARTMENT OF AGRICULTURE

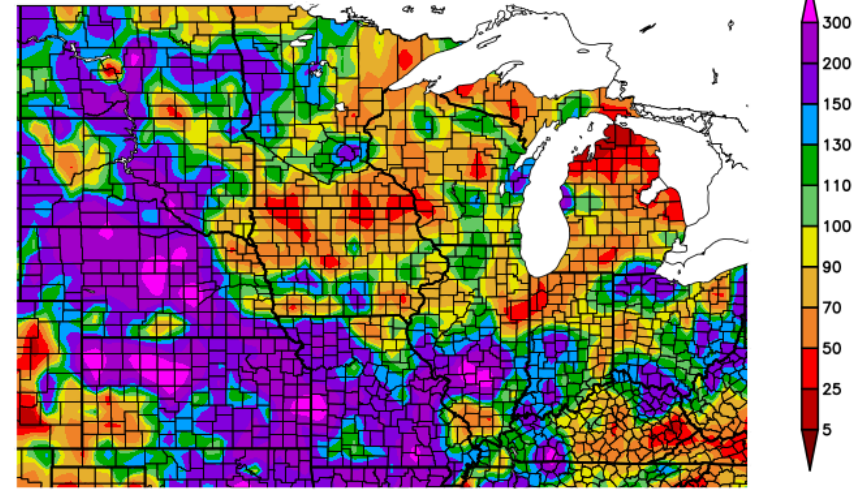
Precipitation (in)
8/4/2019 - 9/2/2019



Generated 9/3/2019 at HPRCC using provisional data.

NOAA Regional Climate Centers

Percent of Normal Precipitation (%)
8/4/2019 - 9/2/2019

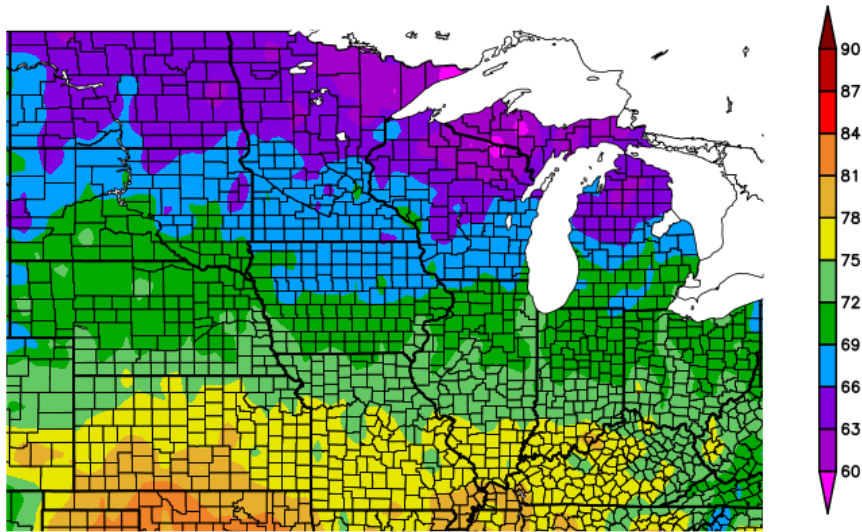


Generated 9/3/2019 at HPRCC using provisional data.

NOAA Regional Climate Centers

- Rainfall have continued to be above average in much of the plains
- Near record amounts have continued
- Dryness has followed early season wetness from Iowa to Michigan

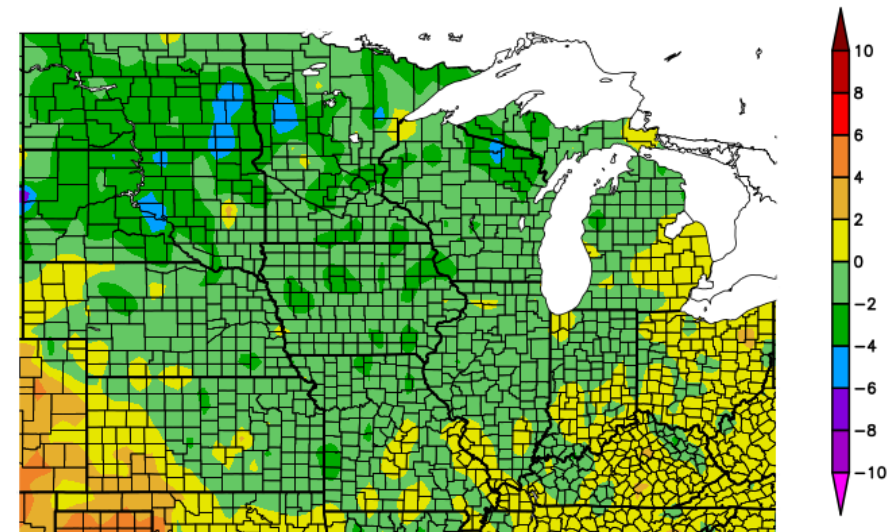
Temperature (F)
8/4/2019 – 9/2/2019



Generated 9/3/2019 at HPRCC using provisional data.

NOAA Regional Climate Centers

Departure from Normal Temperature (F)
8/4/2019 – 9/2/2019



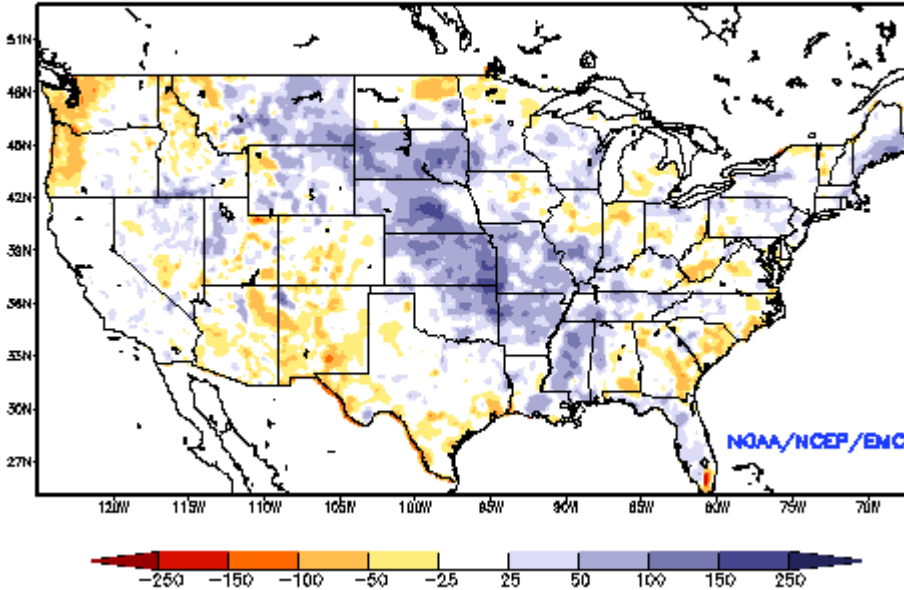
Generated 9/3/2019 at HPRCC using provisional data.

