



SOUTH DAKOTA STATE
UNIVERSITY EXTENSION

North Central U.S. Climate & Drought Outlook October 2022

Laura Edwards

SD State Climatologist

SDSU Extension

Aberdeen, SD

Laura.Edwards@sdstate.edu

(605) 626-2870

@SDSUclimate



Tractor Fire, near Mitchell, SD.
Photo by Chet Edinger



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

- 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/](https://mrcc.purdue.edu/)
 - [High Plains: http://www.hprcc.unl.edu](http://www.hprcc.unl.edu)



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Agenda

Recent Conditions

Impacts

Outlooks

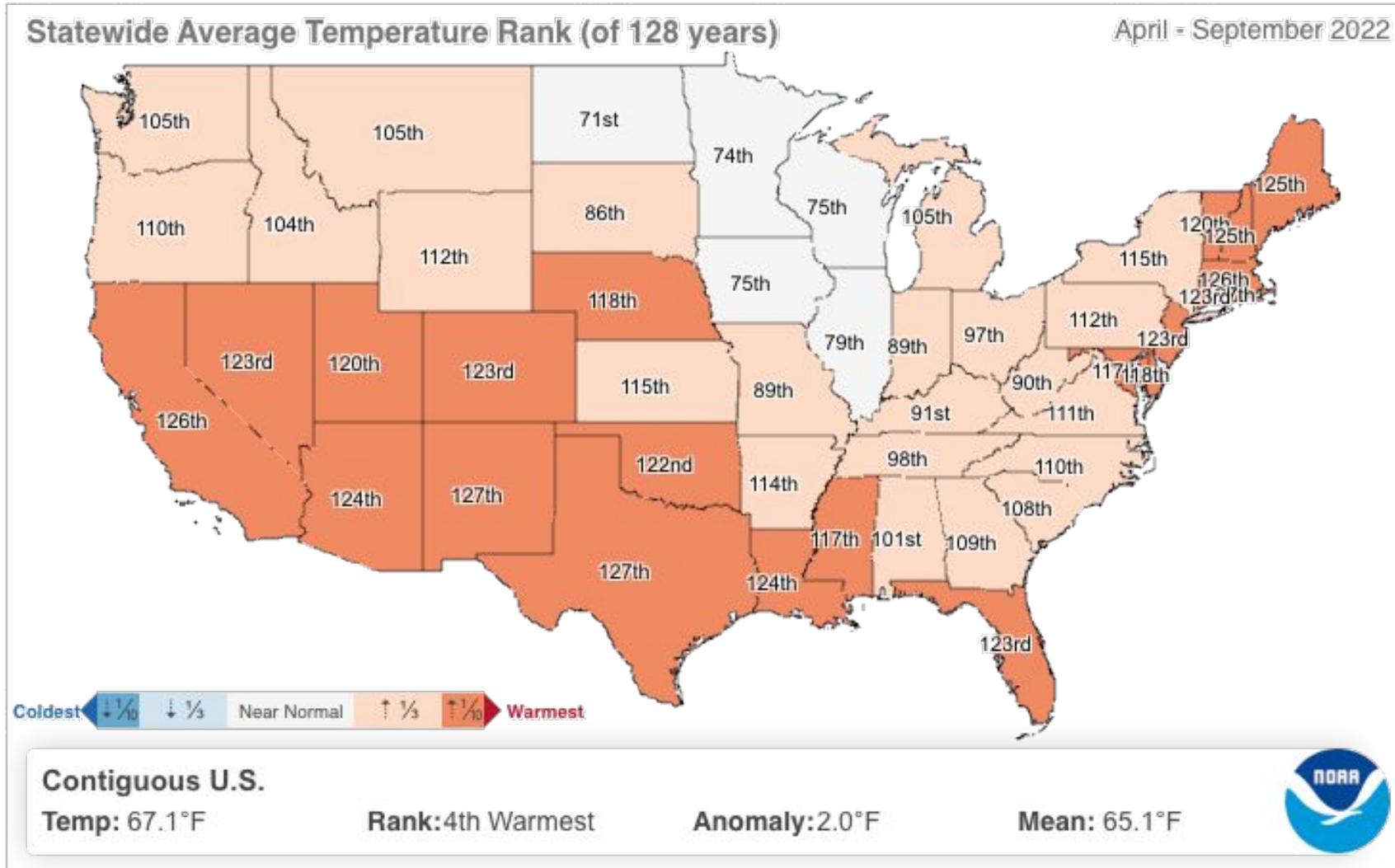
1-3 months

Winter season



Woolly bear caterpillar, photo courtesy of Aaron Wilson, OSU

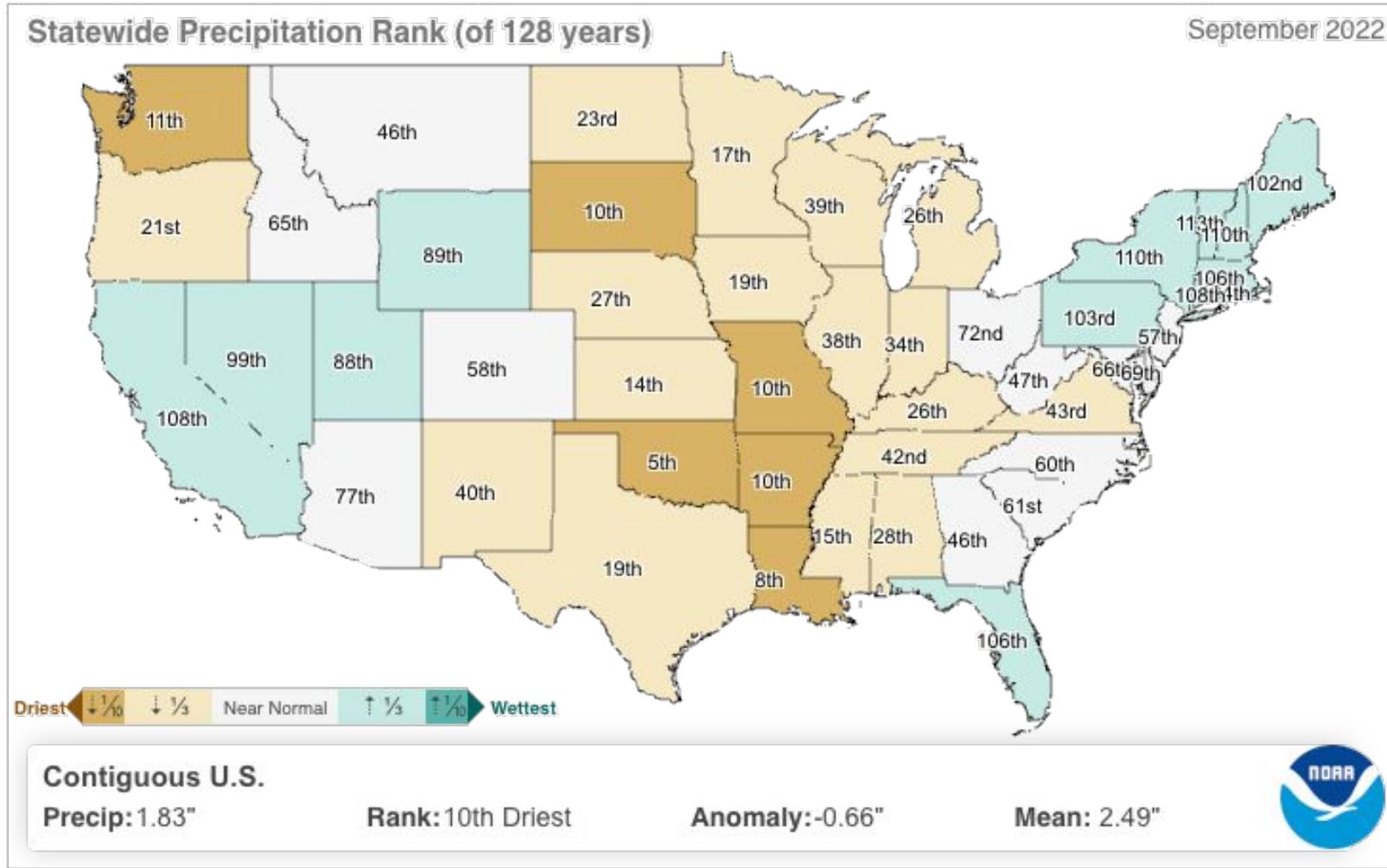
Growing Season Temperature Rankings



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

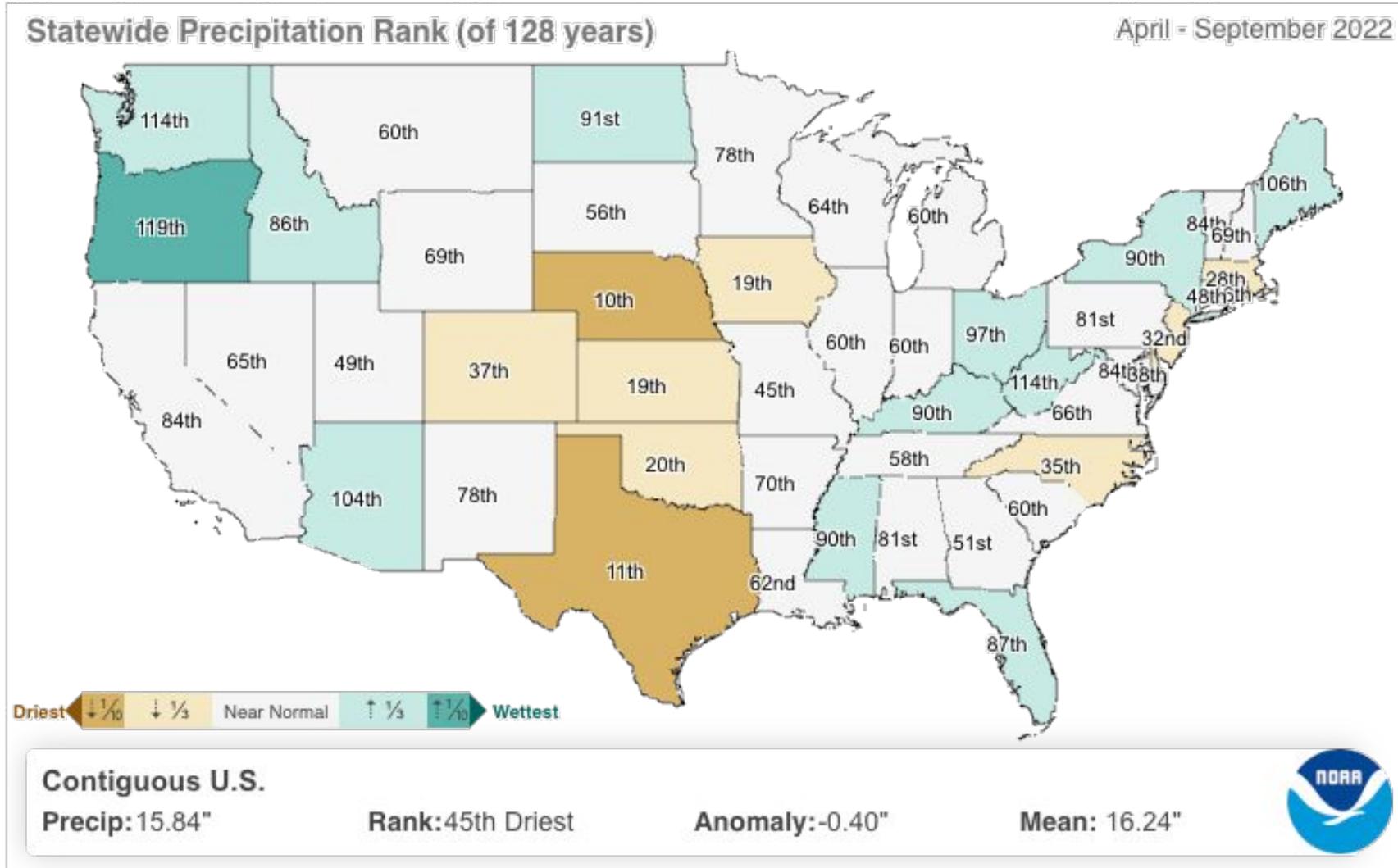
