



SOUTH DAKOTA STATE
UNIVERSITY EXTENSION

North Central U.S. Climate & Drought Outlook October 2023

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@SDSUclimate



Moose near Aberdeen, SD
Photo by Laura Edwards



United States Department of Agriculture
Midwest Climate Hub



Further Information & Partners

- Today's and Past Recorded Presentations:
<https://mrcc.purdue.edu/multimedia/webinars.jsp>
<https://hprcc.unl.edu/webinars.php>

Next webinar: November 16, 2023

- NOAA's Climate Prediction Center: www.cpc.ncep.noaa.gov
- NOAA Climate Portal: www.climate.gov
- U.S. Drought Portal: www.drought.gov
- National Drought Mitigation Center: <http://drought.unl.edu/>
- State climatologists
 - <http://www.stateclimate.org>
- Regional climate centers
 - Midwest: <https://mrcc.purdue.edu/>
 - High Plains: <http://www.hprcc.unl.edu>



Record breaking 2749-pound pumpkin from Minnesota.
<https://www.fox9.com/news/minnesota-pumpkin-grower-breaks-world-record>



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Agenda

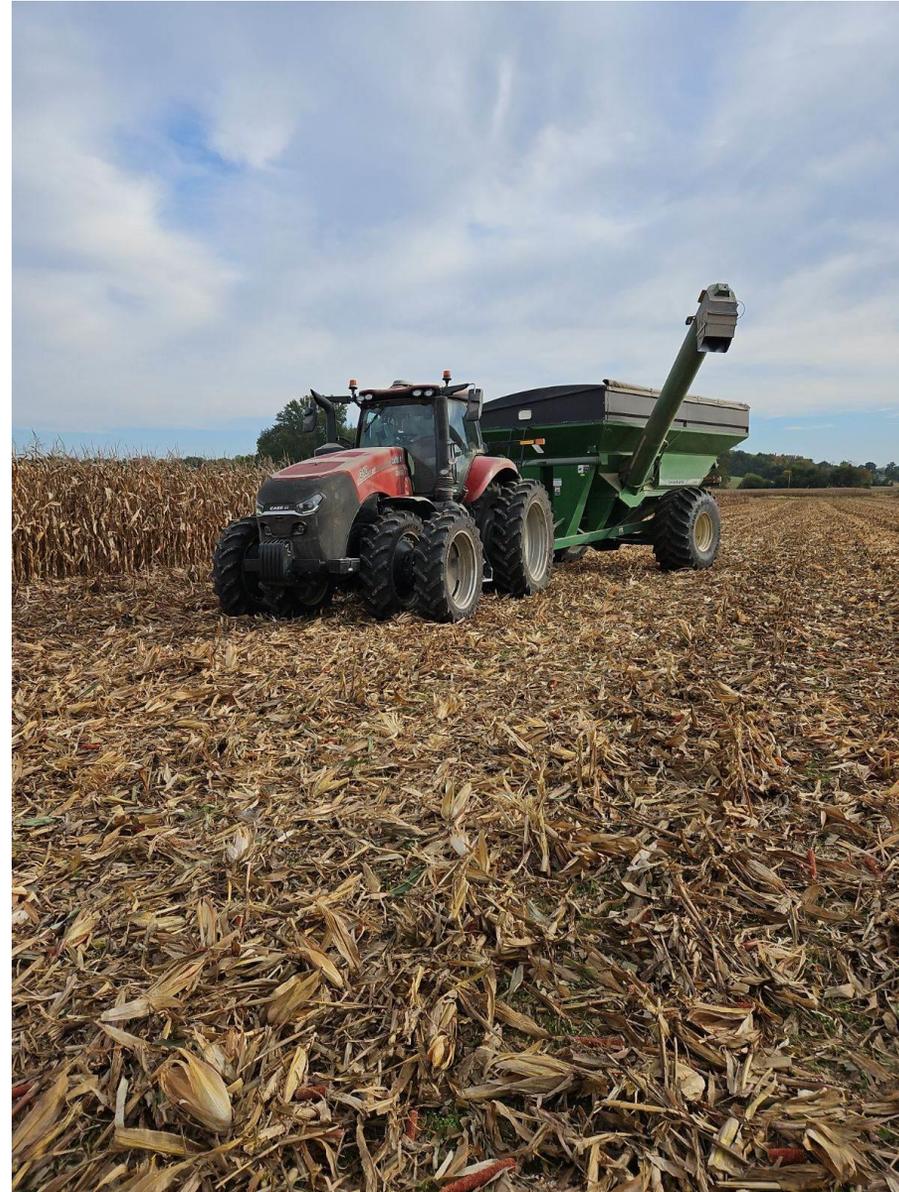
Recent Conditions

Impacts

Outlooks

1-3 months

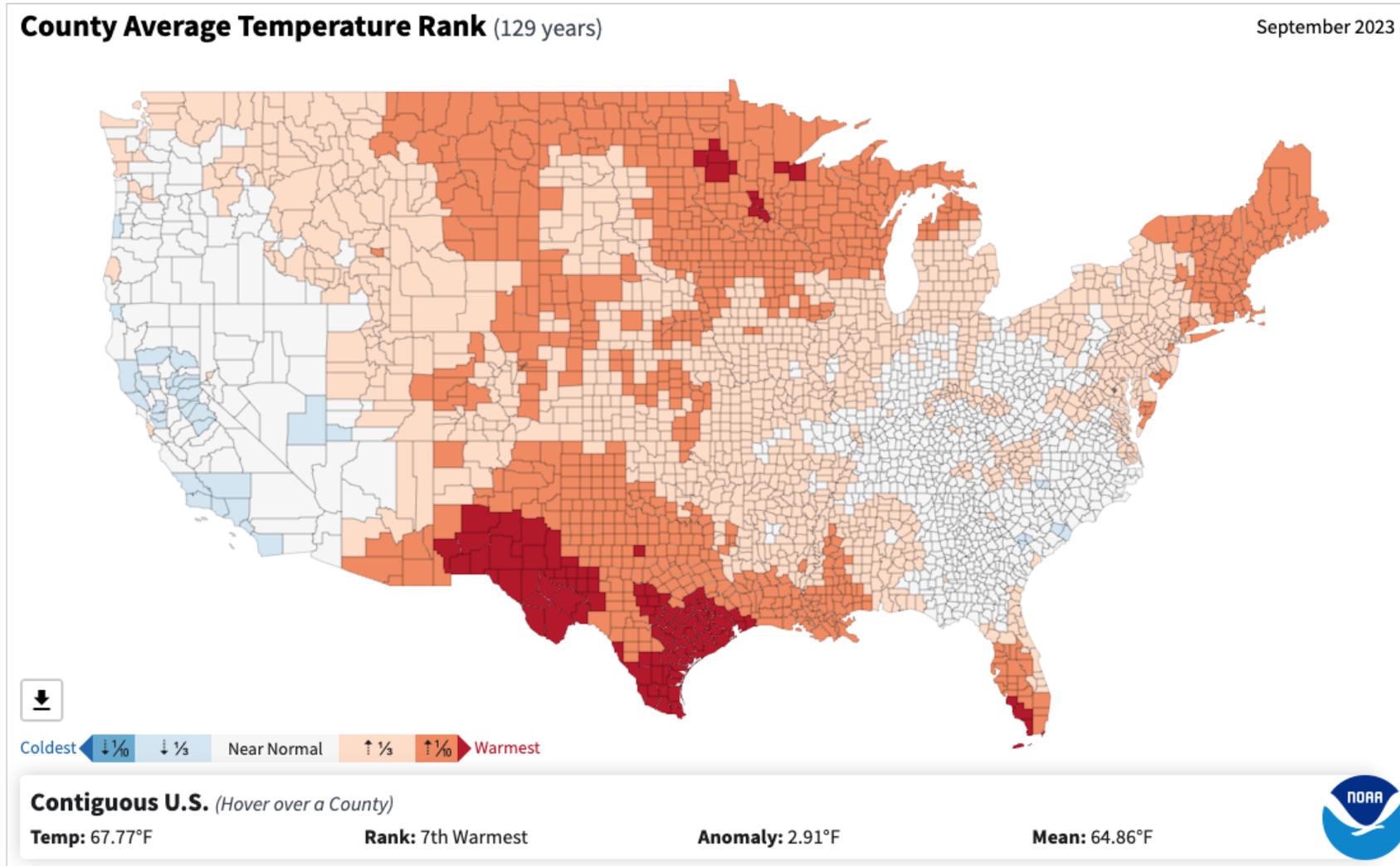
Winter season



Corn harvest in southern Indiana, photo courtesy of Hans Schmitz

September Temperature Rankings

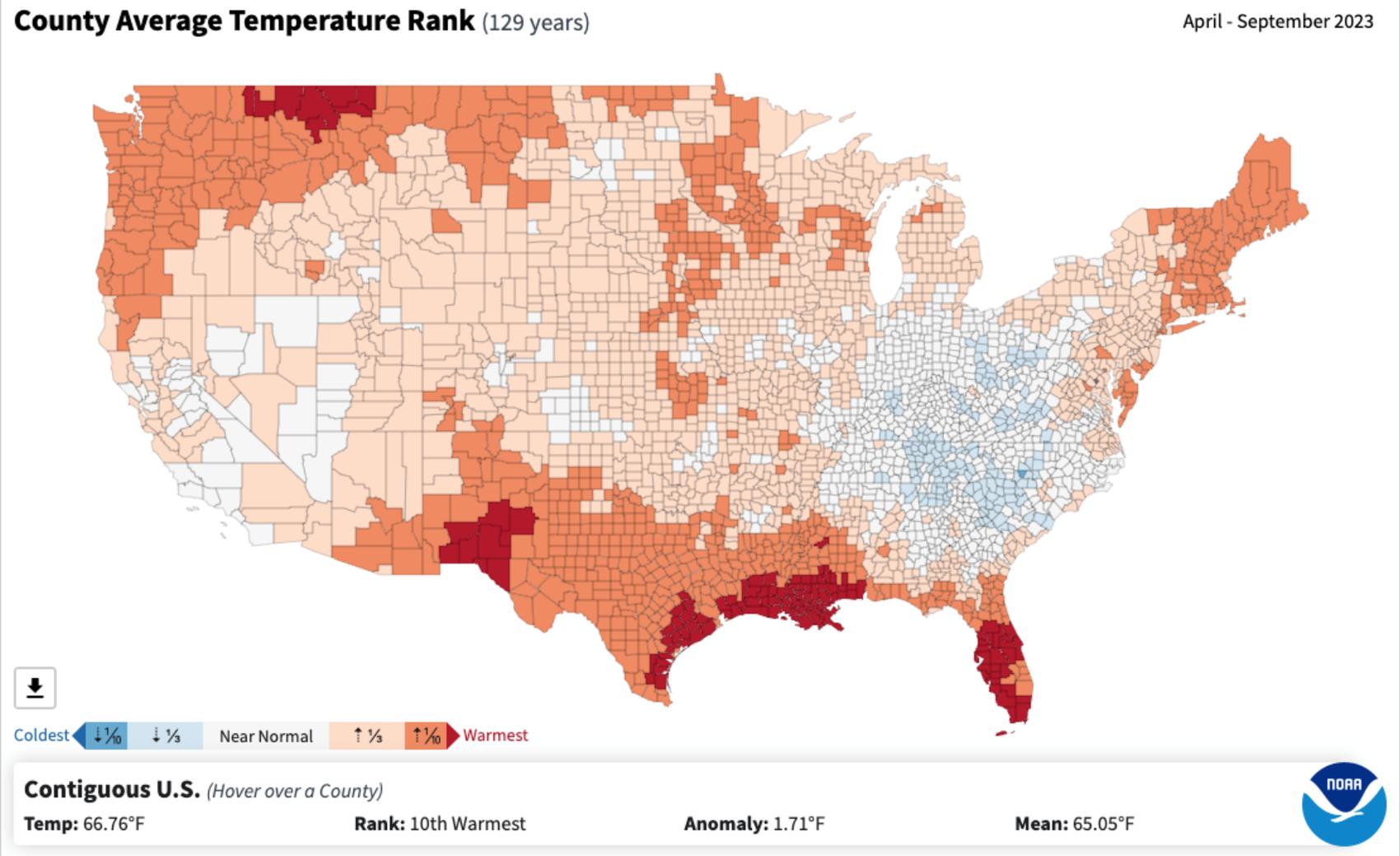
- MN: 2nd warmest Sept on record
- WI: 5th warmest Sept
- ND & WY: 10th warmest Sept



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<https://www.ncdc.noaa.gov/cag/>

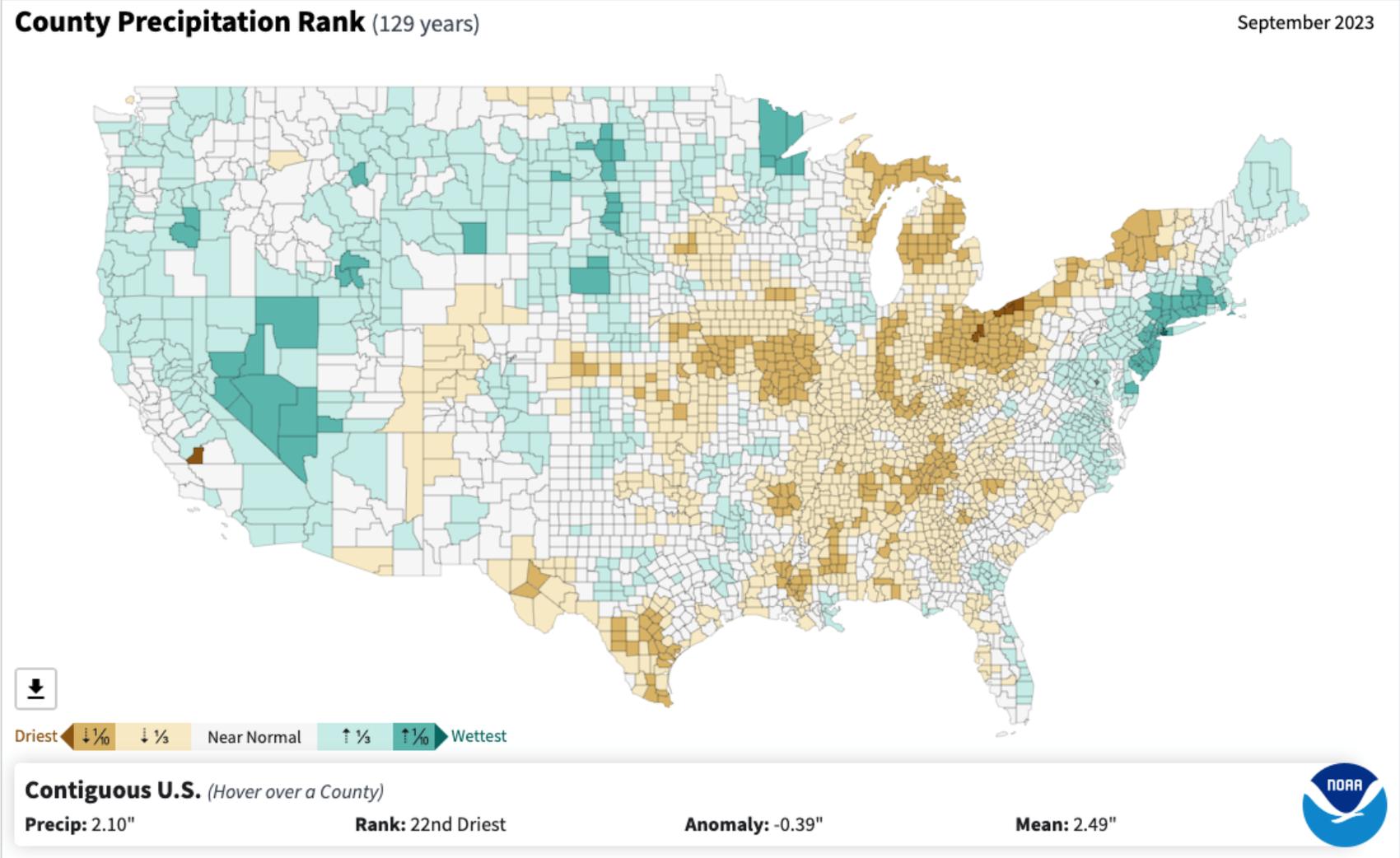
Growing Season Temperature Rankings



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<https://www.ncdc.noaa.gov/cag/>

September Precipitation Rankings



- Northeast OH: driest Sept on record
- South central ND: 13th wettest Sept on record



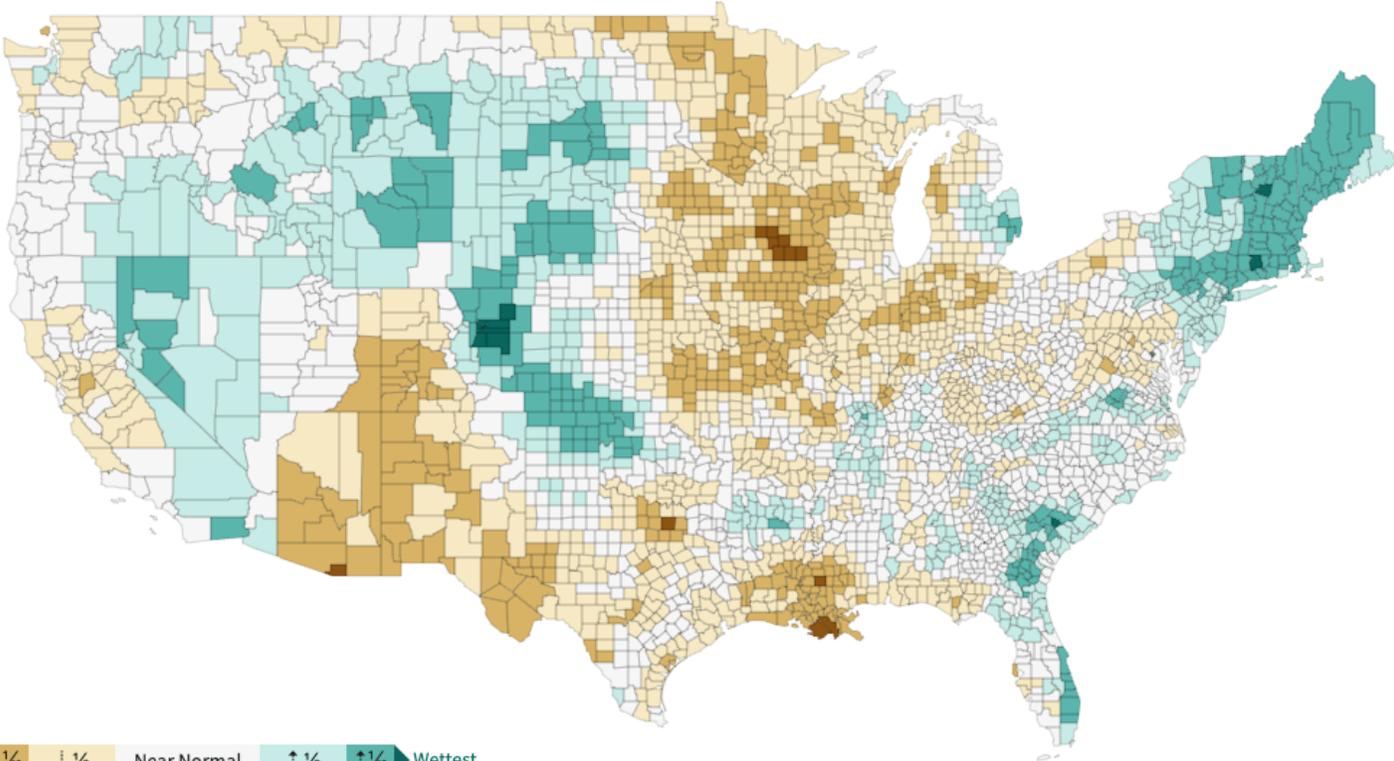
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<https://www.ncdc.noaa.gov/cag/>

Growing Season Precipitation Rankings

County Precipitation Rank (129 years)

April - September 2023



Driest $\leftarrow \frac{1}{10}$ $\frac{1}{2}$ Near Normal $\frac{1}{2}$ $\rightarrow \frac{1}{10}$ Wettest

Contiguous U.S. (Hover over a County)

Precip: 15.50"

Rank: 35th Driest

Anomaly: -0.74"

Mean: 16.24"

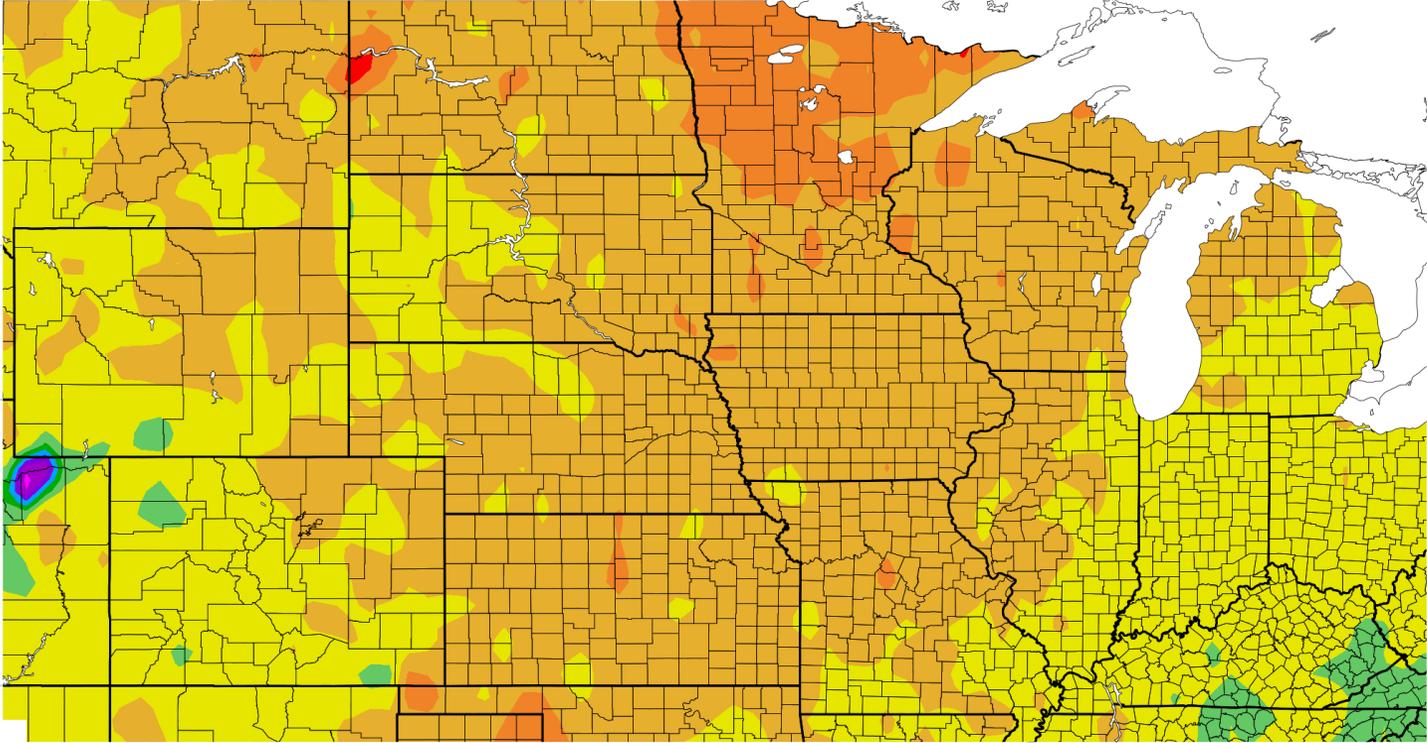


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<https://www.ncdc.noaa.gov/cag/>

Last 30 Days

Departure from Normal Temperature (F)
9/19/2023 - 10/18/2023



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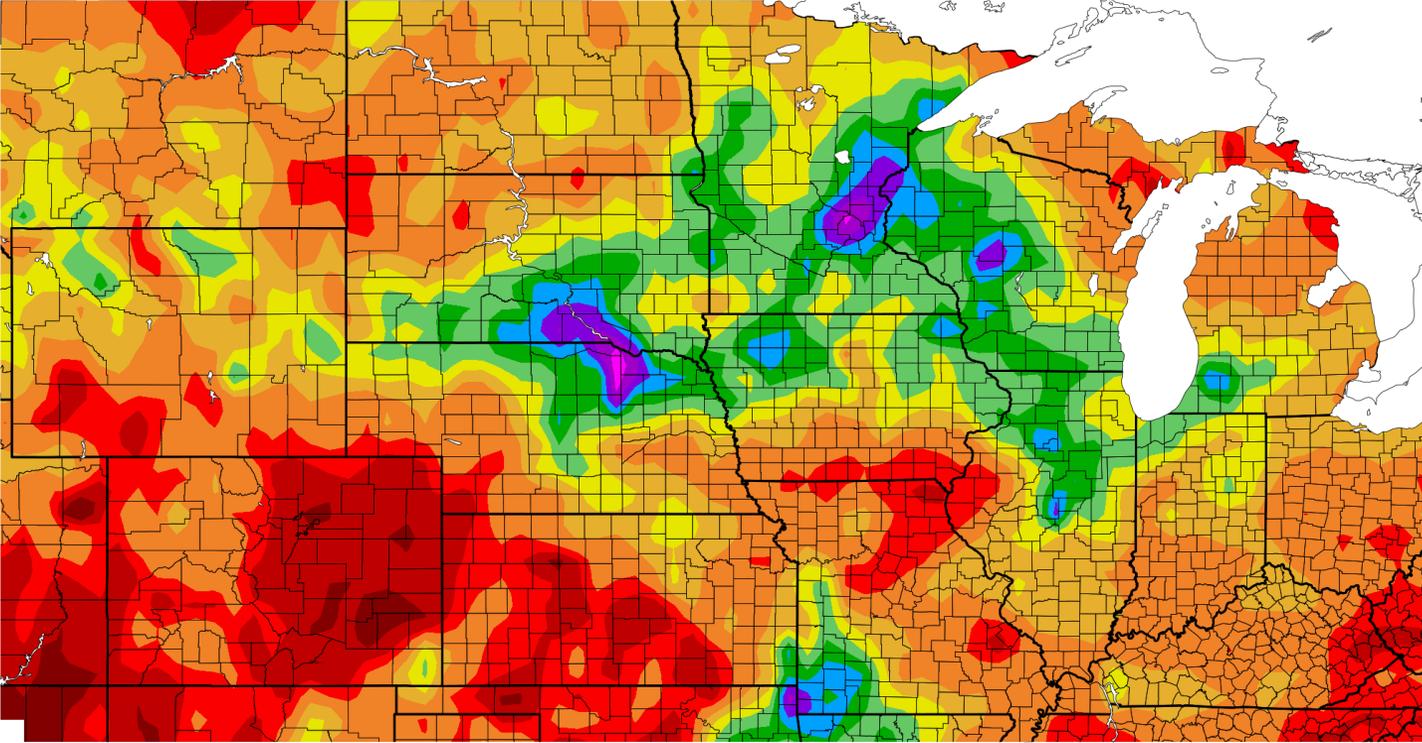


Generated 10/19/2023 at HPRCC using provisional data.

NOAA Regional Climate Centers

Last 30 days

Precipitation (in)
9/19/2023 - 10/18/2023



Generated 10/19/2023 at HPRCC using provisional data.

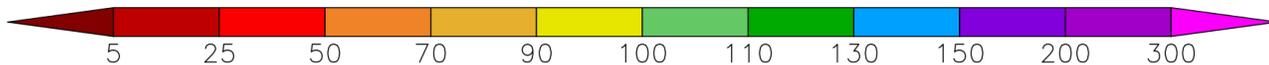
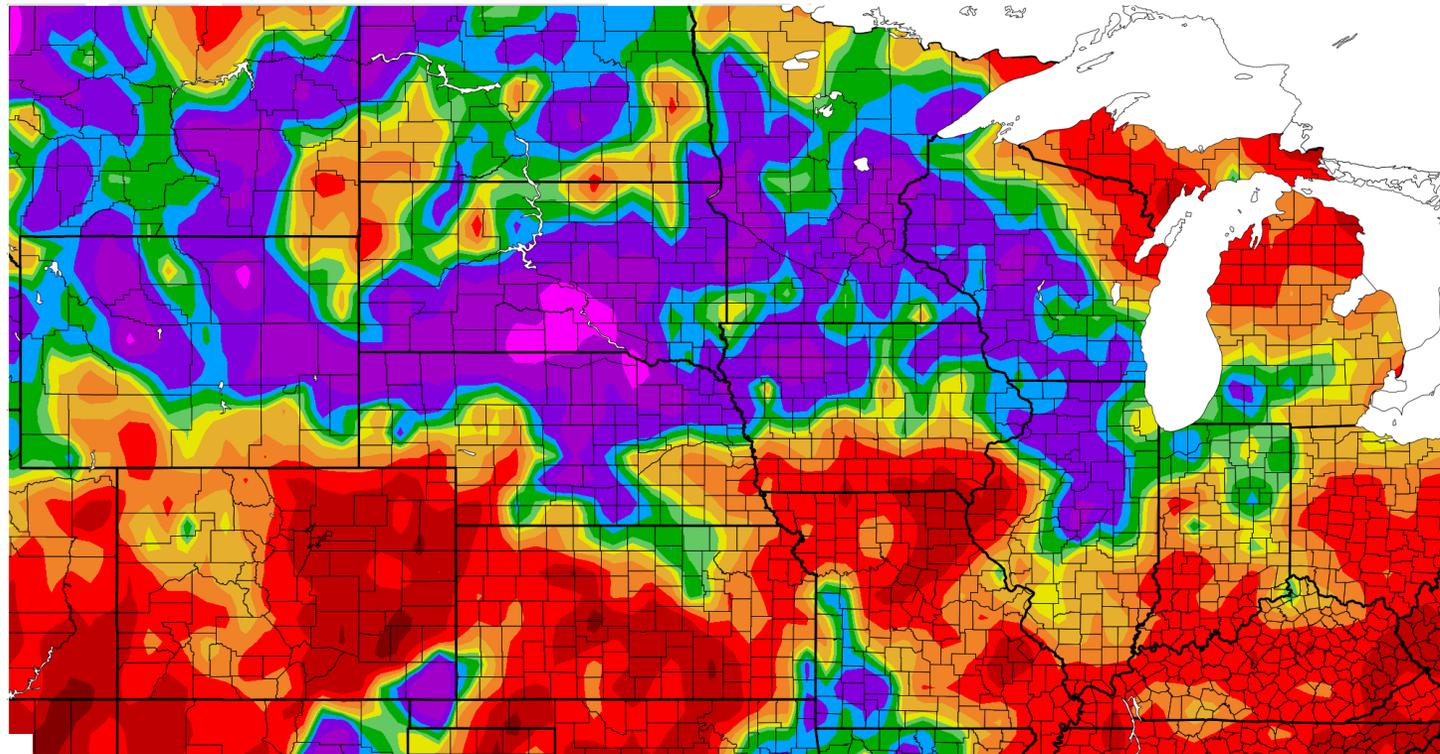
NOAA Regional Climate Centers



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30 day Precipitation, Percent of Normal

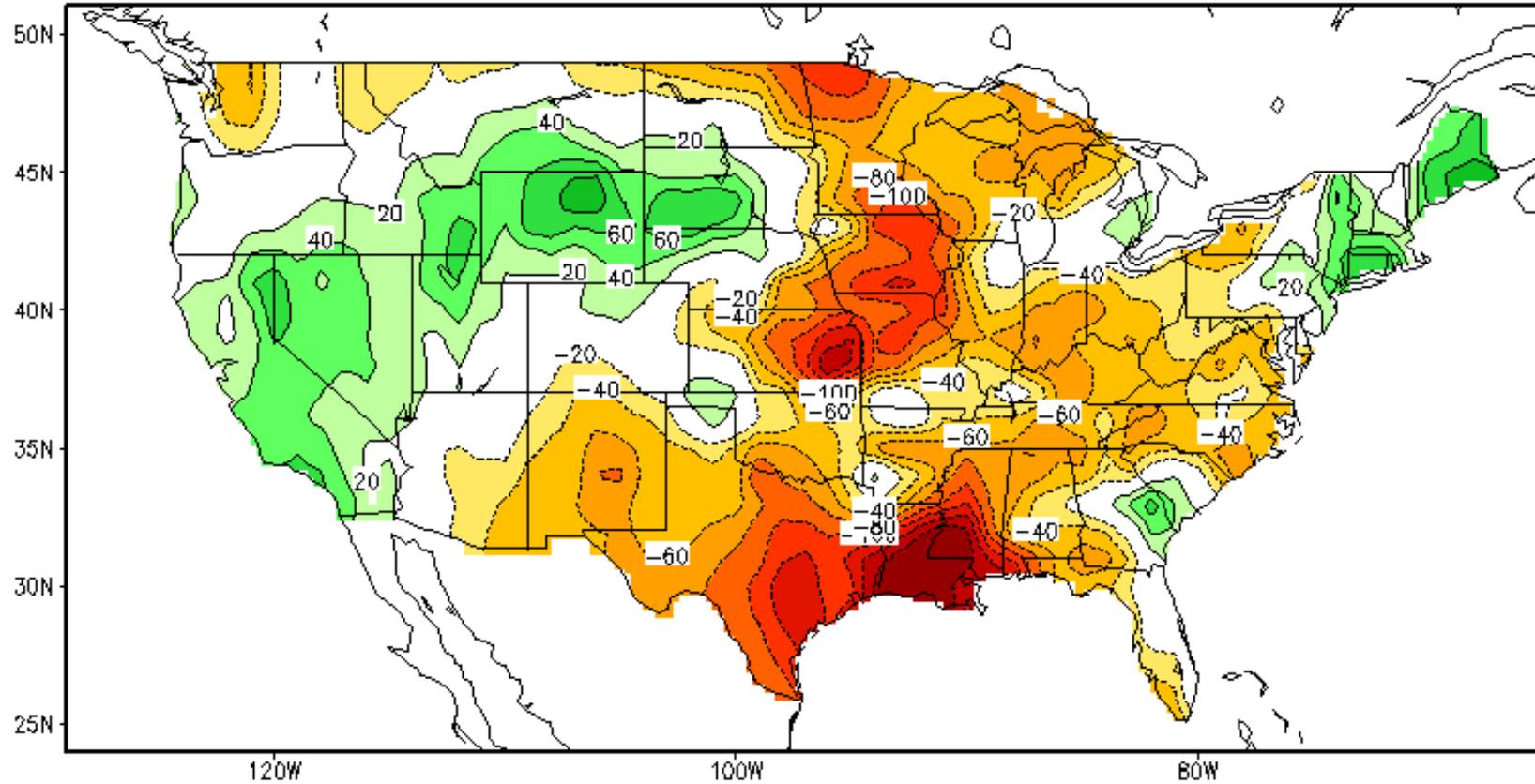
Percent of Normal Precipitation (%)
9/19/2023 – 10/18/2023