NOAA Regional Climate Centers

- Near to slightly below average temperatures have dominated much of August.
- Heat accumulation for crops has not been able to catch up from early season delays.

Soil Moisture

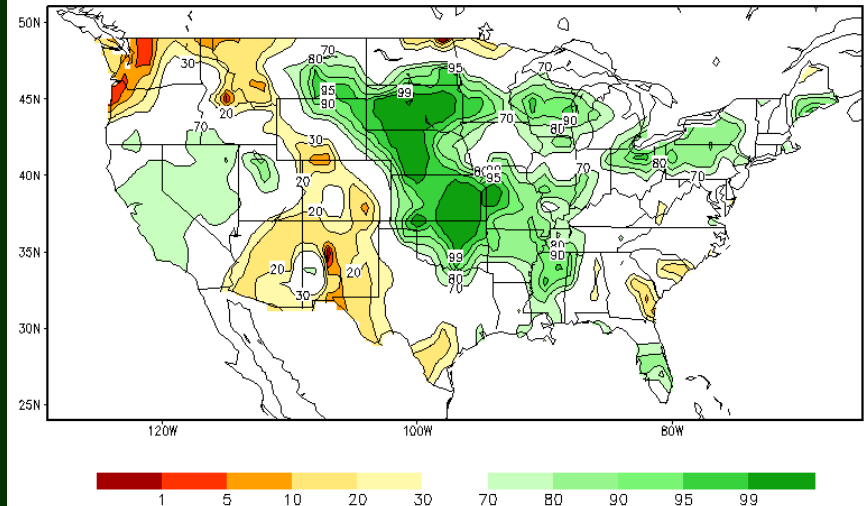
Ensemble-Mean - Current Total Column Soil Moisture Anomaly (mm)
NCEP NLDAS Products Valid: AUG 30, 2019



<http://www.emc.ncep.noaa.gov/mmb/nldas/drought/>

- Soils drying out from Iowa to Michigan and Ohio.
- Still historically wet in the plains (except for ND).

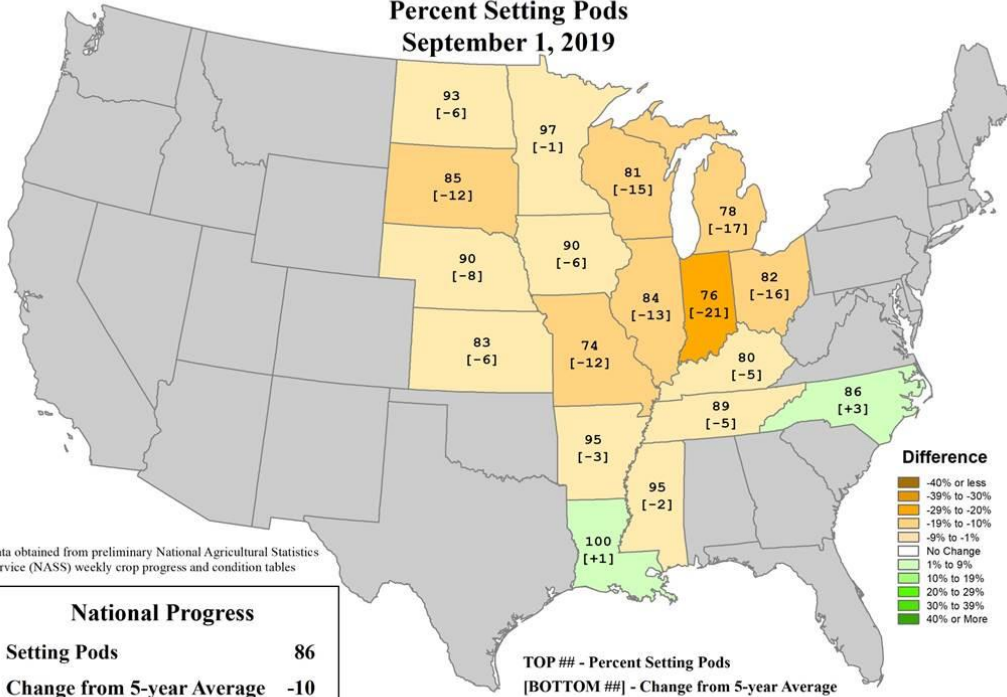
Calculated Soil Moisture Ranking Percentile
SEP 02, 2019



http://www.cpc.ncep.noaa.gov/products/Soilmst_Monitoring/US/Soilmst/Soilmst.shtml#

U.S. Soybeans Progress

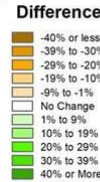
Percent Setting Pods
September 1, 2019



Data obtained from preliminary National Agricultural Statistics Service (NASS) weekly crop progress and condition tables

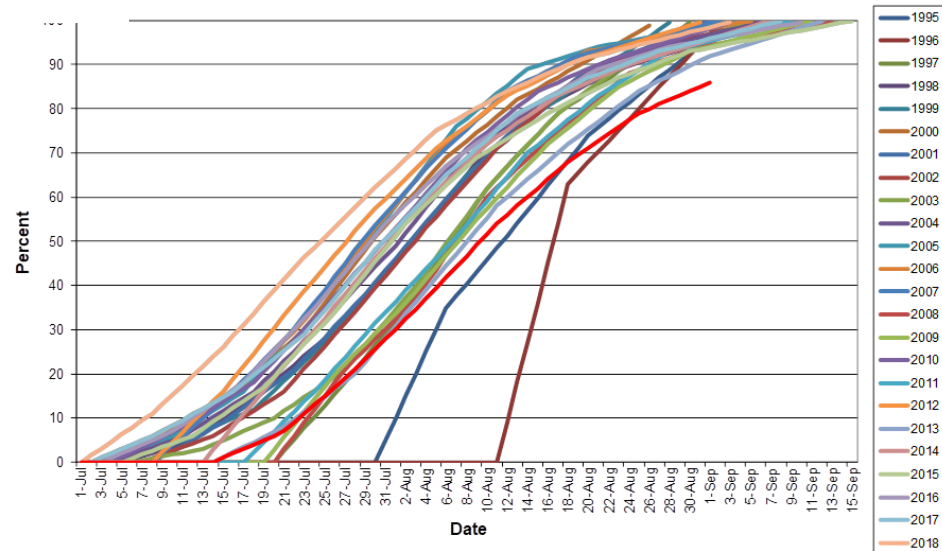
National Progress	
Setting Pods	86
Change from 5-year Average	-10

TOP ## - Percent Setting Pods
[BOTTOM ##] - Change from 5-year Average



USDA NASS Crop Progress (through September 1)