September Precipitation Rankings



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

Growing Season Precipitation Rankings

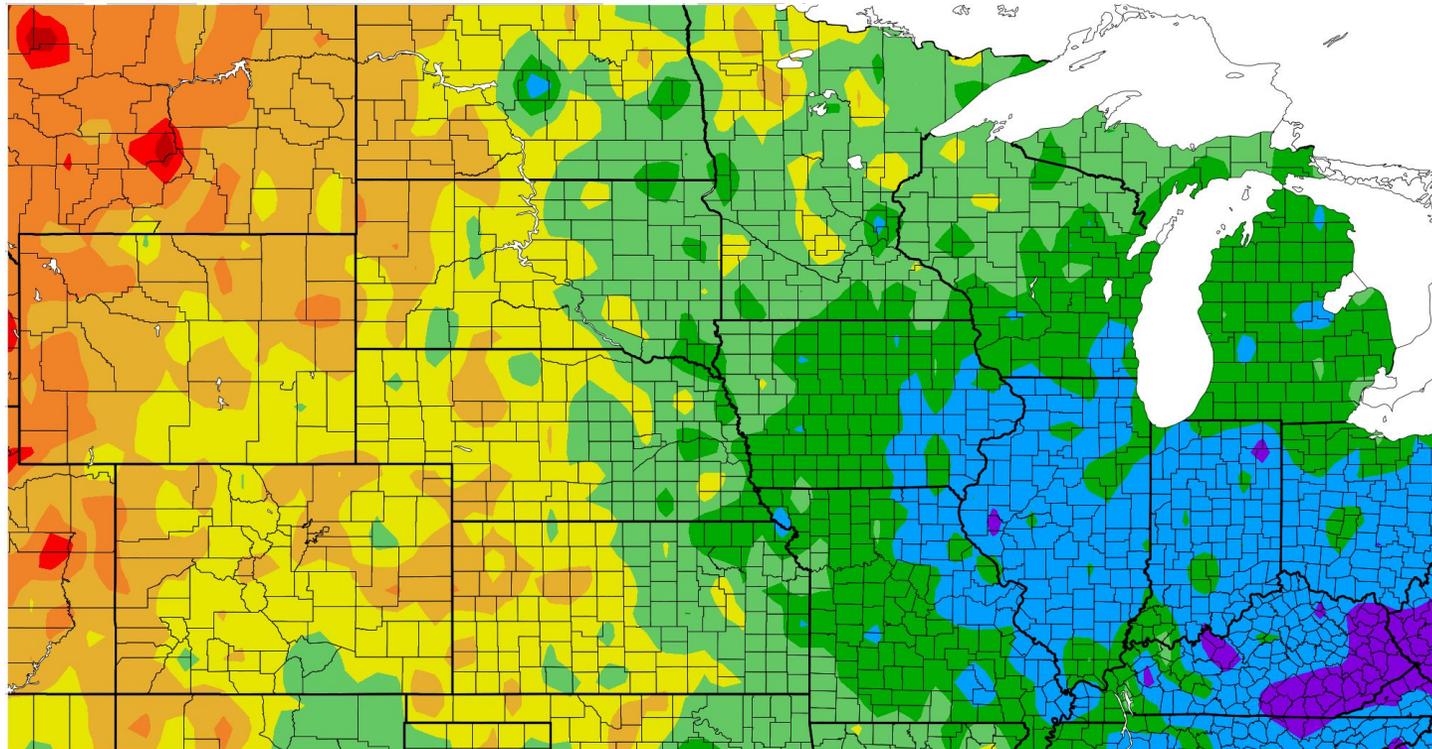


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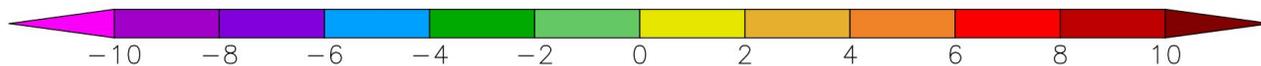
<https://www.ncdc.noaa.gov/cag/>

October Temperature

Departure from Normal Temperature (F)
10/1/2022 – 10/19/2022



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Generated 10/20/2022 at HPRCC using provisional data.

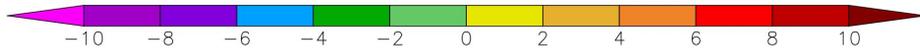
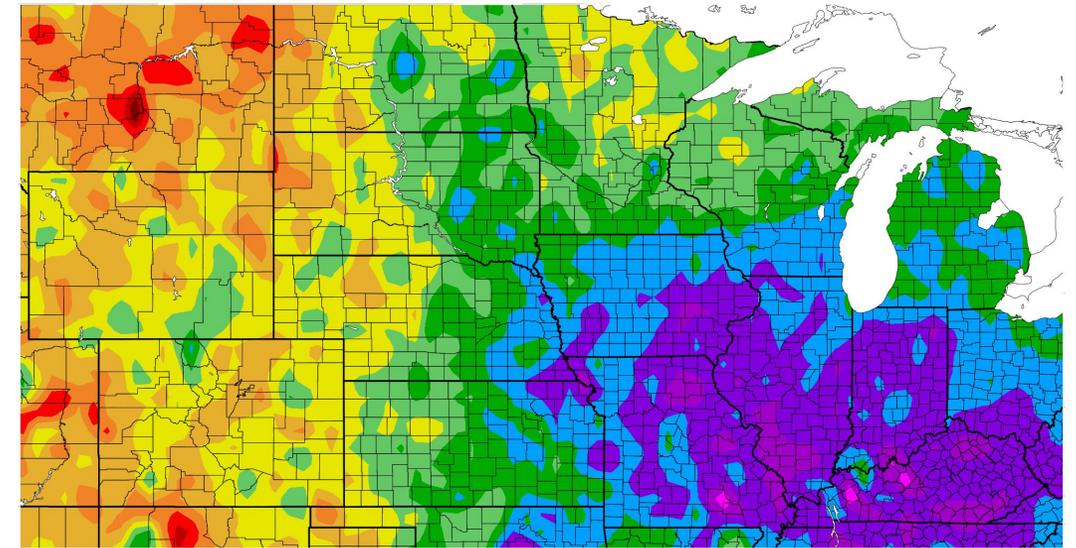
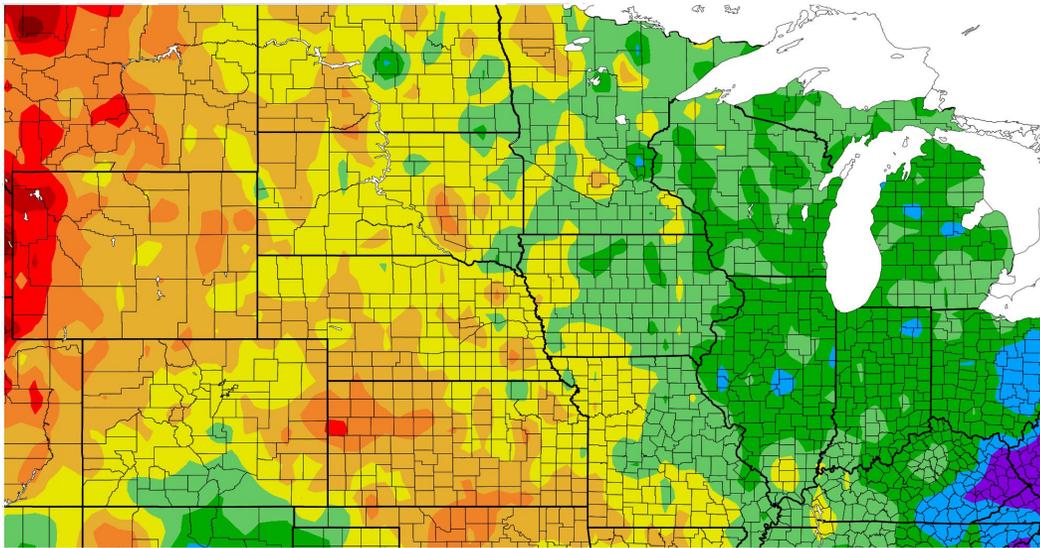
NOAA Regional Climate Centers



October Temperature

Departure from Normal Average Maximum Temperature (F)
10/1/2022 – 10/19/2022

Departure from Normal Average Minimum Temperature (F)
10/1/2022 – 10/19/2022



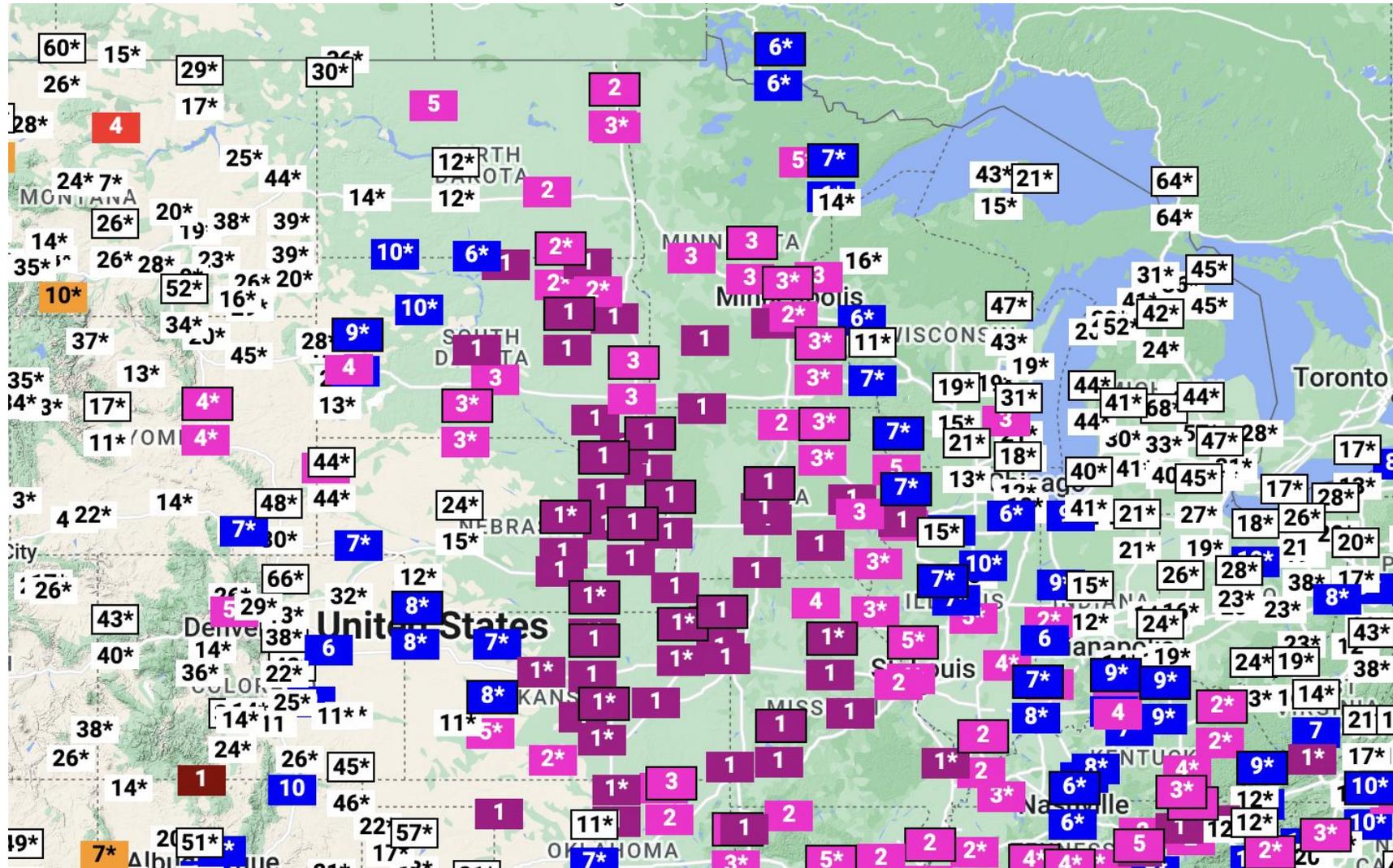
Generated 10/20/2022 at HPRCC using provisional data.