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Soil Moisture

Calculated Soil Moisture Anomaly (mm)
OCT 18, 2023



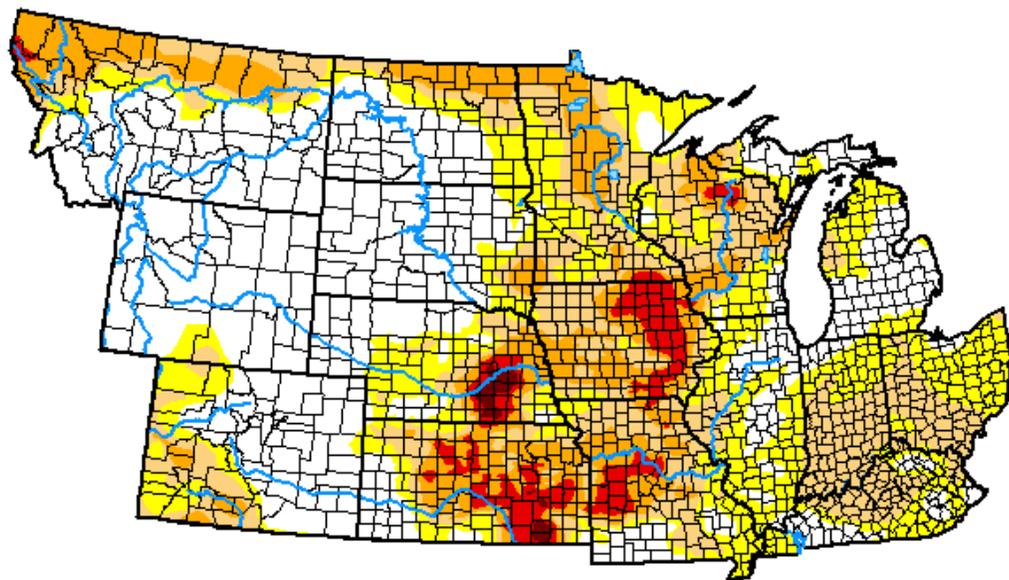
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U.S. Drought Monitor NWS Central

October 17, 2023
(Released Thursday, Oct. 19, 2023)
Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	41.08	58.92	36.87	17.06	4.30	0.43
Last Week <i>10-10-2023</i>	39.35	60.65	40.76	19.16	5.47	0.58
3 Months Ago <i>07-18-2023</i>	37.97	62.03	38.17	16.24	5.73	0.65
Start of Calendar Year <i>01-03-2023</i>	25.76	74.24	48.98	24.27	9.90	3.48
Start of Water Year <i>09-26-2023</i>	39.86	60.14	40.32	19.88	6.29	0.49
One Year Ago <i>10-18-2022</i>	14.16	85.84	59.67	29.36	12.01	3.19



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:

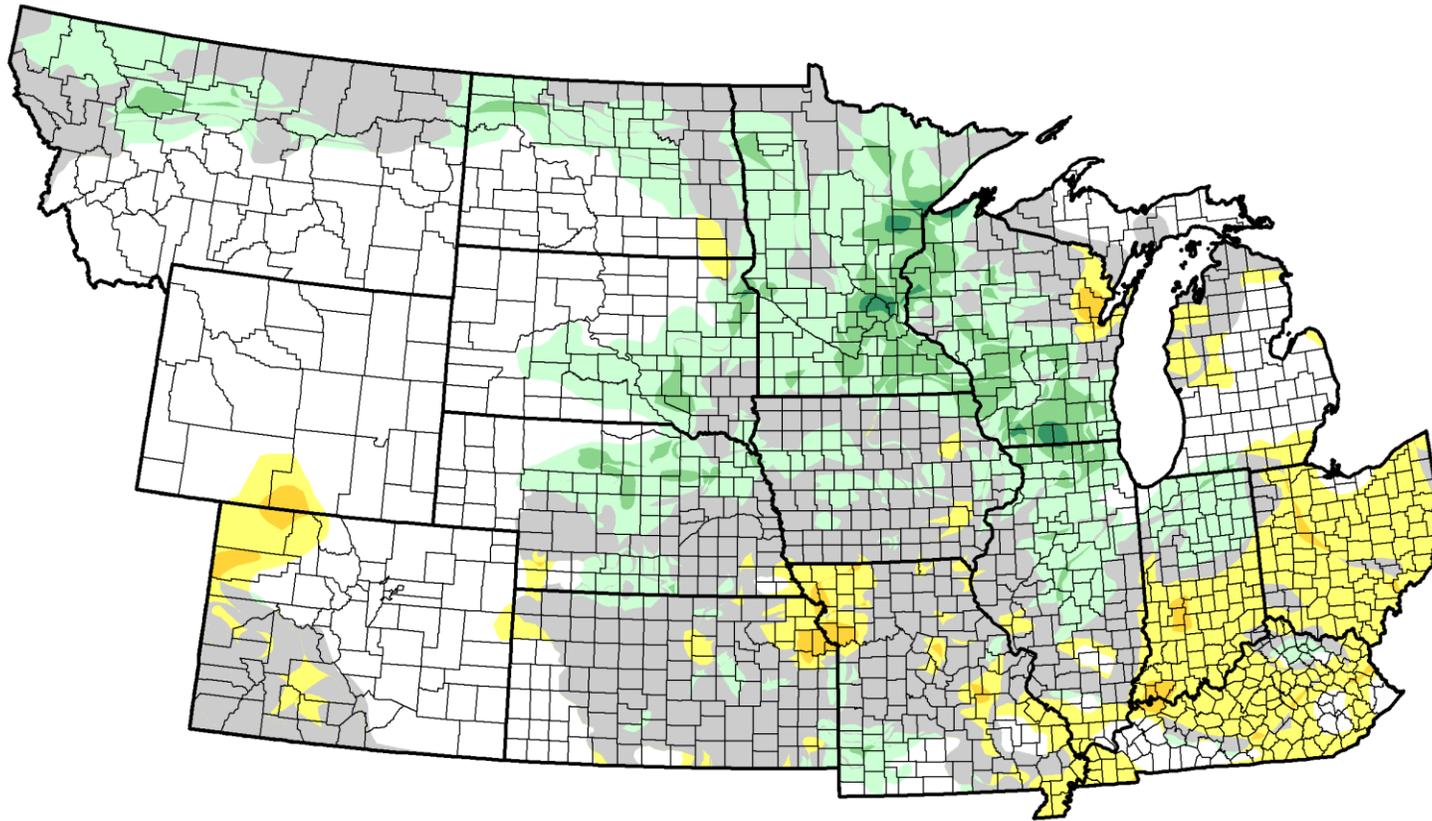
Rocky Bilotta
NCEI/NOAA



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droughtmonitor.unl.edu

U.S. Drought Monitor Class Change - NWS Central 4 Week



-  5 Class Degradation
-  4 Class Degradation
-  3 Class Degradation
-  2 Class Degradation
-  1 Class Degradation
-  No Change
-  1 Class Improvement
-  2 Class Improvement
-  3 Class Improvement
-  4 Class Improvement
-  5 Class Improvement

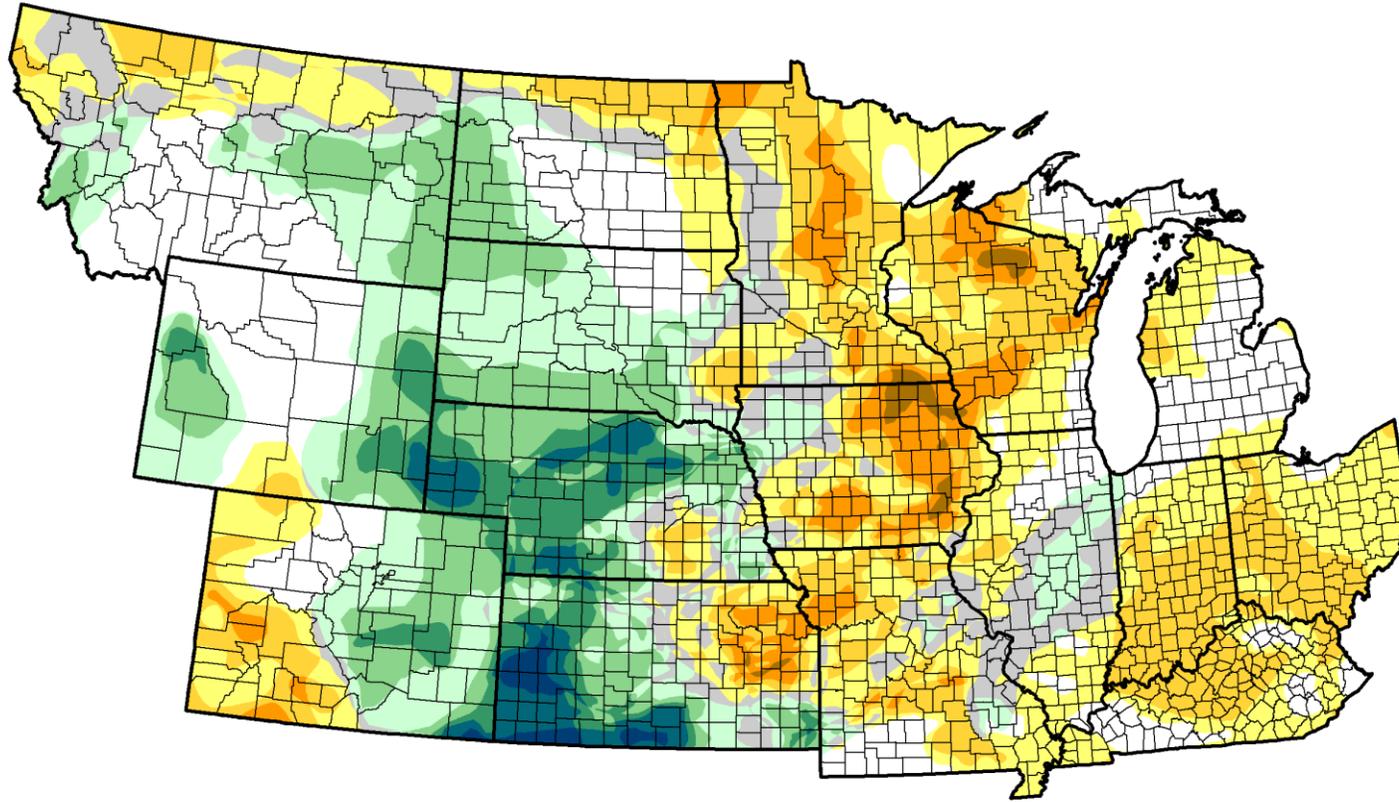
October 17, 2023
compared to
September 19, 2023

droughtmonitor.unl.edu



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U.S. Drought Monitor Class Change - NWS Central 24 Week



- 5 Class Degradation
- 4 Class Degradation
- 3 Class Degradation
- 2 Class Degradation
- 1 Class Degradation
- No Change
- 1 Class Improvement
- 2 Class Improvement
- 3 Class Improvement
- 4 Class Improvement
- 5 Class Improvement

October 17, 2023
compared to
May 2, 2023

droughtmonitor.unl.edu



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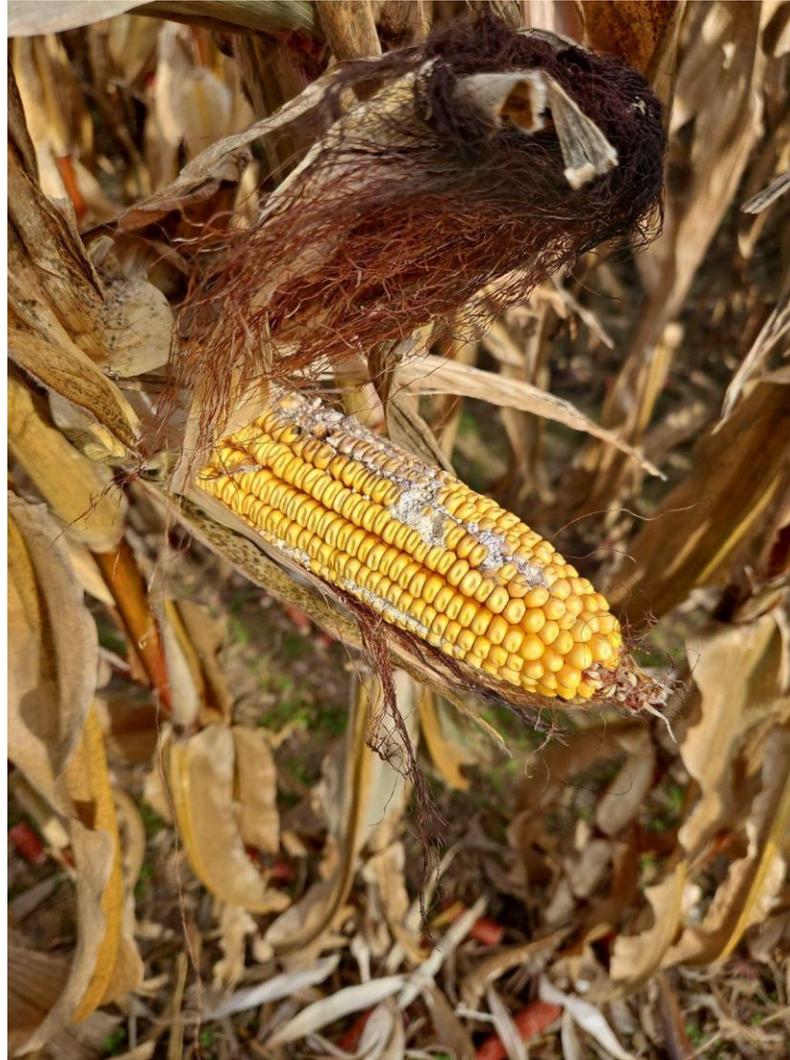


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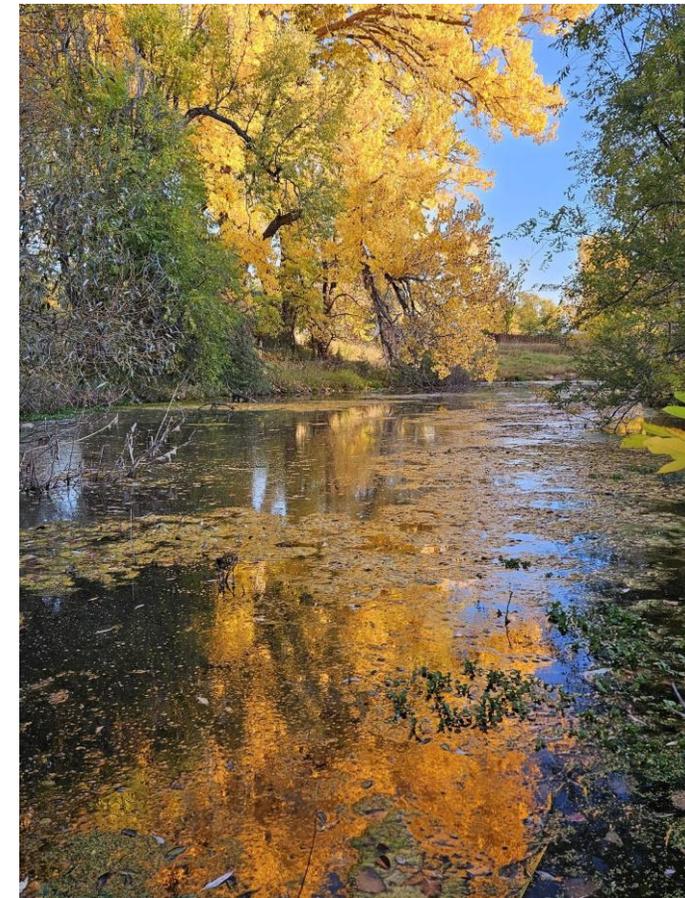
Climate Impacts



First frost in Brookings, SD. Photo by Kristine Lang

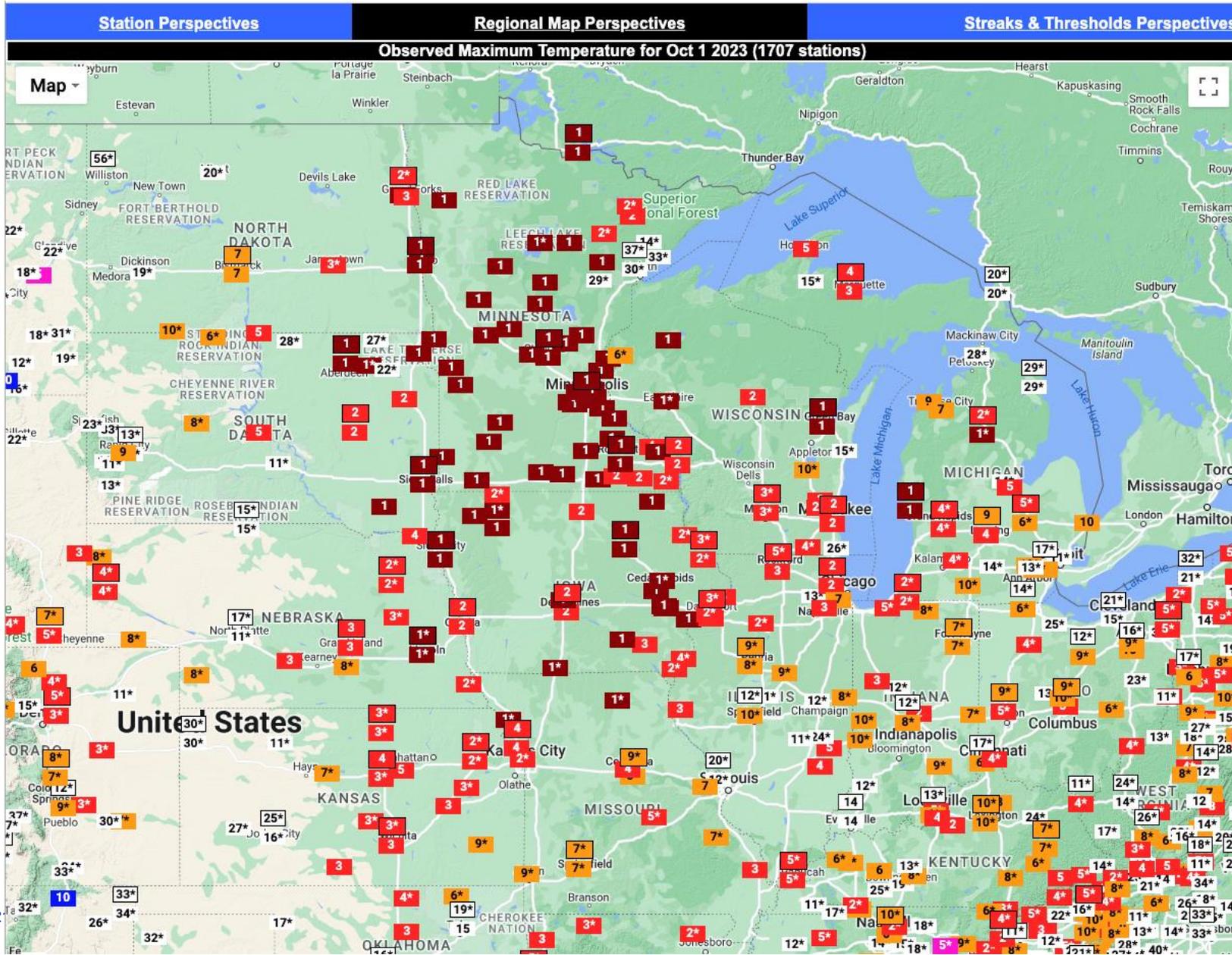


Corn ear at harvest in Indiana. Photo by Hans Schmitz



Fall foliage in Rapid City, SD.
Photo by Kristine Lang

Record high temperatures 10/1/23



Legend Rank

	Highest
	2nd-5th
	6th-10th
	-
	10th-6th
	5th-2nd
	Lowest

* Indicates tied ranking

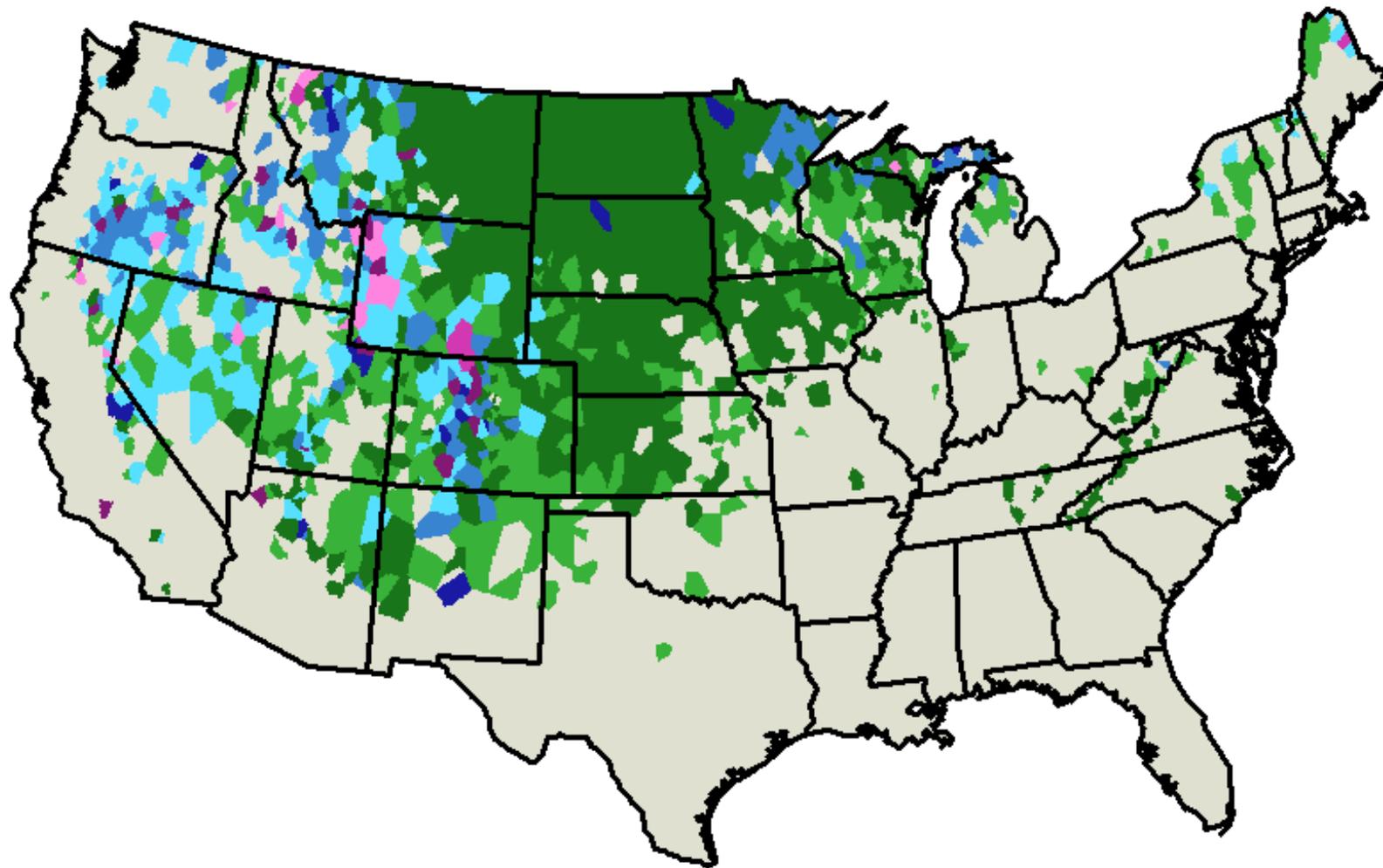
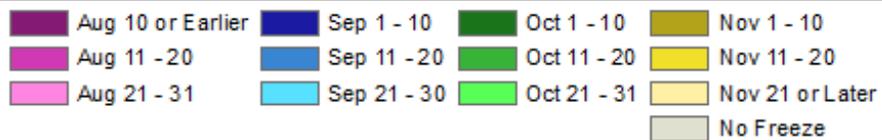
Climate Perspectives

Powered by **ACIS**
NOAA Regional Climate Centers



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Date of First 32°F Freeze for period 7/1/23 to 10/18/23

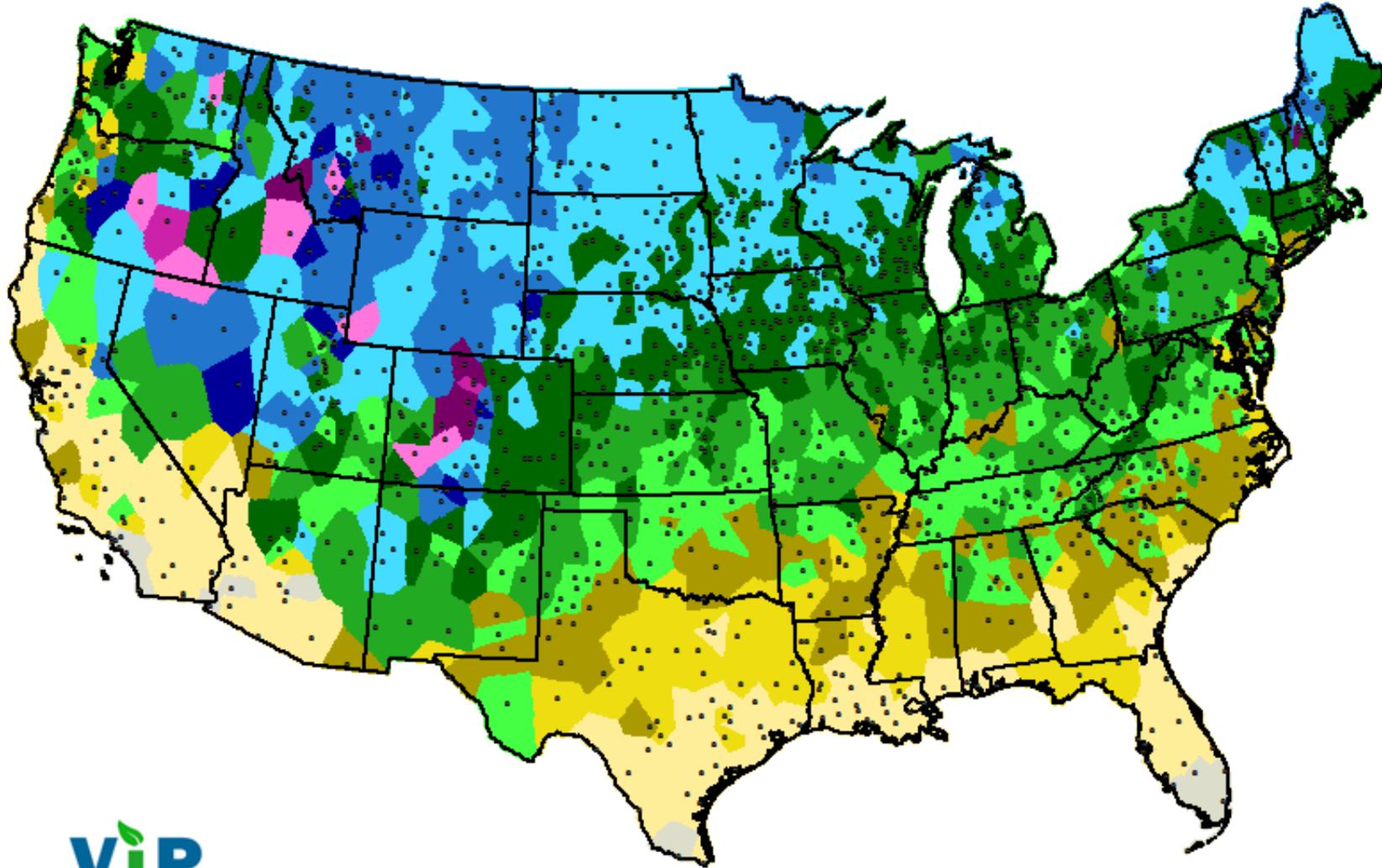
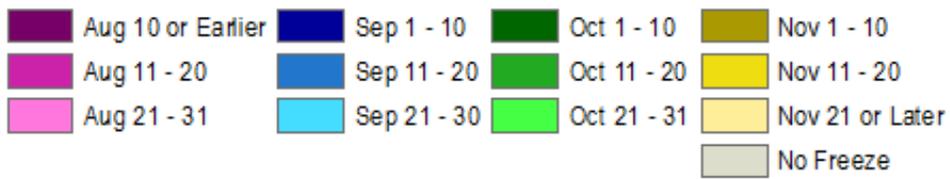


MRCC Experimental Freeze Guidance:
These experimental maps may be utilized as a guide to local and regional
freeze conditions but should NOT be used by themselves for decision processes.



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Climatological Date of Median First 32°F Freeze
For years 1980-81 to 2009-10
Freeze year beginning July 1st
Median defined as the 50th Percentile

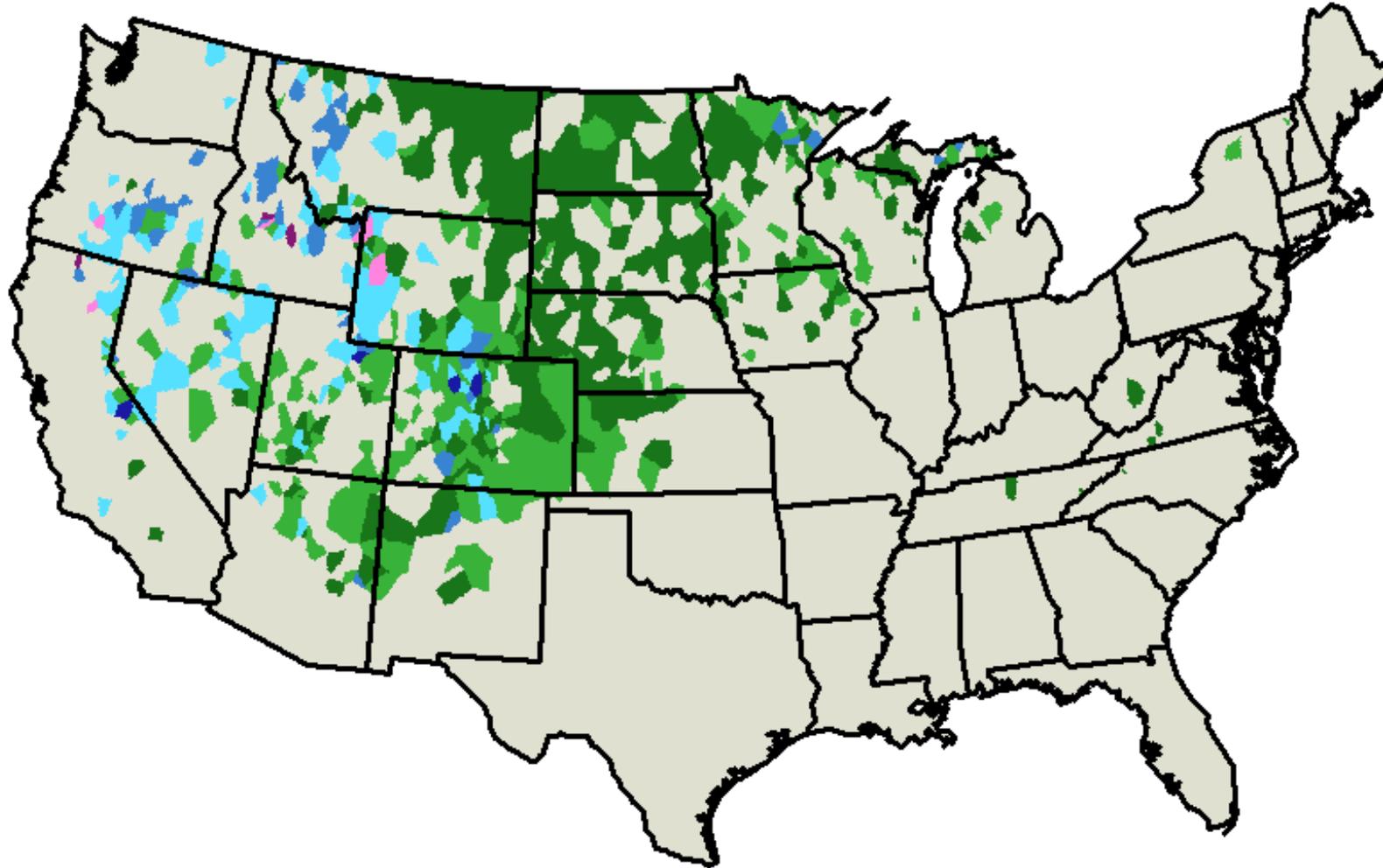
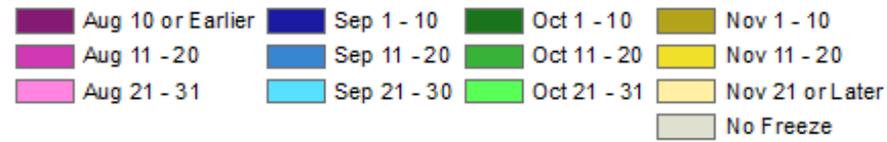


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https://mrcc.illinois.edu/ViP/frz_maps/freeze_maps.html

Date of First 28°F Freeze
for period 7/1/23 to 10/18/23



MRCC Experimental Freeze Guidance:
These experimental maps may be utilized as a guide to local and regional
freeze conditions but should NOT be used by themselves for decision processes.