U.S. SOYBEANS: Percent Setting pods



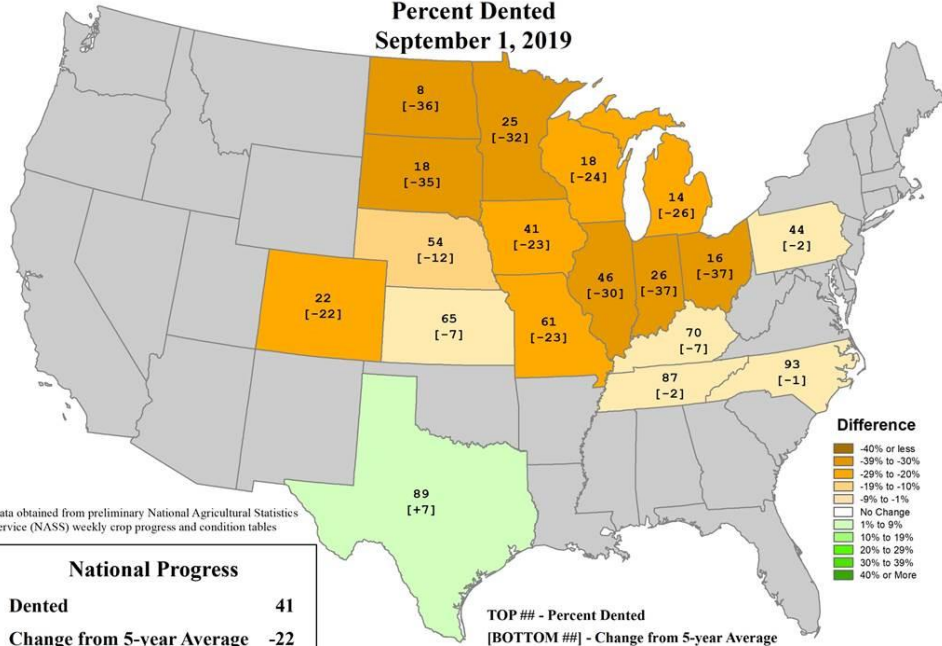
Based on NASS crop progress data

Soybean progress
(setting pods)
nationally through Sept.
1 (pods 86% -10%).
Iowa (pods 90% -6%).

Lowest pod set on
record as of Sept. 1

U.S. Corn Progress

Percent Dented
September 1, 2019



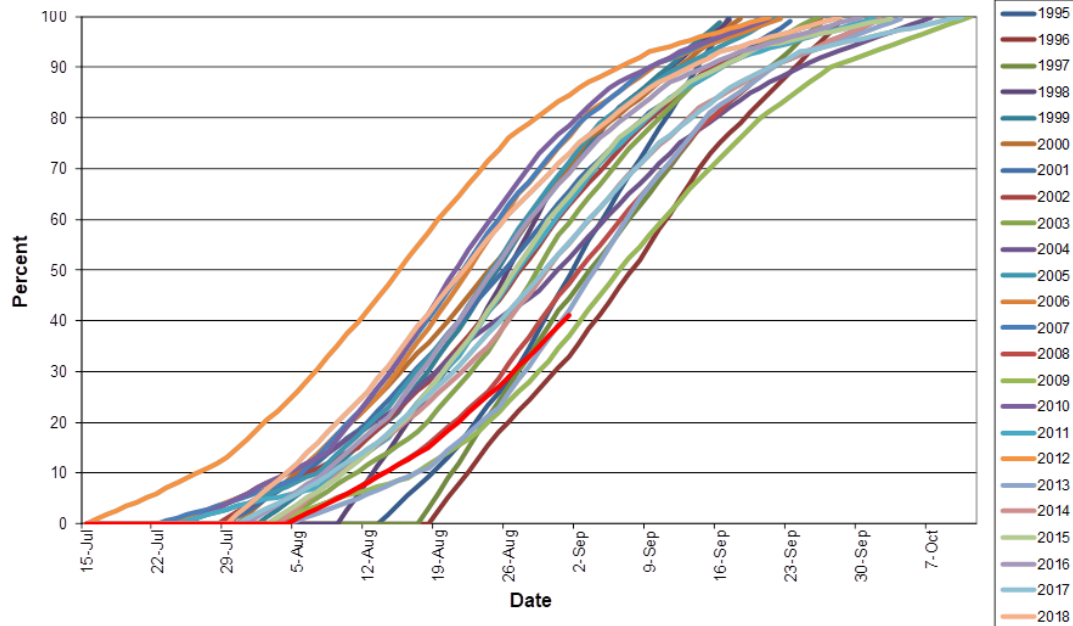
Data obtained from preliminary National Agricultural Statistics Service (NASS) weekly crop progress and condition tables

National Progress	
Dented	41
Change from 5-year Average	-22

TOP ## - Percent Dented
[BOTTOM ##] - Change from 5-year Average

USDA NASS Crop Progress (through Sept. 1)