NOAA Regional Climate Centers

Generated 10/20/2022 at HPRCC using provisional data.

NOAA Regional Climate Centers

Record low temperatures 10/18/22



Legend Rank

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

* Indicates tied ranking

Climate Perspectives

Powered by 

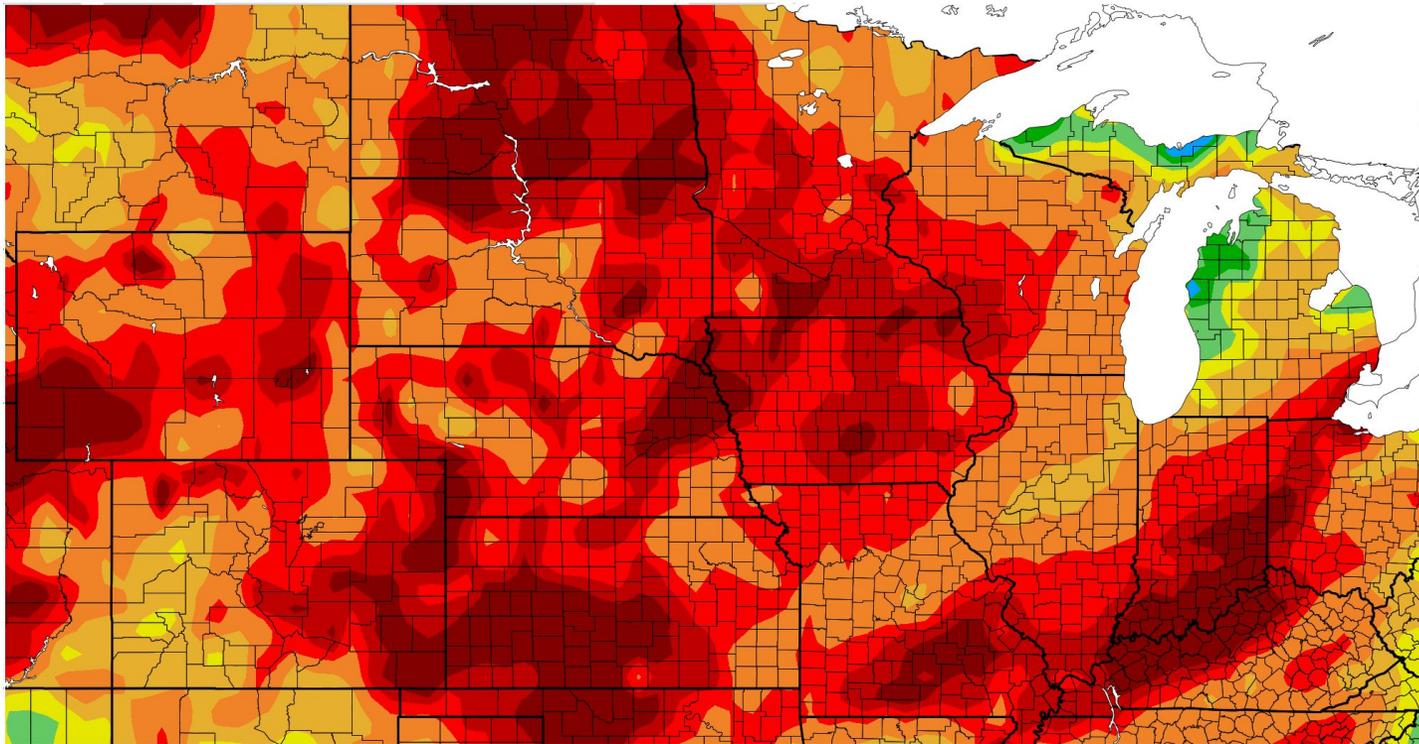
NOAA Regional Climate Centers




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October Precipitation

Precipitation (in)
10/1/2022 – 10/19/2022



Generated 10/20/2022 at HPRCC using provisional data.

NOAA Regional Climate Centers

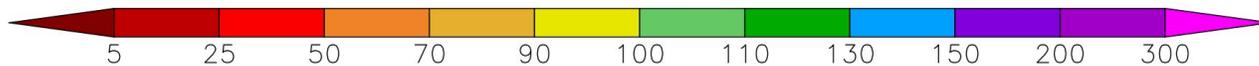
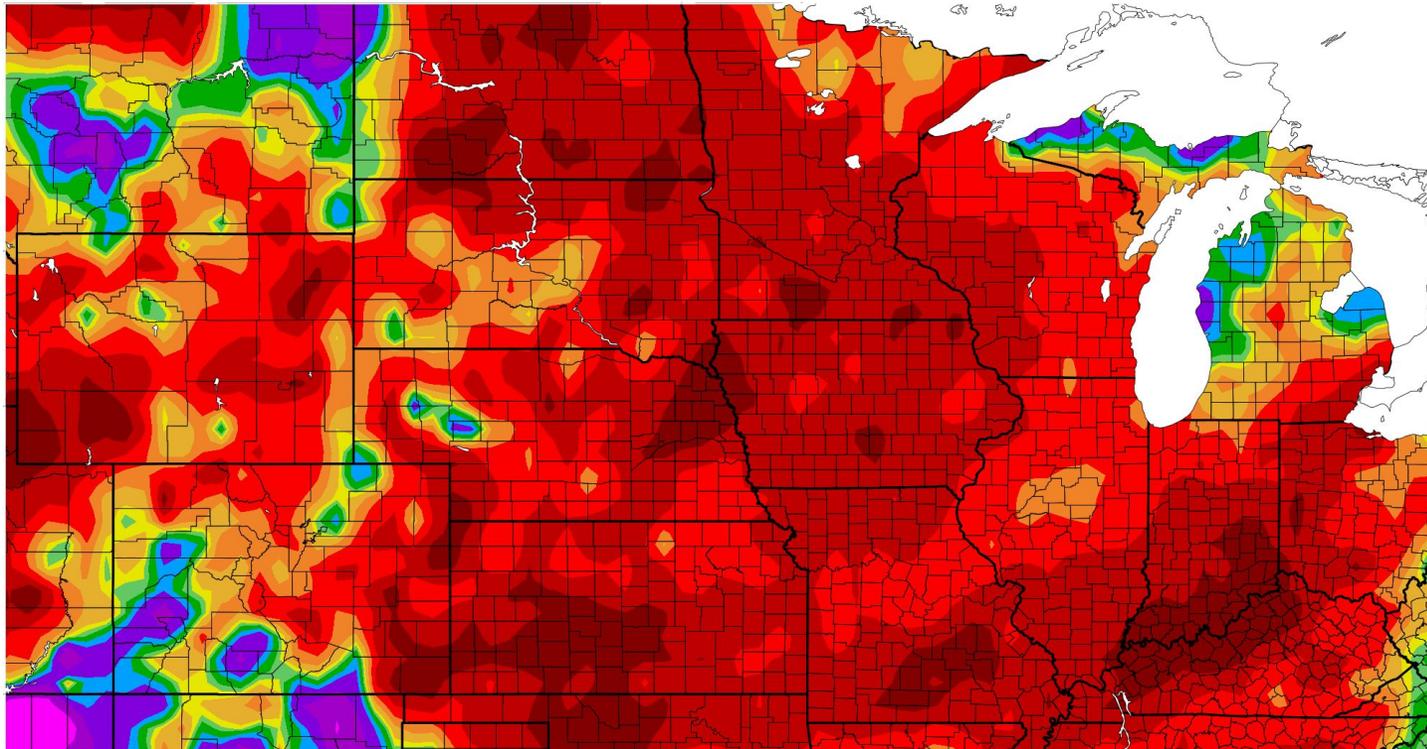


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October Precipitation, Percent of Normal

Percent of Normal Precipitation (%)

10/1/2022 – 10/19/2022



Generated 10/20/2022 at HPRCC using provisional data.