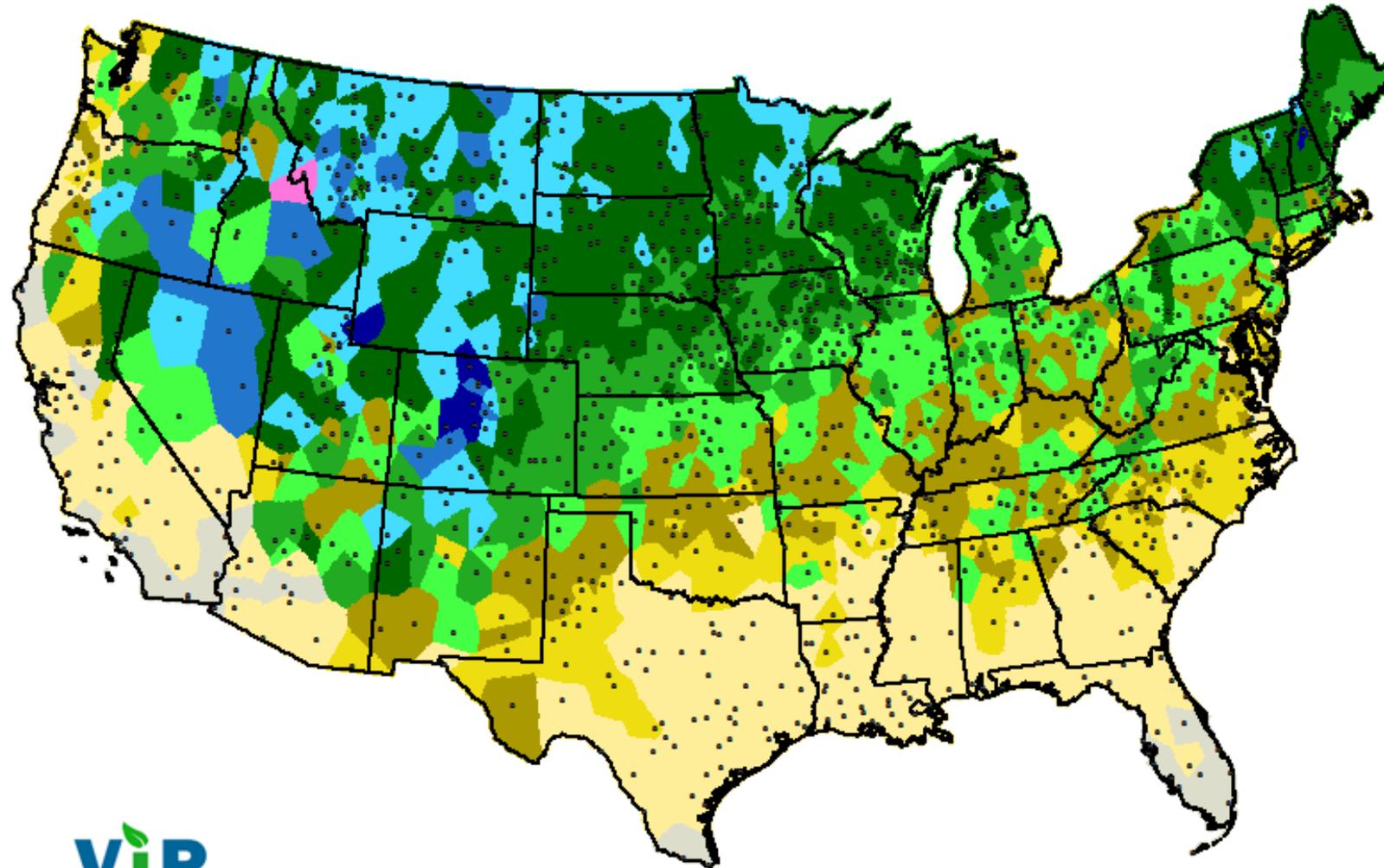
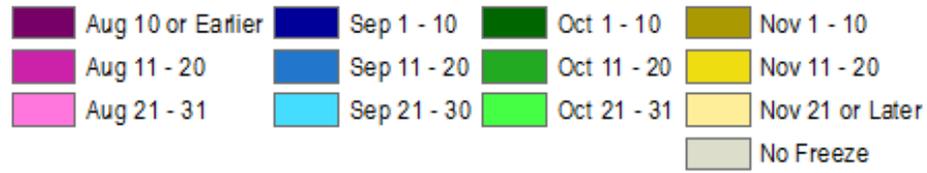
**SOUTH DAKOTA STATE
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Climatological Date of Median First 28°F Freeze

For years 1980-81 to 2009-10

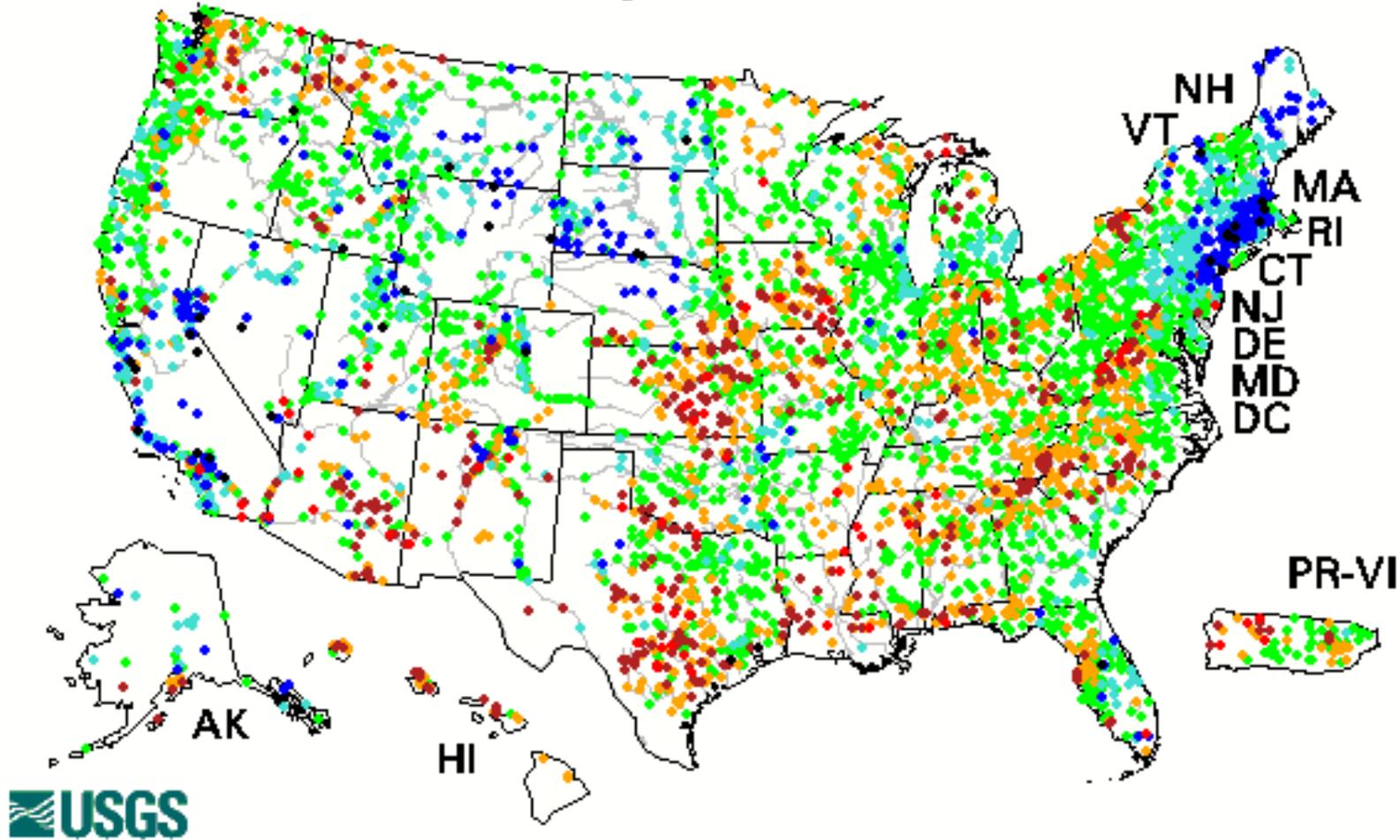
Freeze year beginning July 1st

Median defined as the 50th Percentile



28-day streamflow percentile

Wednesday, October 18, 2023



Explanation - Percentile classes							
Low	<10	10-24	25-75	76-90	>90	High	No Data
	Much below normal	Below normal	Normal	Above normal	Much above normal		



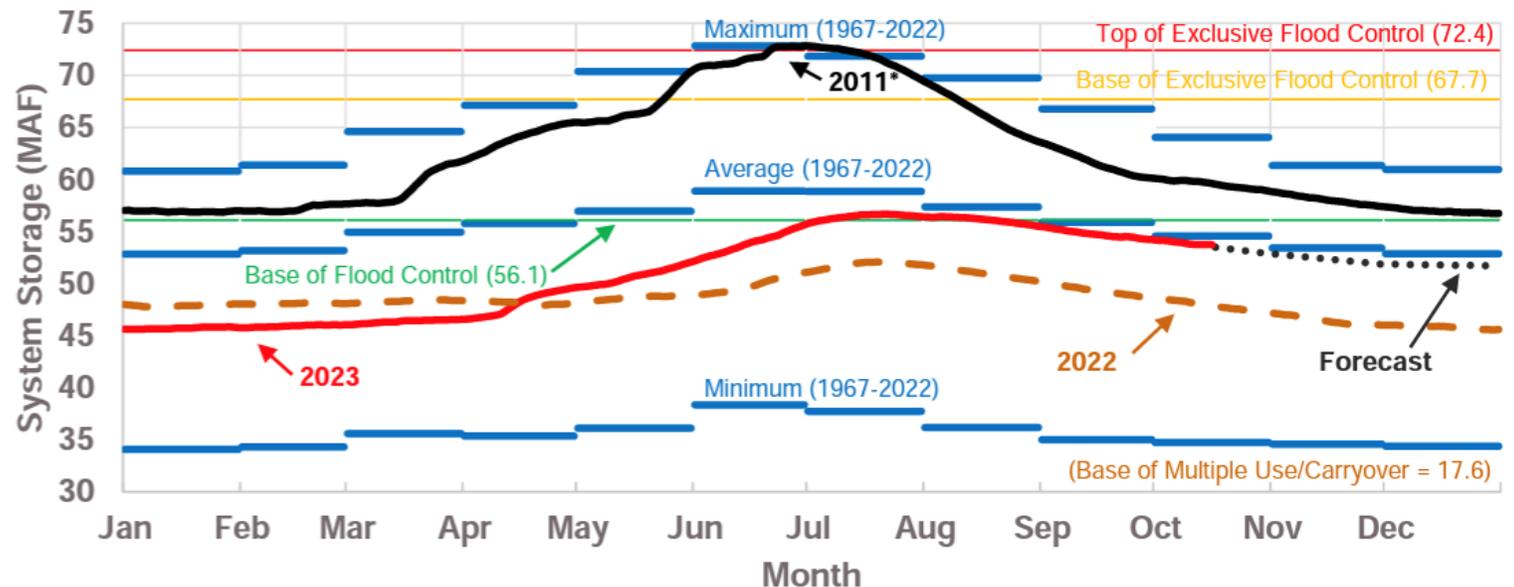
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Missouri River

- Missouri Mainstem Reservoir Status (as of 10/17/23):
- Current system storage is 54.2 million acre-feet, about 6 MAF above this time last year
- September runoff in the Missouri River Basin above Sioux City, Iowa was 1.3 million acre-feet, 109% of the long-term average
- The annual runoff forecast for the upper Missouri River Basin above Sioux City, IA is 29.1 MAF, 113% of average
- Navigation support will be provided for the entire navigation season and will end on Dec. 1 at the mouth of the Missouri River.
- Winter releases from Gavins Point Dam will be at least 13,000 cfs.

System Storage Comparison



*In January 2011, the Base of Flood Control was 56.8 MAF, and the Top of Exclusive Flood Control was 73.1 MAF



Highlights

- Low river levels in Mississippi River
 - Slowing down transportation/barge traffic
- Upcoming storm system could increase fire risk with windy conditions. Also risk of snow, wind and very cold temperatures in Dakotas and Nebraska
- Heavy rains on Oct 13-14 in SD, NE, MN region improved soil moisture, but long term dryness/drought persists
- Some harvested crop yields better than expected, but many states still lower than trends would suggest
- Winter wheat off to a good start in western states
- Cattle moving quickly to grazing cropland in drought areas
- Great Lakes: levels down from September but still above average for October. Water temperature warmer than avg in Lakes Ontario, Michigan & Superior.



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Climate outlooks

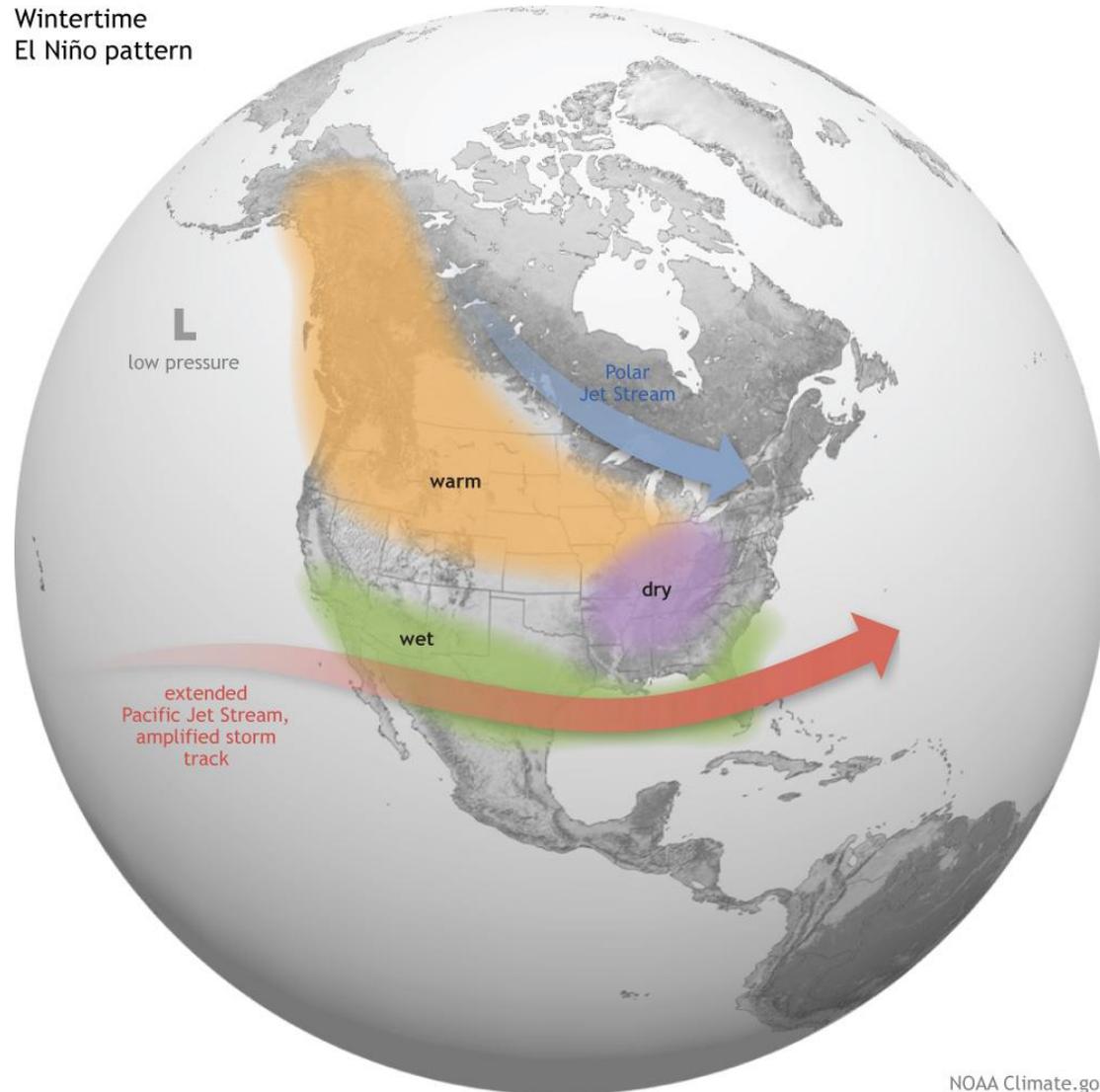
- El Niño
- 7-day precipitation forecast
- 8-14 day outlook
- November temperature and precipitation
- Winter season temperature and precipitation



Milkweed.
Photo by Bret Lang

El Niño

Wintertime
El Niño pattern

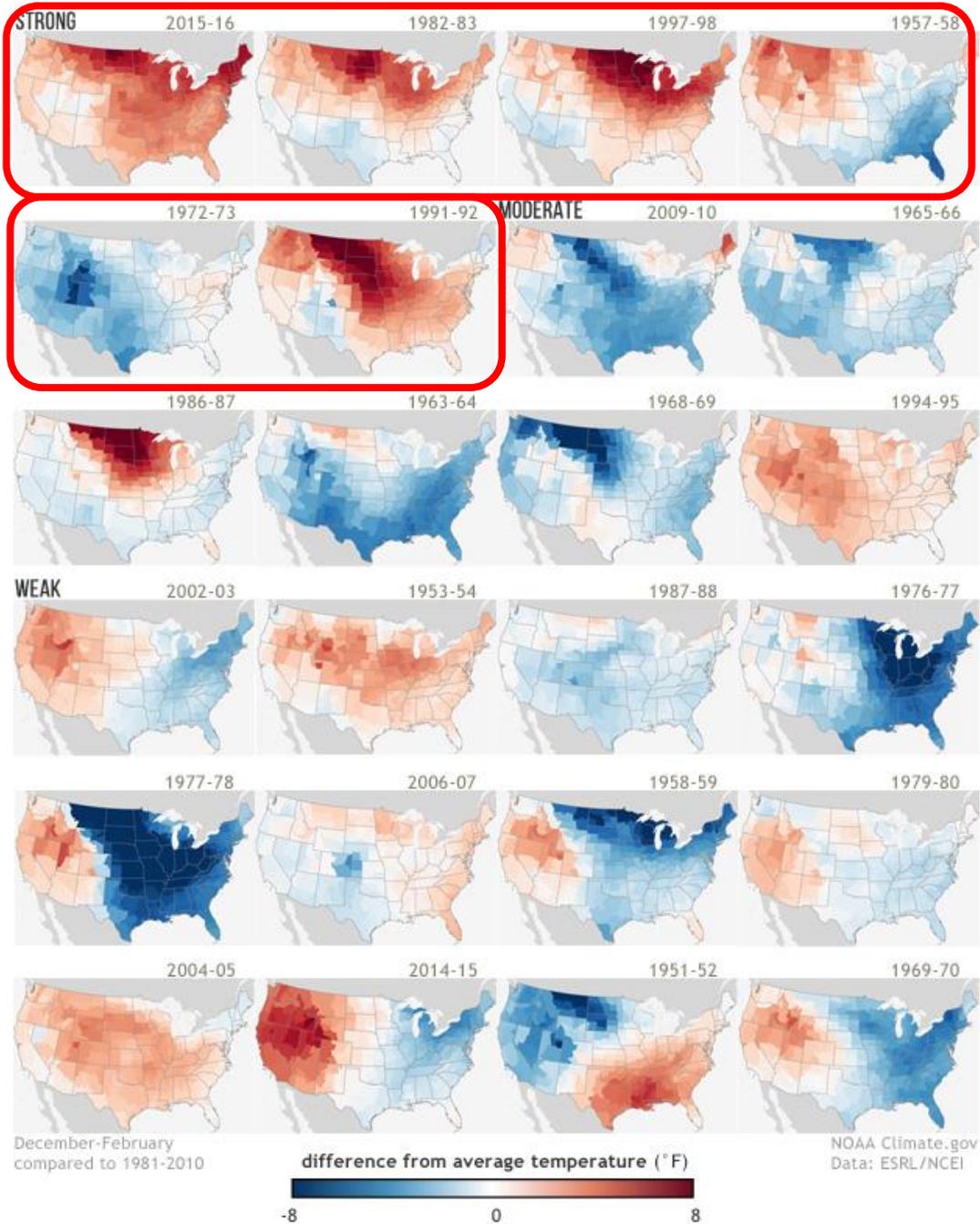


- High confidence to continue into the spring season
- 75-85% chance of becoming a strong event
- 3 in 10 chance of “historically strong” event, 2015-16, 1997-98, 1982-83
- Strong El Niño does not necessarily mean strong impacts



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U.S. winter temperature during every El Niño since 1950

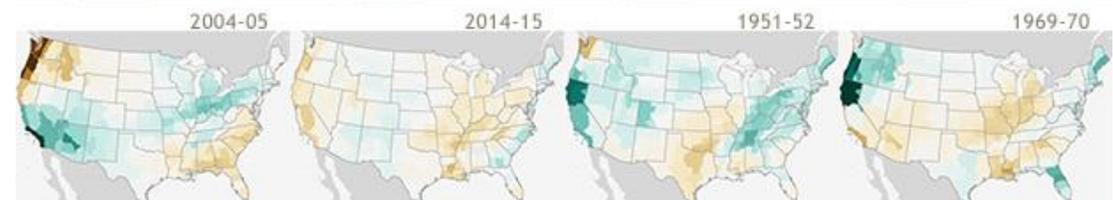
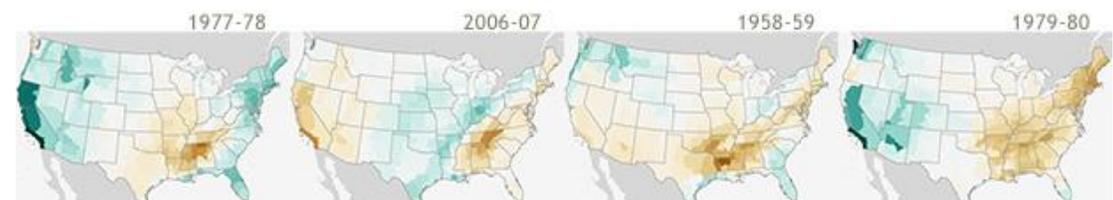
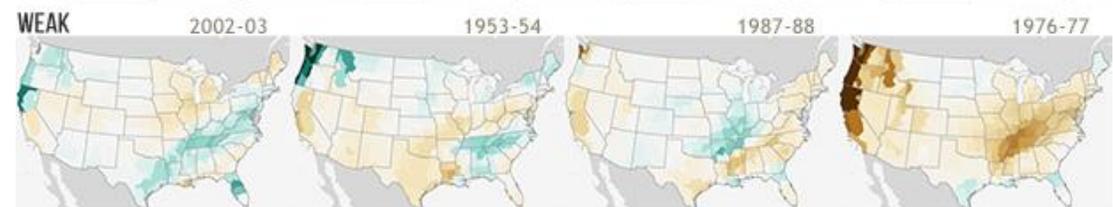
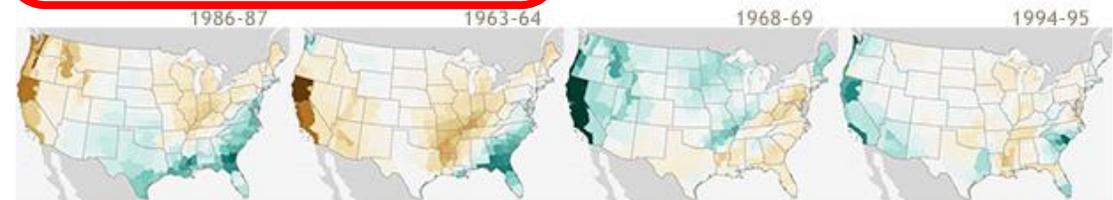
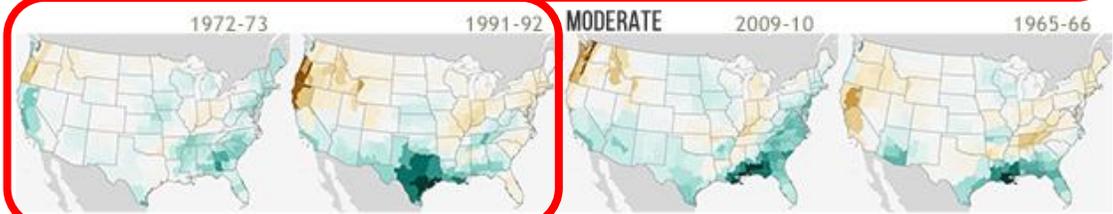
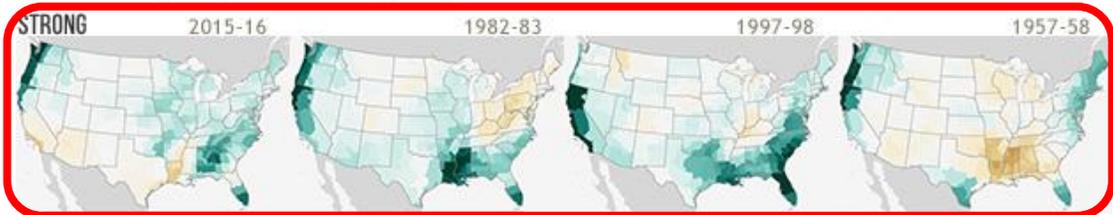


Historical El Niño Winter Temperature

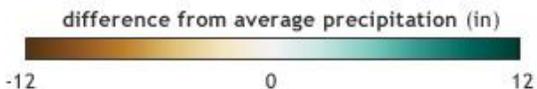


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U.S. winter precipitation during every El Niño since 1950



December-February compared to 1981-2010



NOAA Climate.gov
Data: ESRL/NCEI

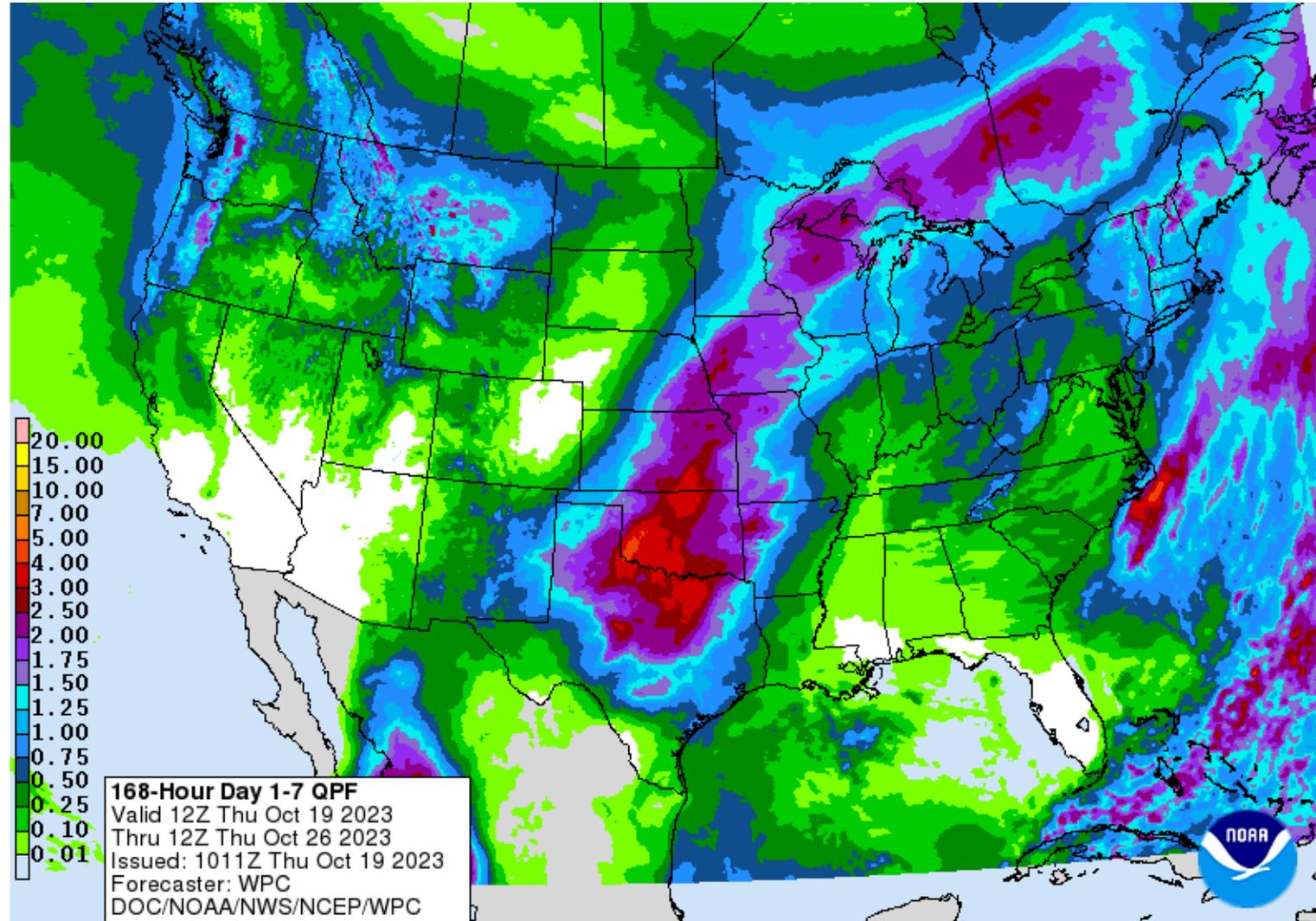
Historical El Niño Winter Precipitation



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7-day Quantitative Precipitation Forecast

Valid: 19 Oct - 26 Oct



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

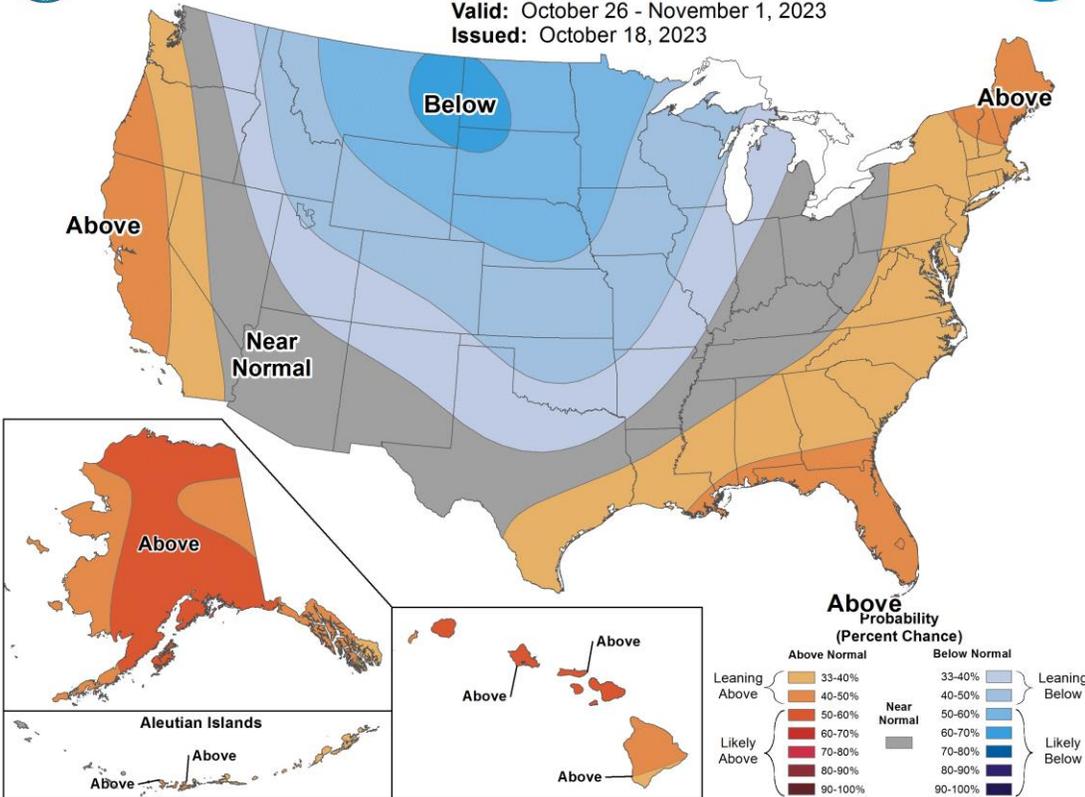


8-14 Day Outlook



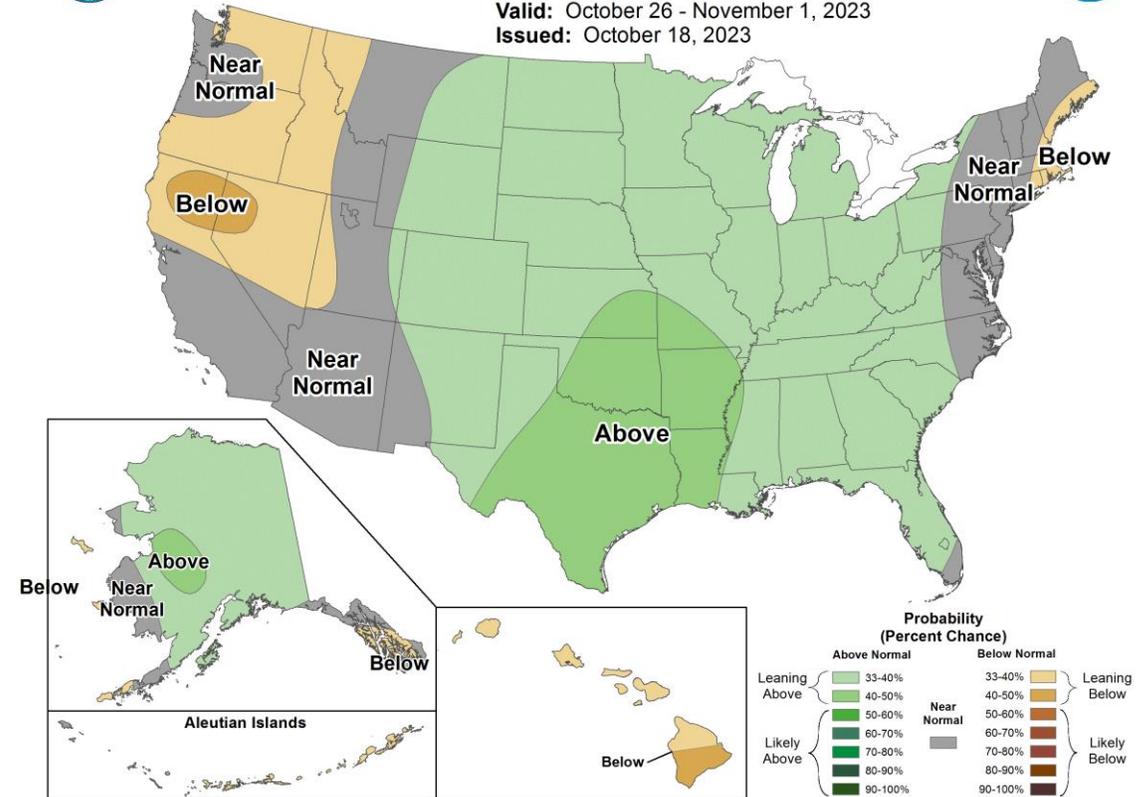
8-14 Day Temperature Outlook

Valid: October 26 - November 1, 2023
Issued: October 18, 2023



8-14 Day Precipitation Outlook

Valid: October 26 - November 1, 2023
Issued: October 18, 2023



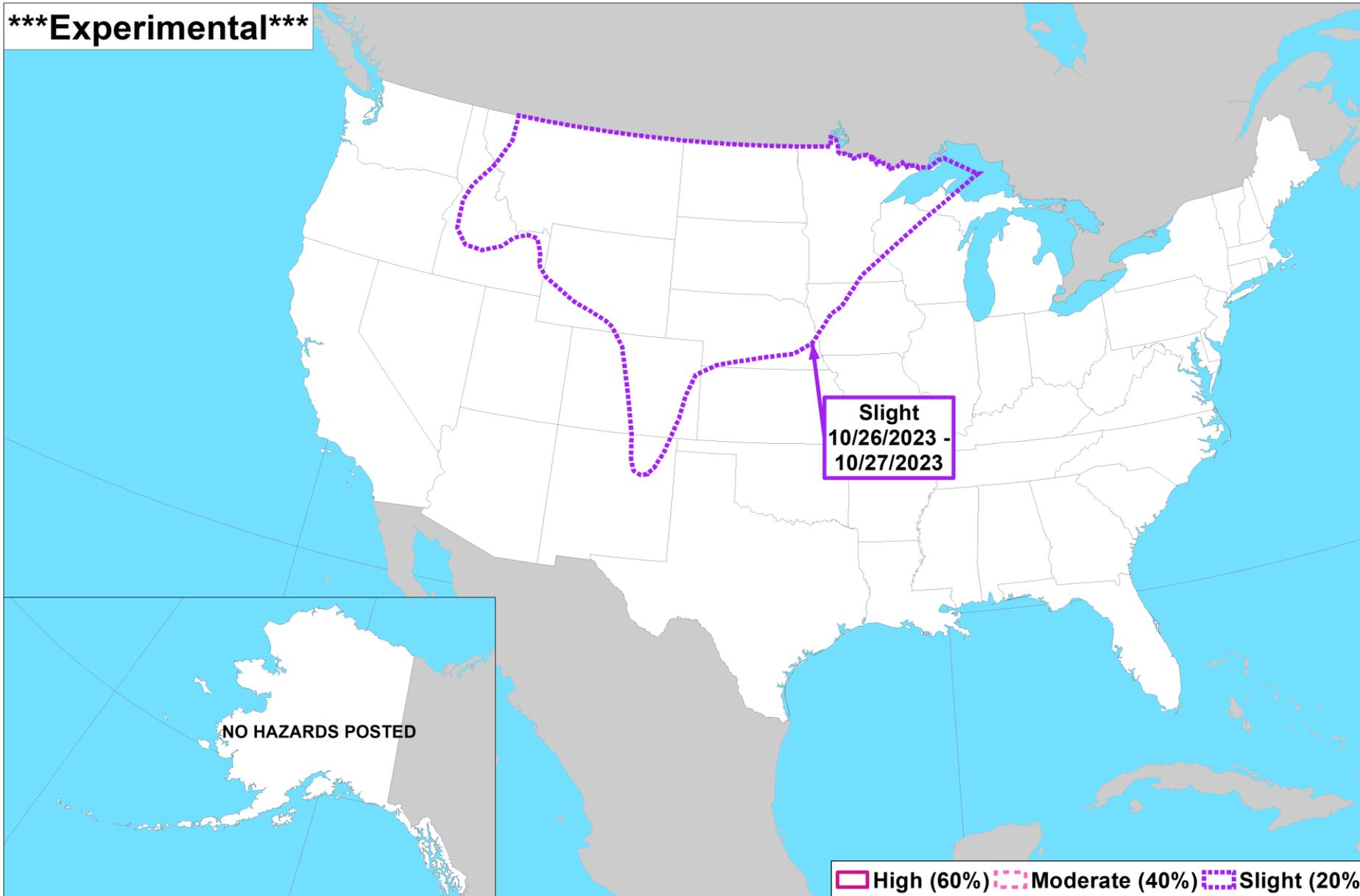


Risk of Heavy Snow

Valid: 10/26/2023-11/01/2023



Experimental



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Climate Prediction Center

Made: 10/18/2023 3PM EDT

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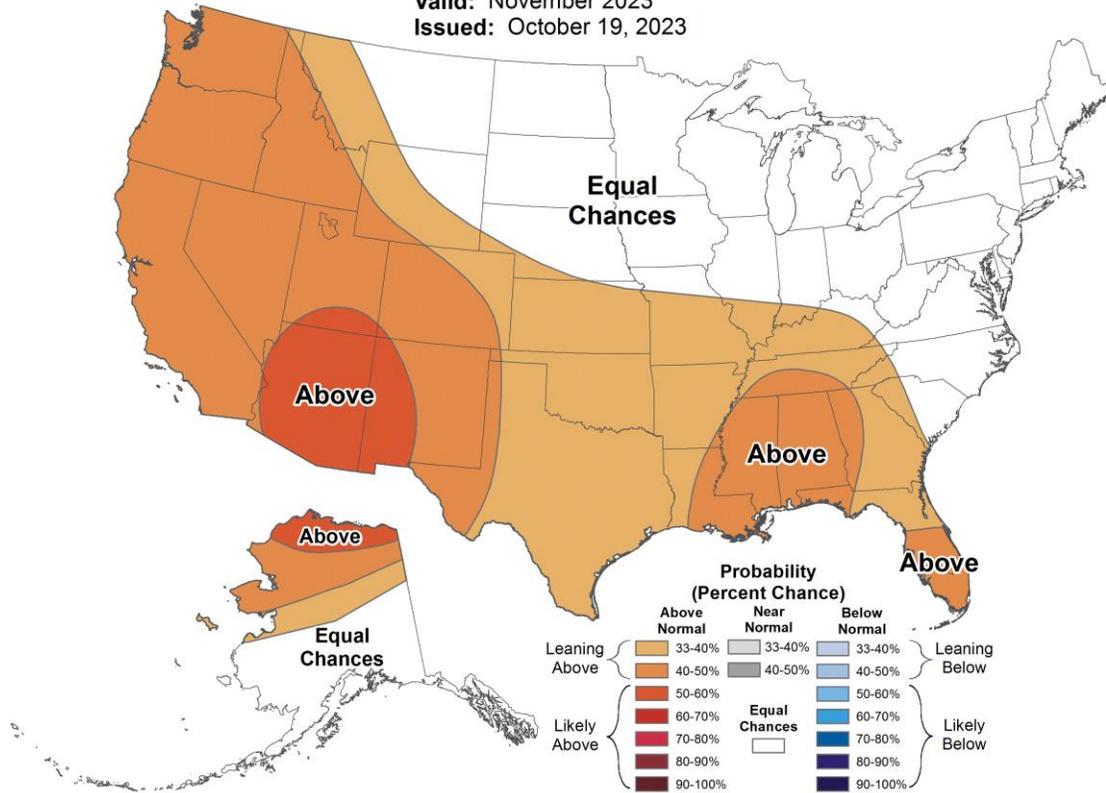