U.S. CORN: Percent Dented



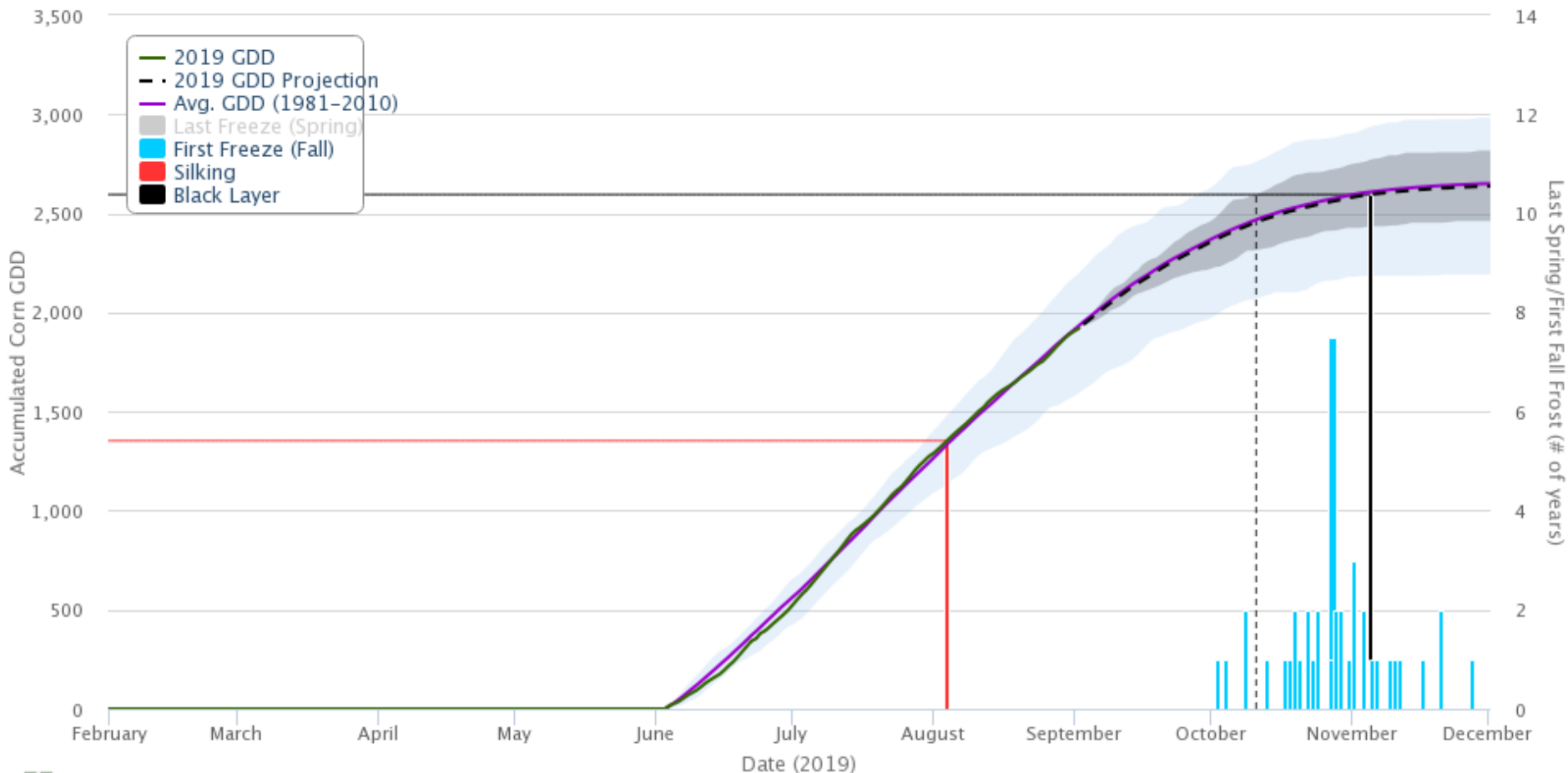
Corn progress (dented) nationally through Sept. 1 (41% -22%). Iowa (41% -23%).

3rd least dented on record as of Sept. 1

GDD Progress

Corn Growing Degree Day Tool

Location: 41.47, -88.99 in La Salle Co., IL, Start Date: June 3, Maturity Days: 108, Freeze Temp: 28°F, Variation: All Years



GDD Base 50/86 (degrees F); Created: 09/03/2019

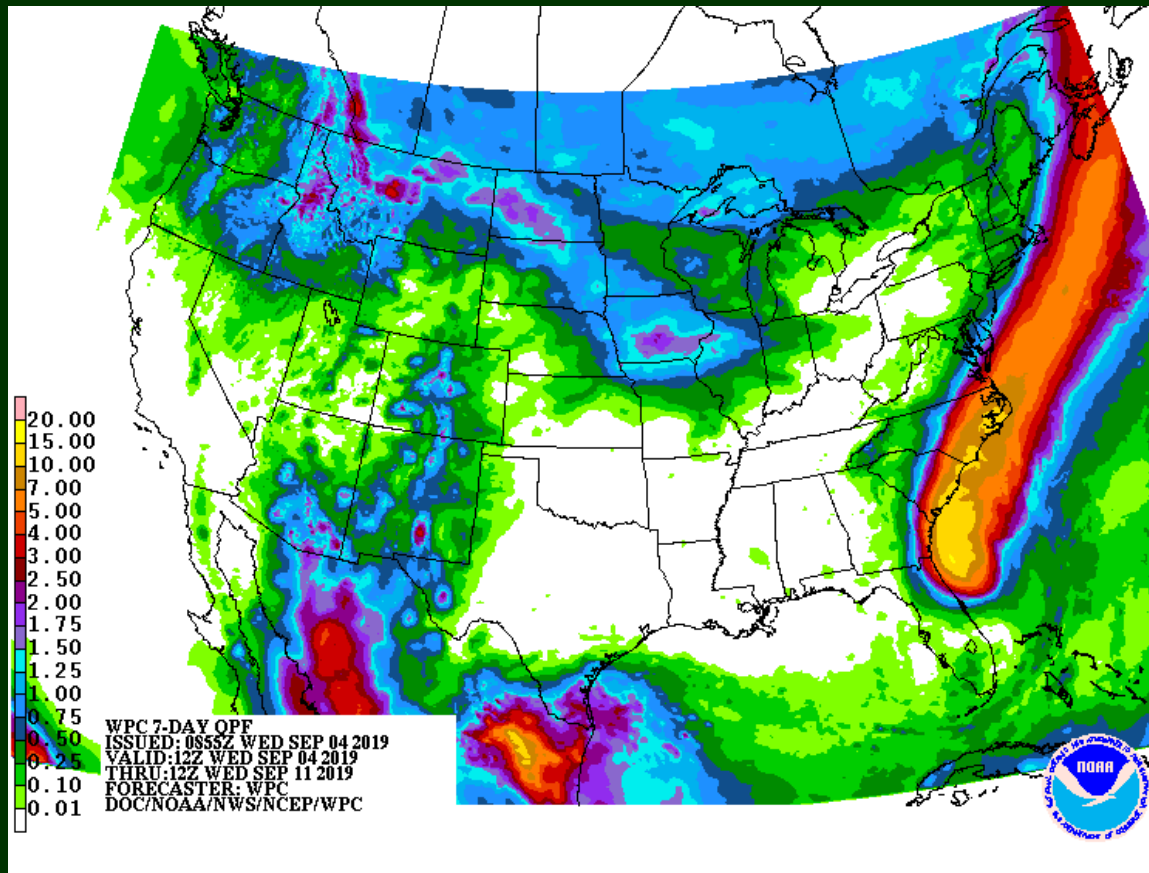
- Multiple combinations - use the tool locally
- Near average GDD accumulation much of summer
- Late planting the issue

<https://mrcc.illinois.edu/U2U/gdd/>

Assorted AG Issues

- Dryness reaching levels of stress leading to D1 – Moderate drought conditions and likely some yield loss
- Wetness still impacting plains and slowing some harvest – could carry into corn/bean harvest
- Delayed development reaching critical stage – unable to catch up more in development. Need to carry well into fall before freeze for max yield potential.
- Some corn will not make it. Others poorer quality.
- Wet/poor test weight corn seems likely.
- Beans likely OK