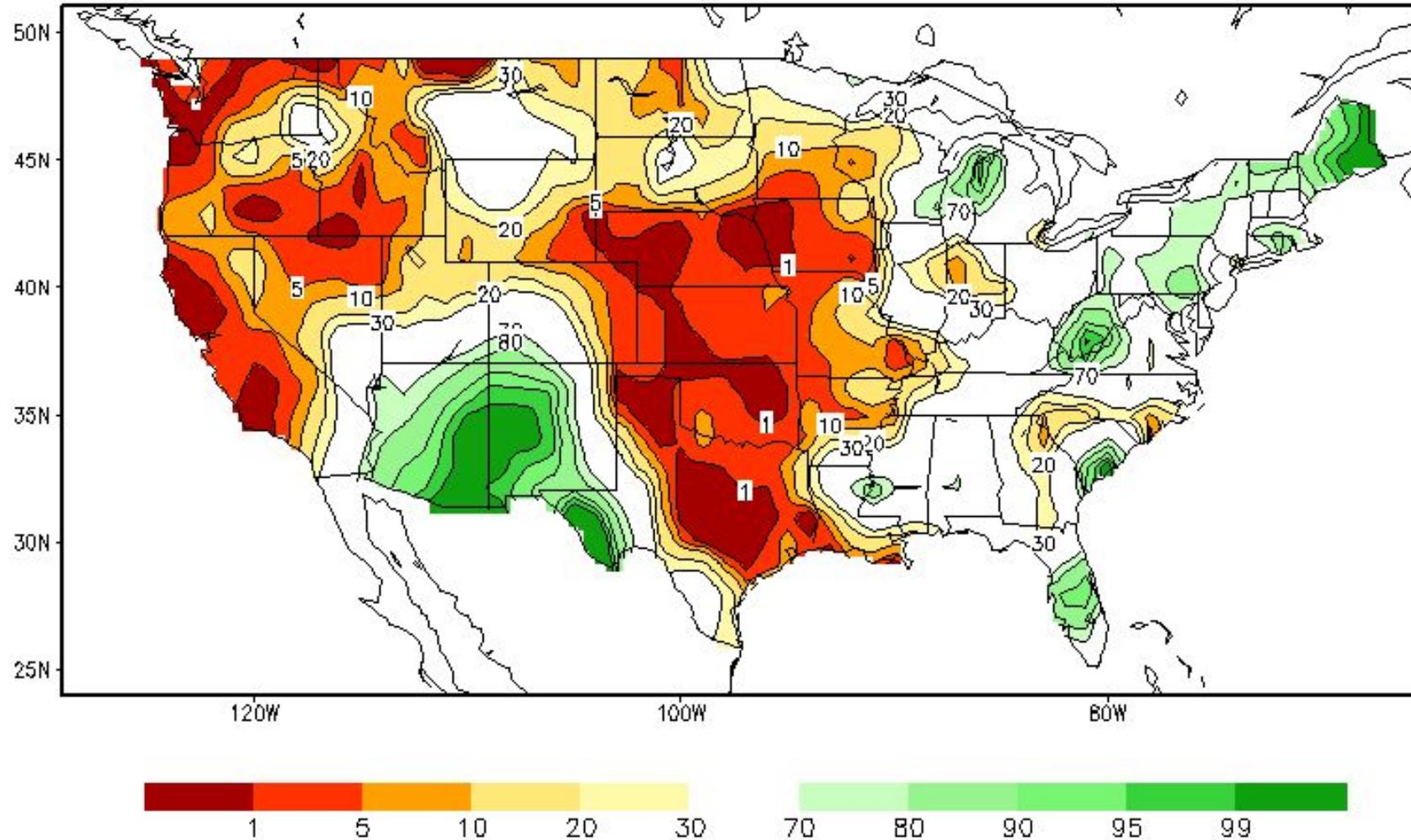
NOAA Regional Climate Centers



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Soil Moisture

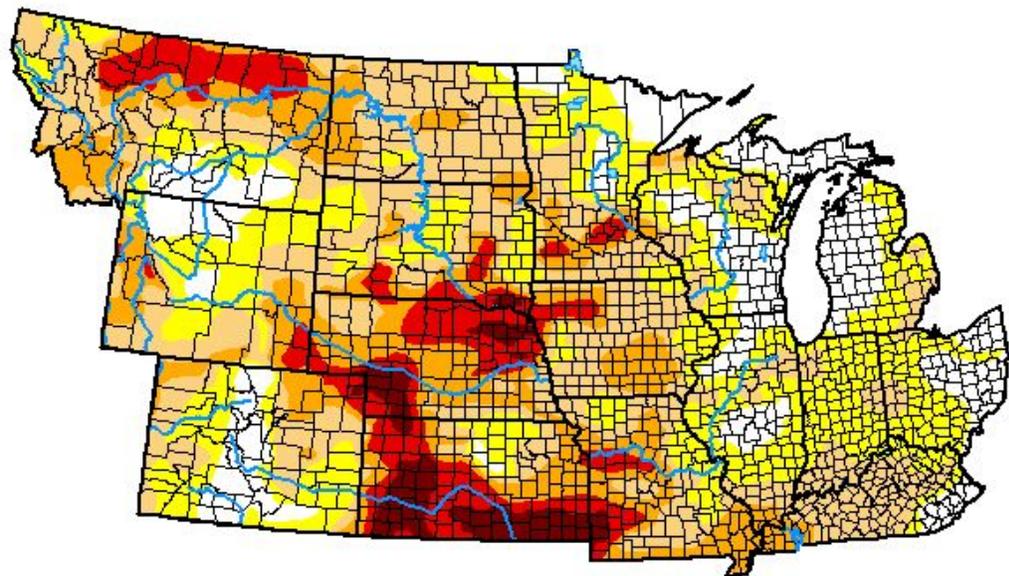
Calculated Soil Moisture Ranking Percentile
OCT 18, 2022



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U.S. Drought Monitor NWS Central

October 18, 2022
(Released Thursday, Oct. 20, 2022)
Valid 8 a.m. EDT



Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	14.16	85.84	59.67	29.36	12.01	3.19
Last Week <i>10-11-2022</i>	16.38	83.62	53.10	26.52	10.59	2.96
3 Months Ago <i>07-19-2022</i>	44.40	55.60	33.92	16.69	4.16	0.28
Start of Calendar Year <i>01-04-2022</i>	33.94	66.06	46.53	27.27	10.67	1.77
Start of Water Year <i>09-27-2022</i>	27.00	73.00	47.70	23.08	8.80	2.73
One Year Ago <i>10-19-2021</i>	33.69	66.31	48.16	30.73	14.36	2.47

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:

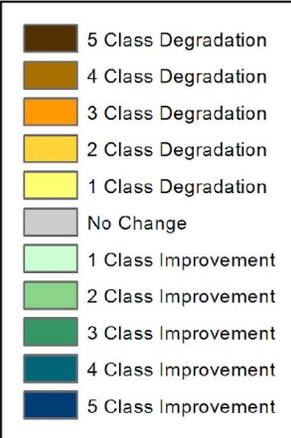
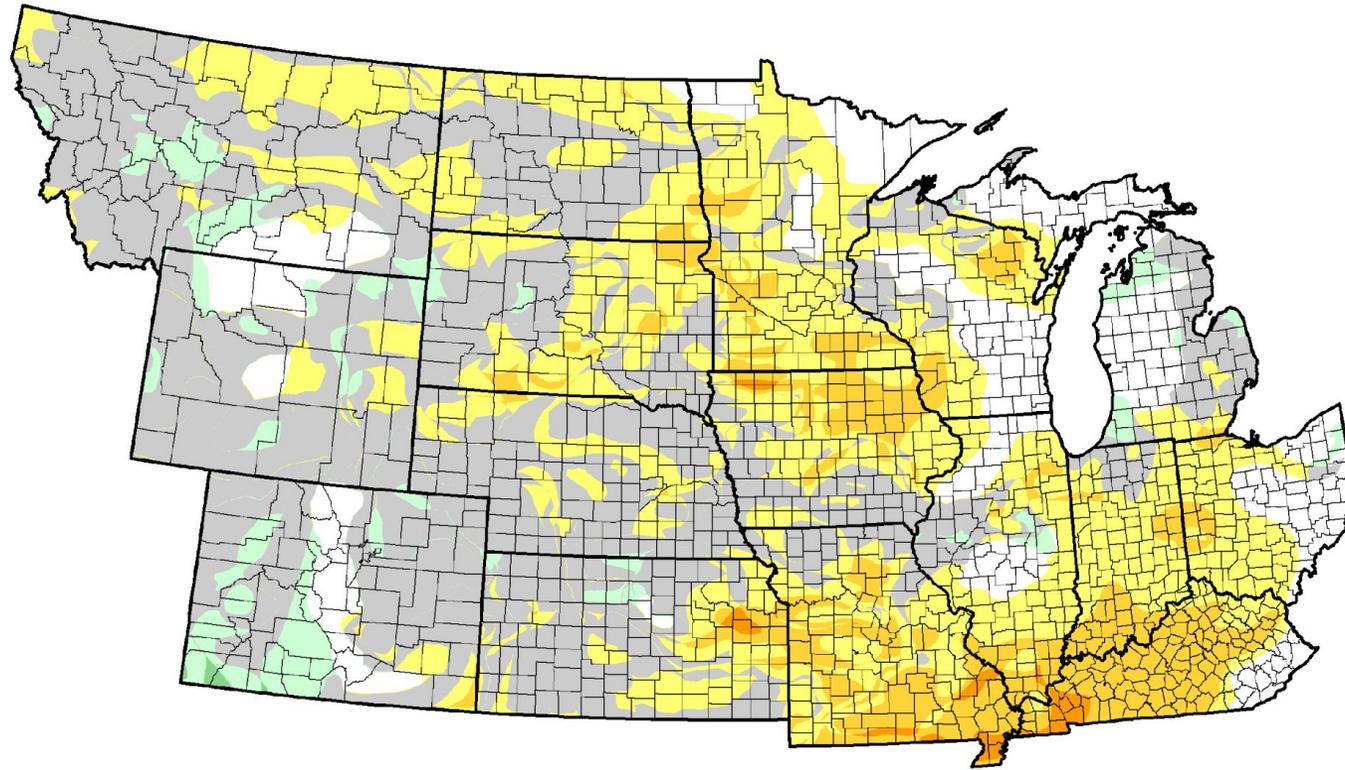
Adam Hartman
NOAA/NWS/NCEP/CPC



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droughtmonitor.unl.edu

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



October 18, 2022
compared to
September 20, 2022

droughtmonitor.unl.edu



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Climate Impacts

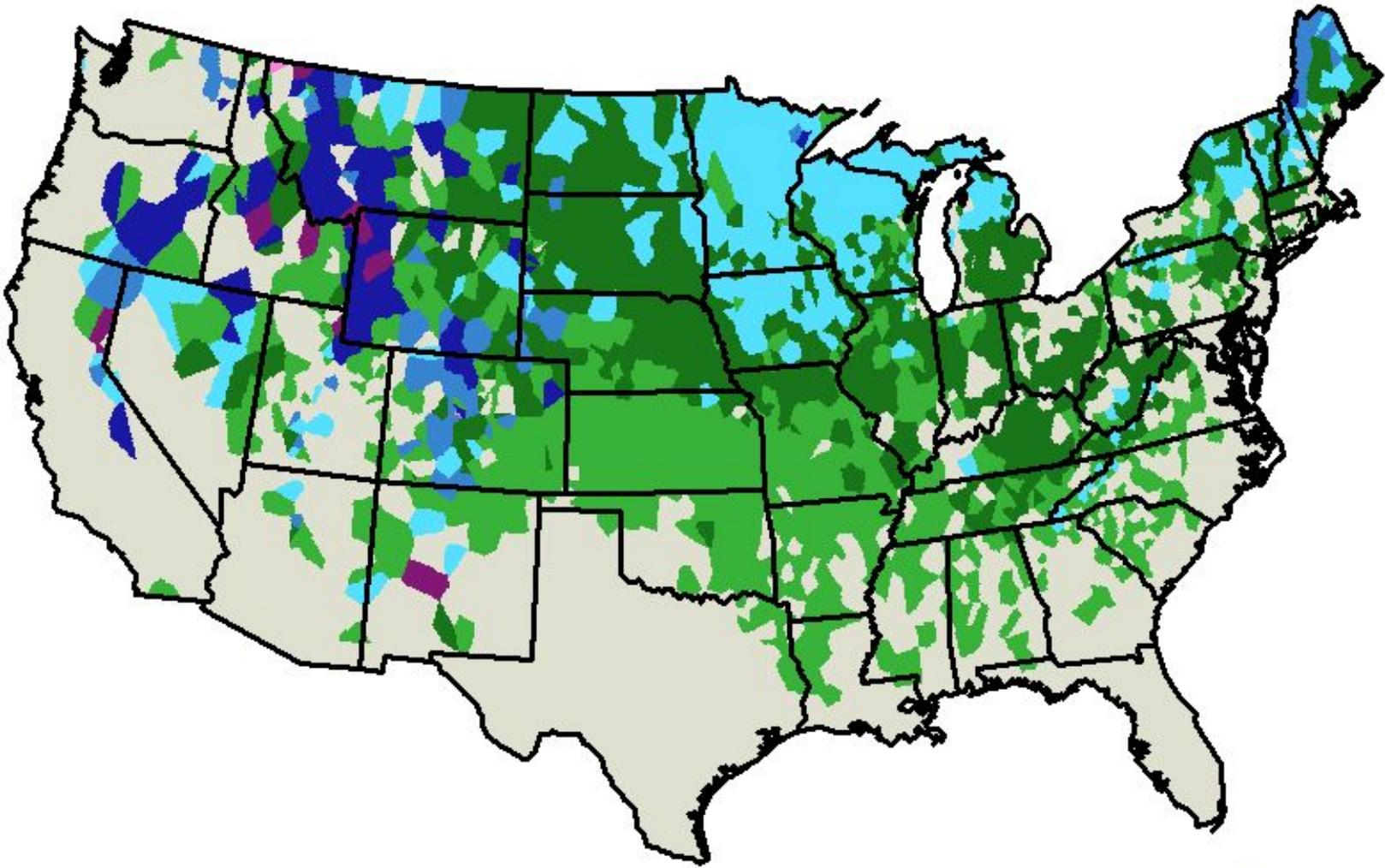
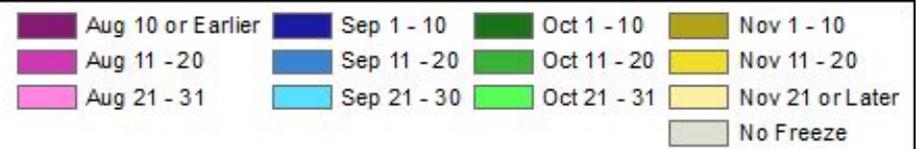