November Outlook



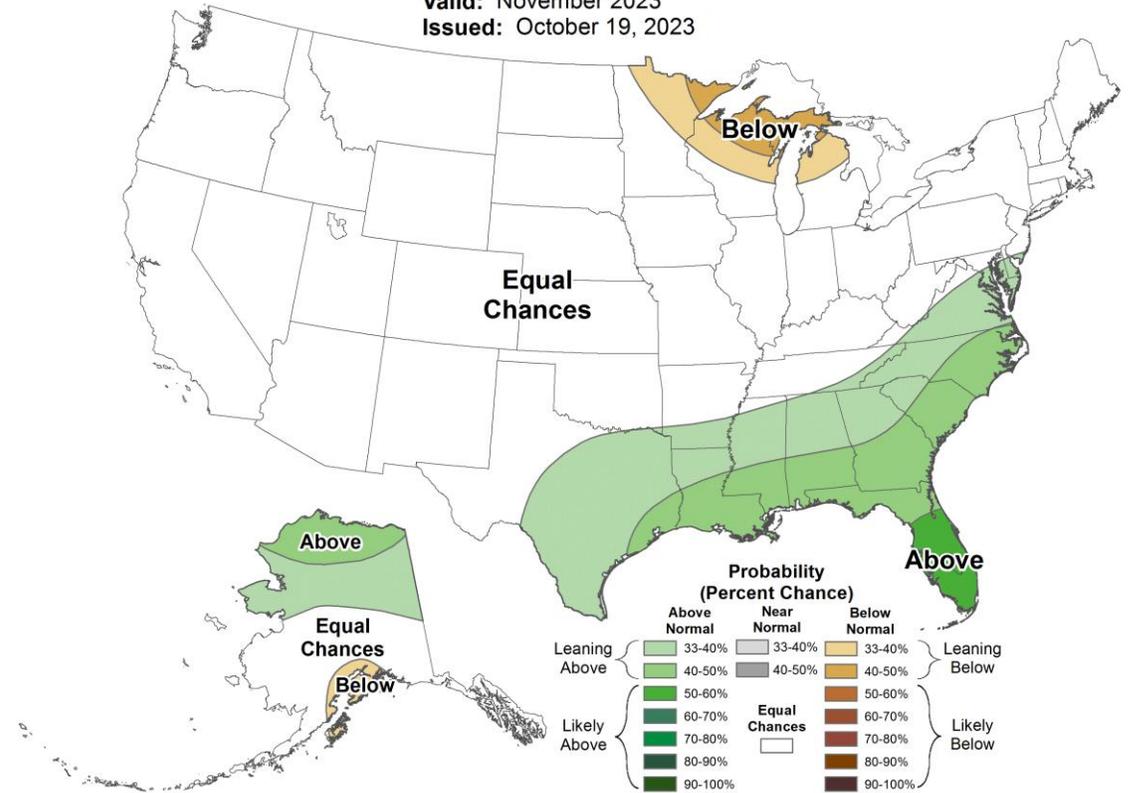
Monthly Temperature Outlook

Valid: November 2023
Issued: October 19, 2023



Monthly Precipitation Outlook

Valid: November 2023
Issued: October 19, 2023





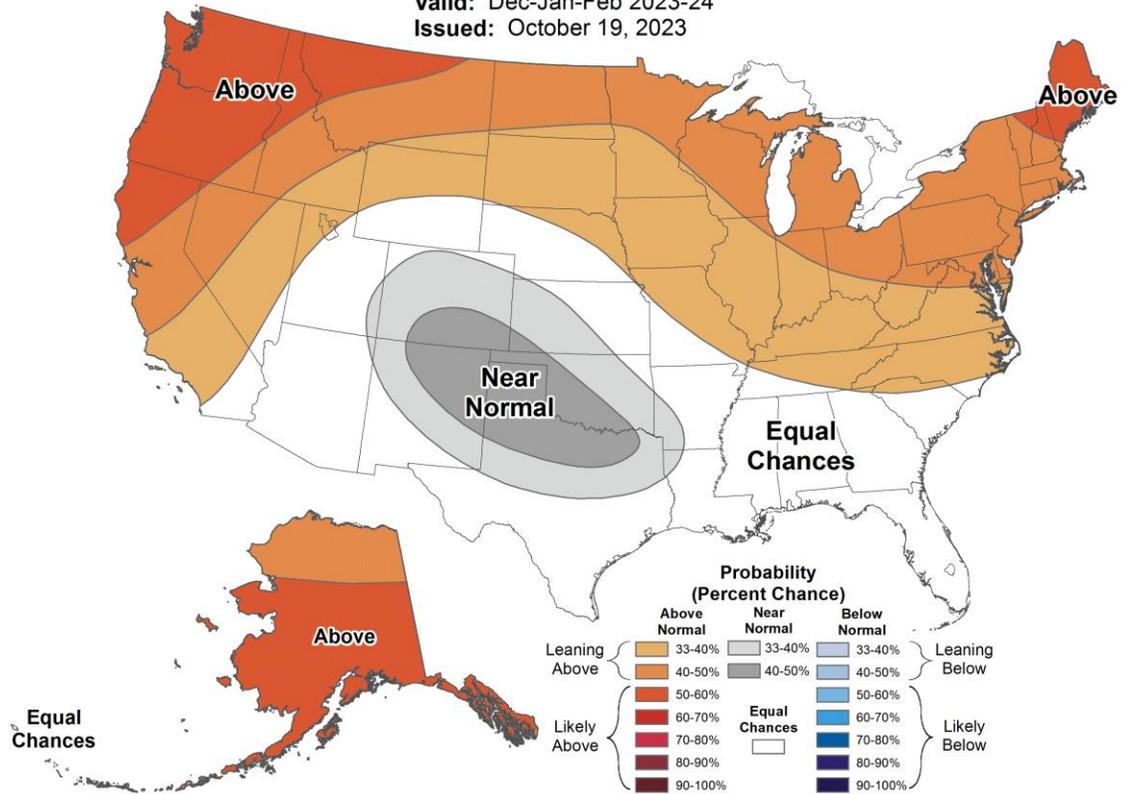
December-February Outlook



Seasonal Temperature Outlook



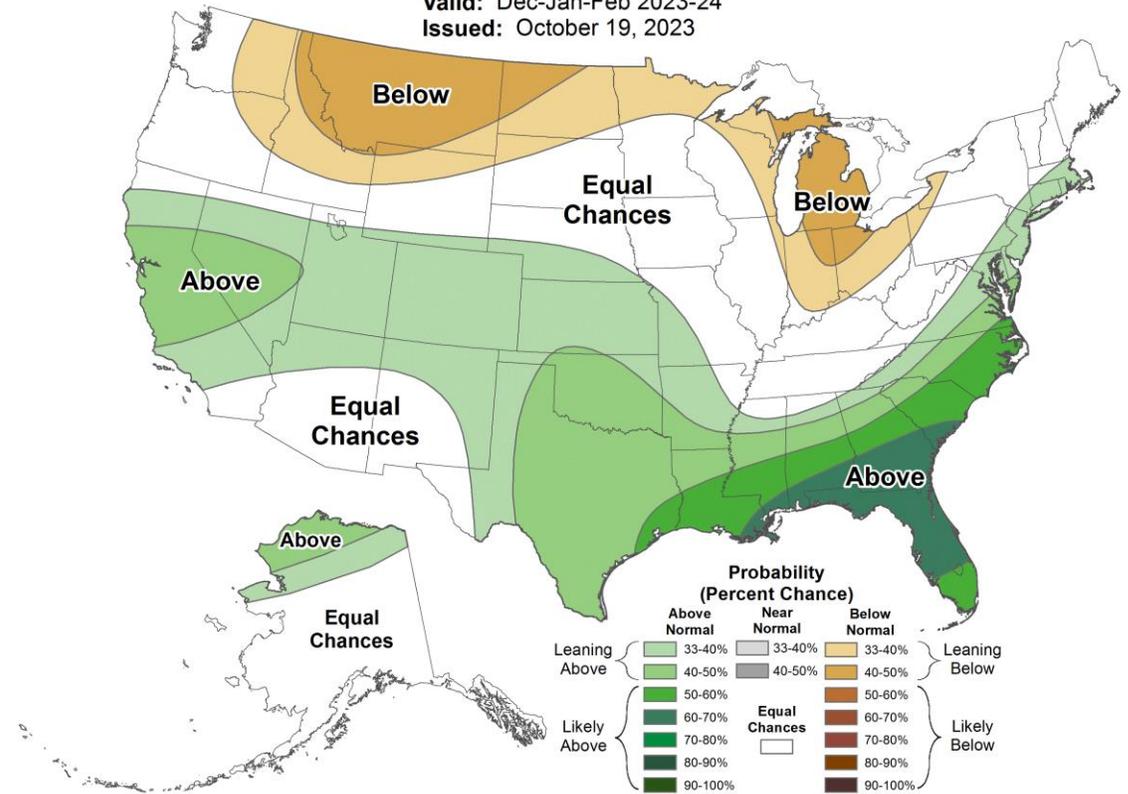
Valid: Dec-Jan-Feb 2023-24
Issued: October 19, 2023

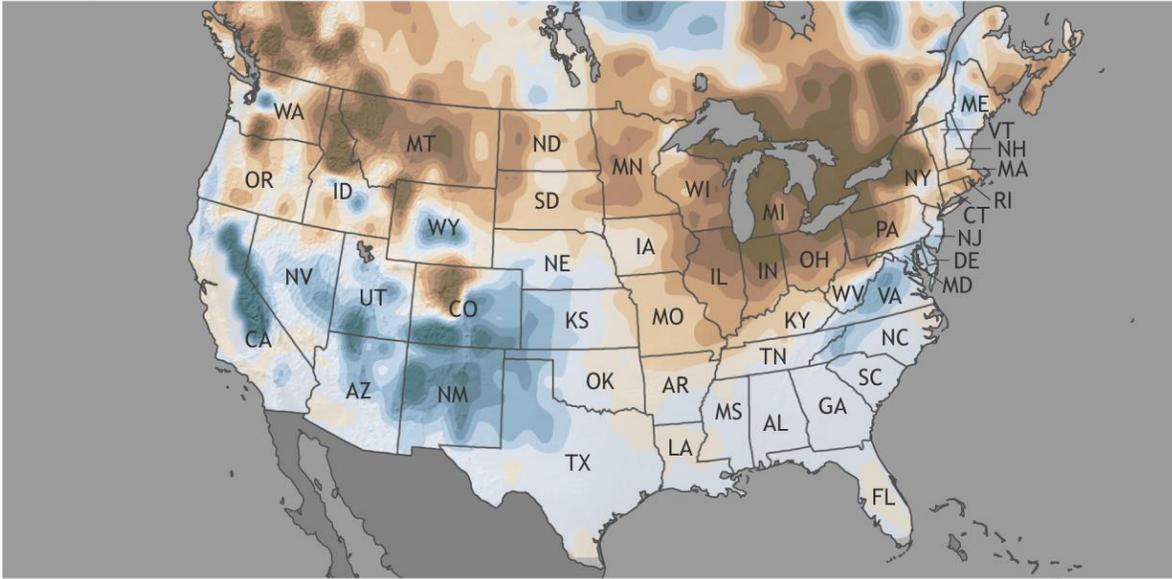


Seasonal Precipitation Outlook

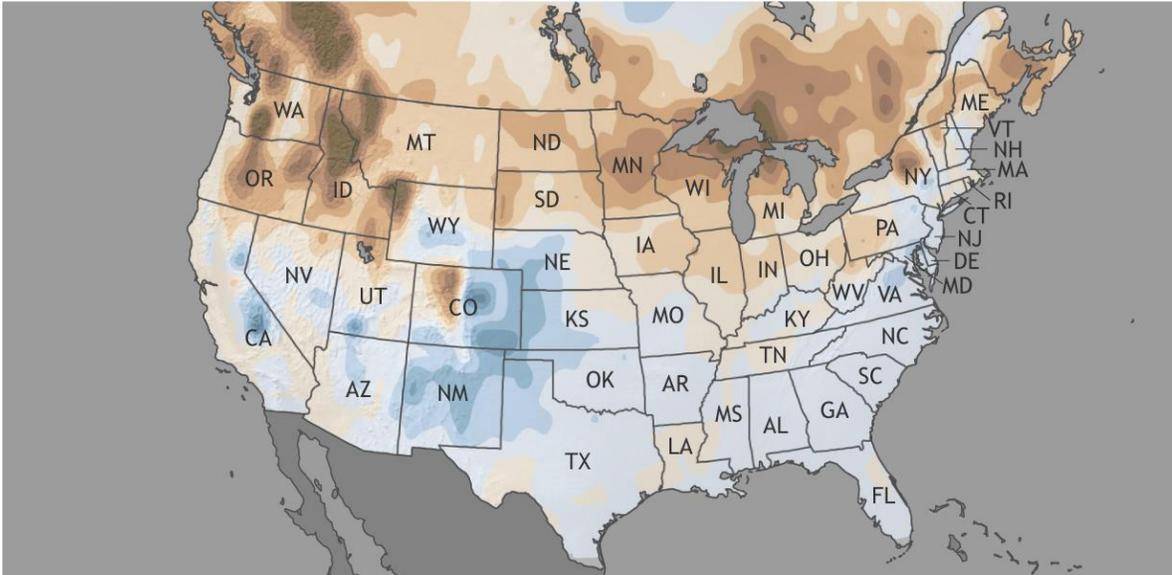


Valid: Dec-Jan-Feb 2023-24
Issued: October 19, 2023

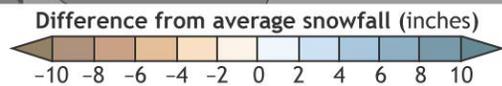




All events



October-April
compared to 1950-2009



NOAA Climate.gov
Data: Rutgers/CPC

El Niño Snowfall 1950-2009



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Key Messages

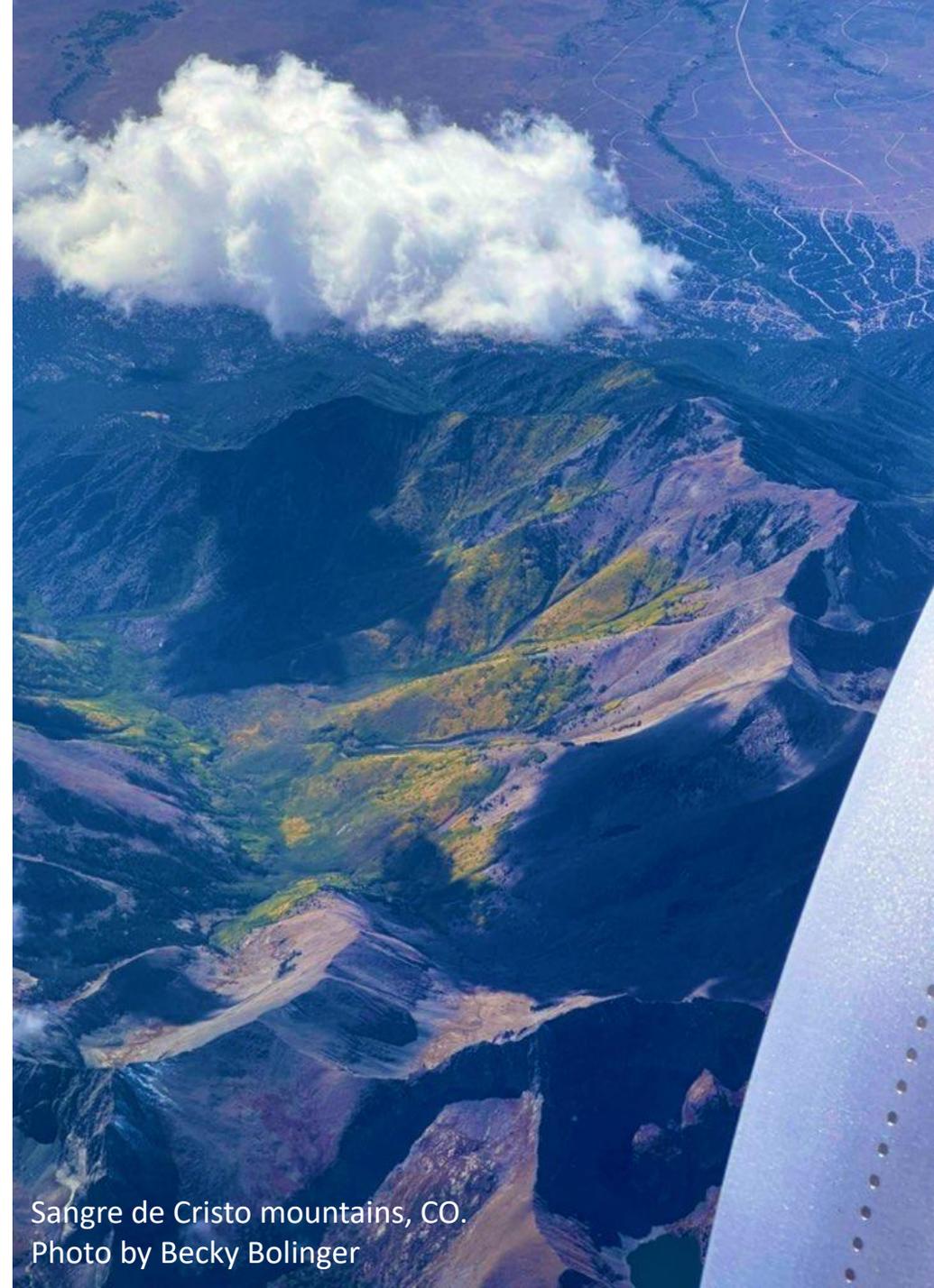
- Drought continuing in central and southern part of our region. Some short relief possible with storm system next week.
- Expecting El Nino to continue through winter season into spring
- Winter outlook details:
<https://www.climate.gov/news-features/understanding-climate/2023-24-us-winter-outlook-wetter-south-warmer-north>



Fall in Minnesota. Photo by Kenny Blumenfeld.

Thank You!

- Questions:
 - **Climate:**
 - Laura Edwards: laura.edwards@sdstate.edu, 605-626-2870
 - Dennis Todey: dennis.todey@usda.gov , 515-294-2013
 - Doug Kluck: doug.kluck@noaa.gov, 816-564-2417
 - Brian Fuchs: bfuchs2@unl.edu 402 472-6775
 - **Agriculture:**
 - Brad Rippey, brad.rippley@usda.gov
 - **Weather:**
 - crhroc@noaa.gov



Sangre de Cristo mountains, CO.
Photo by Becky Bolinger

Laura Edwards

SDSU Extension State Climatologist



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El Niño will shape fall weather and impacts of wildfire smoke are as of yet unknown, USDA meteorologist says

USDA meteorologist Brad Rippey spoke Thursday, Sept. 14, 2023, at the Big Iron Farm Show and gave his outlook for the fall and winter.

**Midwest/Great Plains
Agricultural Update,
October 19, 2023**



**Big Iron Farm Show, Fargo, ND,
September 14, 2023. Photo by
Jenny Schlecht / Agweek**

USDA Meteorologist Brad Rippey, right, spoke to Randy Koenen of the Red River Farm Network during the Big Iron Farm Show Sept. 14, 2023, in West Fargo, North Dakota. Jenny Schlecht / Agweek



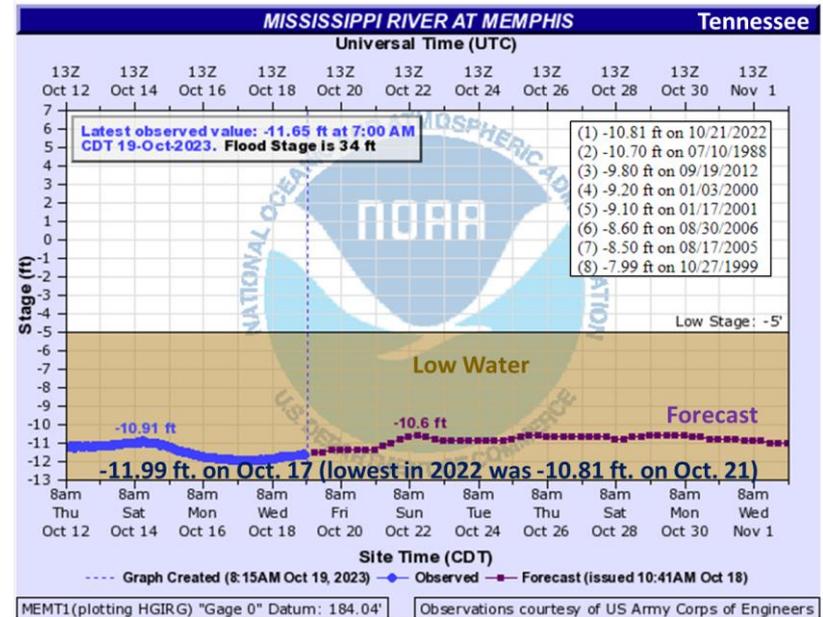
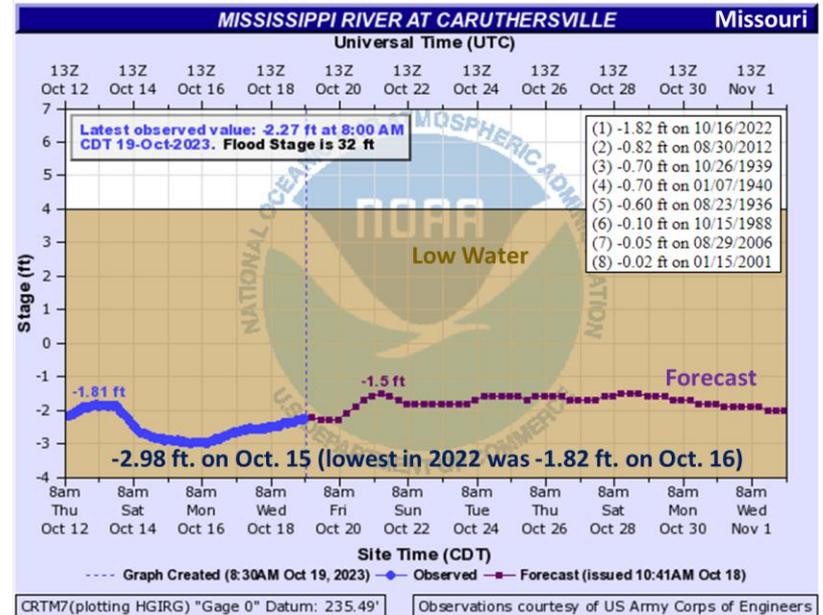
RECENT RECORD LOW WATER STAGES on the Mississippi River



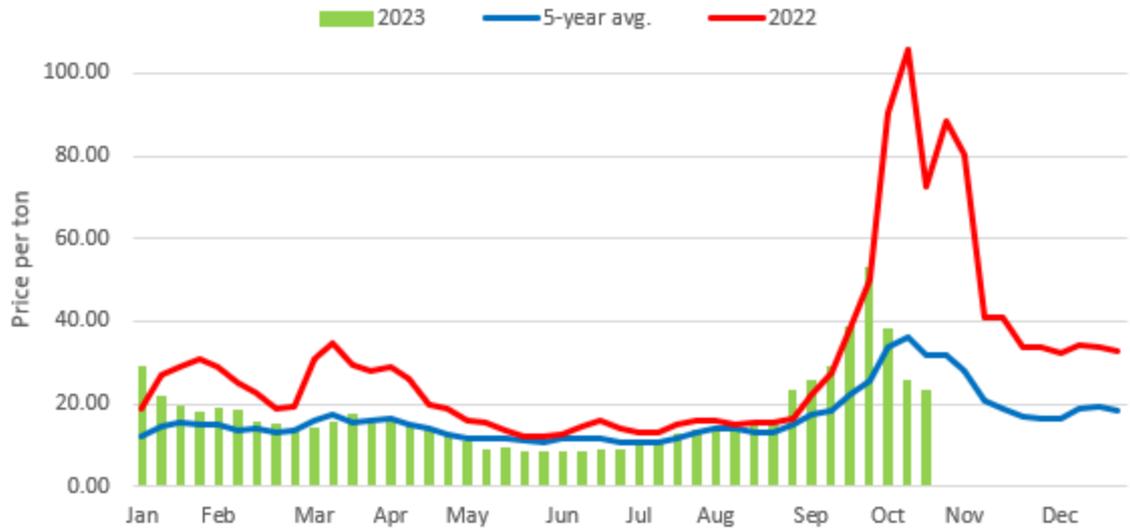
Gage Location	Record Low Stage (Date)	Previous Record (Year)
Cairo	4.54 ft 10/13/2023	4.83 ft 2022
New Madrid	-6.55 ft 10/15/2023	-5.51 ft 2022
Caruthersville	-2.98 ft 10/15/2023	-1.82 ft 2022
Osceola	-11.80 ft 10/16/2023	-11.60 ft 2022
Memphis	-12.04 ft 10/17/2023	-10.81 ft 2022
Helena	-5.11 ft 10/18/2023	-4.20 ft 1988

River and Barge Highlights, Mississippi Basin

- Modern low-water records from Oct. 2022 have been broken from Cairo, Illinois, to just below Memphis, Tennessee.
- For the second year in a row, low water comes as Midwestern corn and soybean harvests are underway.
- Some 60% of all grain shipped from the U.S. typically moves through New Orleans.
- Shipping volume on the waterway is lower than usual for several reasons: grain/oilseeds are being stored; each boat is pushing fewer barges; and each barge is carrying less than it normally would, according to industry sources.
- A barge carries 1,750 tons of dry cargo, the equivalent of 70 trucks. A tow hauling 15 barges can carry more than 900,000 bushels of grain, according to the U.S. Army Corps of Engineers.

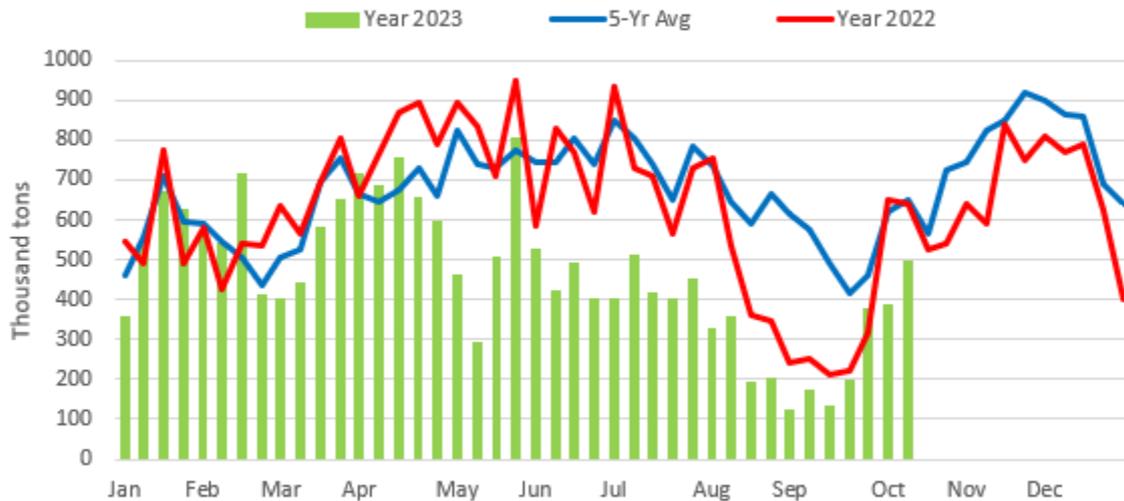


Barge Freight Rates (St. Louis)



For the week of Oct. 17, the spot freight rate at St. Louis fell to \$23.06/ton, down 10% from the previous week and 68% from the same time a year ago. Shippers appear to be looking at ways to keep their grain off the river or waiting for river conditions to improve.