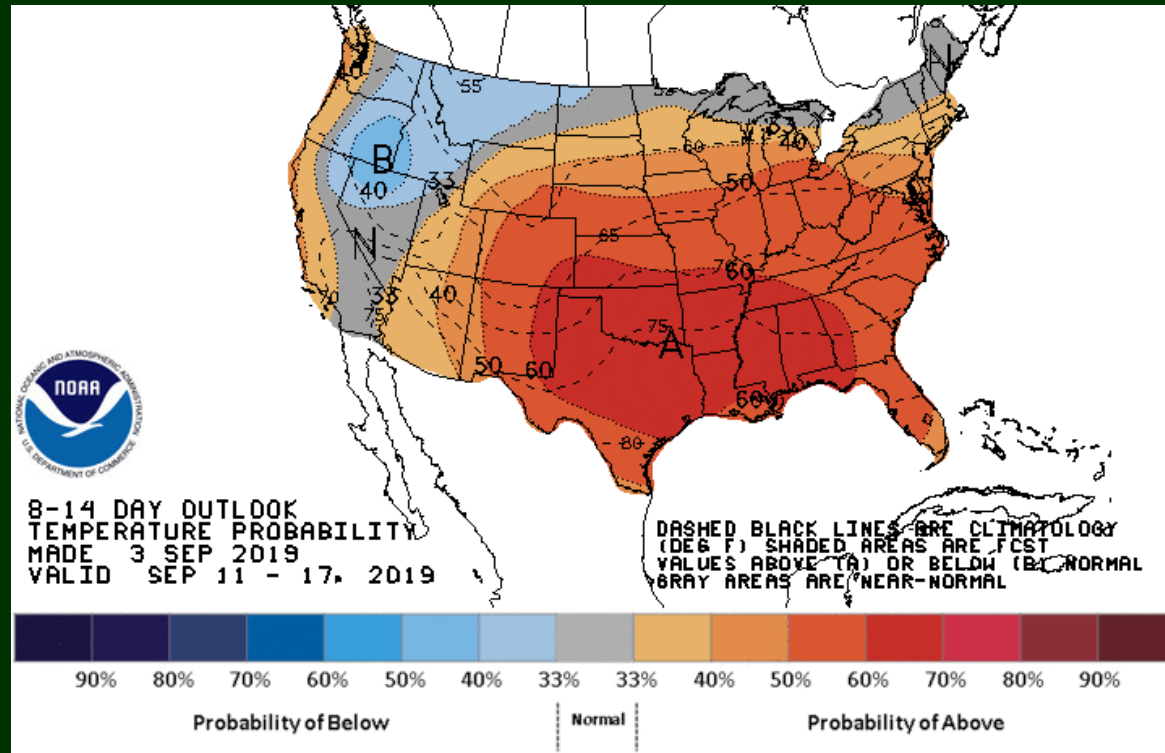
1-7 Day Precip



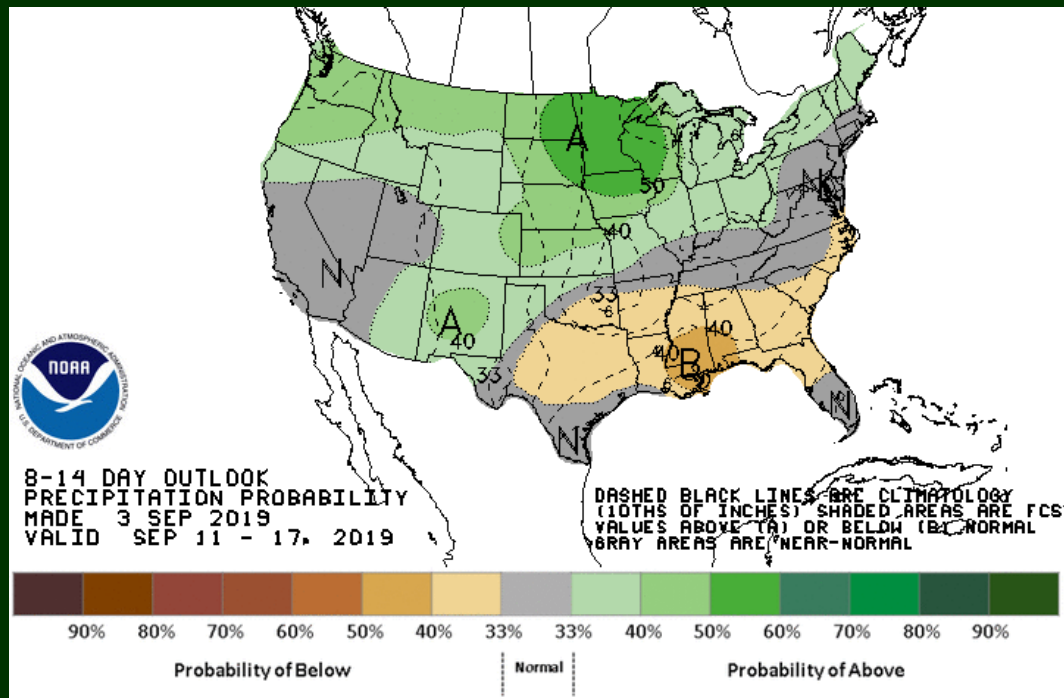
- Limited help for eastern corn belt dryness.
- More rain possible in Dakotas/Iowa

Temperature Outlook

- Good chances for above average temperatures into mid-Sept.
- Good news for delayed crops