Photo by Laura Edwards



Photo by Aaron Wilson

Date of First 32°F Freeze
for period 7/1/22 to 10/19/22

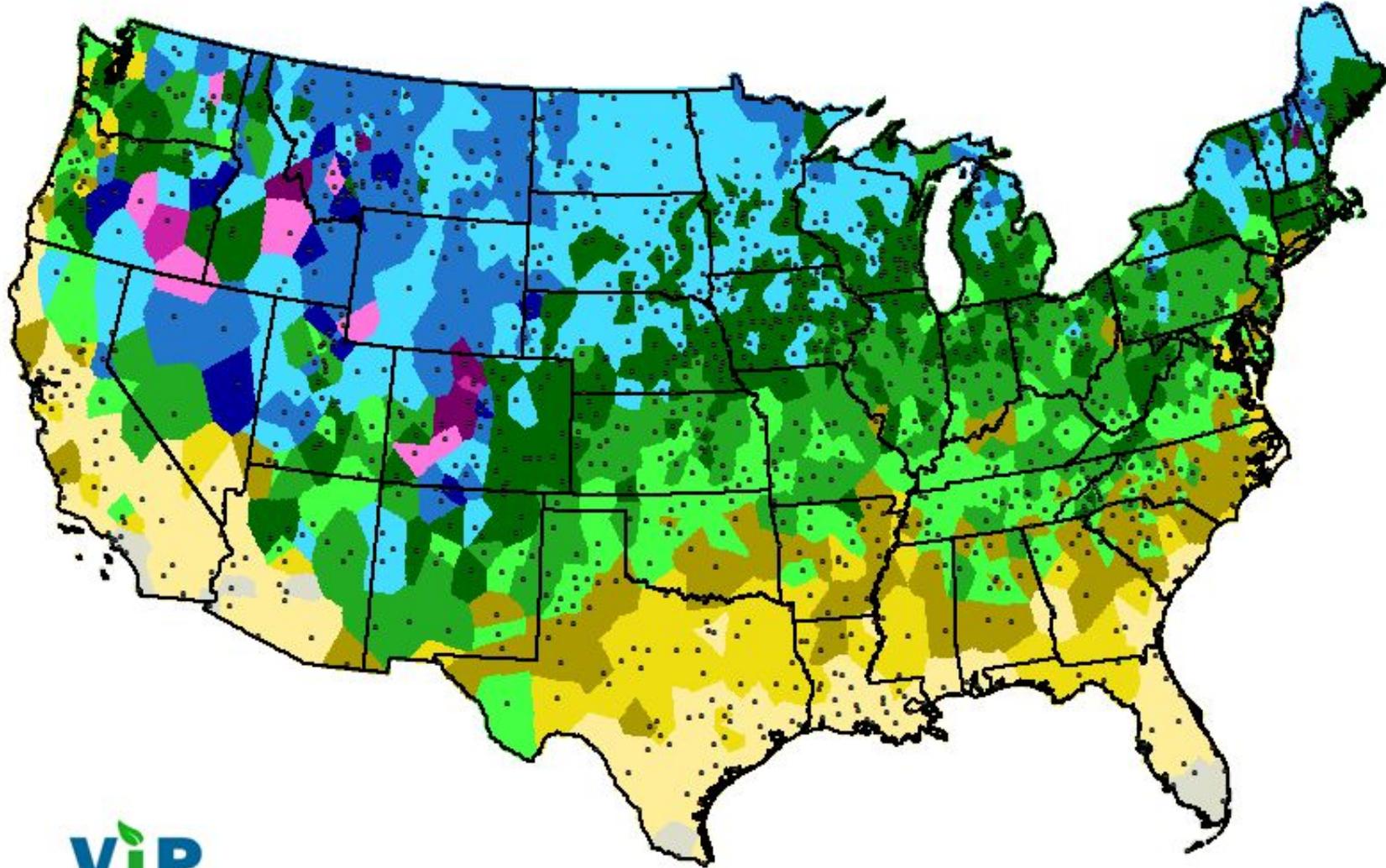
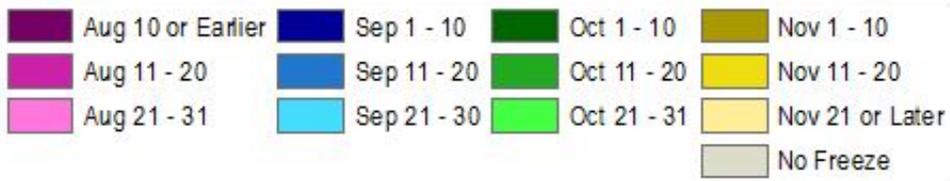


MRCC Experimental Freeze Guidance:
These experimental maps may be utilized as a guide to local and regional
freeze conditions but should NOT be used by themselves for decision processes.



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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

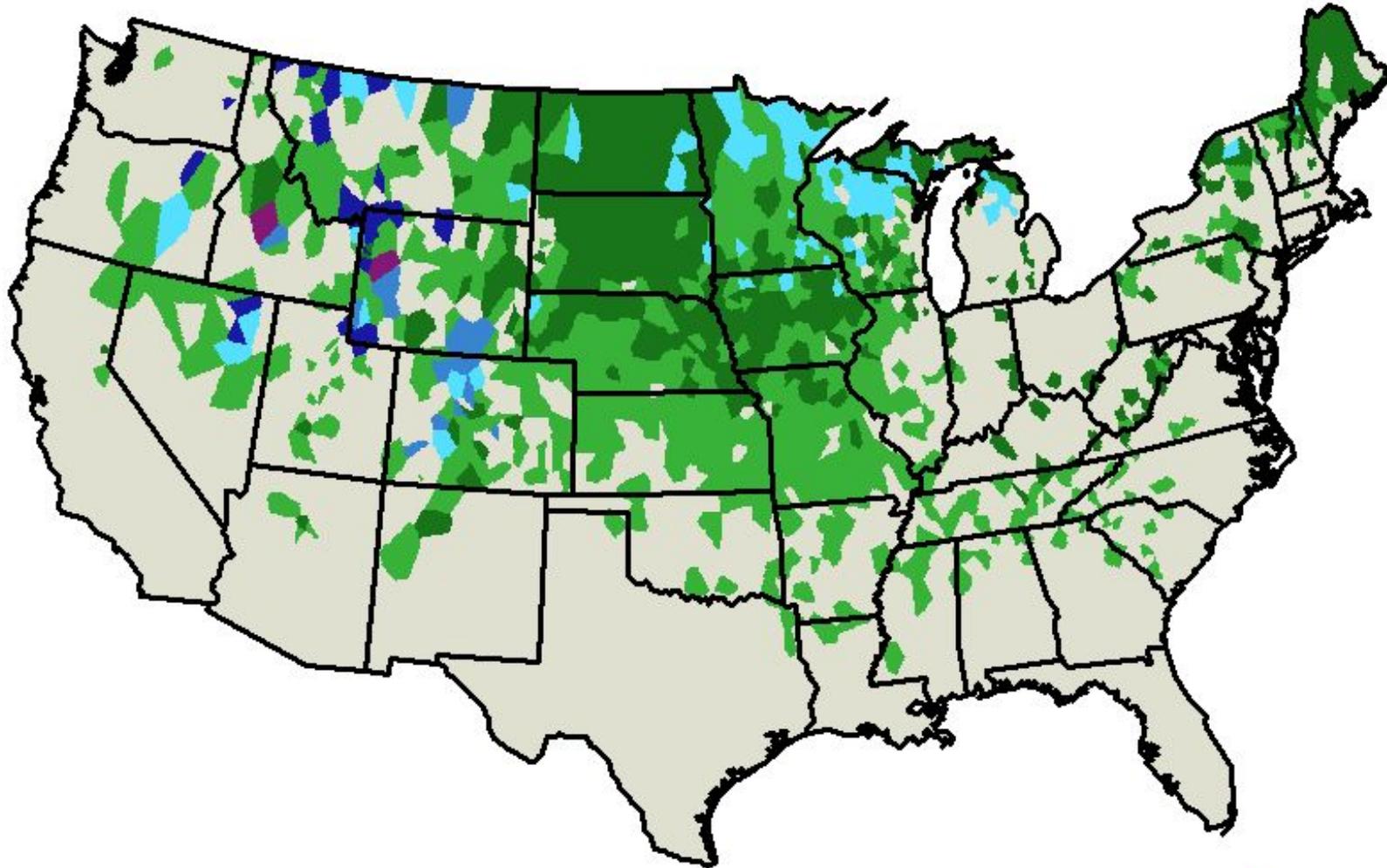
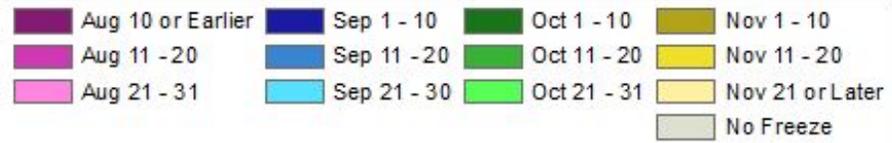


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https://mrcc.illinois.edu/ViP/frz_maps/freeze_maps.html