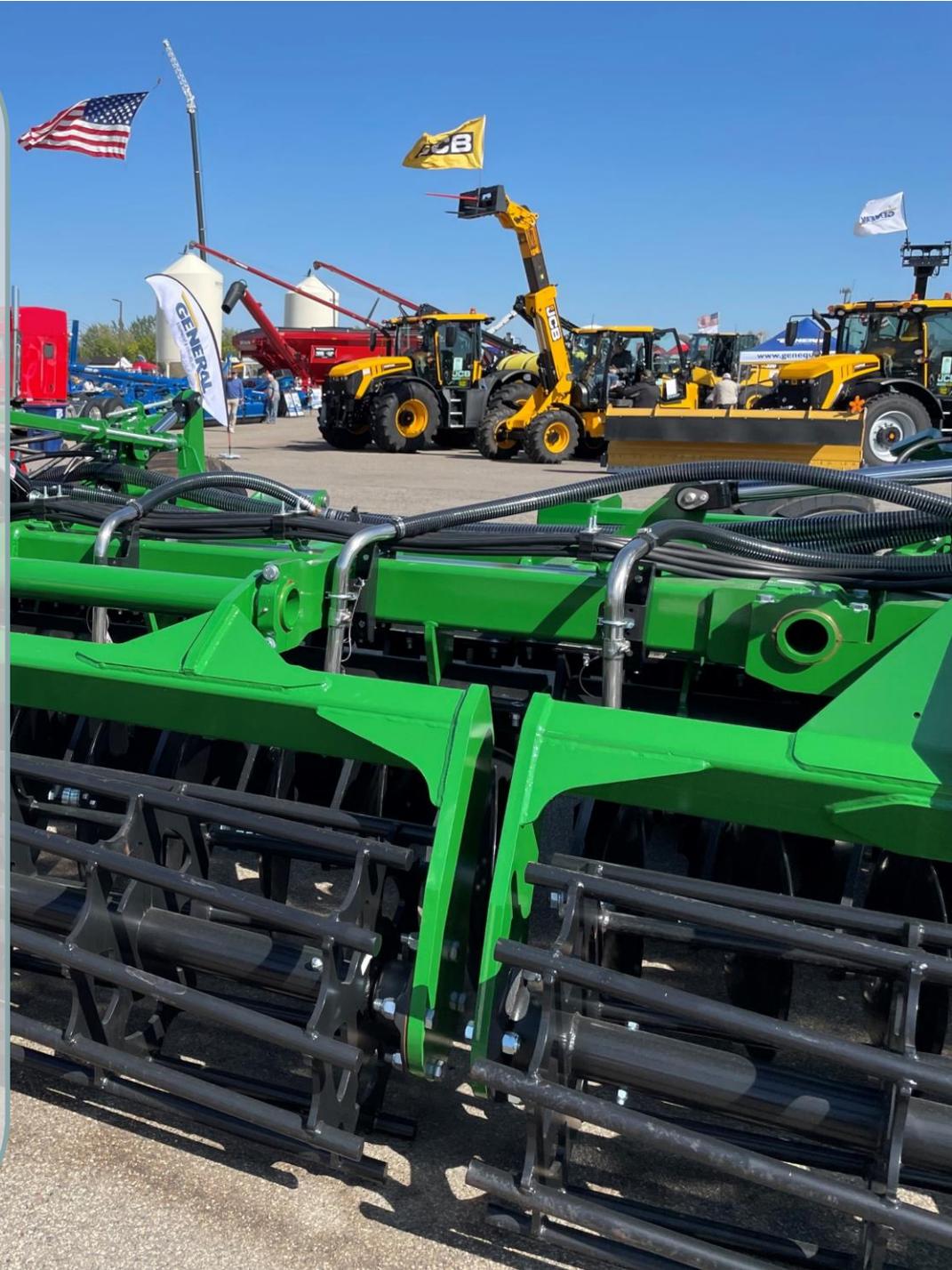
Downbound grain barges, tons



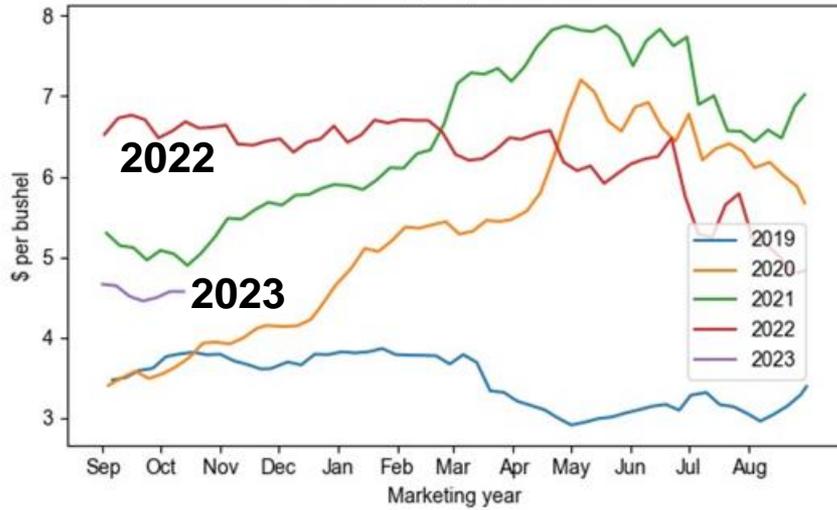
Farmers are storing as much grain as possible until river conditions improve but noted there could be a backlog of grain in coming months. According to some analysts, low water levels could divert more grain to truck and rail at higher freight costs. There have been seven barge groundings since Oct. 13.

2023: drought again in the western Corn Belt; drought arrives later in the east

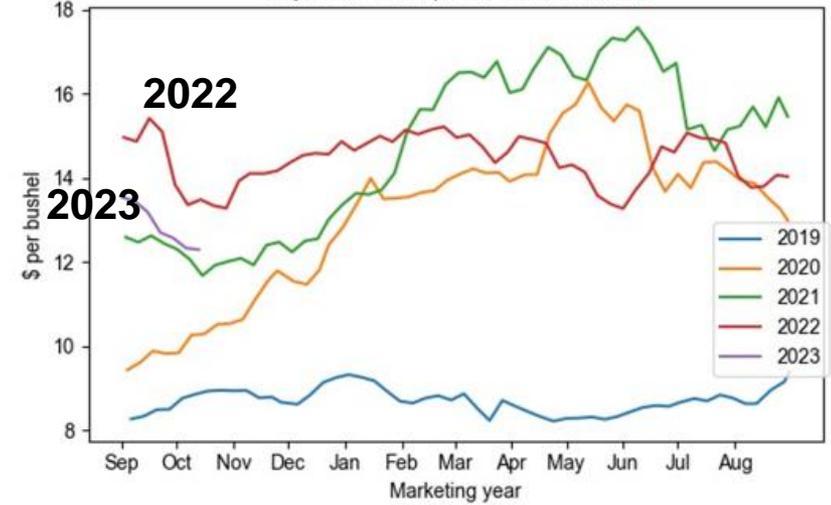
- There was minimal heat stress east of the Mississippi River, despite pockets of drought.
- It was hotter in western areas.
- Drought cut crop prospects in the upper Mississippi Valley.
- With U.S. corn acreage up, production was virtually tied with the record set in 2016 and 2021.
- Improved conditions on the High Plains benefited crops such as oats and sorghum.
- Commodity prices declined compared to a year ago, in part due to slight easing of inflation but also due to other factors (e.g. S. American production).



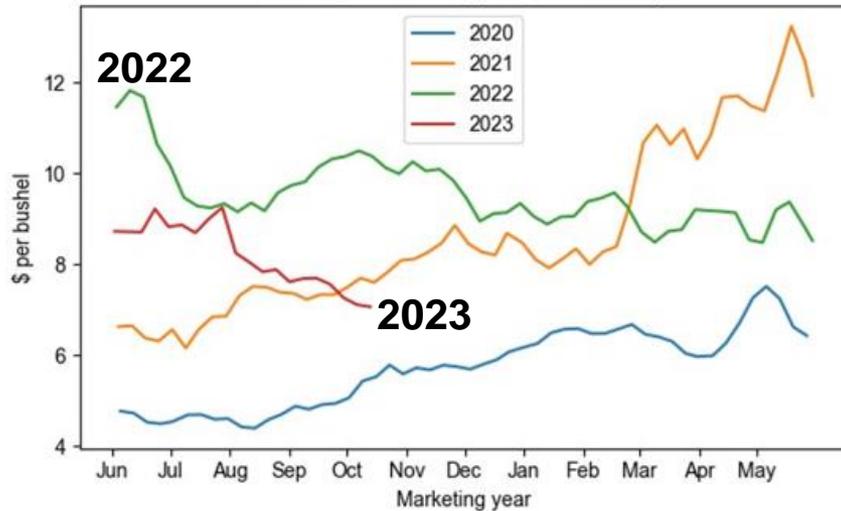
Corn: Cash price, Central Illinois



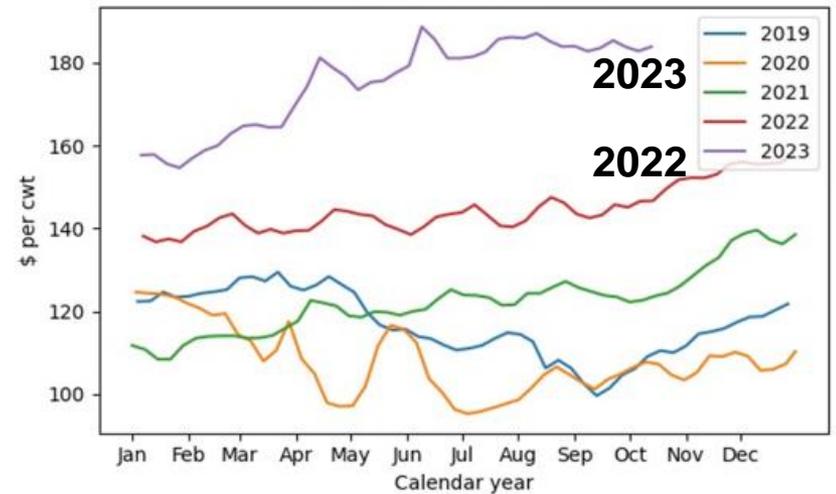
Soybean: Cash price, Central Illinois



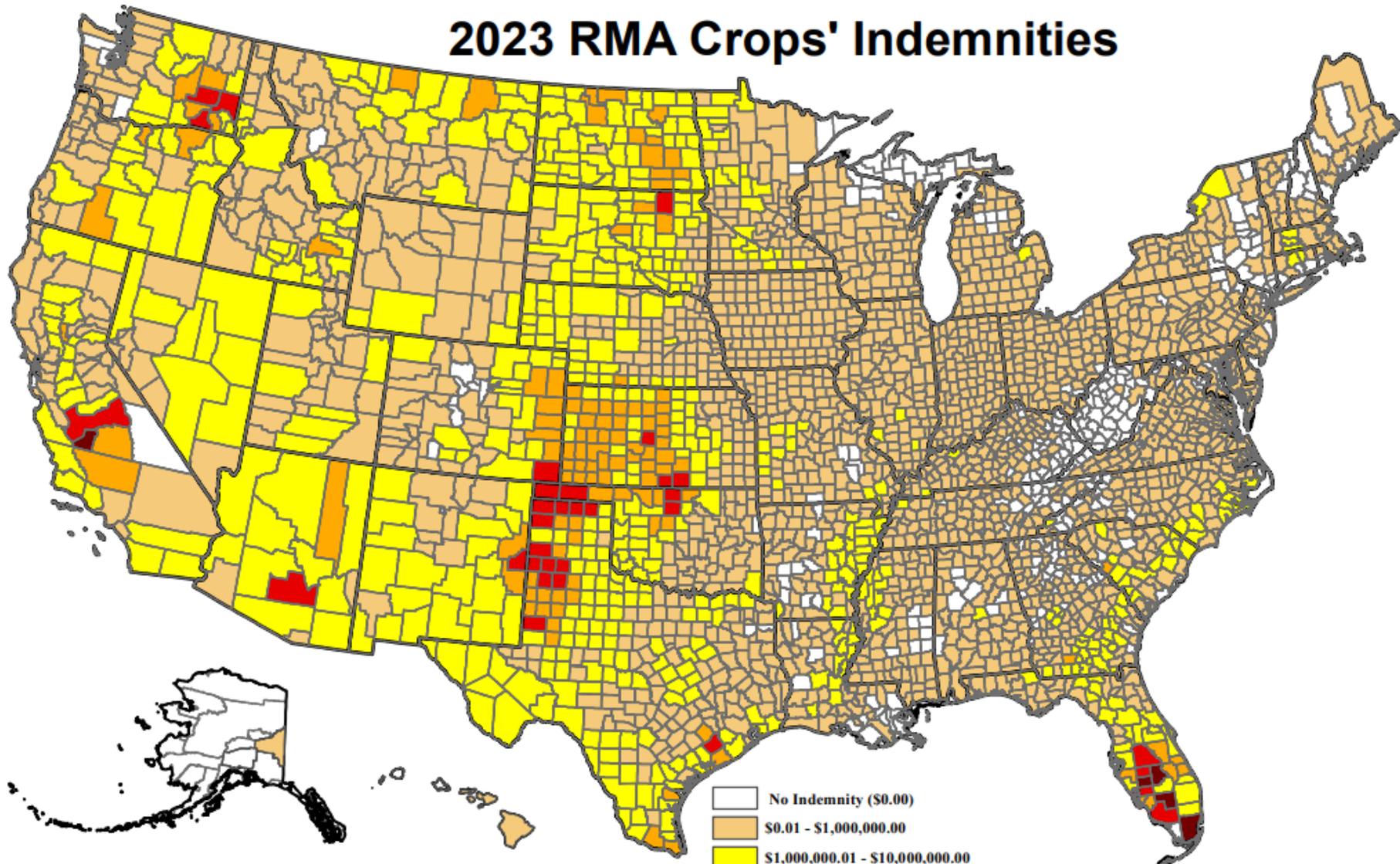
Wheat HRW: Cash price, Kansas City



USDA 5-area cattle steer



2023 RMA Crops' Indemnities



- No Indemnity (\$0.00)
- \$0.01 - \$1,000,000.00
- \$1,000,000.01 - \$10,000,000.00
- \$10,000,000.01 - \$25,000,000.00
- \$25,000,000.01 - \$50,000,000.00
- \$50,000,000.01 - \$88,765,801.00

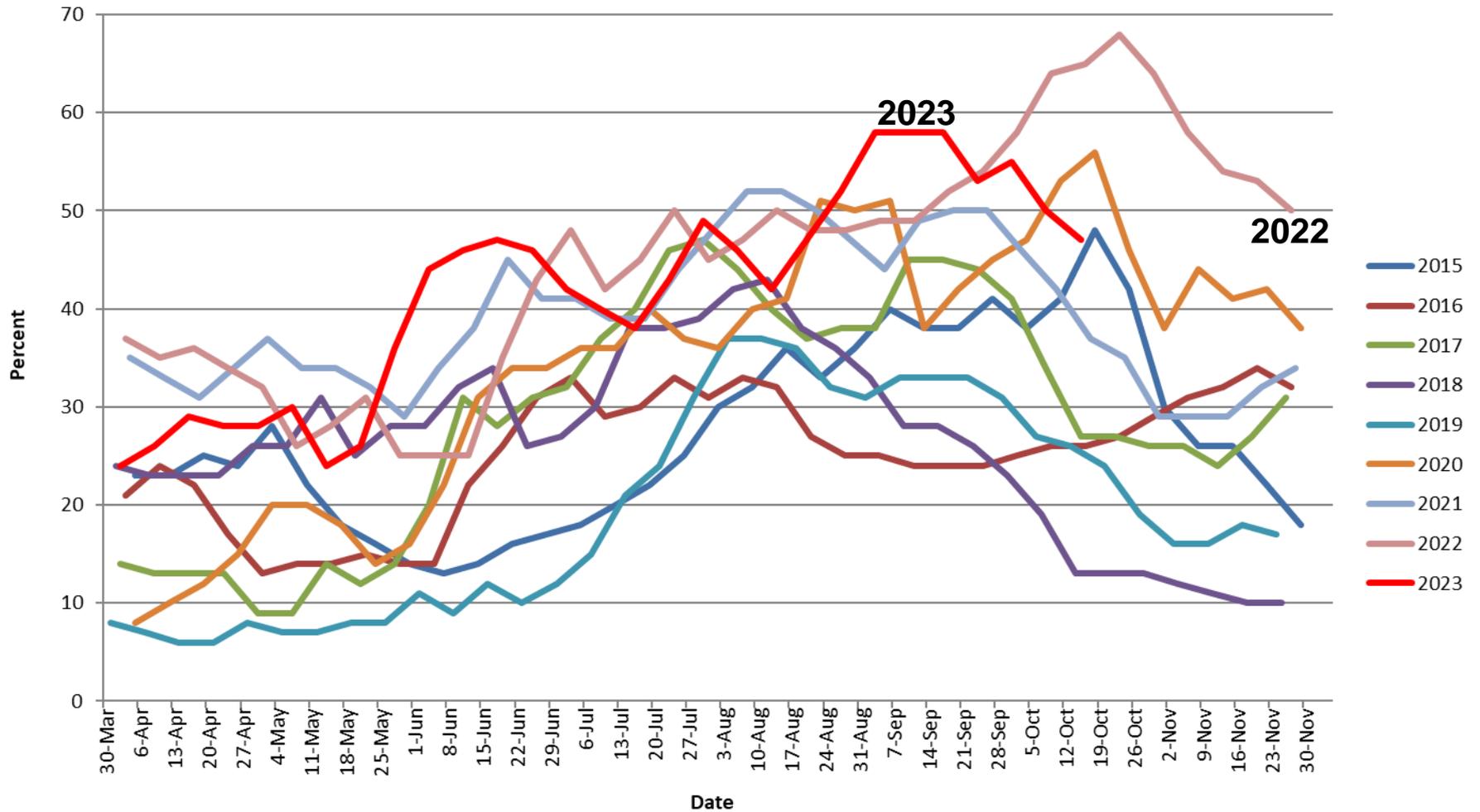
Map Creation Date: October 12, 2023
Layer Credits: USDA & US Census Bureau
Source: USDA Risk Management Agency - Summary of Business
Data Current Date: October 10, 2023
Map Projection: USA Contiguous Albers Equal Area Conic
RMA Risk Management Services Division



This map depicts weekly crop insurance indemnity data by county as of the data current date denoted on the map and is published biweekly.

The information displayed in this map is intended to serve as an aid in displaying data provided or stored by the Risk Management Agency. It does not modify, replace or supersede any USDA published policy provisions or procedures. Maps created by USDA Risk Management Agency are for spatial and visual context for depicting the basic information for "where". Maps are not considered a survey. General Reference Only.

U.S. Topsoil Moisture: Percent Short-Very Short

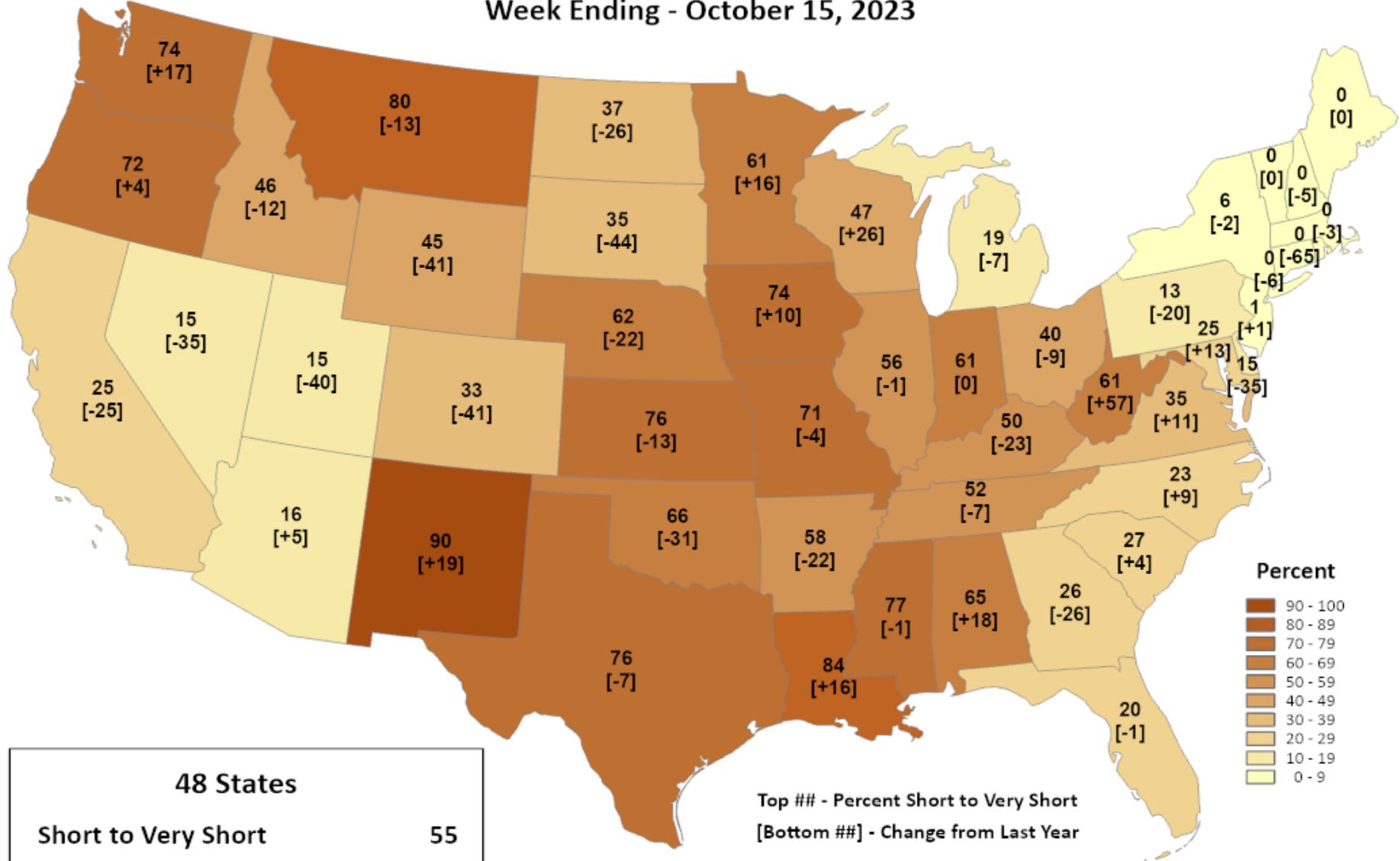


Based on NASS crop progress data.

Subsoil Moisture

Percent Short to Very Short

Week Ending - October 15, 2023

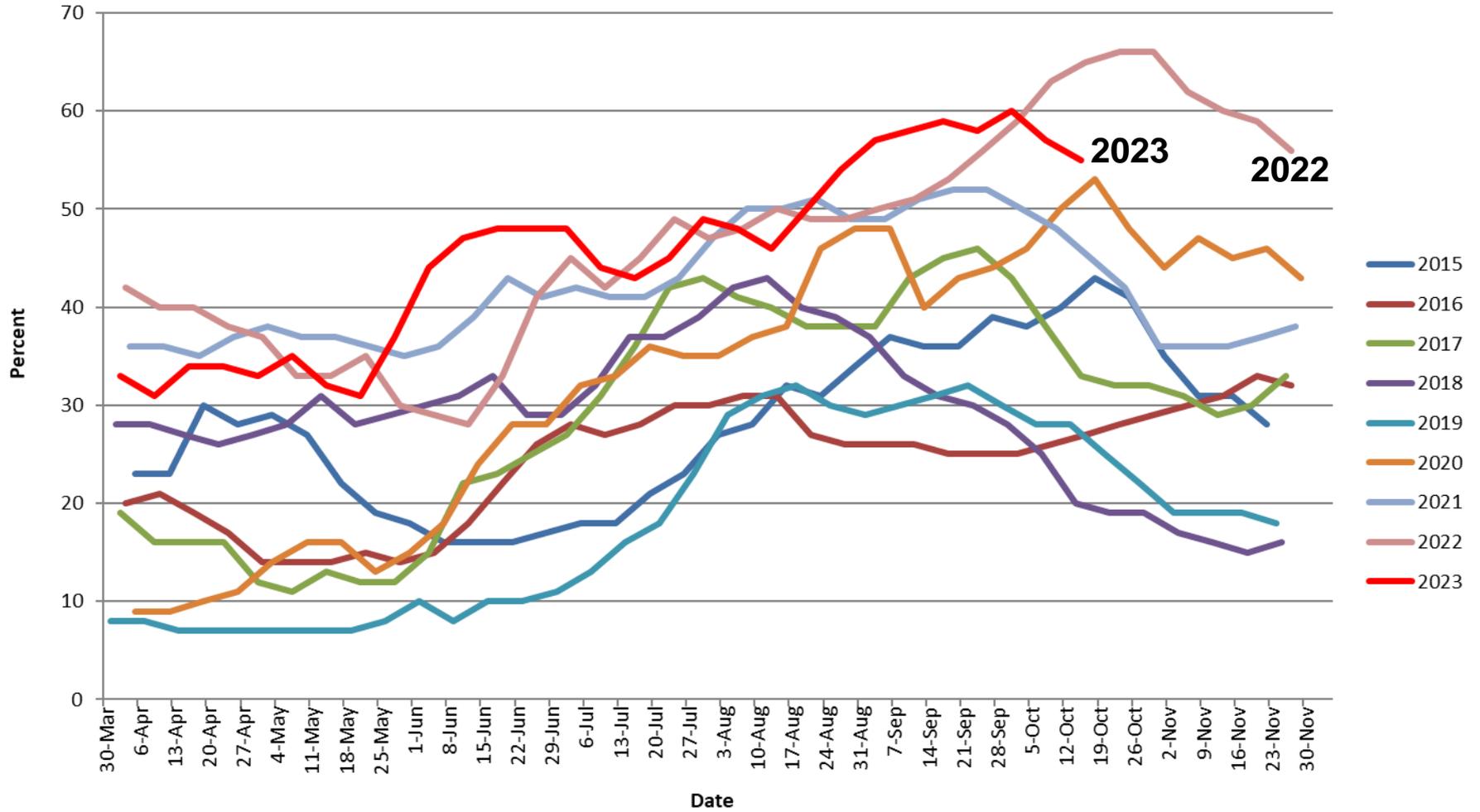


48 States	
Short to Very Short	55
Change from Last Year	-10

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

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

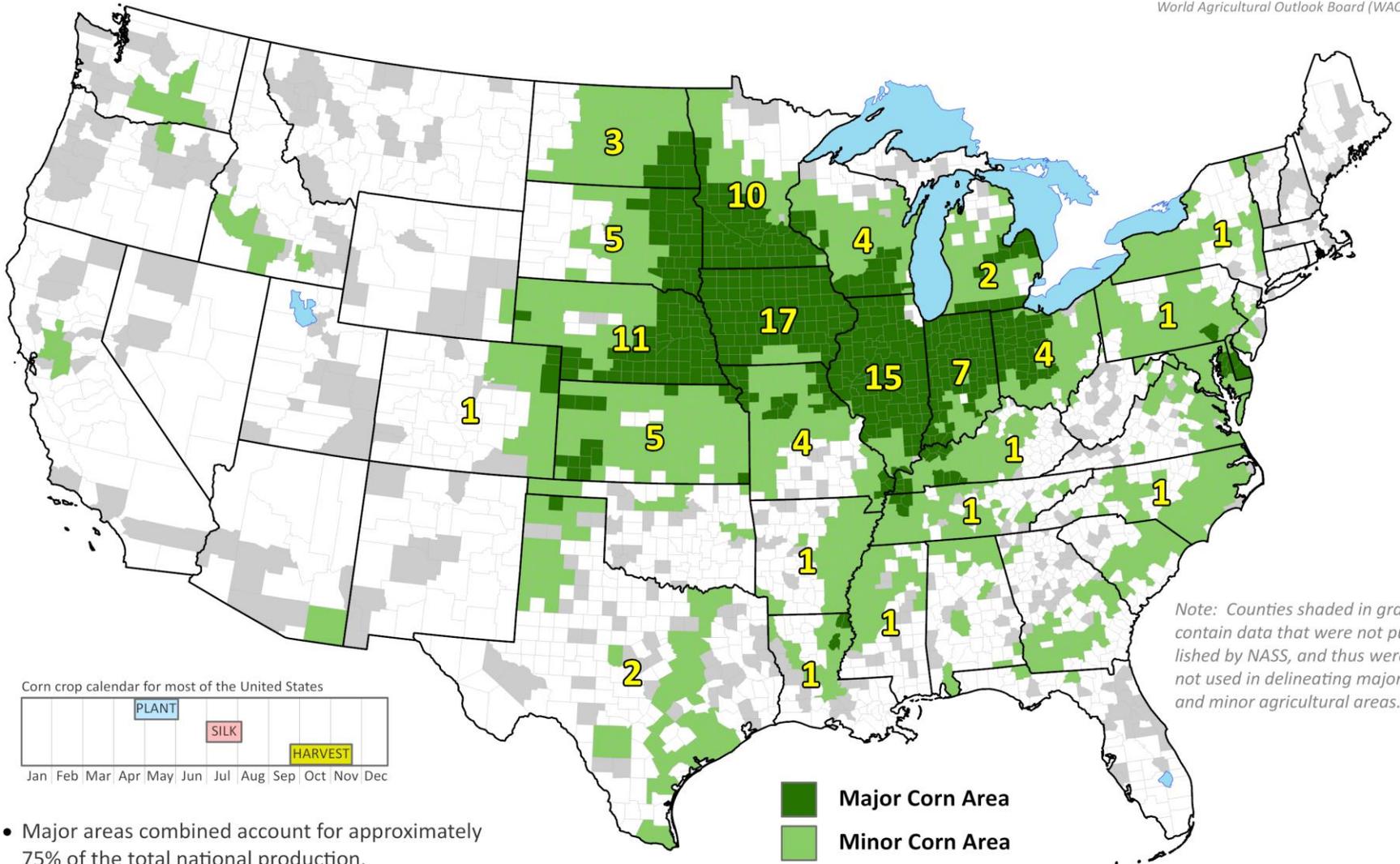
U.S. Subsoil Moisture: Percent Short-Very Short



Based on NASS crop progress data.

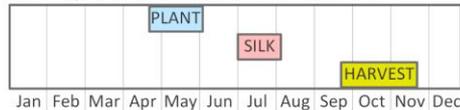
United States: Corn

This product was prepared by the
 USDA Office of the Chief Economist (OCE)
 World Agricultural Outlook Board (WAOB)



Note: Counties shaded in gray contain data that were not published by NASS, and thus were not used in delineating major and minor agricultural areas.

Corn crop calendar for most of the United States



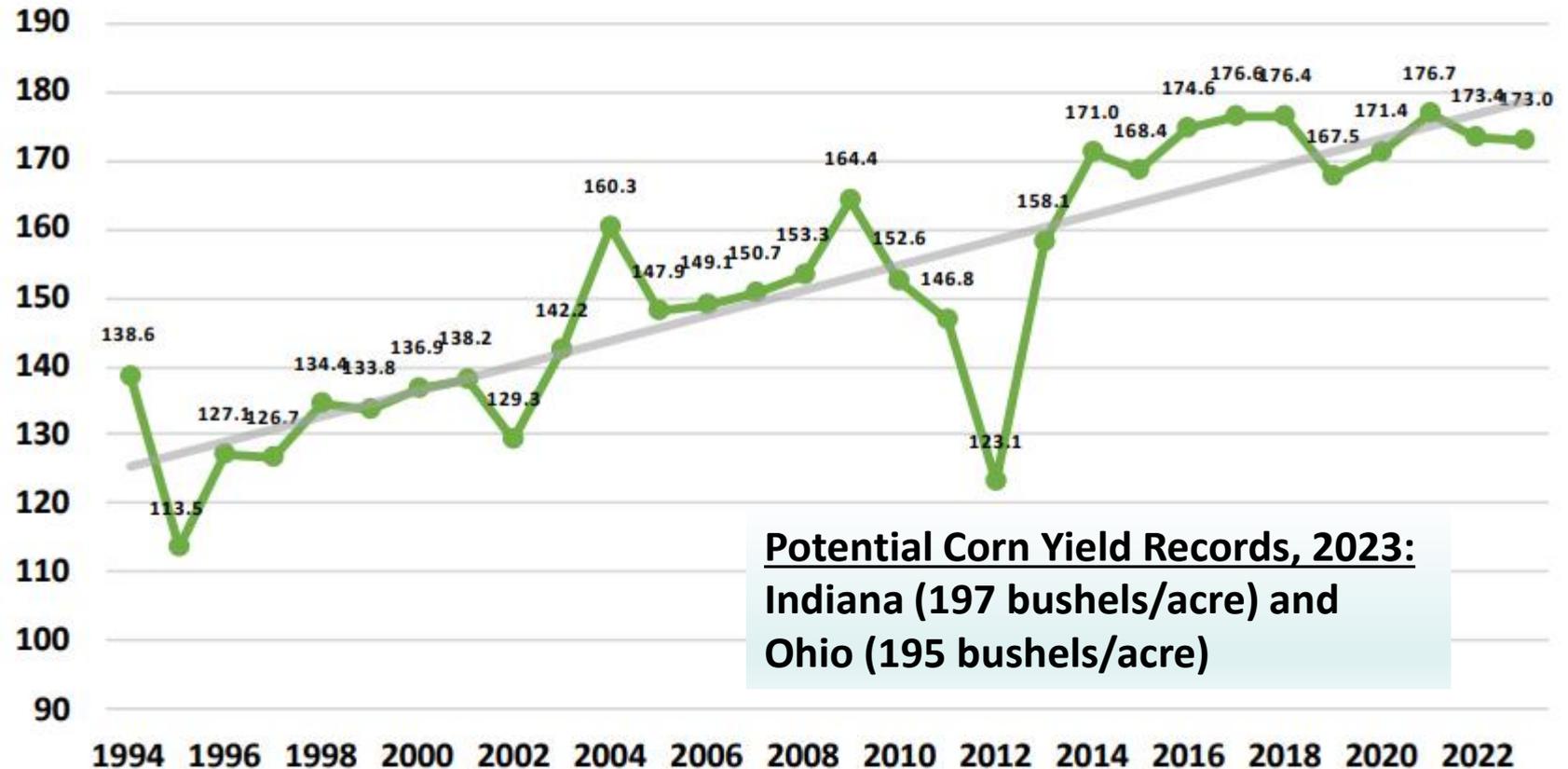
- Major areas combined account for approximately 75% of the total national production.
- Major and minor areas combined account for approximately 99% of the total national production.
- Major and minor areas and state production percentages are derived from NASS 2017 Census of Agriculture data.

Yellow numbers approximate the percent each state contributed to the total national production. States not numbered contributed less than 1% to the national total or the state production was not disclosed by NASS.