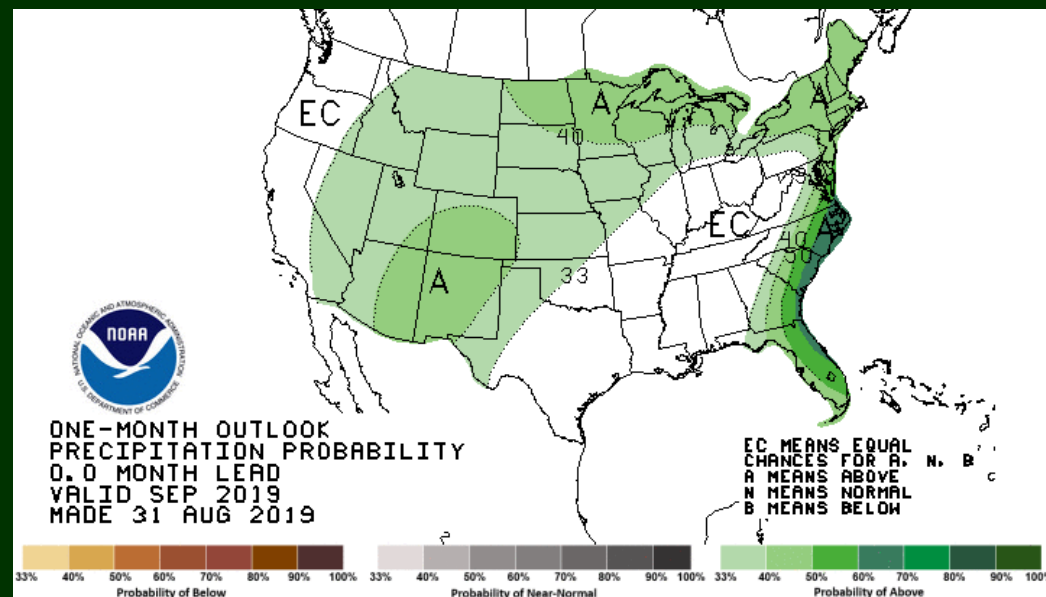
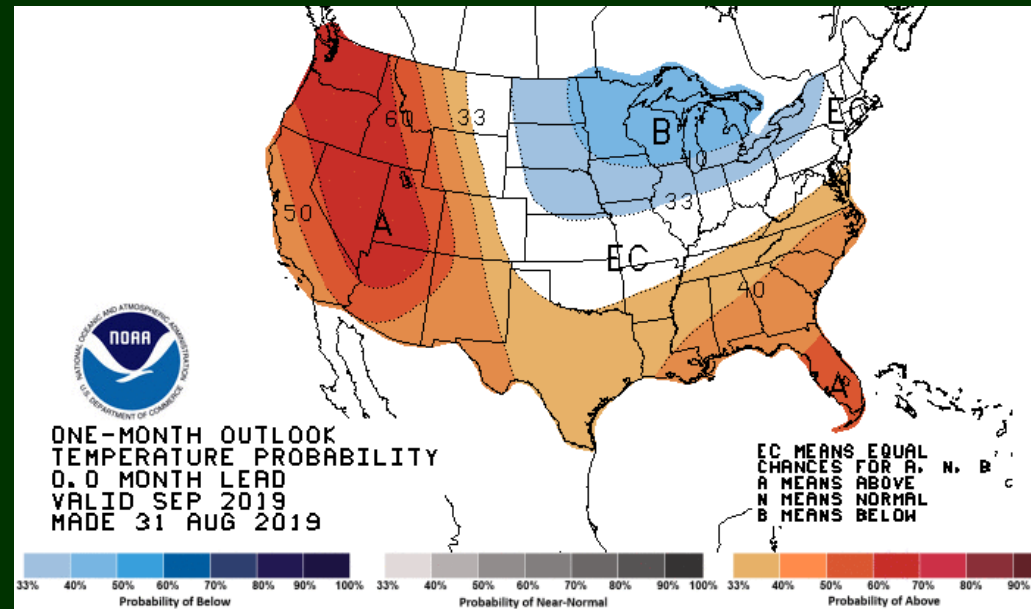
Precipitation Outlook



- Increased chances for wetter than average conditions in the northern states.
- Would help soil moisture recovery in some places
- Will add to wetness and harvest issues in the wet areas.

1-Month Outlook

- Slightly increased chance for precip over northern and western areas.
- Would be some help for final crop. Not as welcome in the plains due to wetness.
- Mostly increased chance of cooler over the region.
- Seems a little at odds with other CPC outlooks – will need to discuss more.



Drought in the Midwest

U.S. Drought Monitor North Central

August 27, 2019
(Released Thursday, Aug. 29, 2019)
Valid 8 a.m. EDT

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

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	81.33	18.67	2.55	0.06	0.00	0.00
Last Week 08-20-2019	80.01	19.99	1.98	0.06	0.00	0.00
3 Months Ago 05-28-2019	96.99	3.01	0.00	0.00	0.00	0.00
Start of Calendar Year 01-01-2019	95.93	4.07	1.43	0.00	0.00	0.00
Start of Water Year 09-25-2018	73.15	26.85	12.92	4.07	0.97	0.05
One Year Ago 08-28-2018	58.74	41.26	16.70	6.61	1.99	0.44

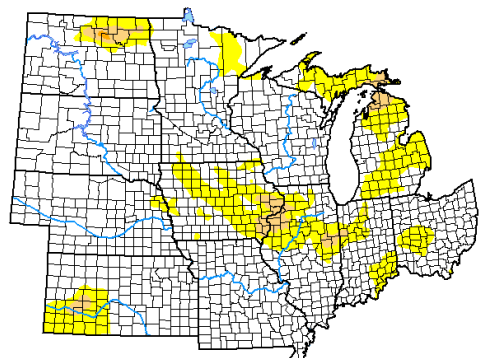
Intensity

- 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. See accompanying text summary for forecast statements.

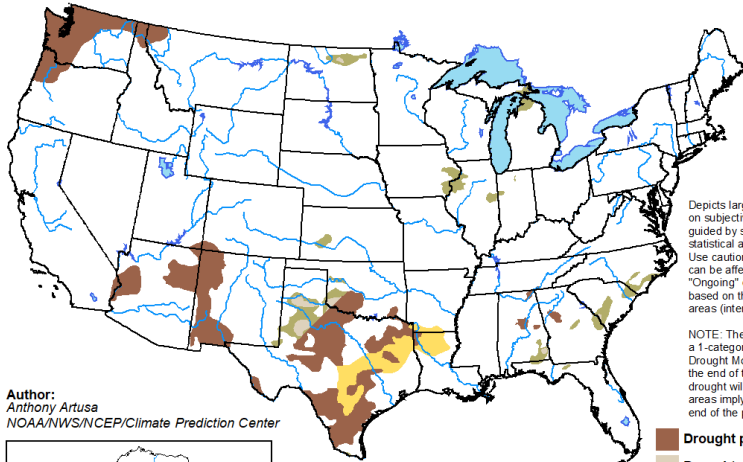
Author

Jessica Blunden
NCEI/NOAA



U.S. Monthly Drought Outlook Drought Tendency During the Valid Period

Valid for September 2019
Released August 31, 2019



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).

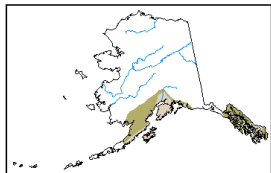
NOTE: The tan areas imply at least a 1-category improvement in the Drought Monitor intensity levels by the end of the period, although drought will remain. The green areas imply drought removal by the end of the period (D0 or none).