Date of First 28°F Freeze
for period 7/1/22 to 10/19/22

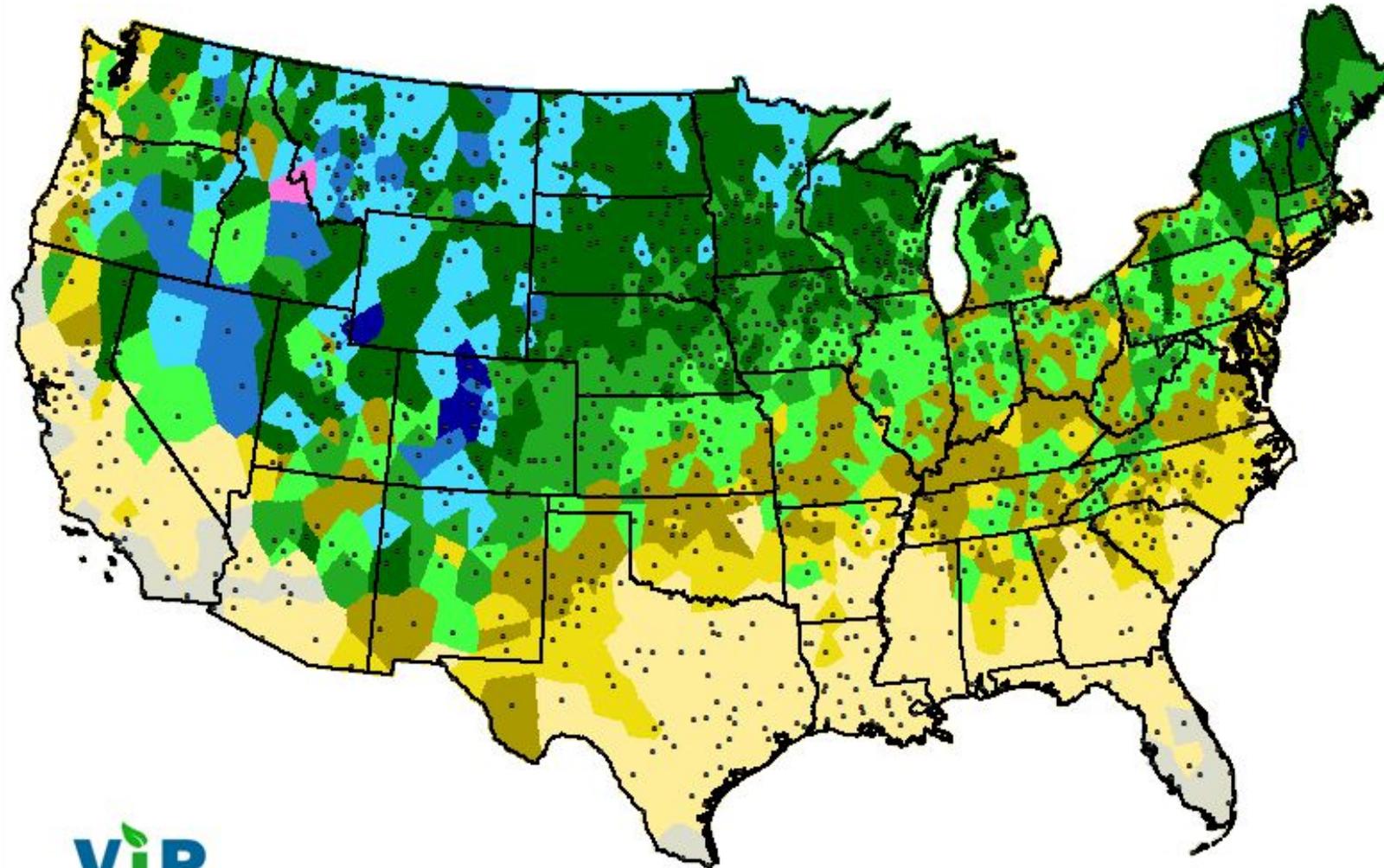
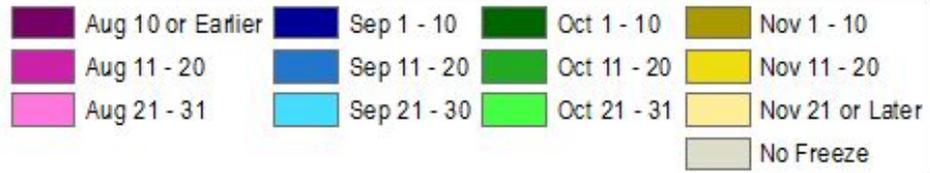


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Climatological Date of Median First 28°F Freeze
For years 1980-81 to 2009-10
Freeze year beginning July 1st
Median defined as the 50th Percentile



ViP
MRCC
Vegetation Impact Program

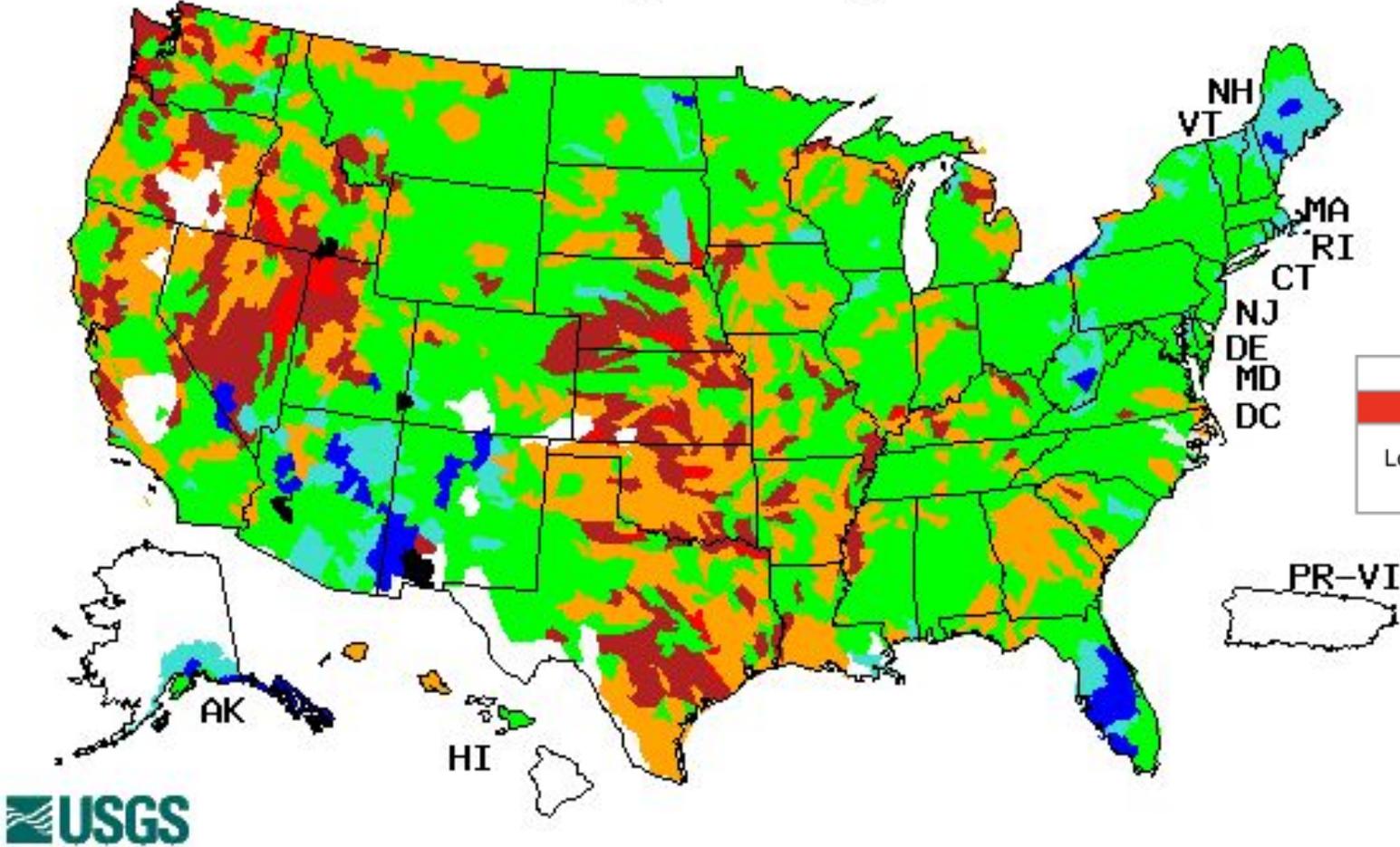


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https://mrcc.illinois.edu/ViP/frz_maps/freeze_maps.html

28-day streamflow percentile

Wednesday, October 19, 2022



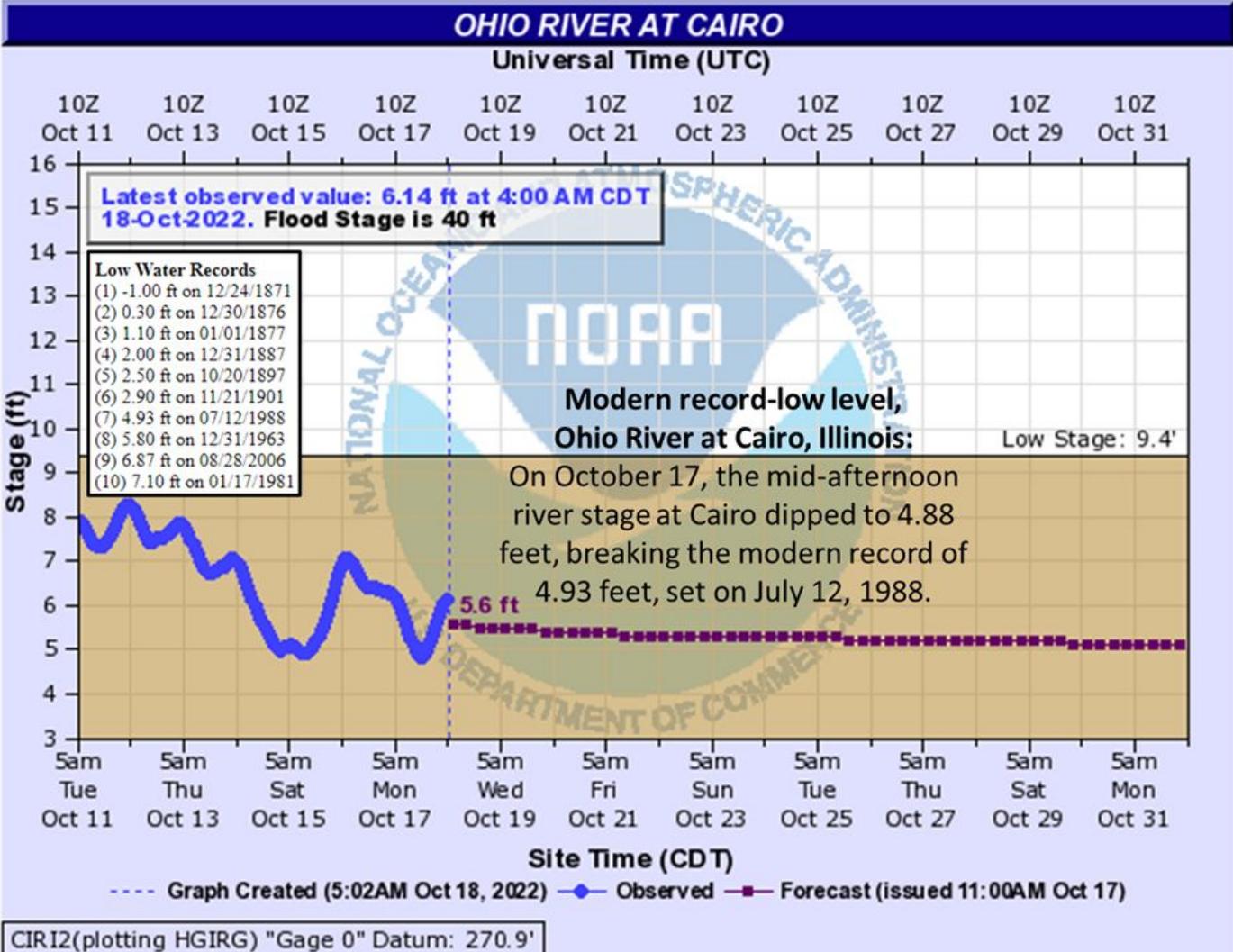
Explanation - Percentile classes

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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Ohio River