Corn Yield United States

[https://www.nass.usda.gov/Newsroom/Executive Briefings/2023/10-12-2023.pdf](https://www.nass.usda.gov/Newsroom/Executive_Briefings/2023/10-12-2023.pdf)

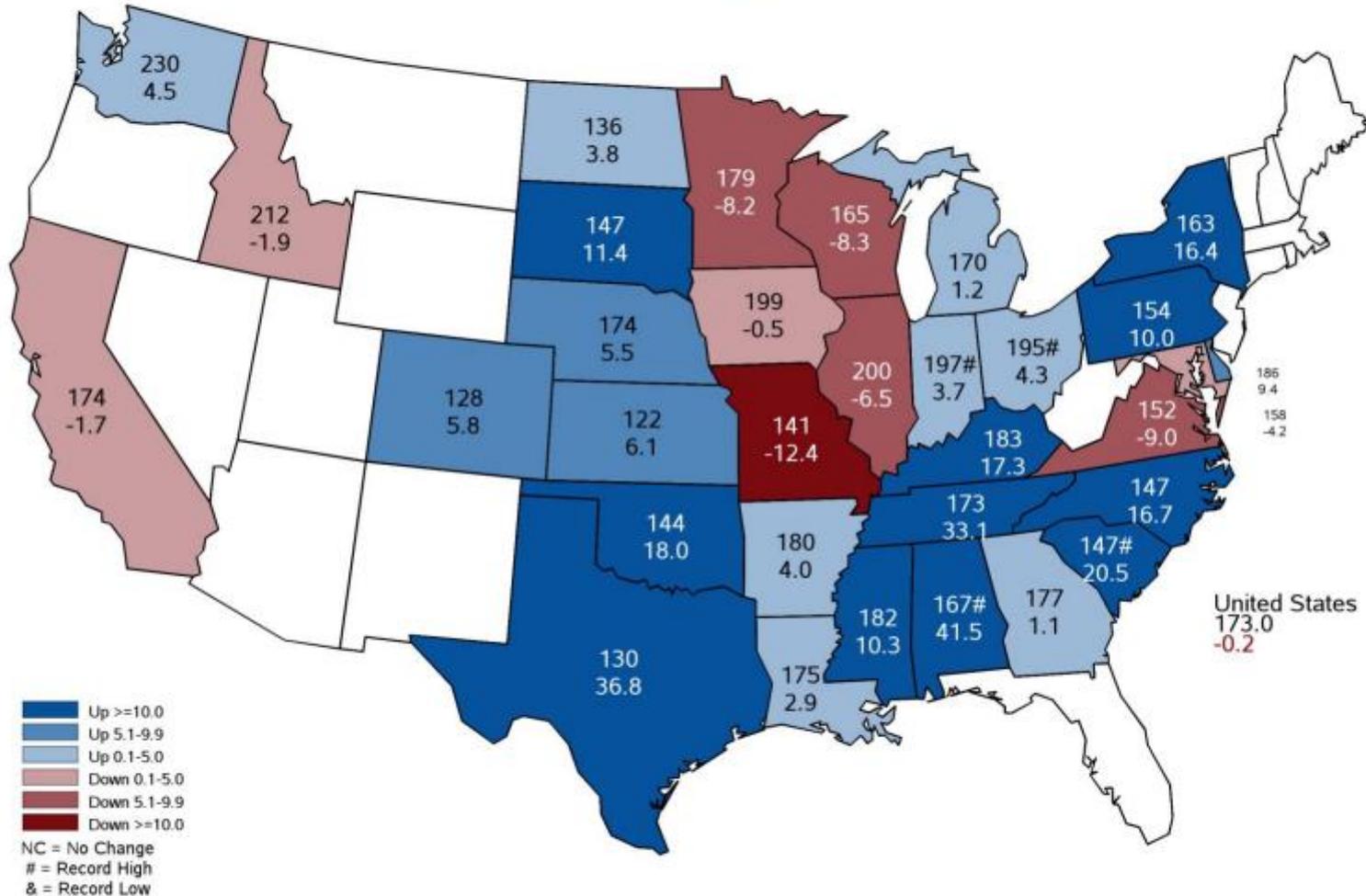
Bushels per Acre



Potential Corn Yield Records, 2023:
 Indiana (197 bushels/acre) and
 Ohio (195 bushels/acre)

October 2023 Corn Yield

Bushels and Percent Change from Previous Year



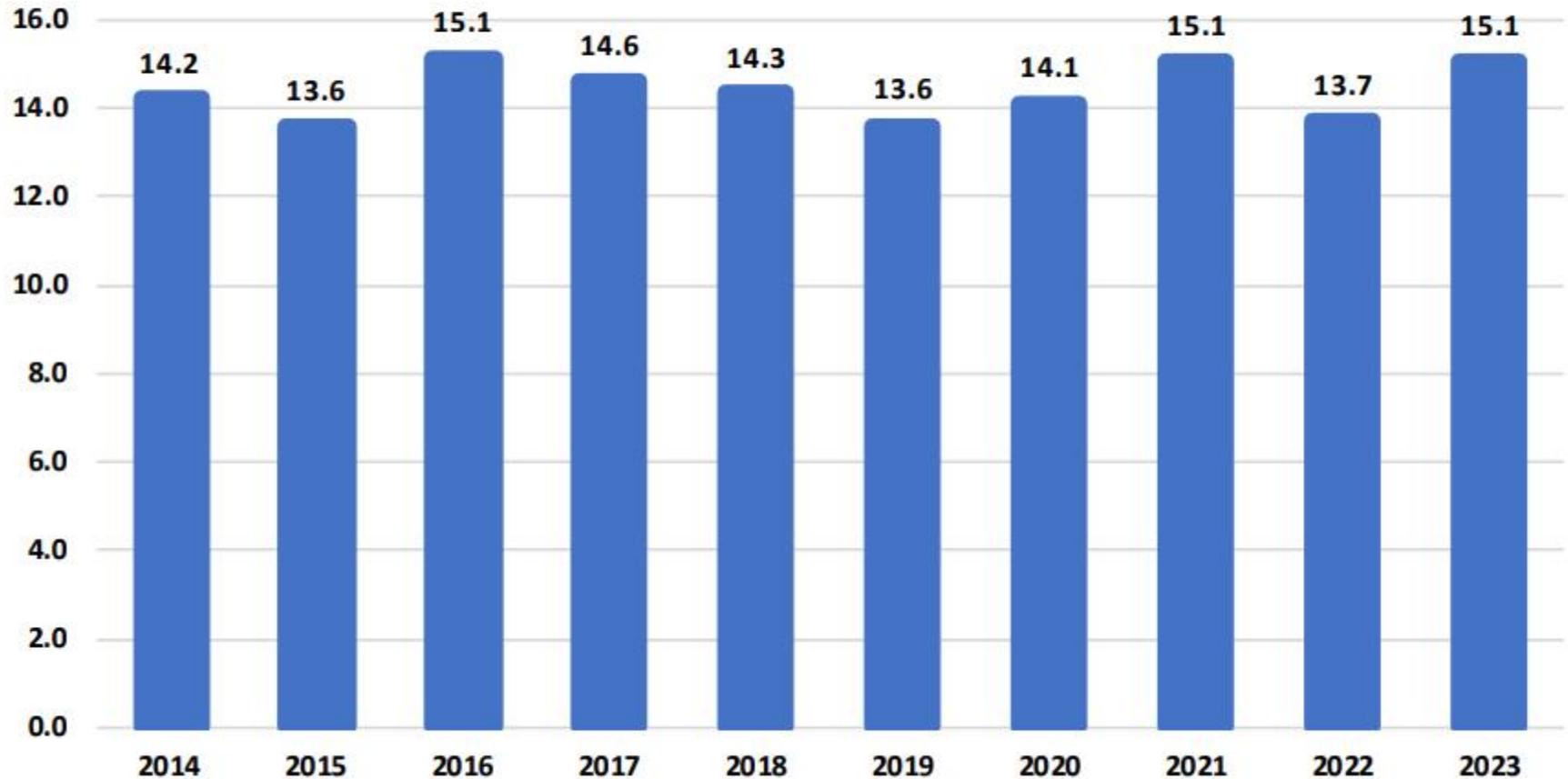
https://www.nass.usda.gov/Newsroom/Executive_Briefings/2023/10-12-2023.pdf



Corn Production United States

https://www.nass.usda.gov/Newsroom/Executive_Briefings/2023/10-12-2023.pdf

Billion Bushels

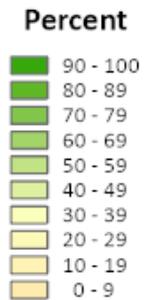
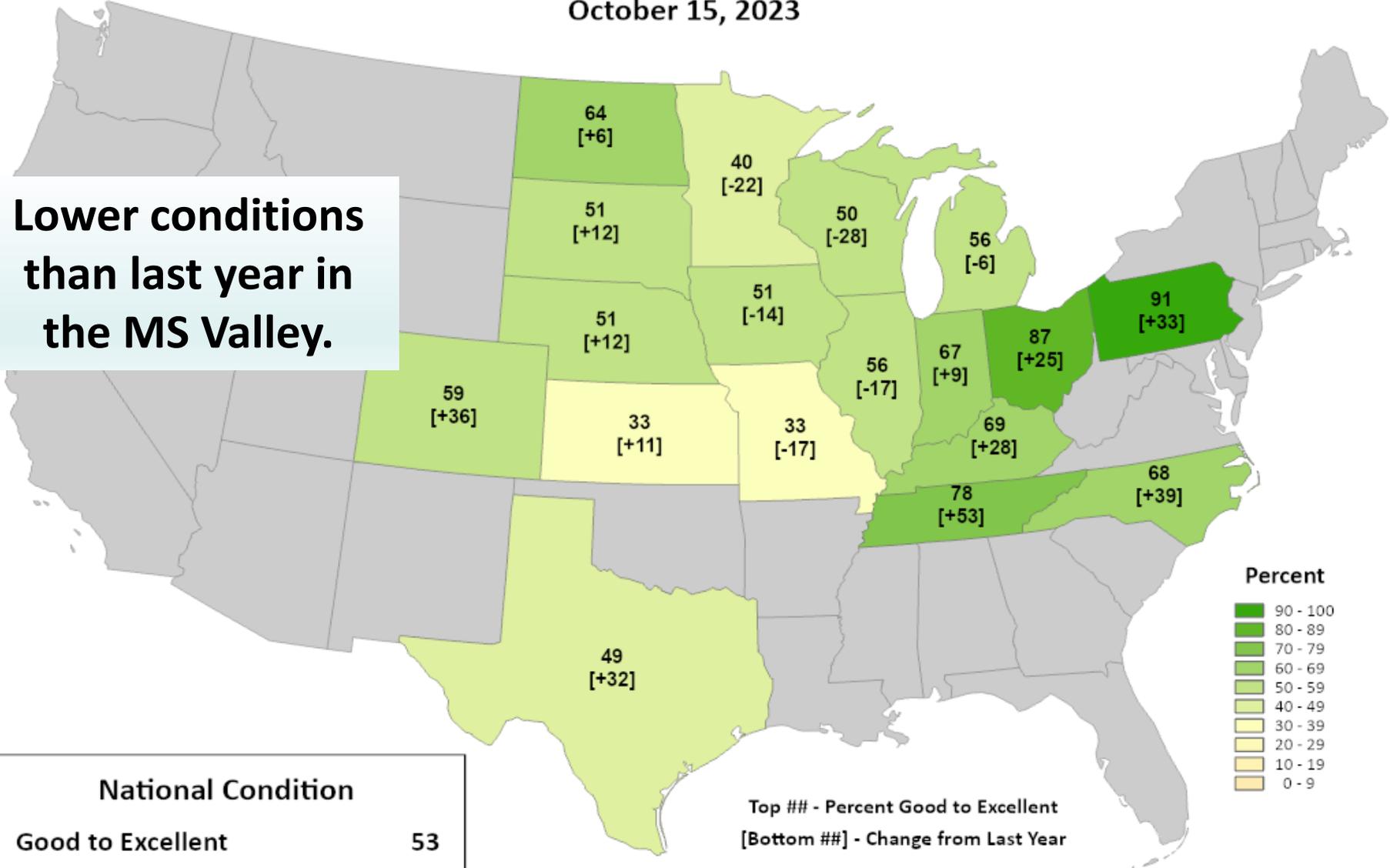


Corn Conditions

Percent Good to Excellent

October 15, 2023

**Lower conditions
than last year in
the MS Valley.**



National Condition	
Good to Excellent	53
Change from Last Year	0

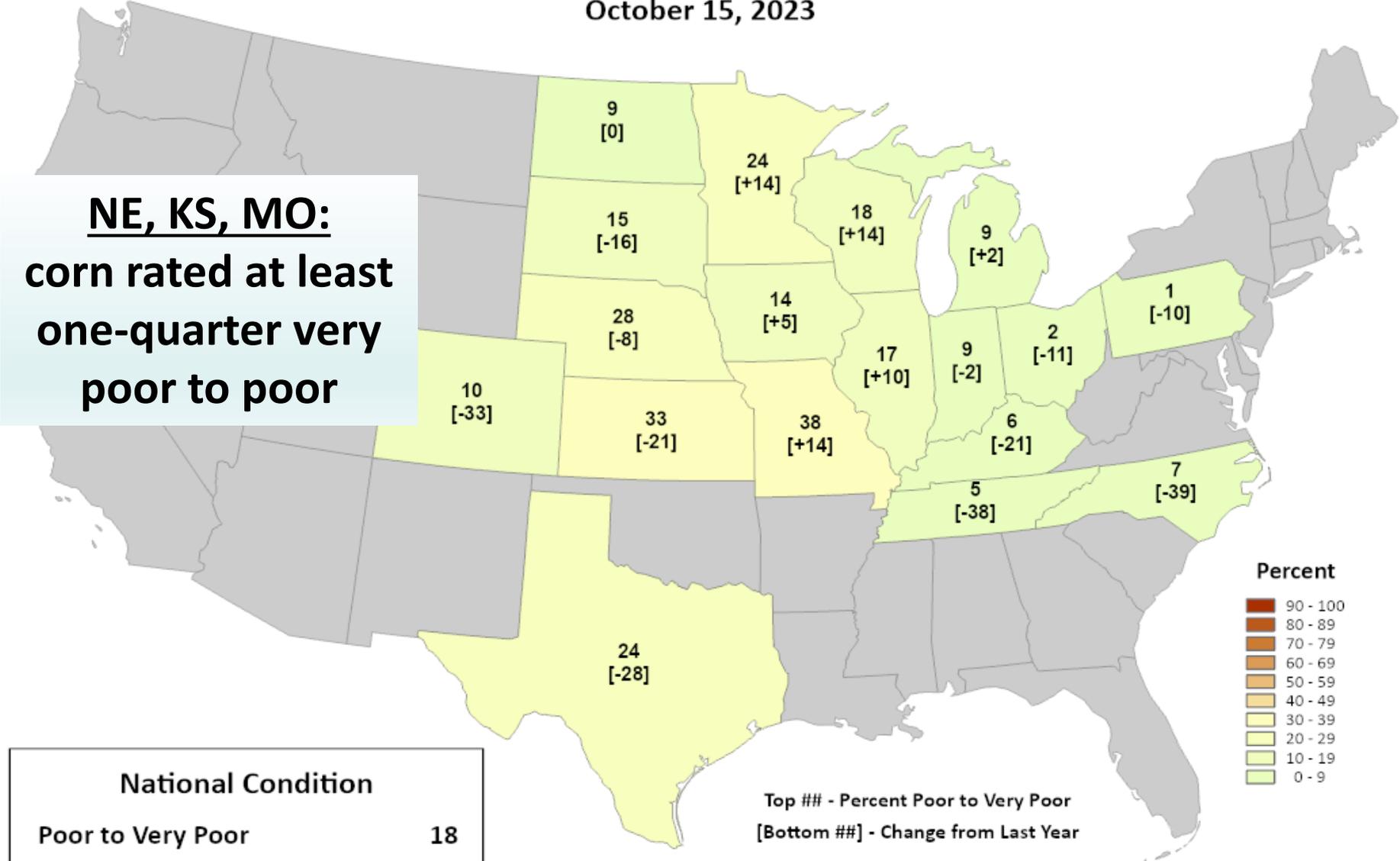
Top ## - Percent Good to Excellent
[Bottom ##] - Change from Last Year

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

Corn Conditions

Percent Poor to Very Poor

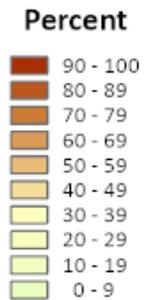
October 15, 2023



**NE, KS, MO:
corn rated at least
one-quarter very
poor to poor**

National Condition	
Poor to Very Poor	18
Change from Last Year	-3

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



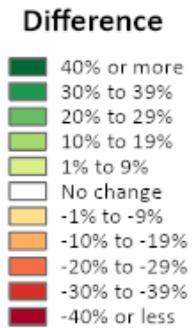
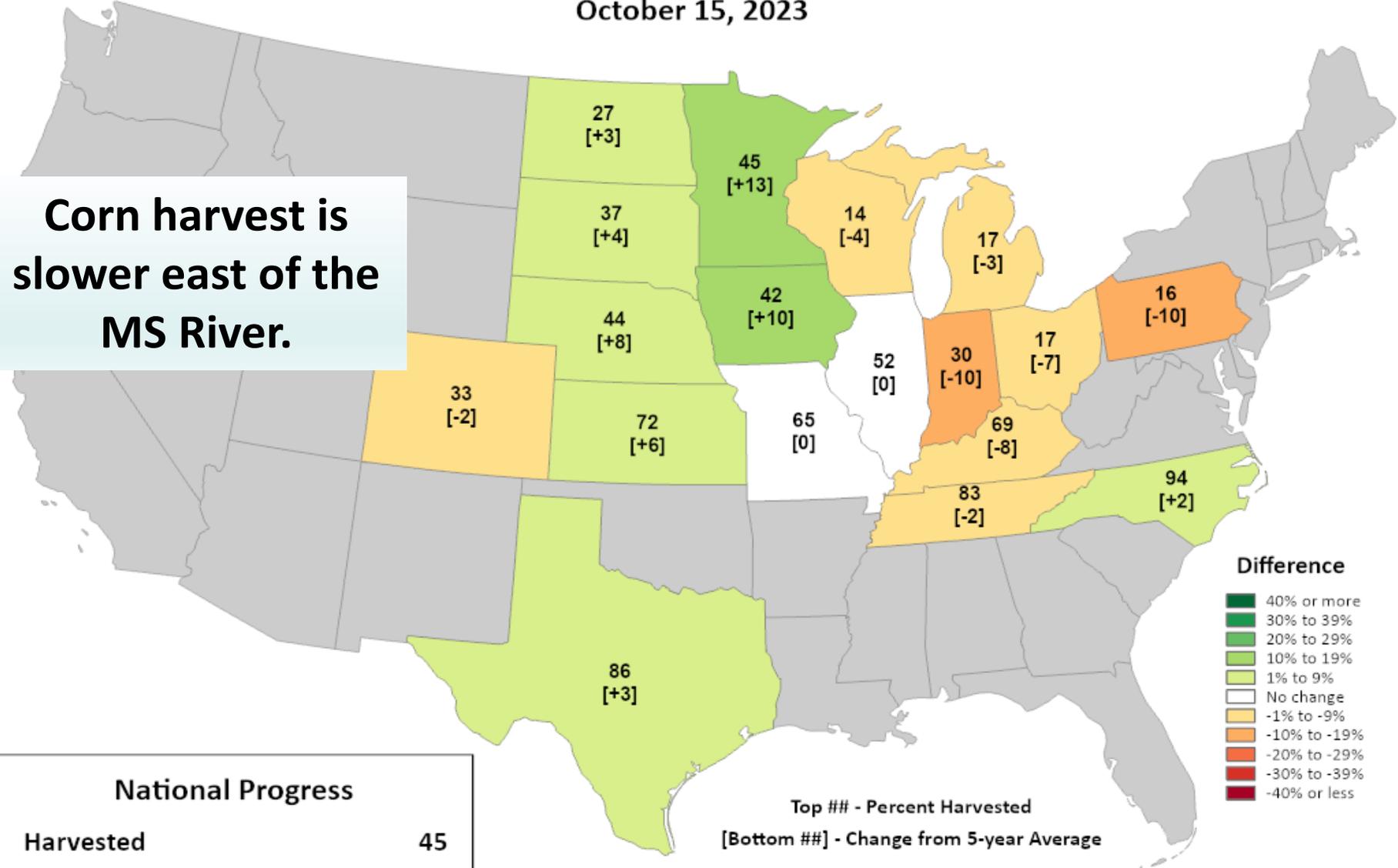
Data obtained from USDA National Agricultural Statistics Service weekly Crop Progress reports.

Corn Progress

Percent Harvested

October 15, 2023

Corn harvest is slower east of the MS River.

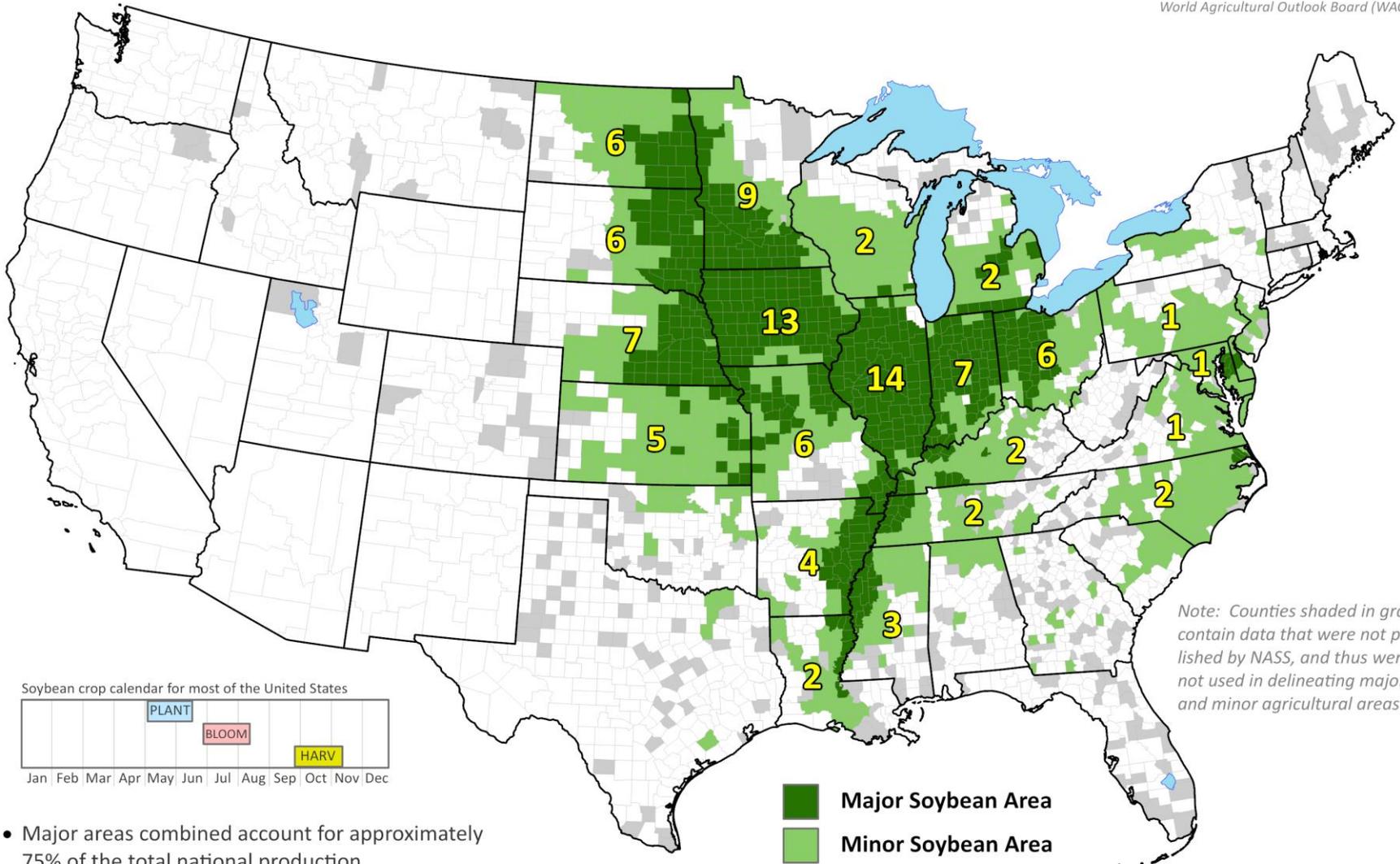


National Progress	
Harvested	45
Change from 5-year Average	+3

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

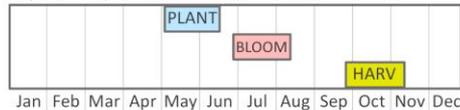
Data obtained from USDA National Agricultural Statistics Service weekly Crop Progress reports.

United States: Soybeans



Note: Counties shaded in gray contain data that were not published by NASS, and thus were not used in delineating major and minor agricultural areas.

Soybean crop calendar for most of the United States



- Major areas combined account for approximately 75% of the total national production.
- Major and minor areas combined account for approximately 99% of the total national production.
- Major and minor areas and state production percentages are derived from NASS 2017 Census of Agriculture data.

 **Major Soybean Area**
 **Minor Soybean Area**

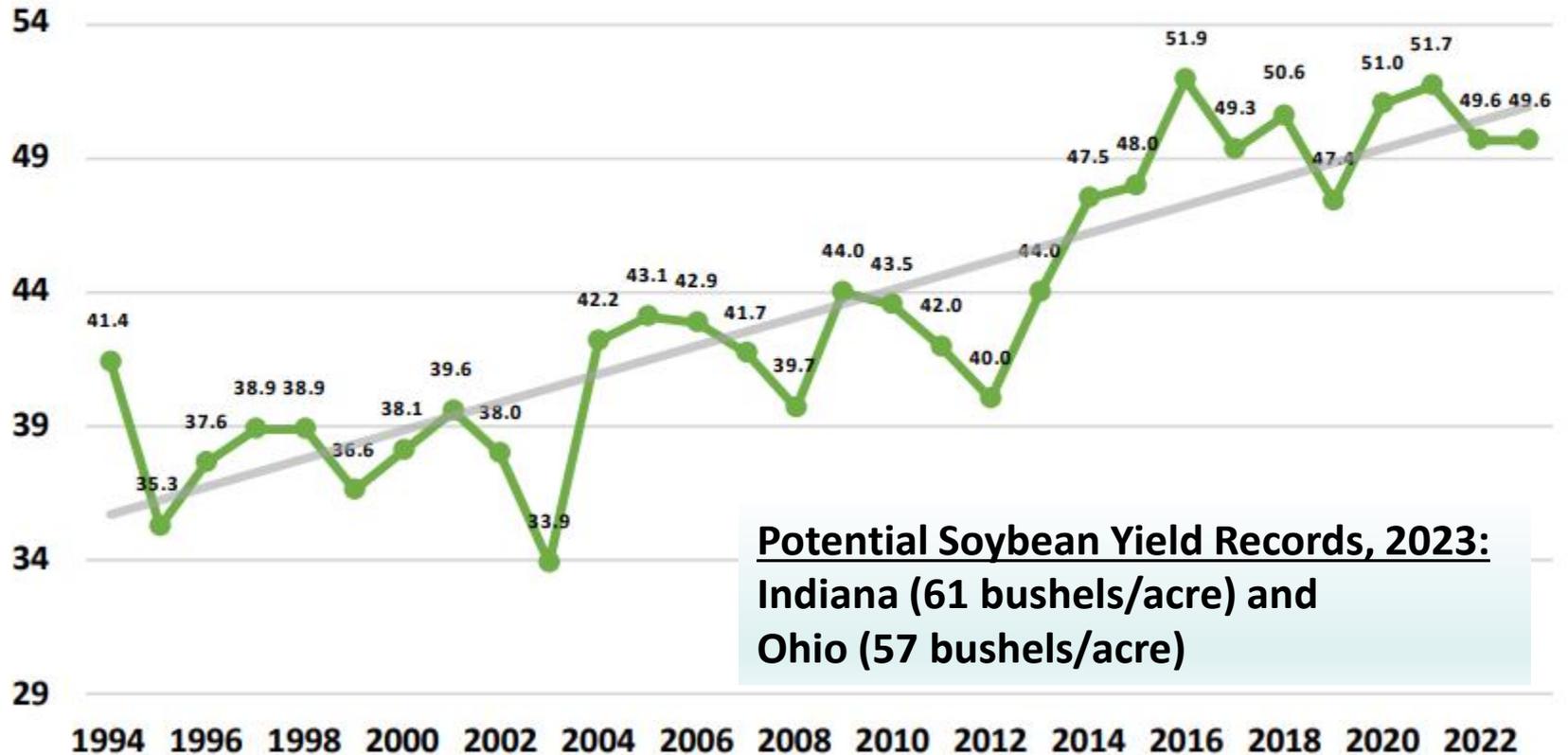
Yellow numbers approximate the percent each state contributed to the total national production. States not numbered contributed less than 1% to the national total or the state production was not disclosed by NASS.

Soybean Yield

United States

https://www.nass.usda.gov/Newsroom/Executive_Briefings/2023/10-12-2023.pdf

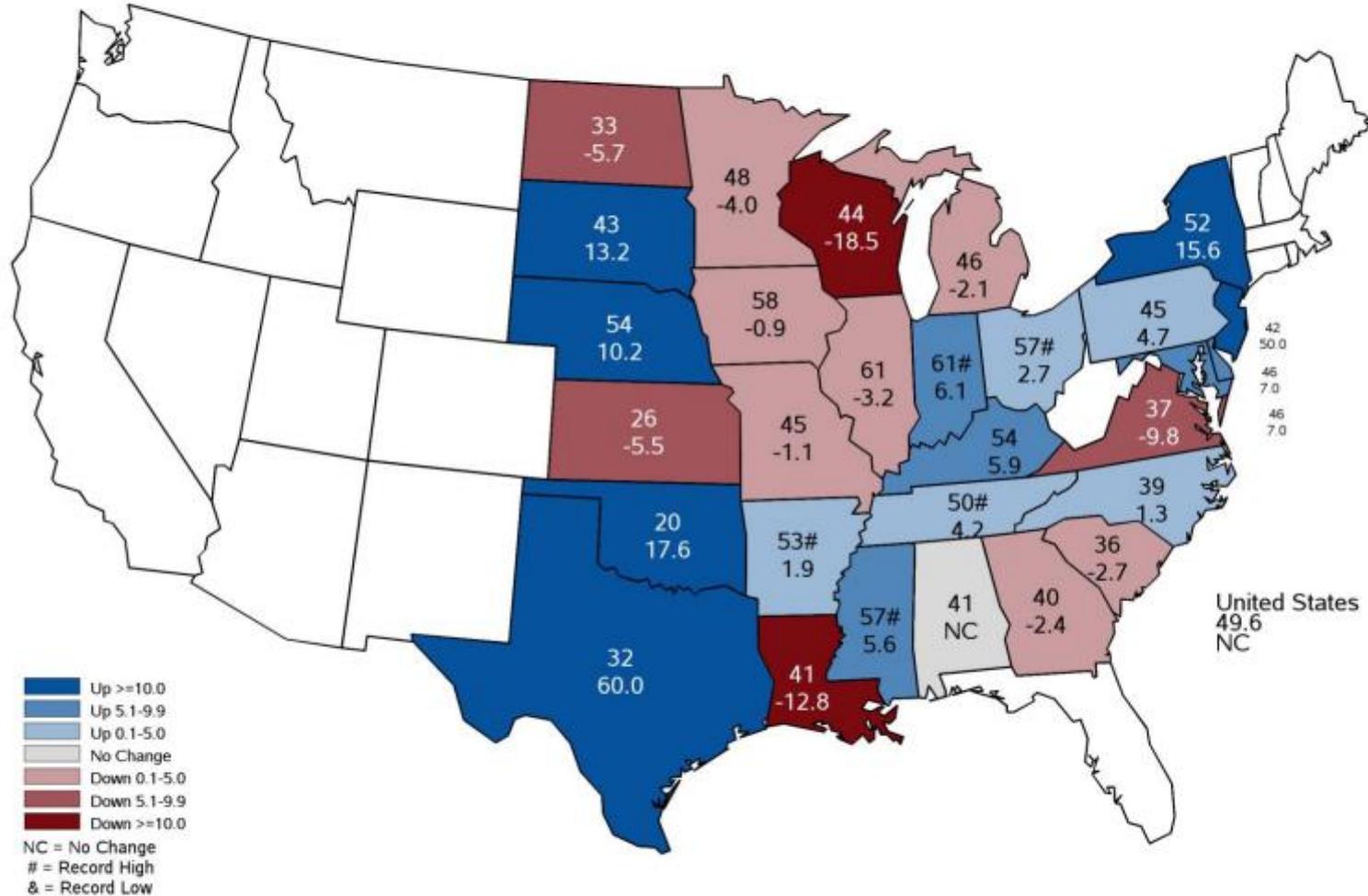
Bushels per Acre



Potential Soybean Yield Records, 2023:
 Indiana (61 bushels/acre) and
 Ohio (57 bushels/acre)