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



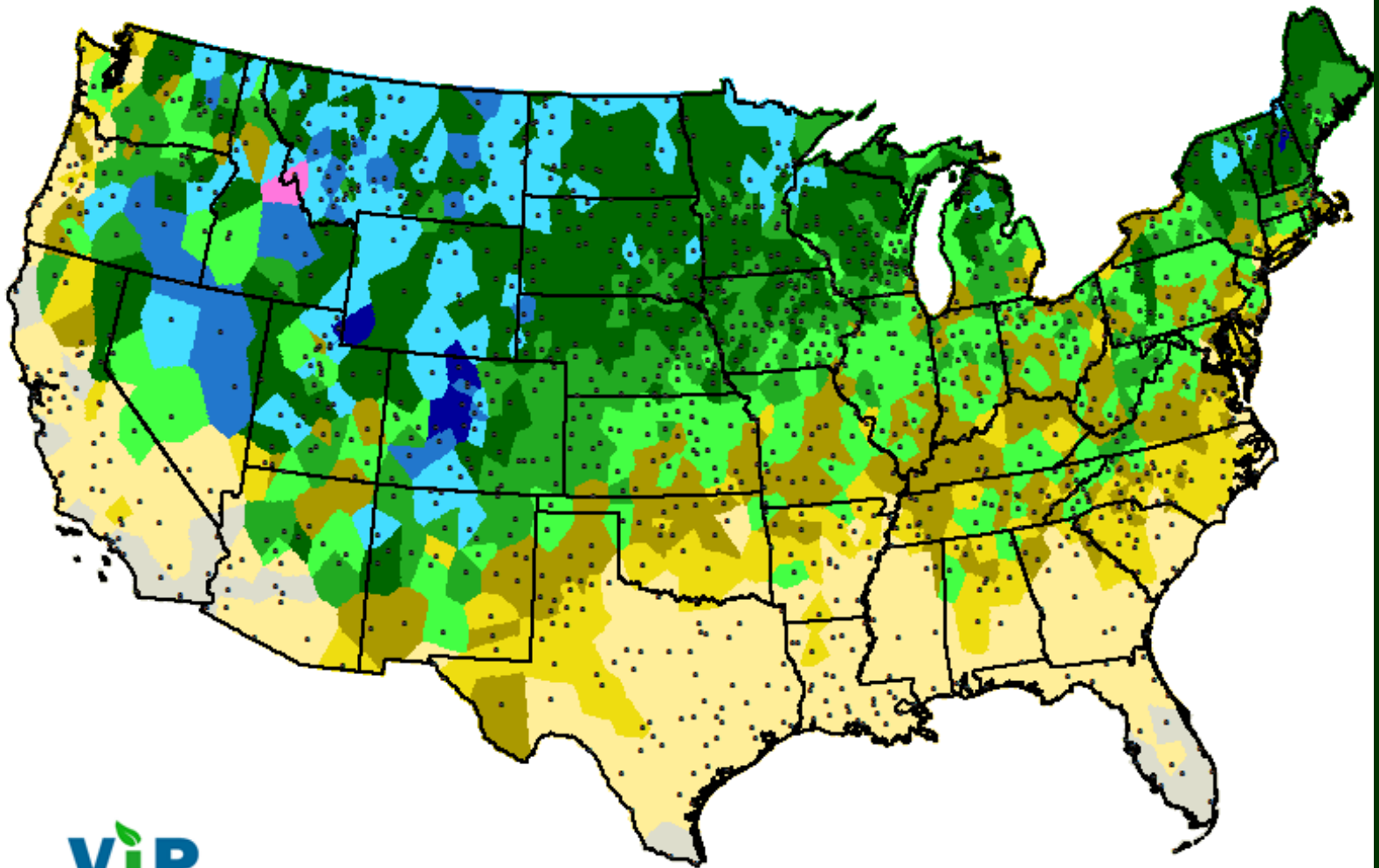
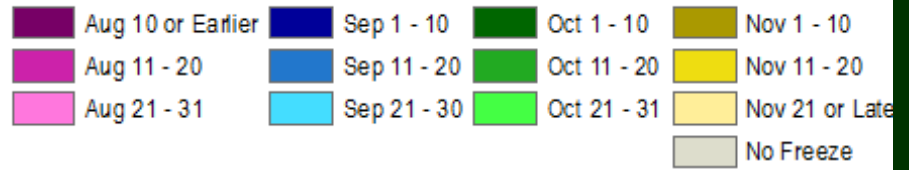
<http://go.usa.gov/3eZGd>

Author:
Anthony Artusa
NOAA/NWS/NCEP/Climate Prediction Center



Moderate drought (D1) was introduced across northern Michigan and the eastern Upper Peninsula this week. Abnormal dryness also spread from the south northeastward to the Saginaw Bay. There are reports of impacts to forage yields and concerns about annual crop production, in addition to general drying out of some soils. Abnormal dryness (D0) also expanded slightly in northern Minnesota and spread from Iowa into southern Minnesota. Part of central Iowa already experiencing dryness also saw D0 expansion, while the southeast saw an expansion of D1. Across Indiana, rainfall over the past week diminished in intensity and coverage as fronts moved from northwest to southeast. Areas of D0 decreased in the north, west central and south central portions of the state. All three D1 areas also shrank across the state as the beneficial rains fell. Missouri received around 2 inches of rain over the past week or two across most of the areas designated as abnormally dry, which is well over twice (or more) the normal amount. With no impacts reported, the entire state has now returned to normal conditions. In Kentucky, rain was widespread, steady, and long, just the kind of rain to soak into the soil and improve drought conditions. The area of D1 in central Kentucky that was introduced last week disappeared this week, and the area of D0 shrank significantly. With respect to agriculture, the rain, combined with cooler temperatures, will help eliminate agricultural impacts and should help double crop soybeans.

Climatological Date of Median **First 28°F Freeze**
For years 1980-81 to 2009-10
Freeze year beginning July 1st
Median defined as the 50th Percentile