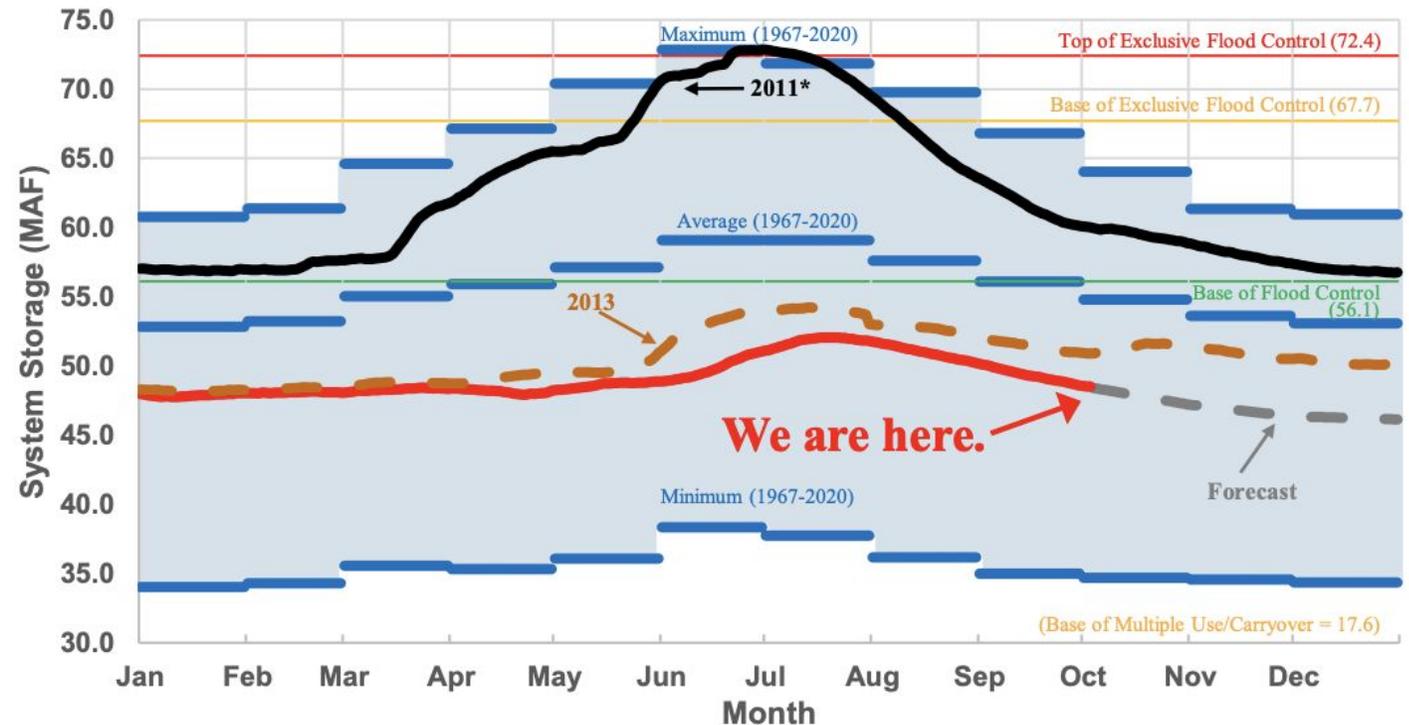
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Missouri River

- Missouri Mainstem Reservoir Status (as of 10/4/22):
- Current system storage is 48.5 million acre-feet, about 2 MAF below this time last year
- 2022 runoff forecast = 76% of average, 19.5 million acre-feet
- Over 90% of basin is in abnormally dry or drought conditions
- Gavins Point release will be 500 cfs above minimum, currently 32,000 cfs
- Fall public meetings planned for next week

System Storage Comparison





Lower Ohio & Mississippi Rivers



Historical Low Water Events

Lower Mississippi River Forecast Center Current stage and forecast data as of October 18th 2022

Forecast Location	Current Stage	Forecast Low Stage	2012	2000	1988
Cairo, IL*	6.4 ft	5.2 ft	7.2 ft	8.5 ft	4.9 ft
Memphis, TN*	-10.7 ft	-11.1 ft	-9.8 ft	-9.2 ft	-10.7 ft
Arkansas City, AR	-1.9 ft	-3.1 ft	-3.2 ft	-2.9 ft	-5.0 ft
Greenville, MS	6.5 ft	5.5 ft	6.9 ft	8.2 ft	7.3 ft
Vicksburg, MS	1.8 ft	0.1 ft	-1.1 ft	0.2 ft	-1.6 ft
Red River Landing, LA	15.6 ft	12.9 ft	13.0 ft	13.1 ft	10.0 ft
Baton Rouge, LA	4.8 ft	2.1 ft	3.4 ft	3.9 ft	1.8 ft

* Locations that have preliminarily broken modern day low water records Numbers in Red are the lowest forecast stage based on the 28 day forecast Data provided by U.S. Army Corps of Engineers



Highlights

- KS, IN: planting winter wheat and cover crops into dry soils
- KS: some water main breaks due to soil contraction
- Slow emergence of winter wheat due to dry soils
- Many fall fires: harvest activities, dry vegetation
- Dry to very dry conditions for fall harvest. Soybean shattering due to extremely dry conditions. Rapid progress in most areas.
- Burn bans in effect in a lot of counties
- Some late planted crops could have been affected by early hard frost.
- Ohio River was above normal until mid-Sept. Has trended lower and now below average.
- Some changes in the Mississippi River channel due to degradation appear to be record low, but not true everywhere. Yes, water is very low.
- River levels unusually low in Miss., Ohio for fall season. Missouri River releases being reduced.



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Climate outlooks

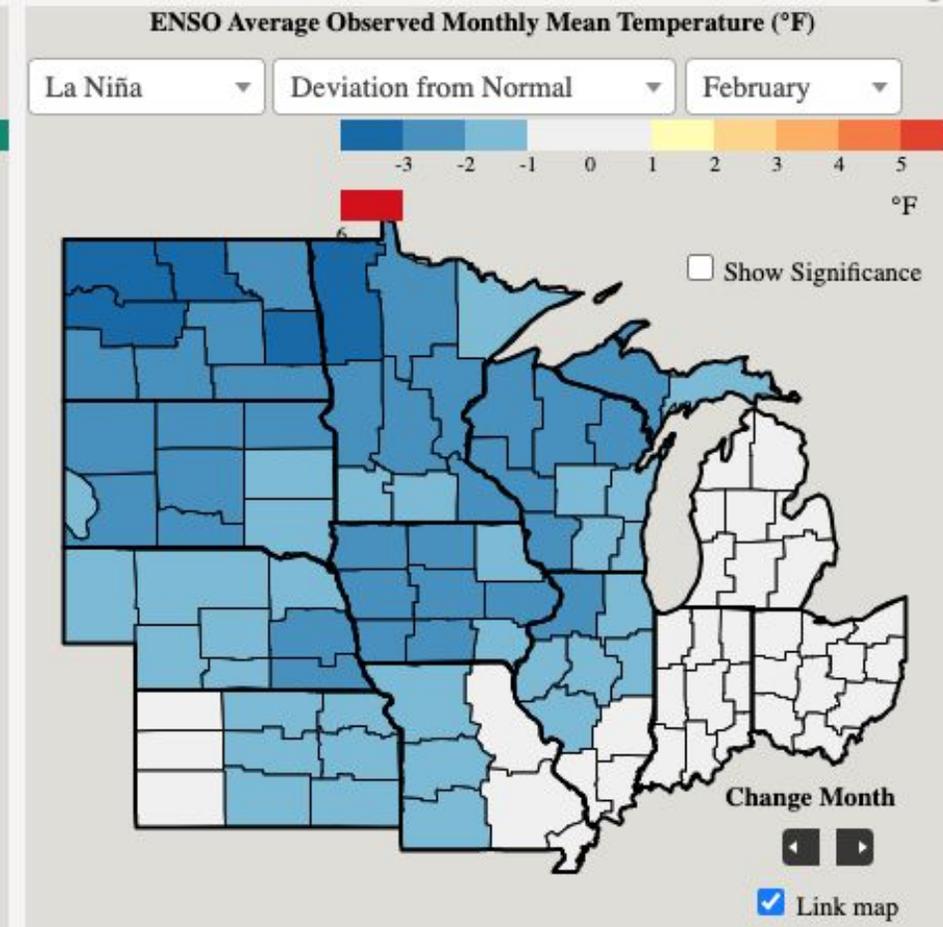
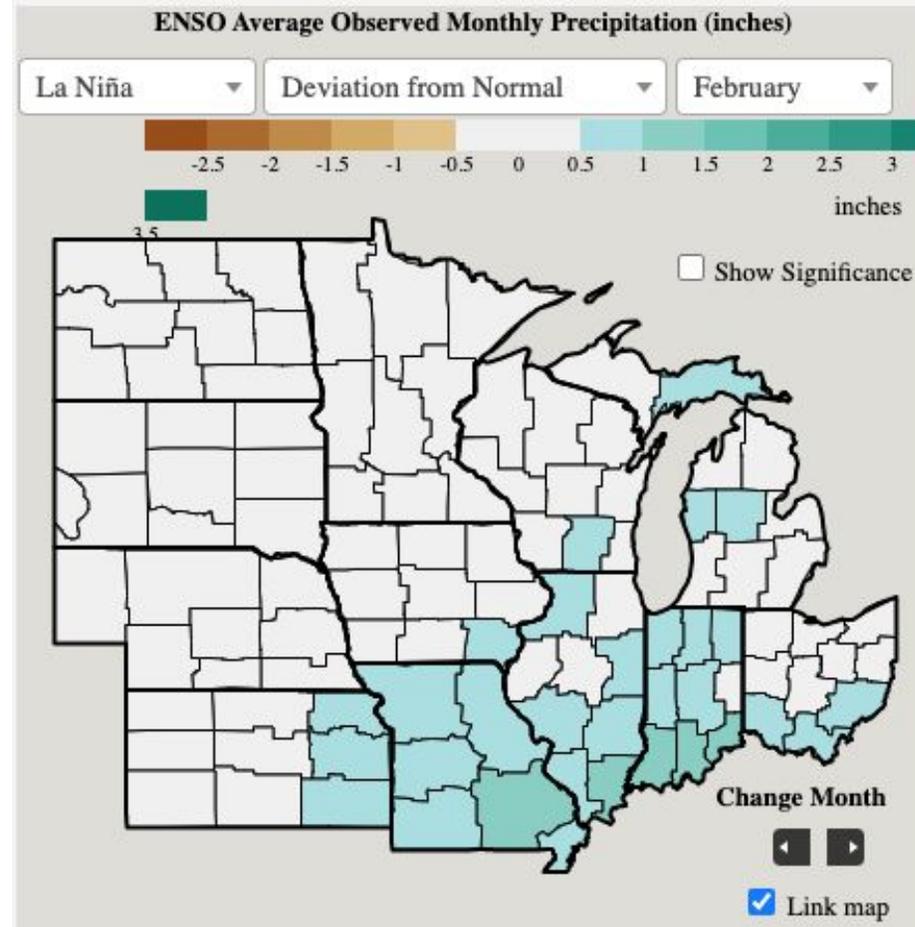
- La Niña
- 7-day precipitation forecast
- 8-14 day outlook
- November temperature and precipitation
- Winter season temperature and precipitation