October 2023 Soybean Yield

Bushels and Percent Change from Previous Year



https://www.nass.usda.gov/Newsroom/Executive_Briefings/2023/10-12-2023.pdf

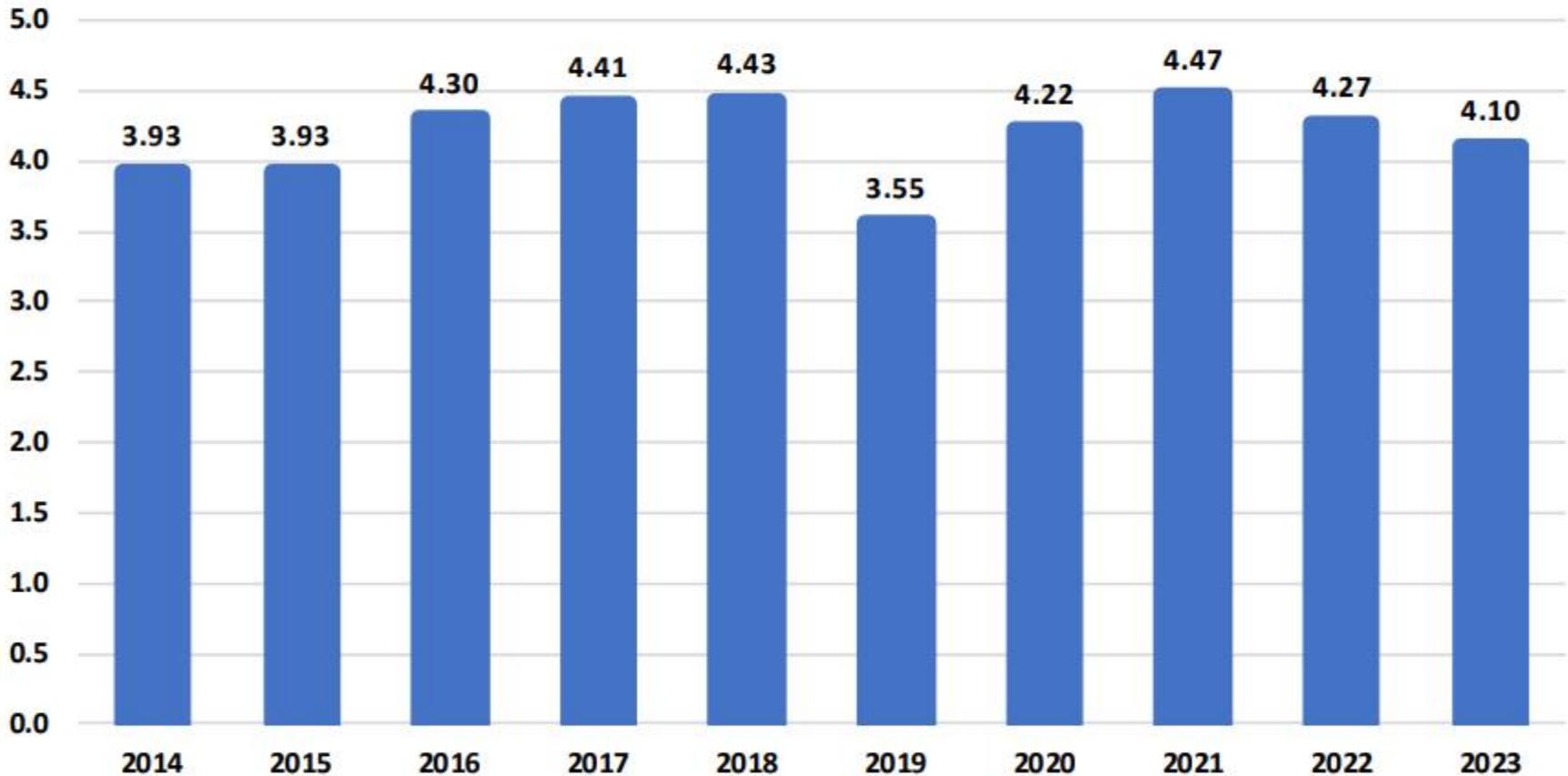


Soybean Production

United States

https://www.nass.usda.gov/Newsroom/Executive_Briefings/2023/10-12-2023.pdf

Billion Bushels

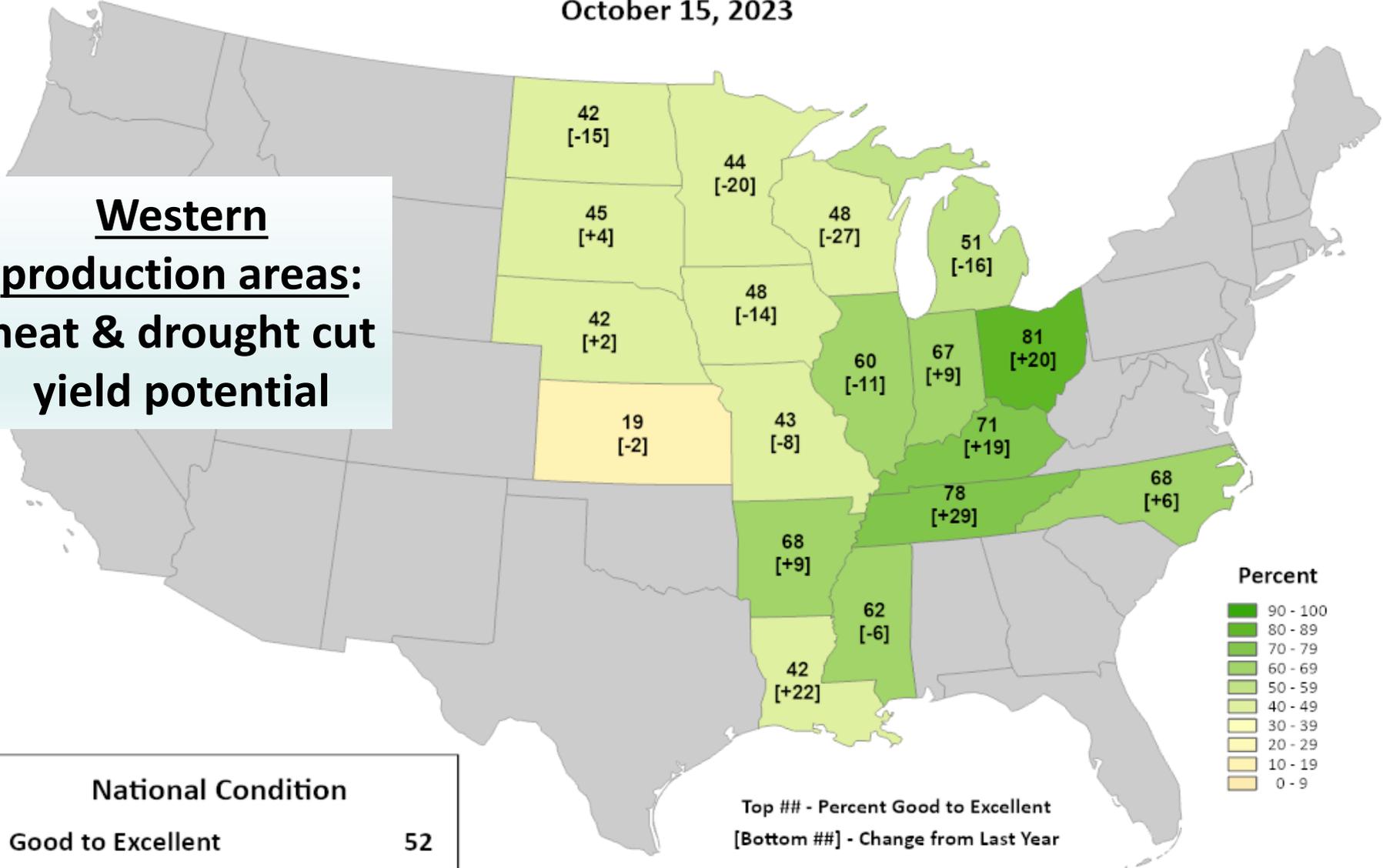


Soybean Conditions

Percent Good to Excellent

October 15, 2023

**Western
production areas:
heat & drought cut
yield potential**



National Condition	
Good to Excellent	52
Change from Last Year	-5

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

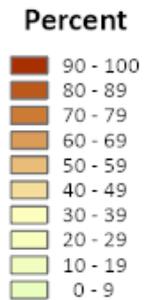
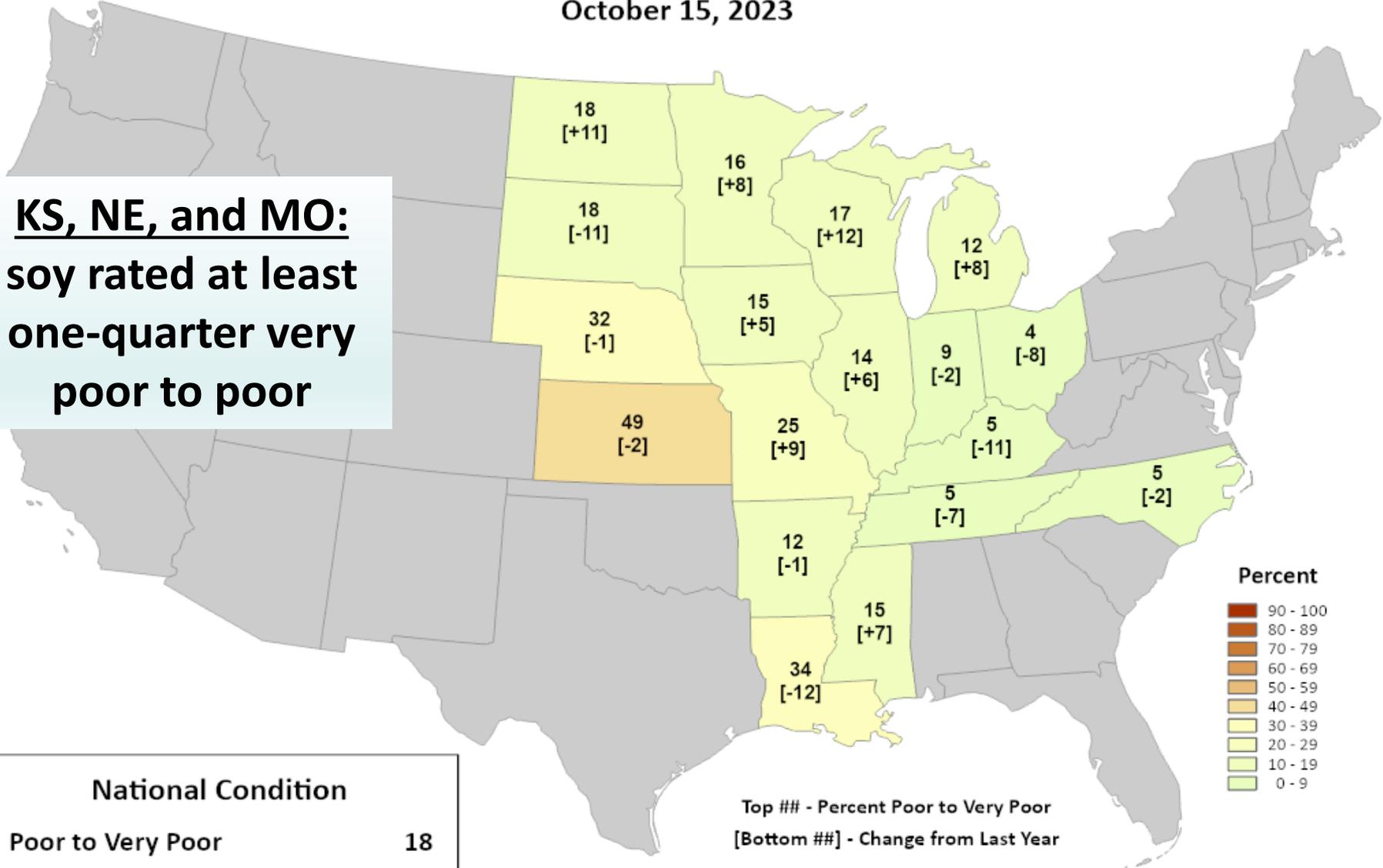
Data obtained from USDA National Agricultural Statistics Service weekly Crop Progress reports.

Soybean Conditions

Percent Poor to Very Poor

October 15, 2023

**KS, NE, and MO:
soy rated at least
one-quarter very
poor to poor**



National Condition	
Poor to Very Poor	18
Change from Last Year	+3

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

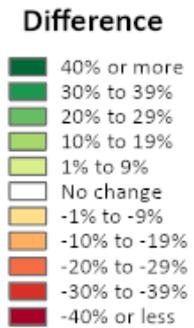
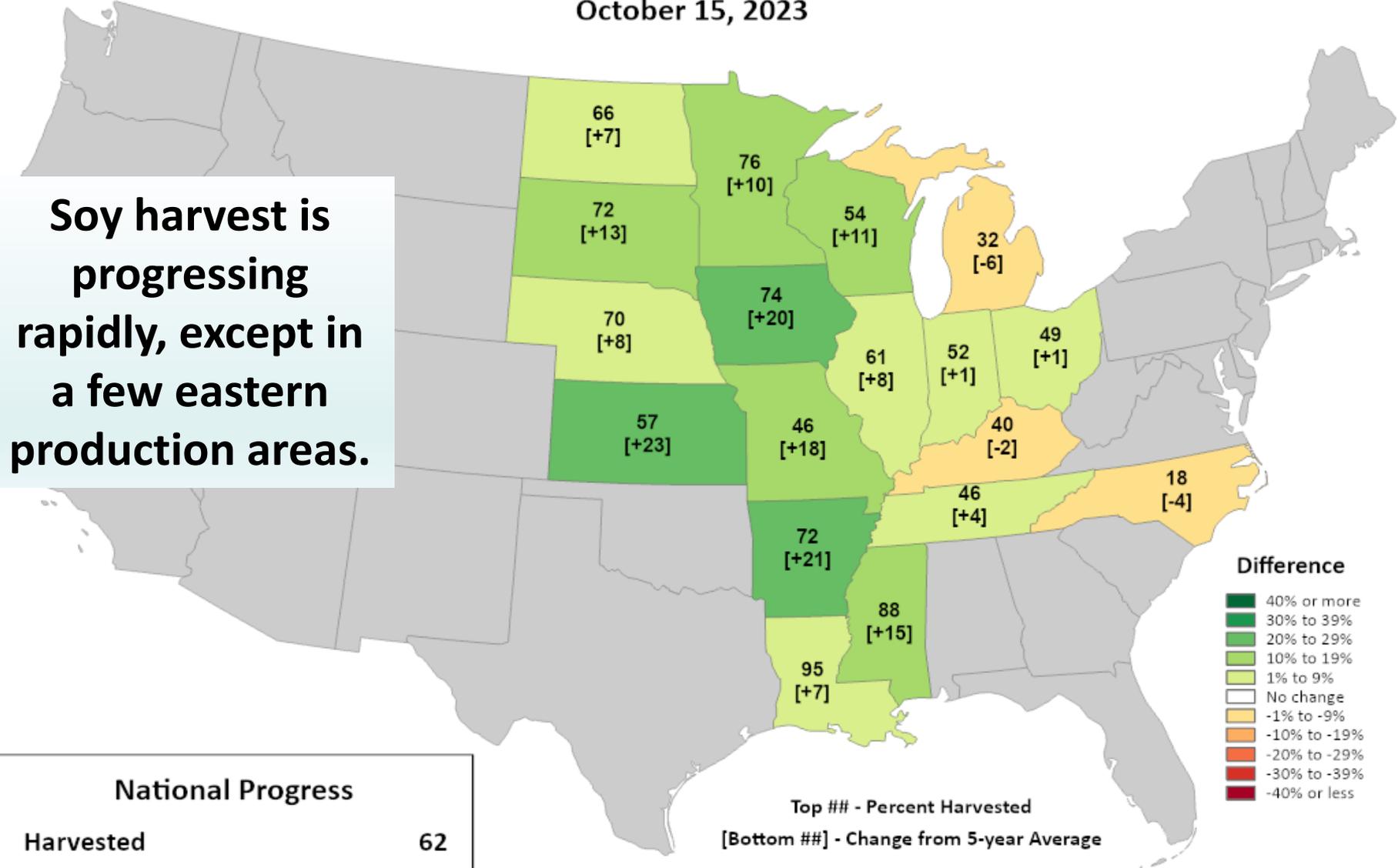
Data obtained from USDA National Agricultural Statistics Service weekly Crop Progress reports.

Soybeans Progress

Percent Harvested

October 15, 2023

Soy harvest is progressing rapidly, except in a few eastern production areas.

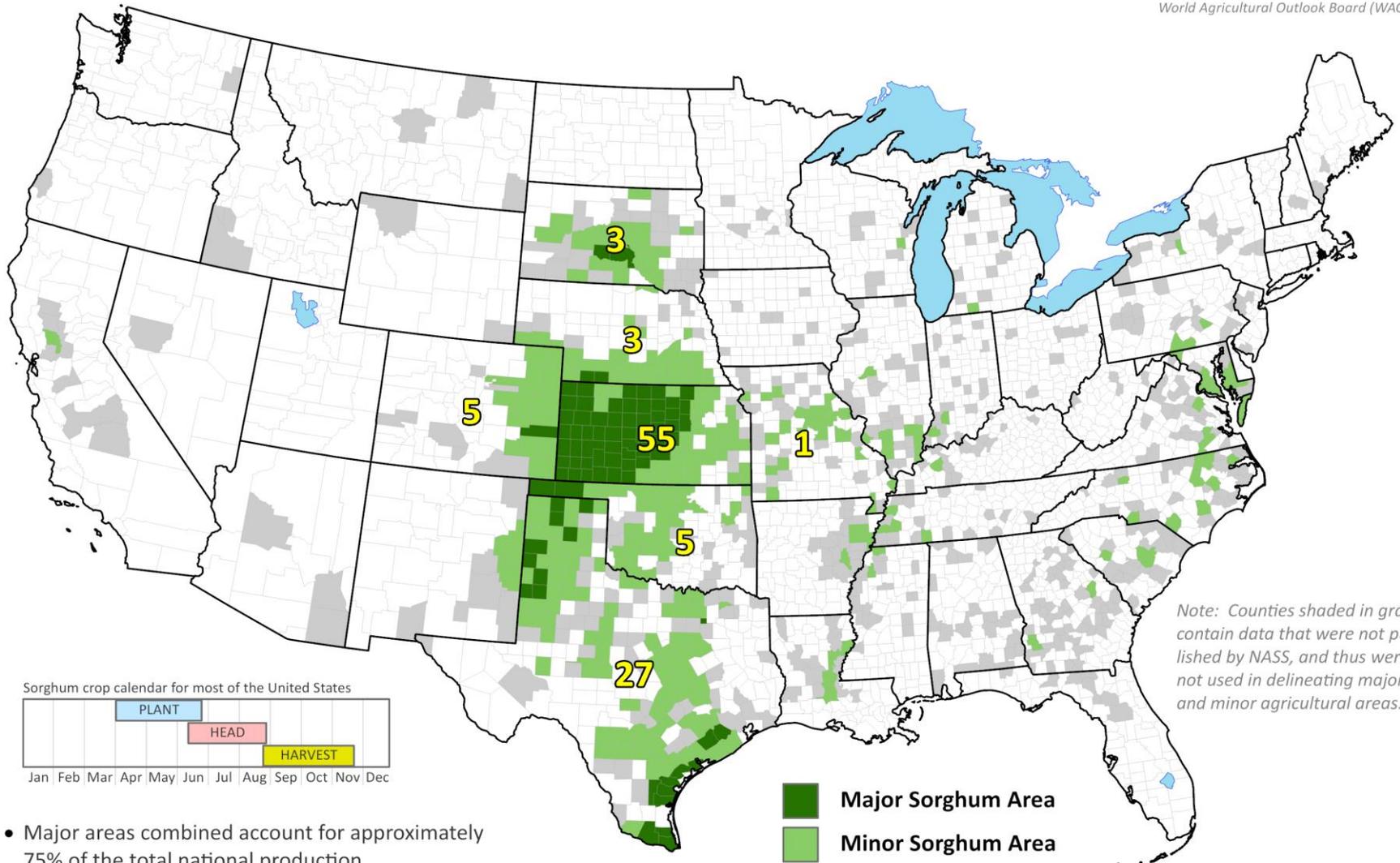


National Progress	
Harvested	62
Change from 5-year Average	+10

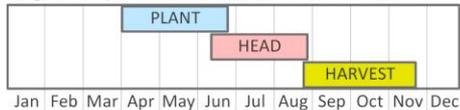
Top ## - Percent Harvested
[Bottom ##] - Change from 5-year Average

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

United States: Sorghum



Sorghum crop calendar for most of the United States



- Major areas combined account for approximately 75% of the total national production.
- Major and minor areas combined account for approximately 99% of the total national production.
- Major and minor areas and state production percentages are derived from NASS 2017 Census of Agriculture data.

Note: Counties shaded in gray contain data that were not published by NASS, and thus were not used in delineating major and minor agricultural areas.

Major Sorghum Area

Minor Sorghum Area

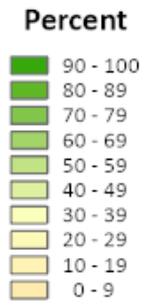
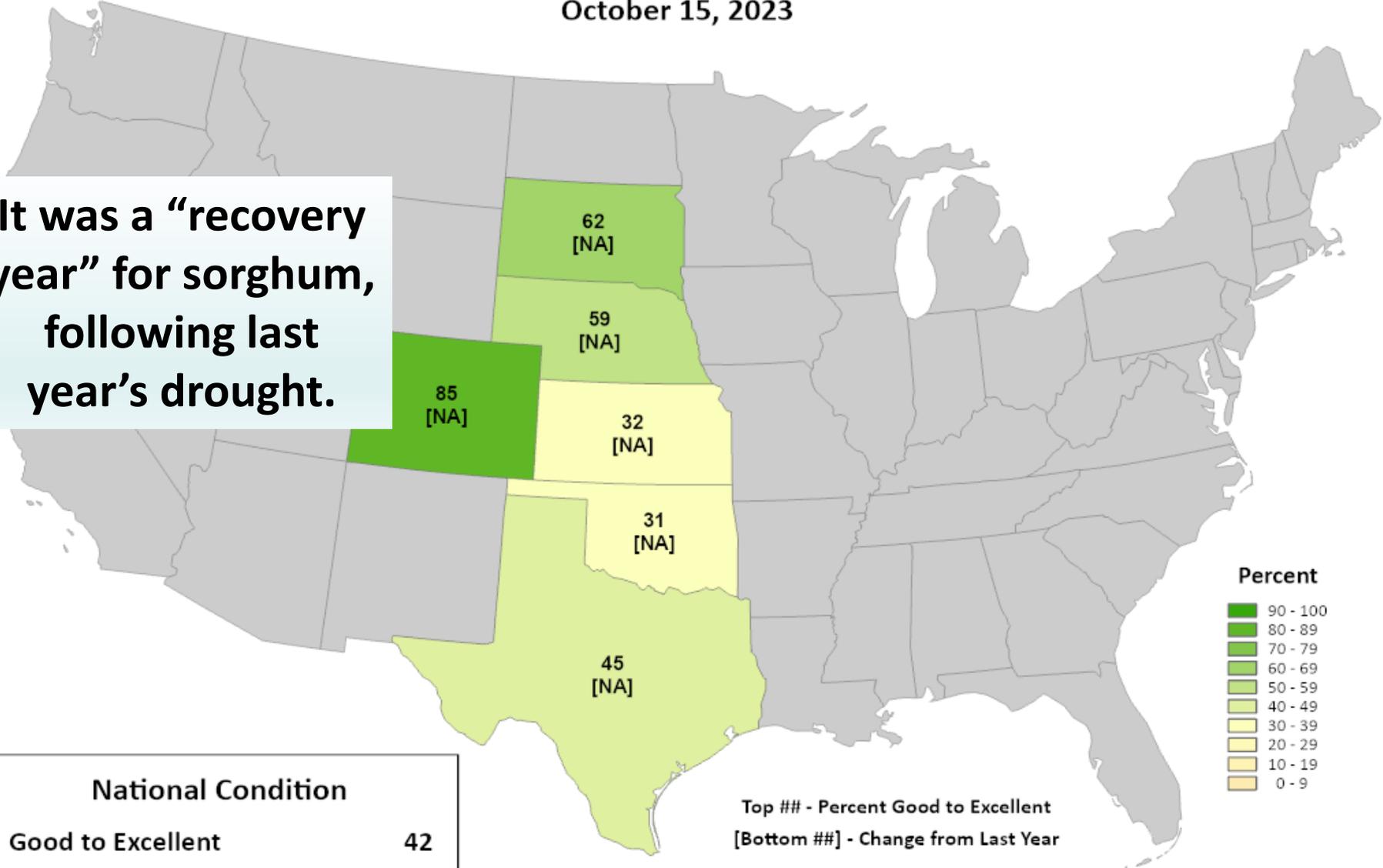
Yellow numbers approximate the percent each state contributed to the total national production. States not numbered contributed less than 1% to the national total or the state production was not disclosed by NASS.

Sorghum Conditions

Percent Good to Excellent

October 15, 2023

It was a “recovery year” for sorghum, following last year’s drought.



National Condition	
Good to Excellent	42
Change from Last Year	NA

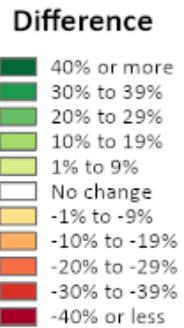
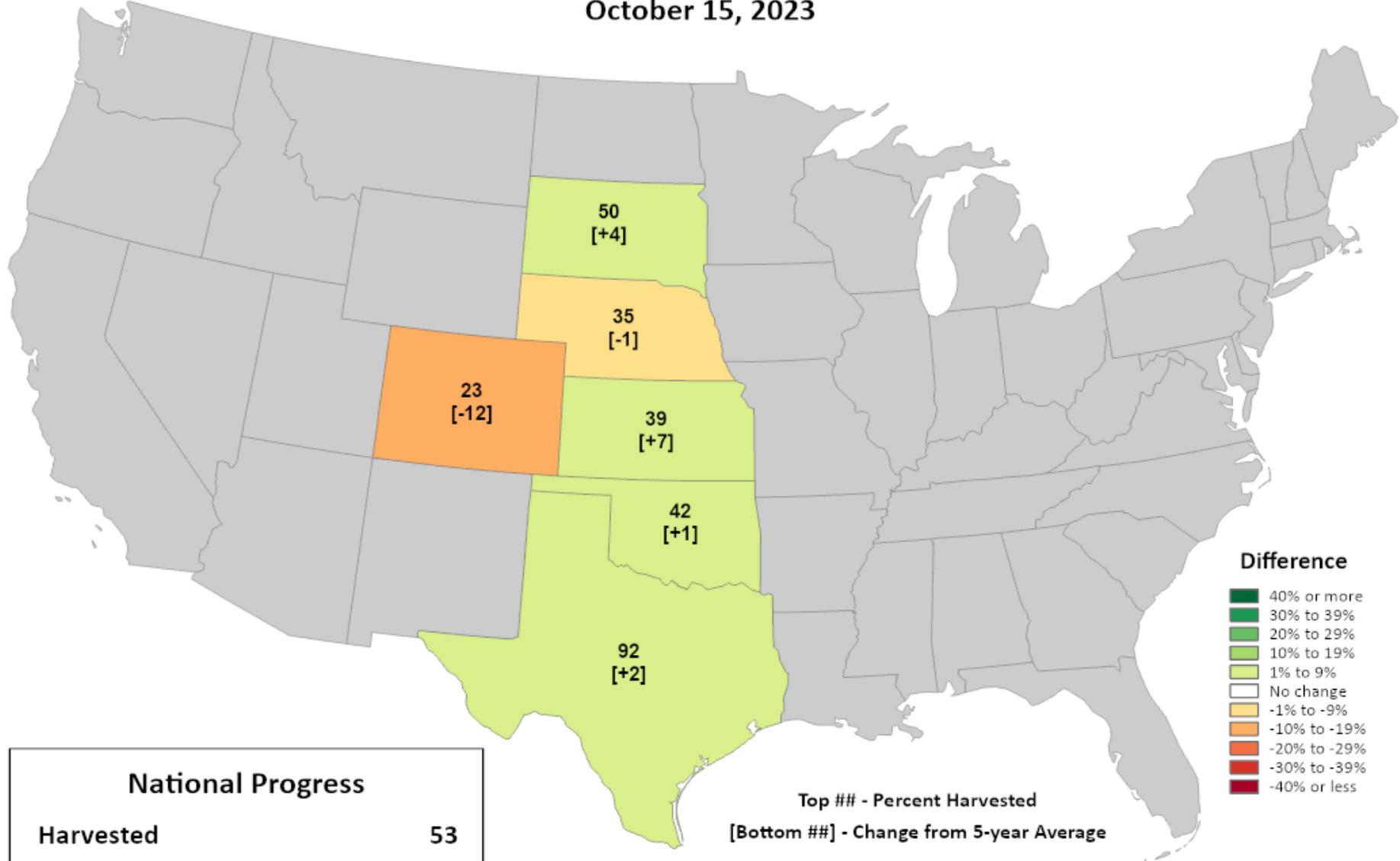
Top ## - Percent Good to Excellent
[Bottom ##] - Change from Last Year

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

Sorghum Progress

Percent Harvested

October 15, 2023



National Progress	
Harvested	53
Change from 5-year Average	+2

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

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

Other Agricultural Highlights

Spring Wheat: Crop condition trailed off as the year progressed. Yield was down less than 1% from 2022; production was up 5%.

Durum Wheat: Crop was hurt by hot, dry weather, yield was down 9% from 2022, while production was down 7%.

Sunflowers: Production was down 22% from 2022, mainly due to a 21% decrease in harvested area. Yield was down 1%.

Sugarbeets: Yield and production were both down 6% from 2022.

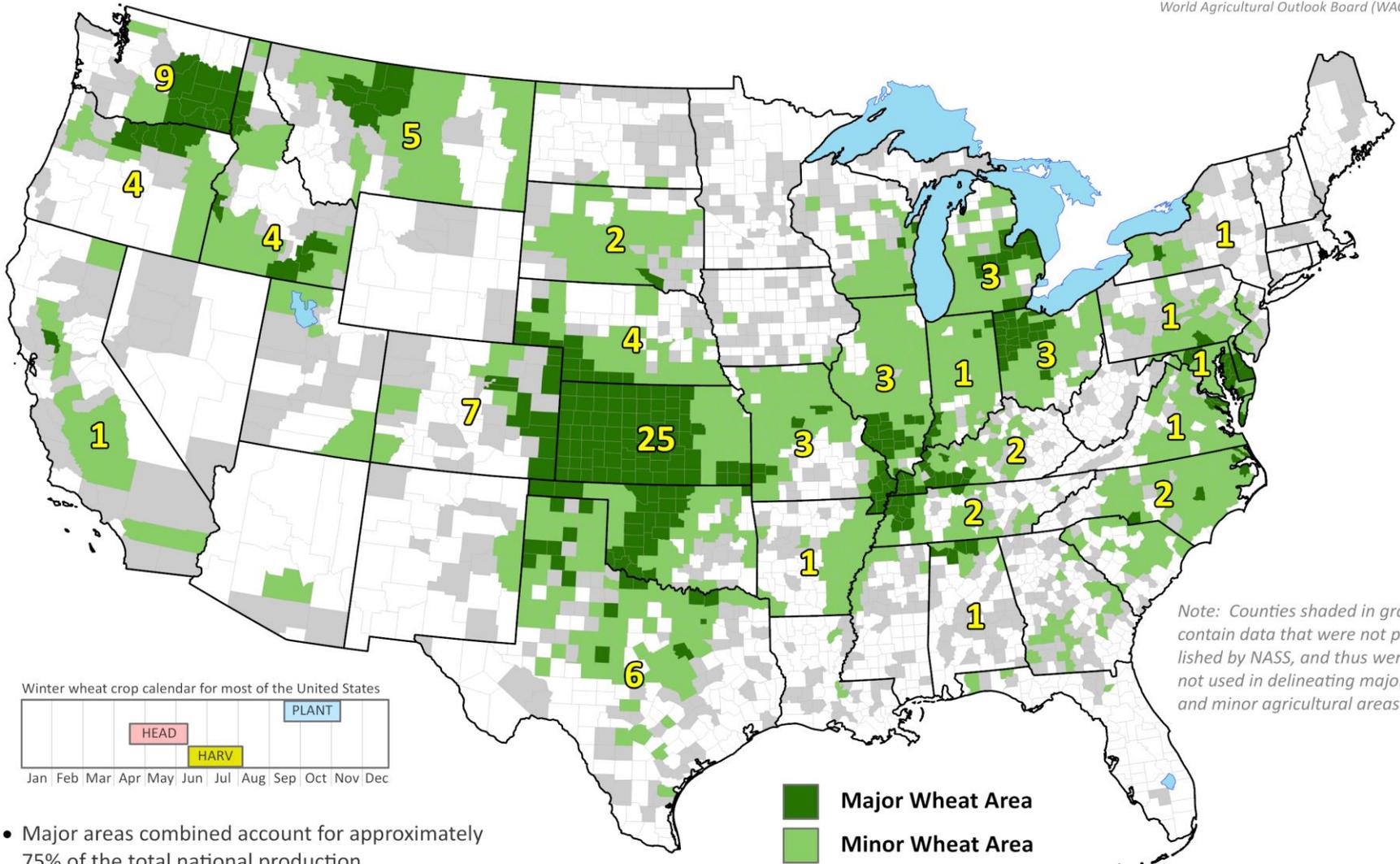
Winter Wheat: Parts of Plains were hurt by drought. Compared to 2022, yield was up 8%, while production was up 13%. However, abandonment also increased, from 29.5% in 2022 to 32.7% in 2023.

Hay: Improved conditions on the High Plains boosted U.S. yield by 3%, compared to 2022, while production rose 8%.



United States: Winter Wheat

This product was prepared by the
 USDA Office of the Chief Economist (OCE)
 World Agricultural Outlook Board (WAOB)

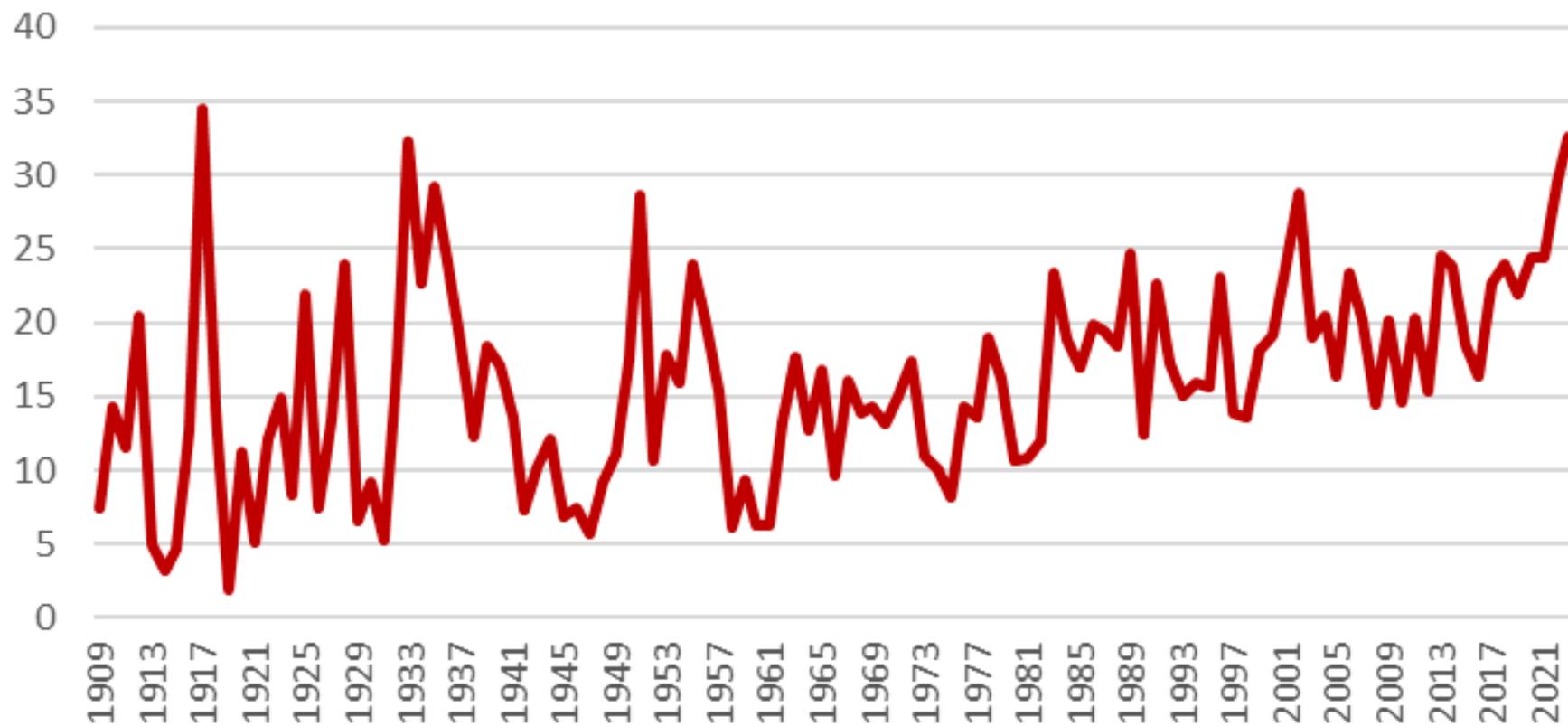


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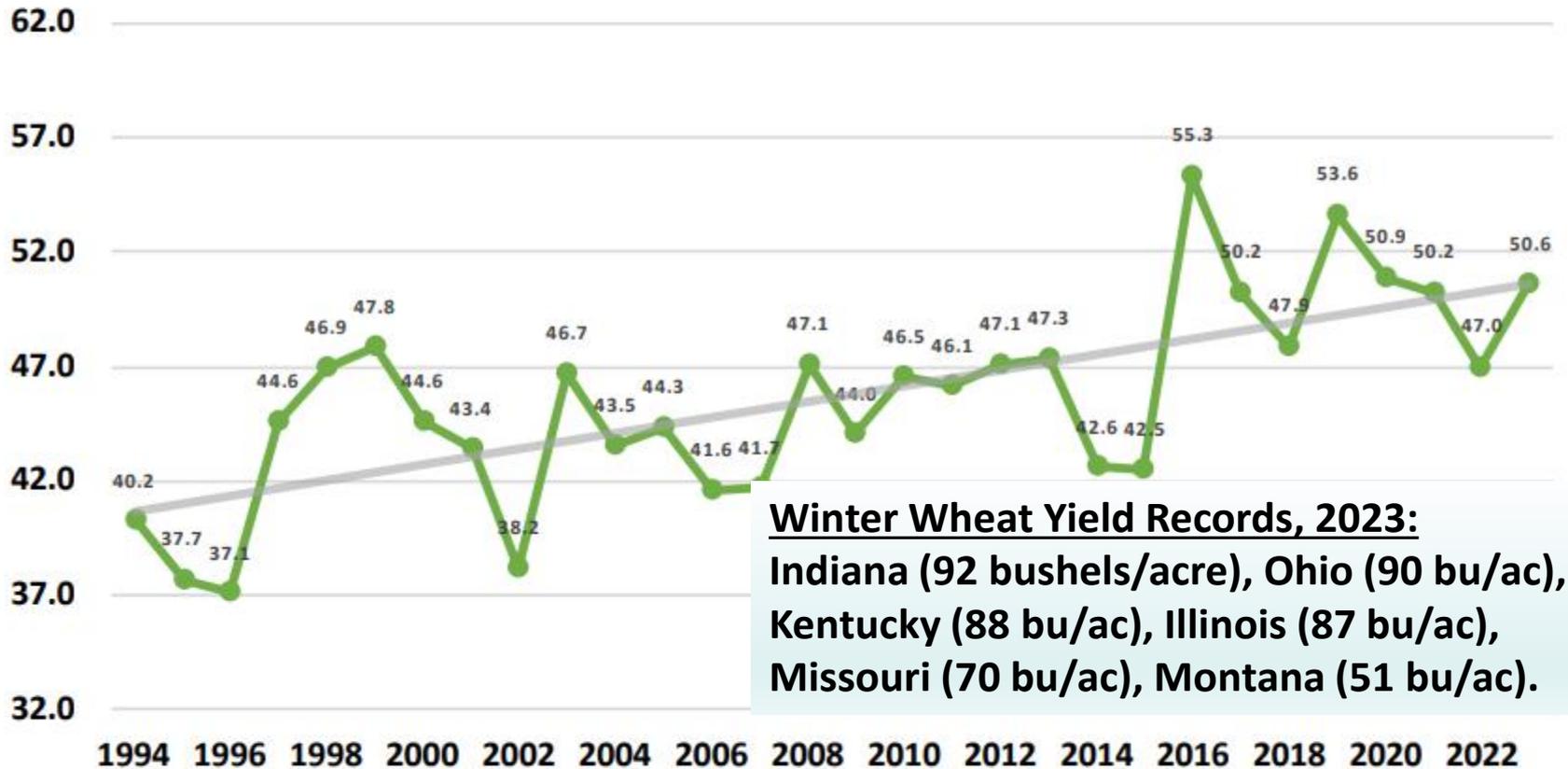
Yellow numbers approximate the percent each state contributed to the total national production. States not numbered contributed less than 1% to the national total or the state production was not disclosed by NASS.