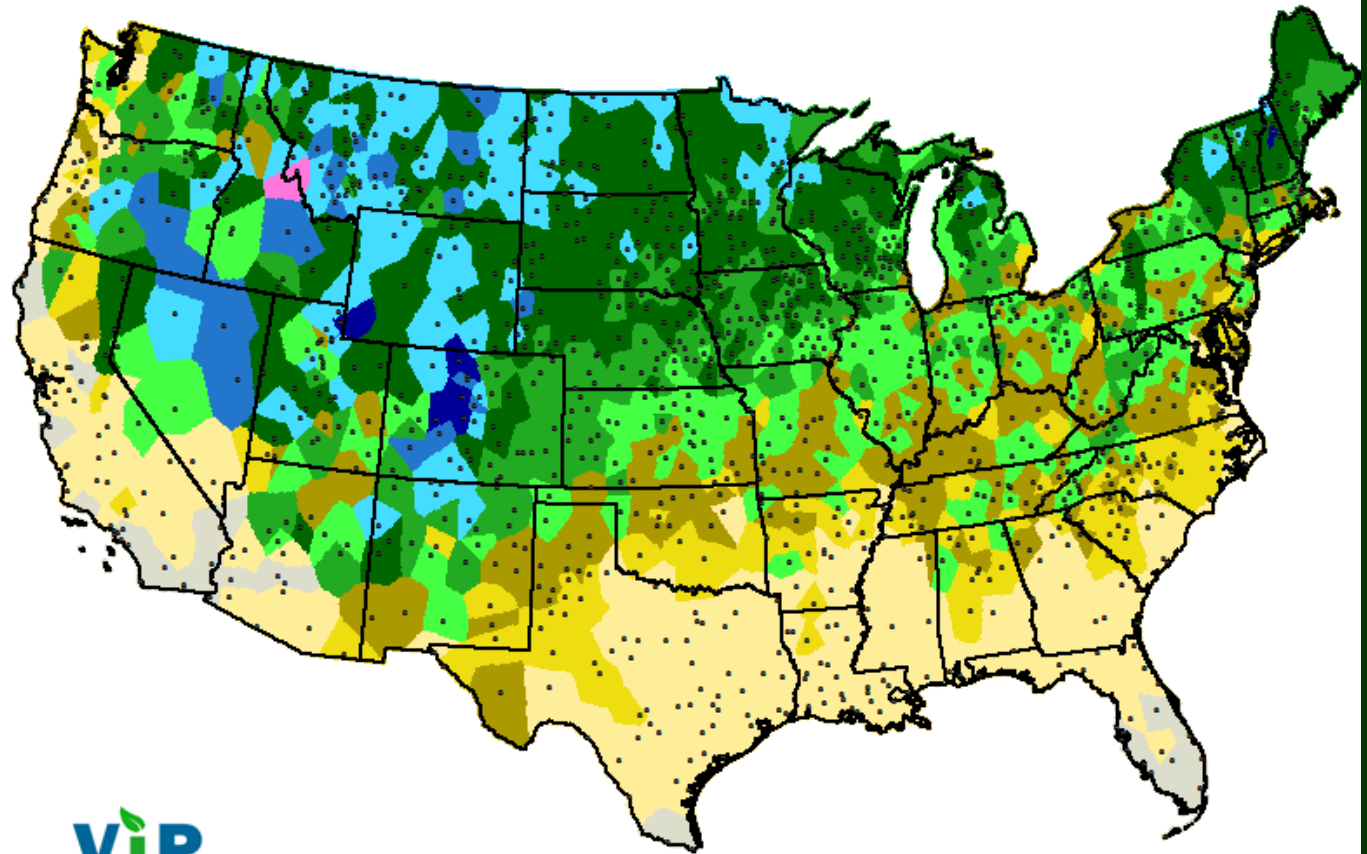
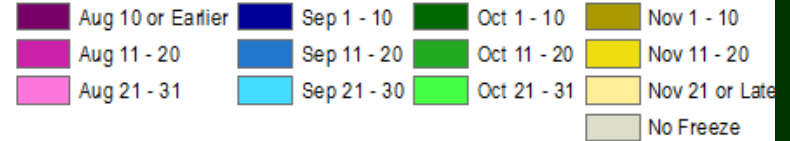


Climatological Date of Median First 28°F Freeze

For years 1980-81 to 2009-10

Freeze year beginning July 1st

Median defined as the 50th Percentile



Freeze date -
50th
percentile

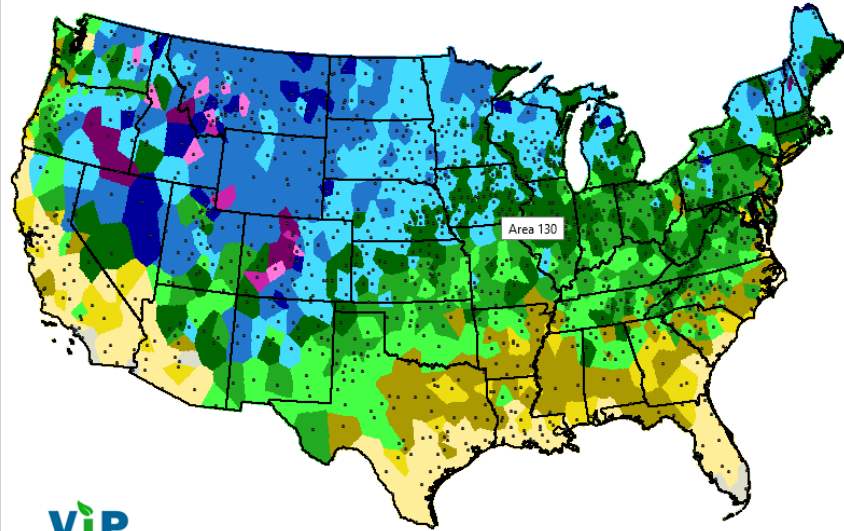
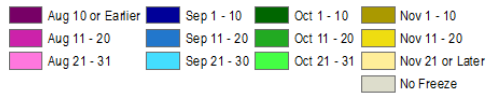
Half the time
earlier – half
the time later.

Climatological Date of Early First 28°F Freeze

For years 1980-81 to 2009-10

Freeze year beginning July 1st

Early defined as the 10th Percentile



ViP
MIPCC
Vegetation Impact Program

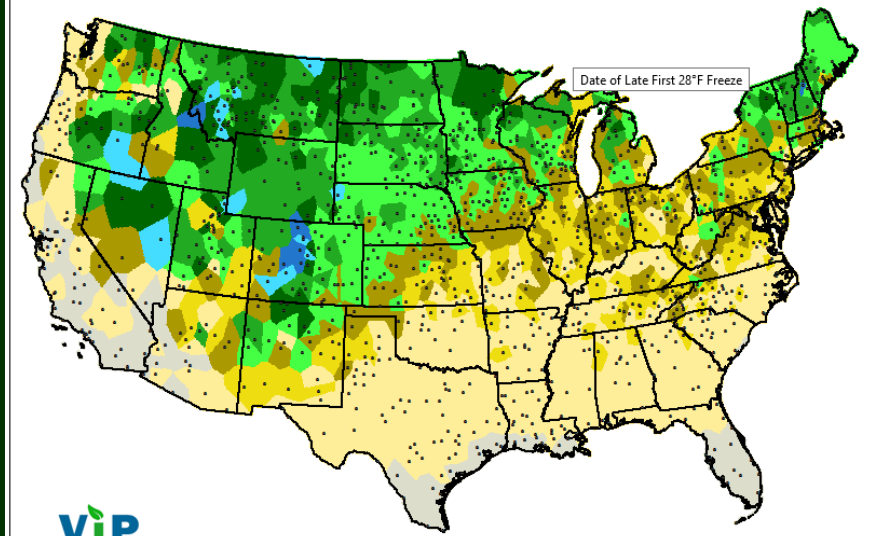
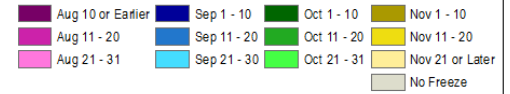
Compare early-late in your region for distribution.

Climatological Date of Late First 28°F Freeze

For years 1980-81 to 2009-10

Freeze year beginning July 1st

Late defined as the 90th Percentile



ViP
MIPCC
Vegetation Impact Program

Summary

- Dryness impacting yield causing issues in places.
- Excess wetness in the plains will continue to affect harvest conditions. Less of a problem further east.
- Delayed development will not be made up. Need to keep freeze late into fall
- Right now have no indications on freeze date. Still too early.

Next MAC-T Monthly Call

Next Call **Wednesday, Oct 4th.**