U.S. Winter Wheat, Percent Abandonment 1909-2023



Winter Wheat Yield United States

Bushels per Acre

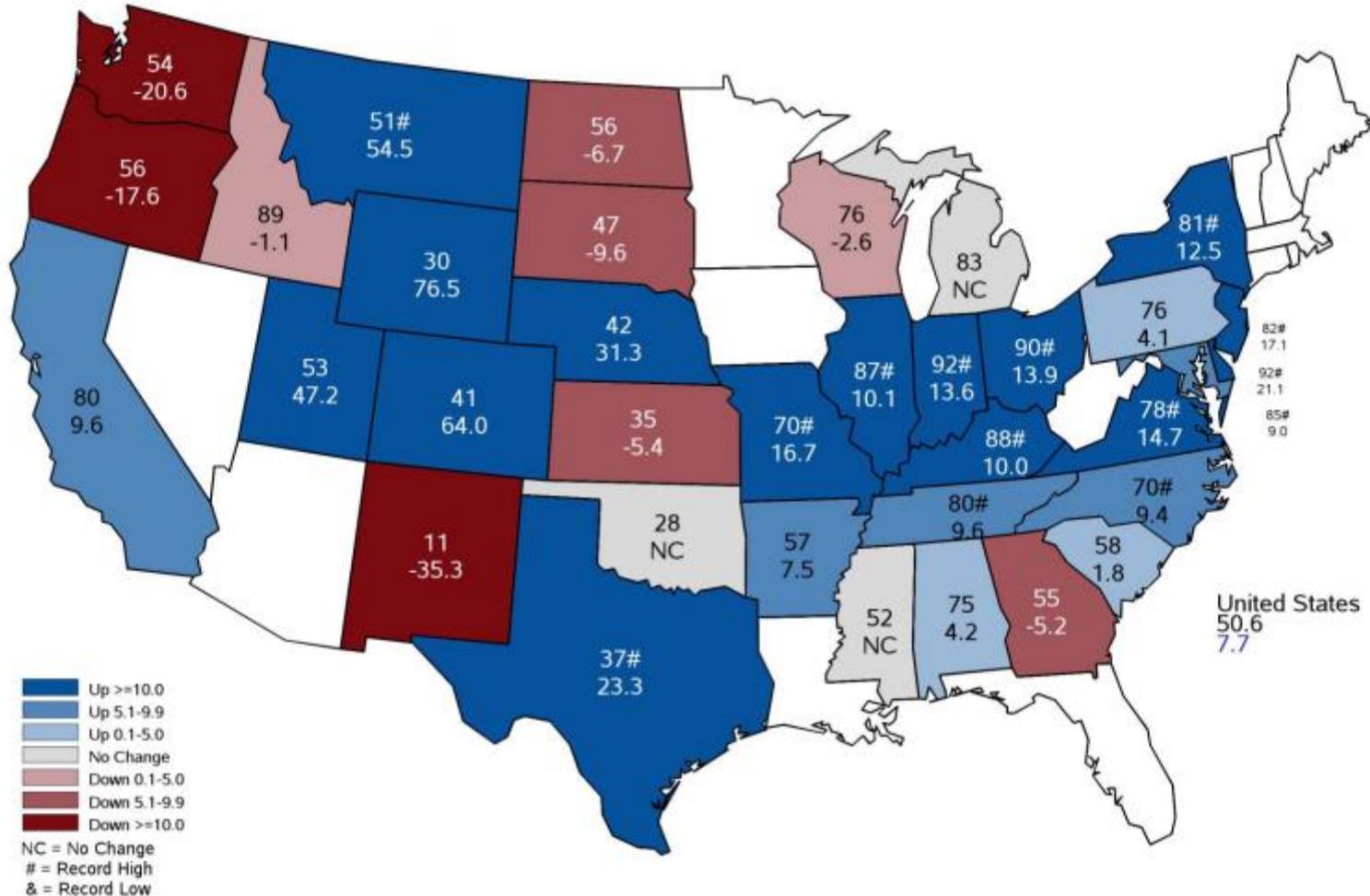


Winter Wheat Yield Records, 2023:
 Indiana (92 bushels/acre), Ohio (90 bu/ac),
 Kentucky (88 bu/ac), Illinois (87 bu/ac),
 Missouri (70 bu/ac), Montana (51 bu/ac).

https://www.nass.usda.gov/Newsroom/Executive_Briefings/2023/09-29-2023.pdf

2023 Winter Wheat Yield

Bushels and Percent Change from Previous Year



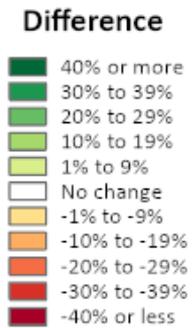
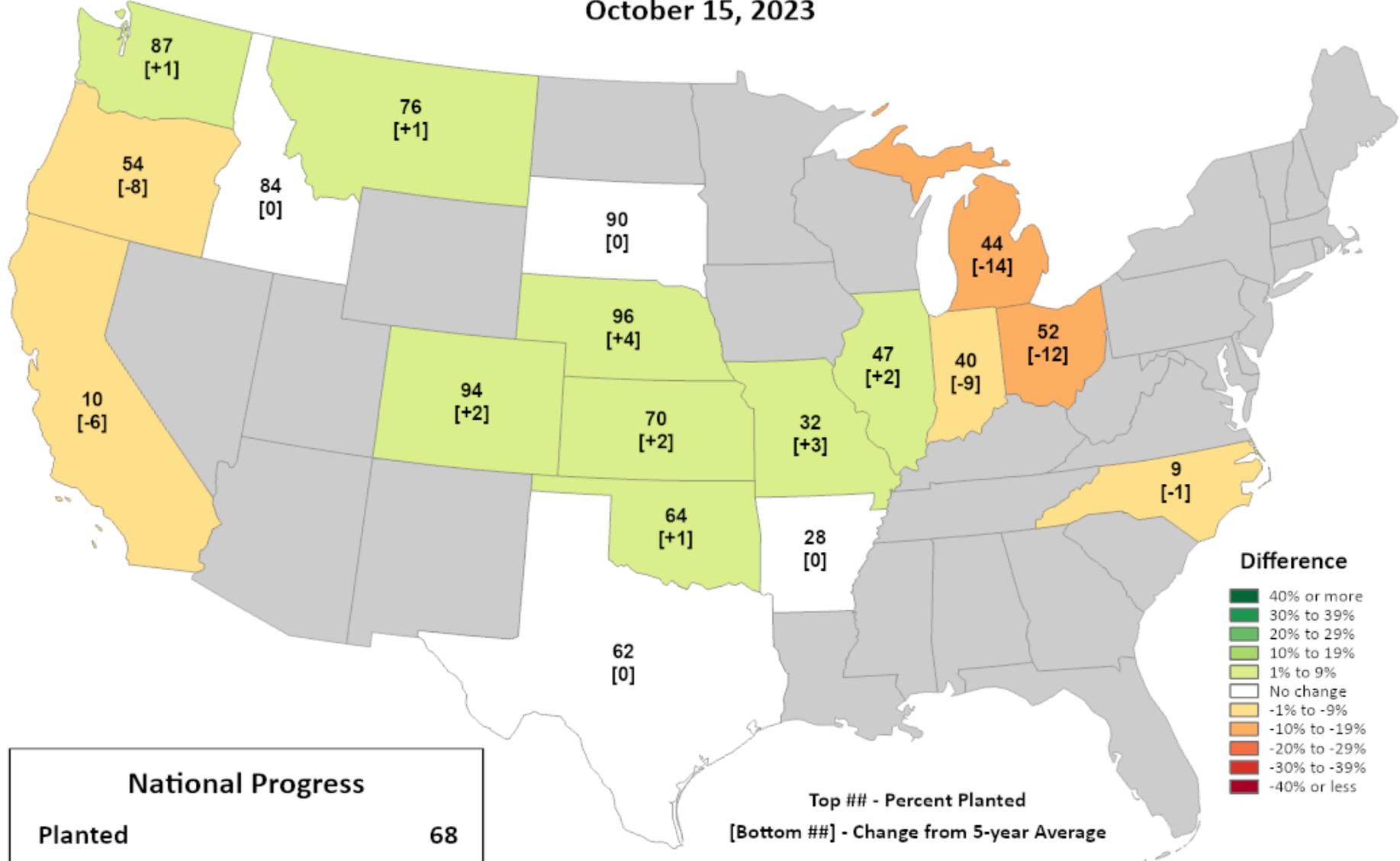
https://www.nass.usda.gov/Newsroom/Executive_Briefings/2023/09-29-2023.pdf

*This product was prepared by the
USDA Office of the Chief Economist (OCE)
World Agricultural Outlook Board (WAOB)*

Winter Wheat Progress

Percent Planted

October 15, 2023



National Progress	
Planted	68
Change from 5-year Average	0

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

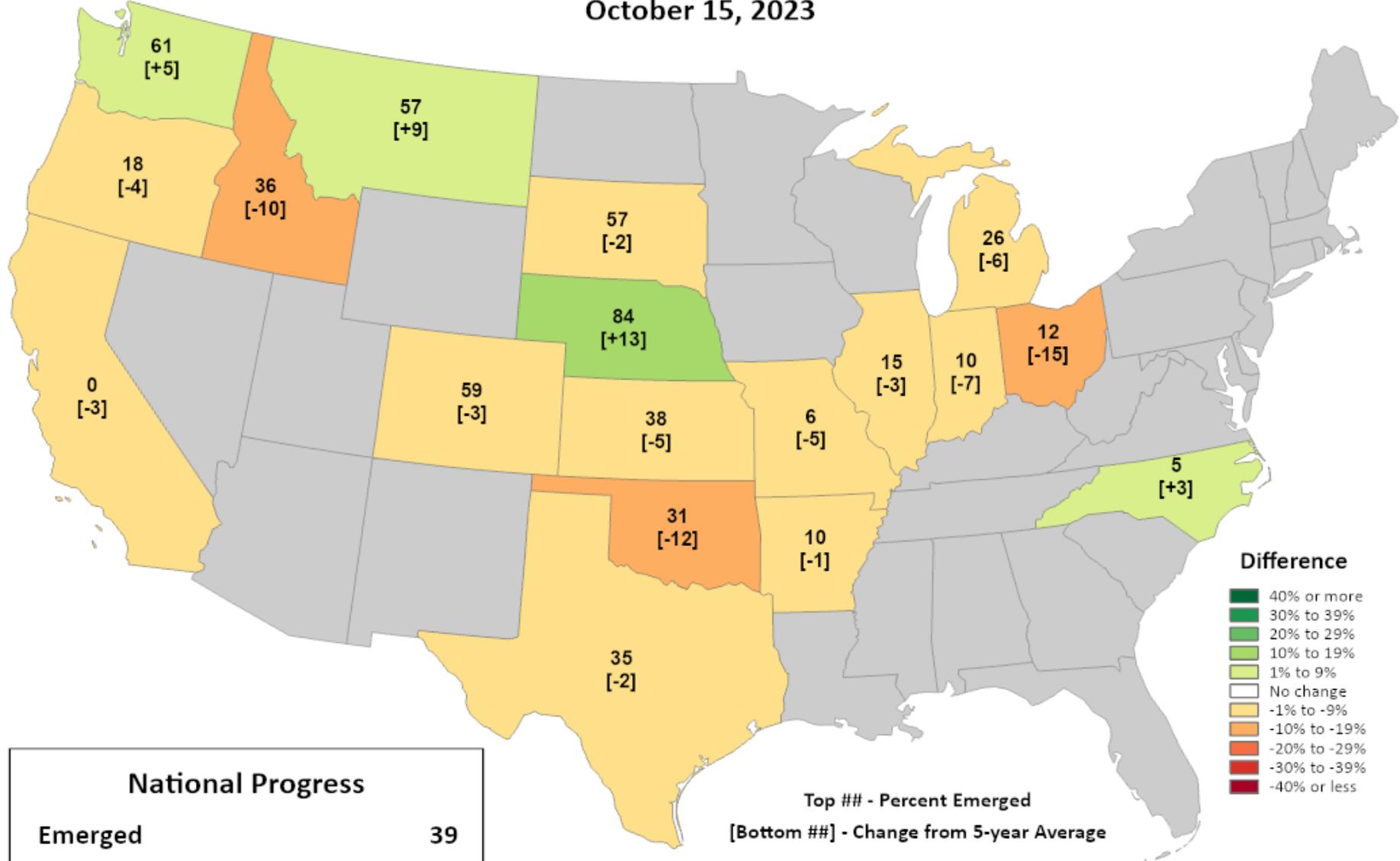
Data obtained from USDA National Agricultural Statistics Service weekly Crop Progress reports.

*This product was prepared by the
USDA Office of the Chief Economist (OCE)
World Agricultural Outlook Board (WAOB)*

Winter Wheat Progress

Percent Emerged

October 15, 2023



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

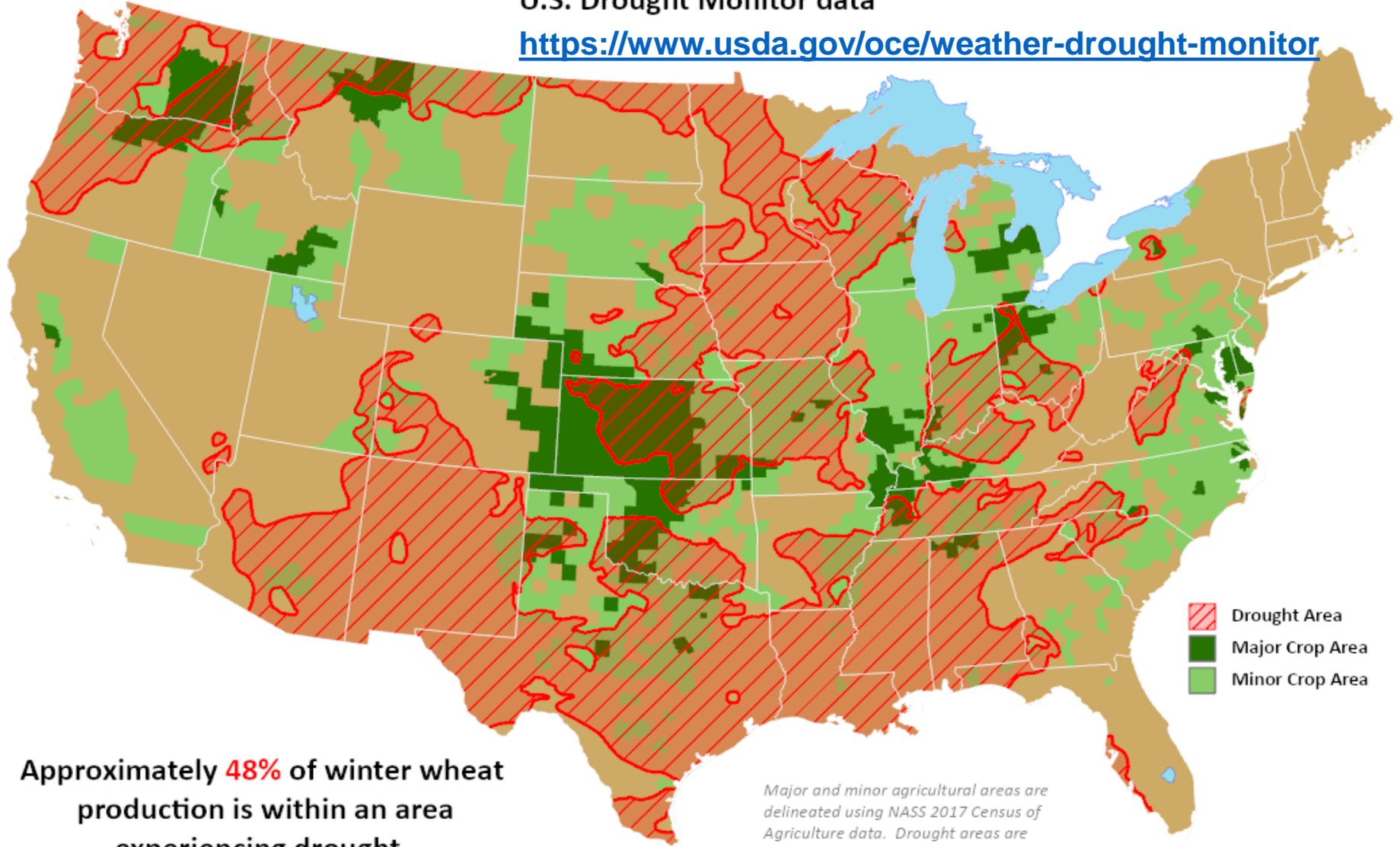
Winter Wheat Areas in Drought

*This product was prepared by the
USDA Office of the Chief Economist (OCE)
World Agricultural Outlook Board (WAOB)*

Reflects **October 17, 2023**

U.S. Drought Monitor data

<https://www.usda.gov/oce/weather-drought-monitor>



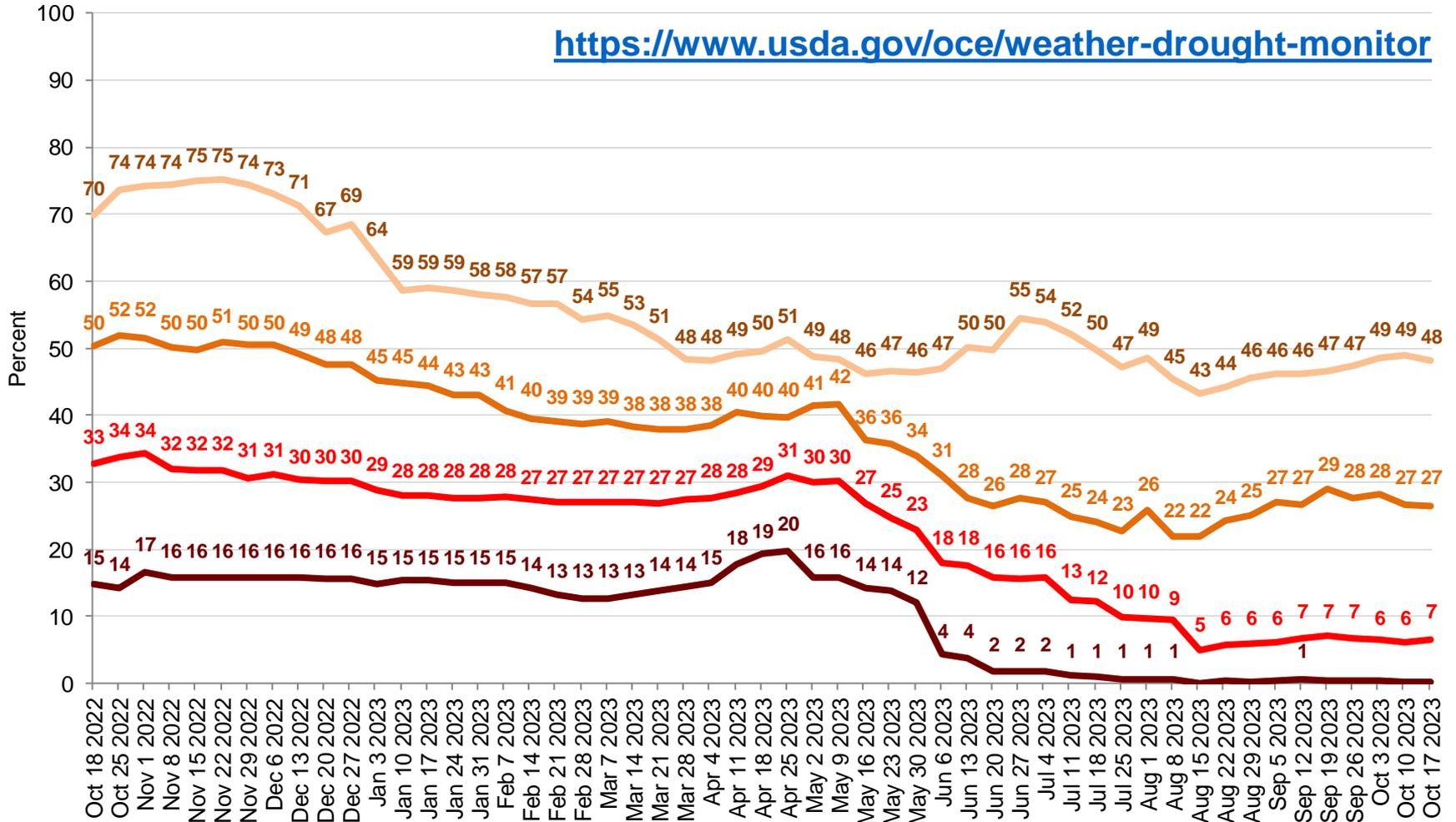
-  Drought Area
-  Major Crop Area
-  Minor Crop Area

Approximately **48%** of winter wheat production is within an area experiencing drought.

Major and minor agricultural areas are delineated using NASS 2017 Census of Agriculture data. Drought areas are identified using the U.S. Drought Monitor product.

Percent of United States Winter Wheat Located in Drought

<https://www.usda.gov/oce/weather-drought-monitor>



- Moderate or more intense drought (D1+)
- Severe or more intense drought (D2+)
- Extreme or more intense drought (D3+)
- Exceptional drought (D4)

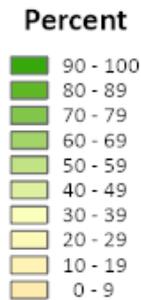
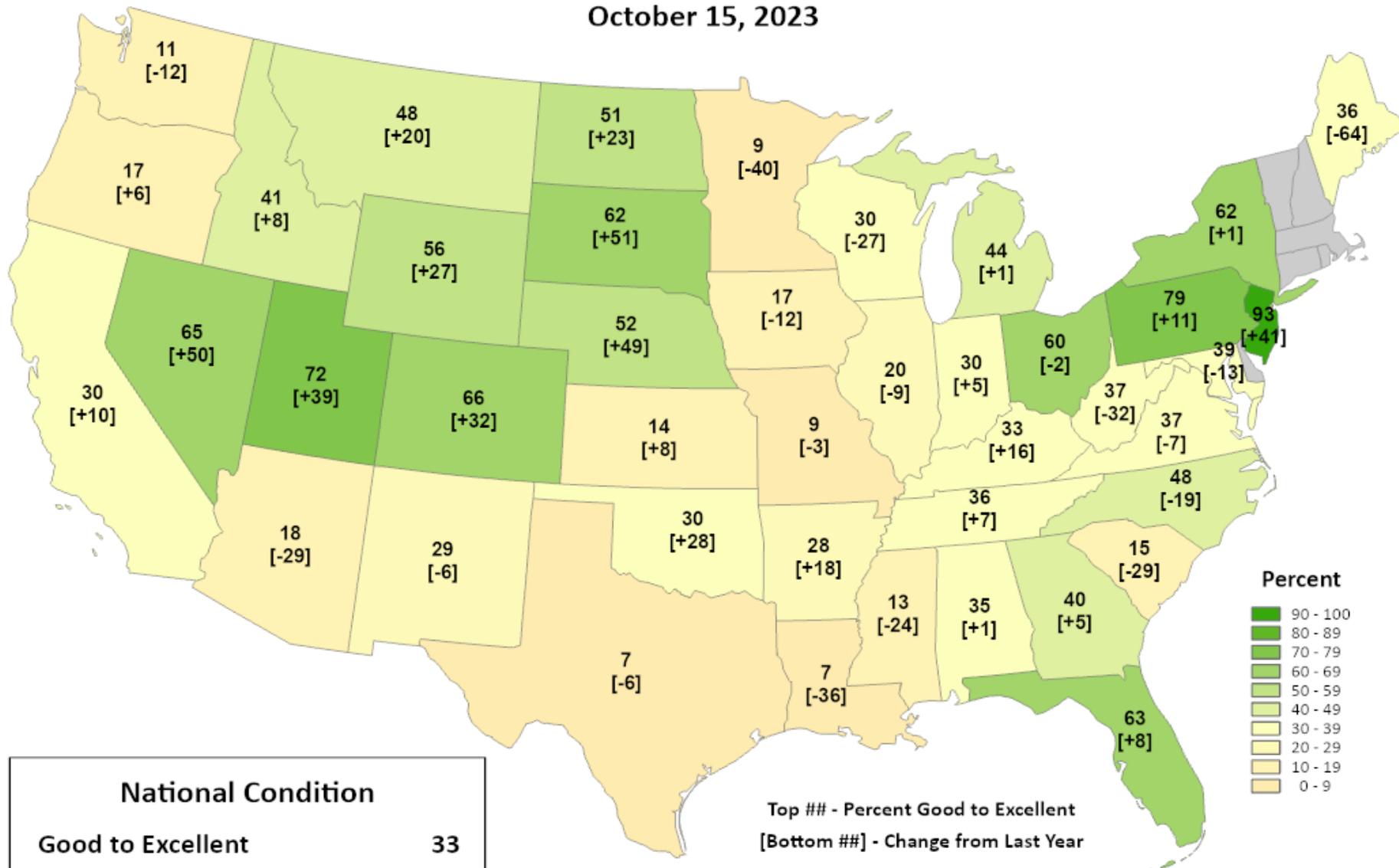
Drought percentages are approximated using the U.S. Drought Monitor product.

Pasture and Range Conditions

*This product was prepared by the
USDA Office of the Chief Economist (OCE)
World Agricultural Outlook Board (WAOB)*

Percent Good to Excellent

October 15, 2023



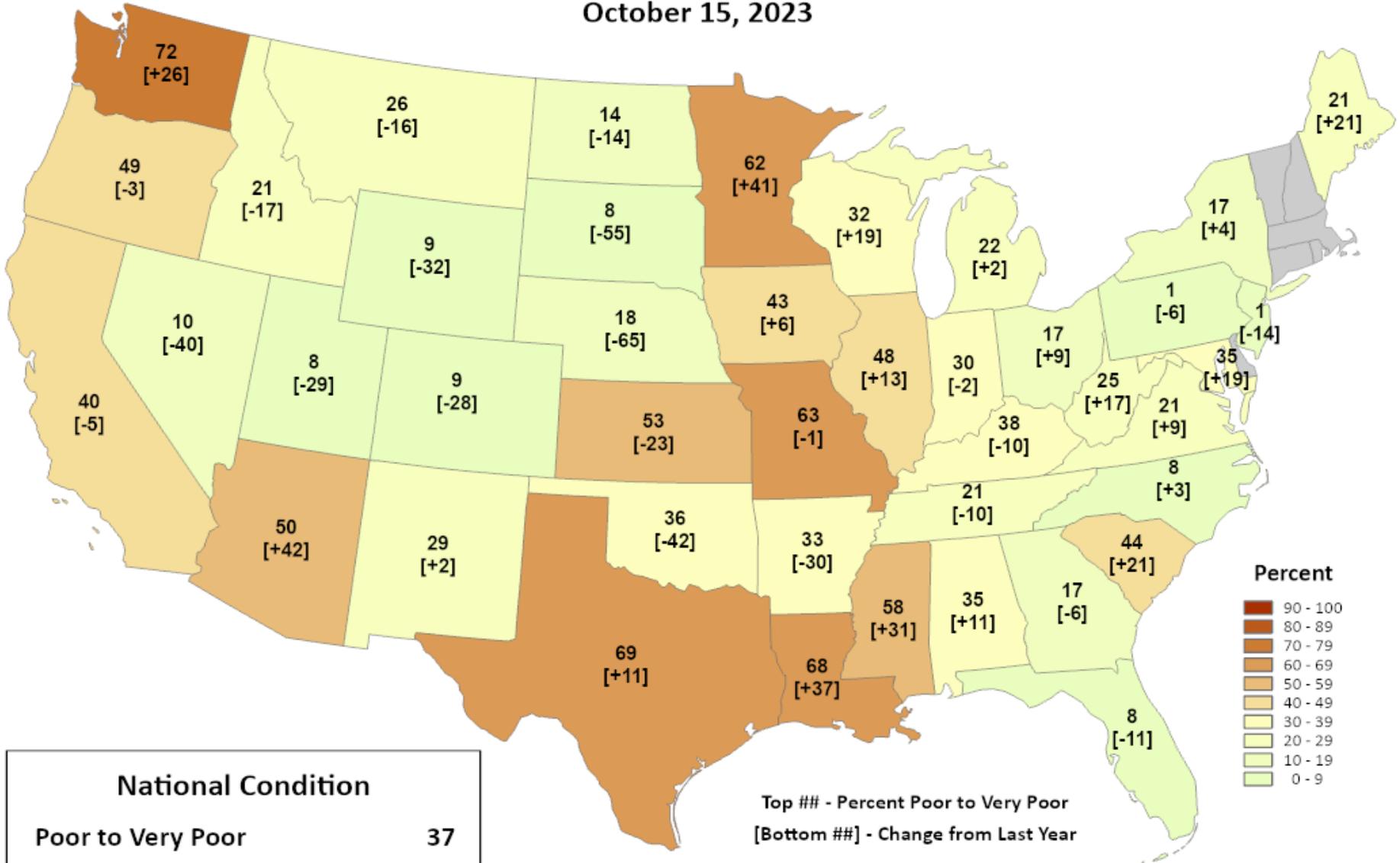


Pasture and Range Conditions

Percent Poor to Very Poor

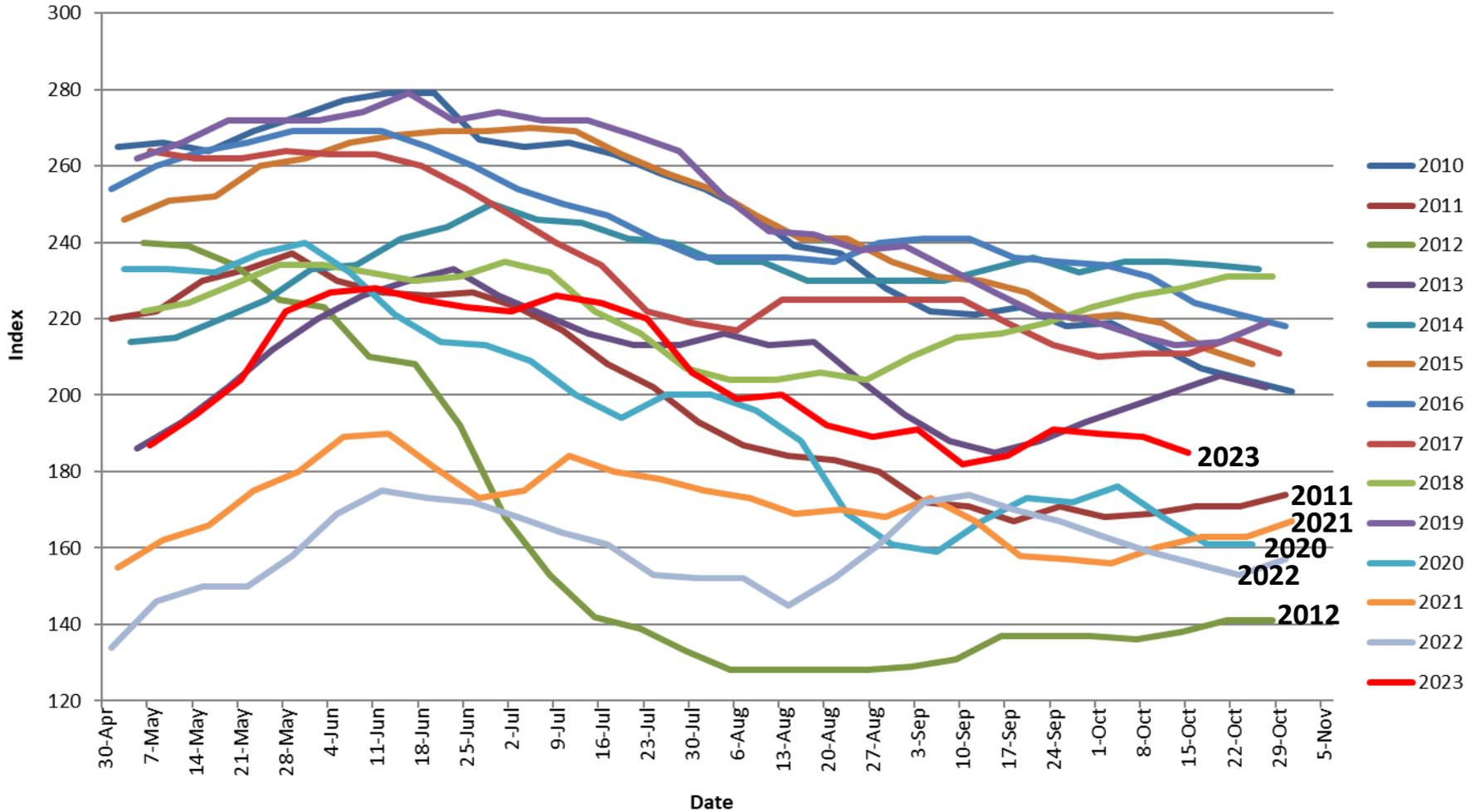
October 15, 2023

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

U.S. PASTURE AND RANGE Condition Index



Based on NASS crop progress data.

Condition Index = 4*Excellent + 3*Good + 2*Fair + 1*Poor

August 2023 Prices Paid by Farmers

Agricultural Prices:

<https://usda.library.cornell.edu/concern/publications/c821gj76b>

The August Prices Paid Index for Commodities and Services, Interest, Taxes, and Farm Wage Rates (PPITW), at 138.5, is up 0.1 percent from July but down 0.6 percent from August 2022.

Feed: At 129.3, the August index **decreased 2.0 percent from July and decreased 9.5 percent from August 2022.**

Livestock and poultry: The August index, at 159.0, **increased 1.6 percent from July and increased 27 percent from last year.**

Fertilizer: The index for August, at 103.4, is **down 2.9 percent from July and down 29 percent from August a year ago.**

**Big Iron Farm Show
September 13, 2023
(photo by B. Rippey)**



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