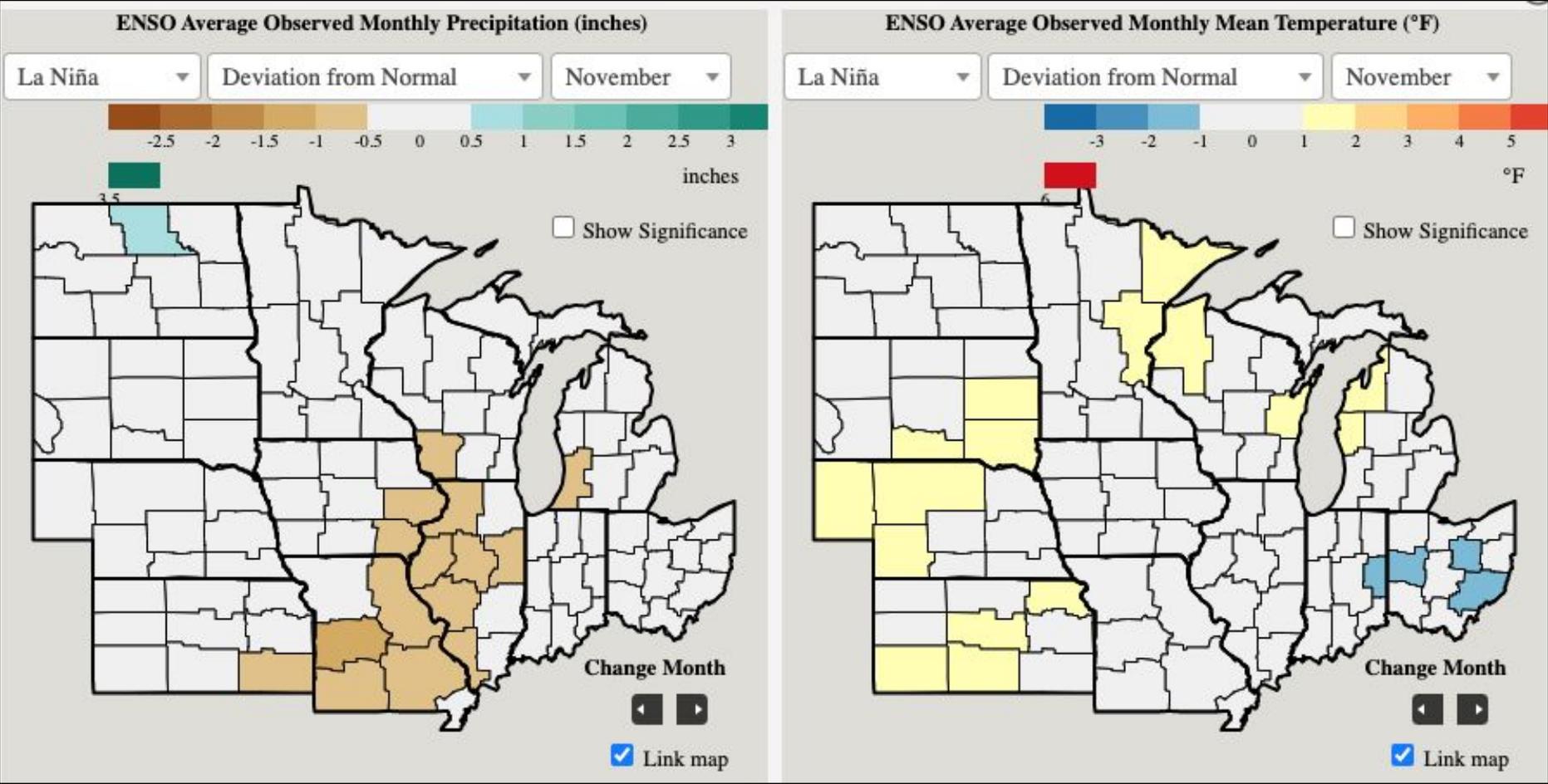
Photo by Chet Edinger

La Nina Advisory

- 75% chance of continuing in December through February
- 3rd La Nina winter in a row
- 54% of ENSO-neutral in February - April 2023



Historical La Niña Conditions

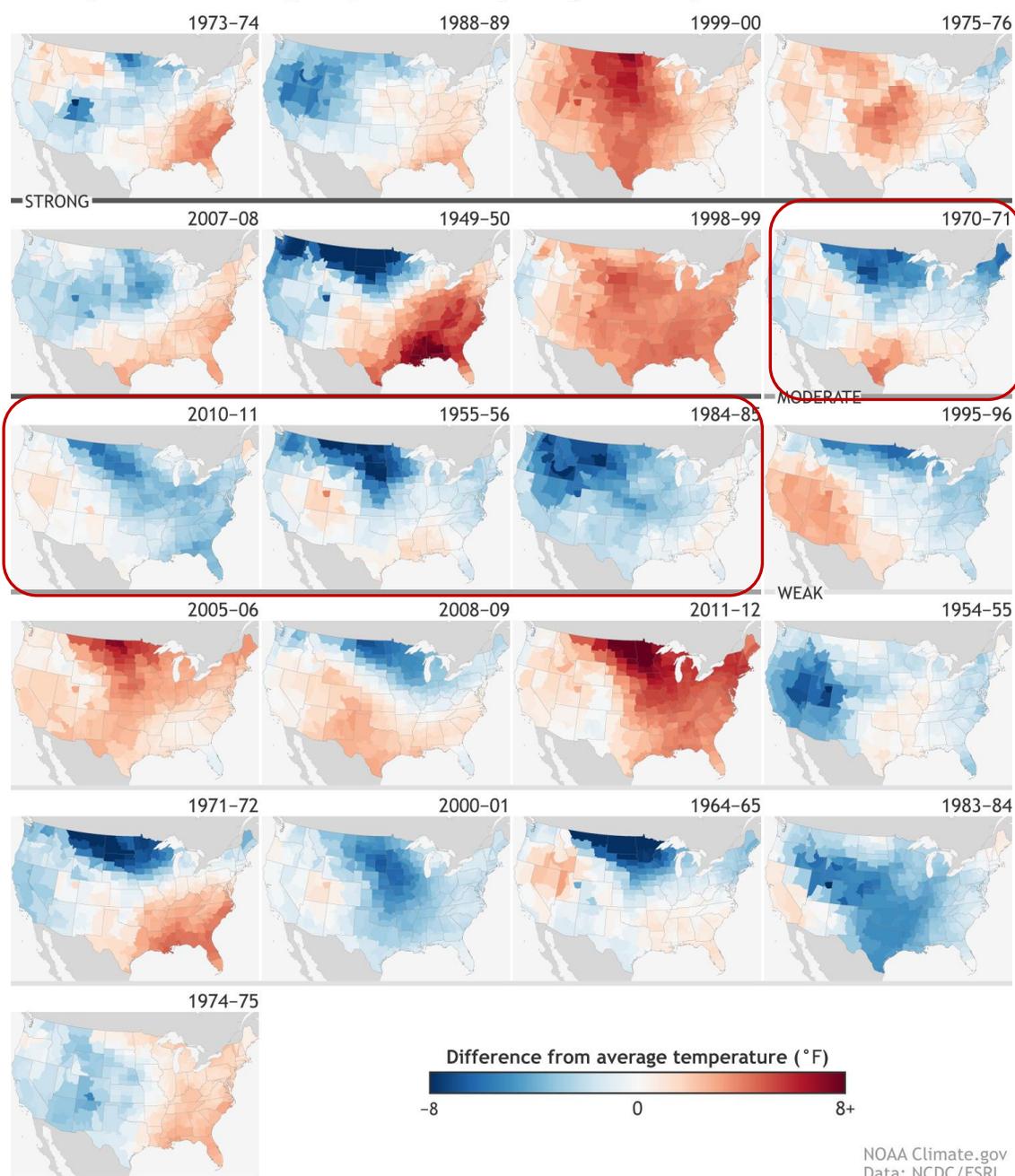


<https://hprcc.unl.edu/agroclimate/cpv.php>



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Winter (December-February) temperature during strong, moderate, and weak La Niñas since 1950

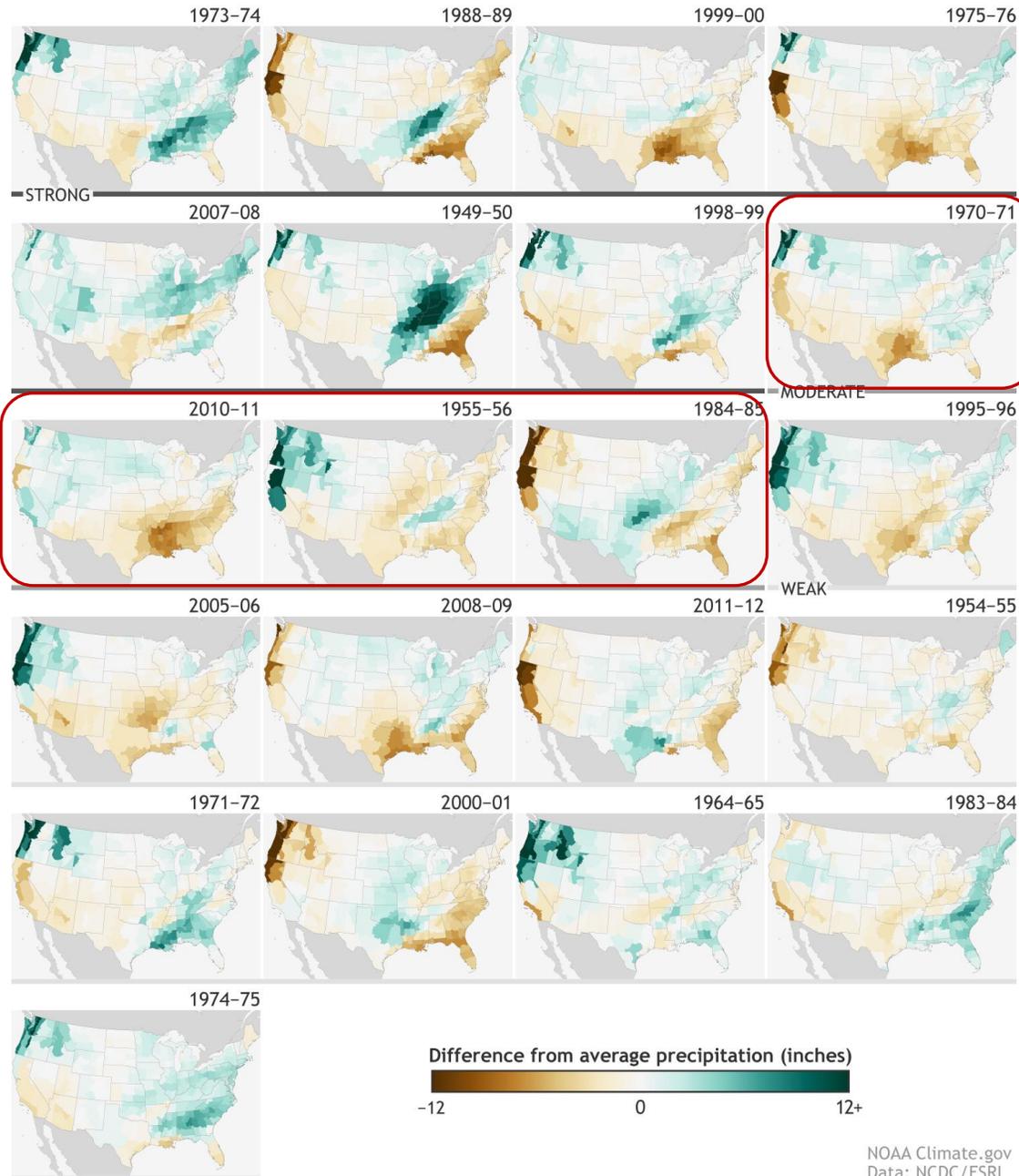


La Nina Winter Temperature



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Winter (December-February) precipitation during strong, moderate, and weak La Niñas since 1950



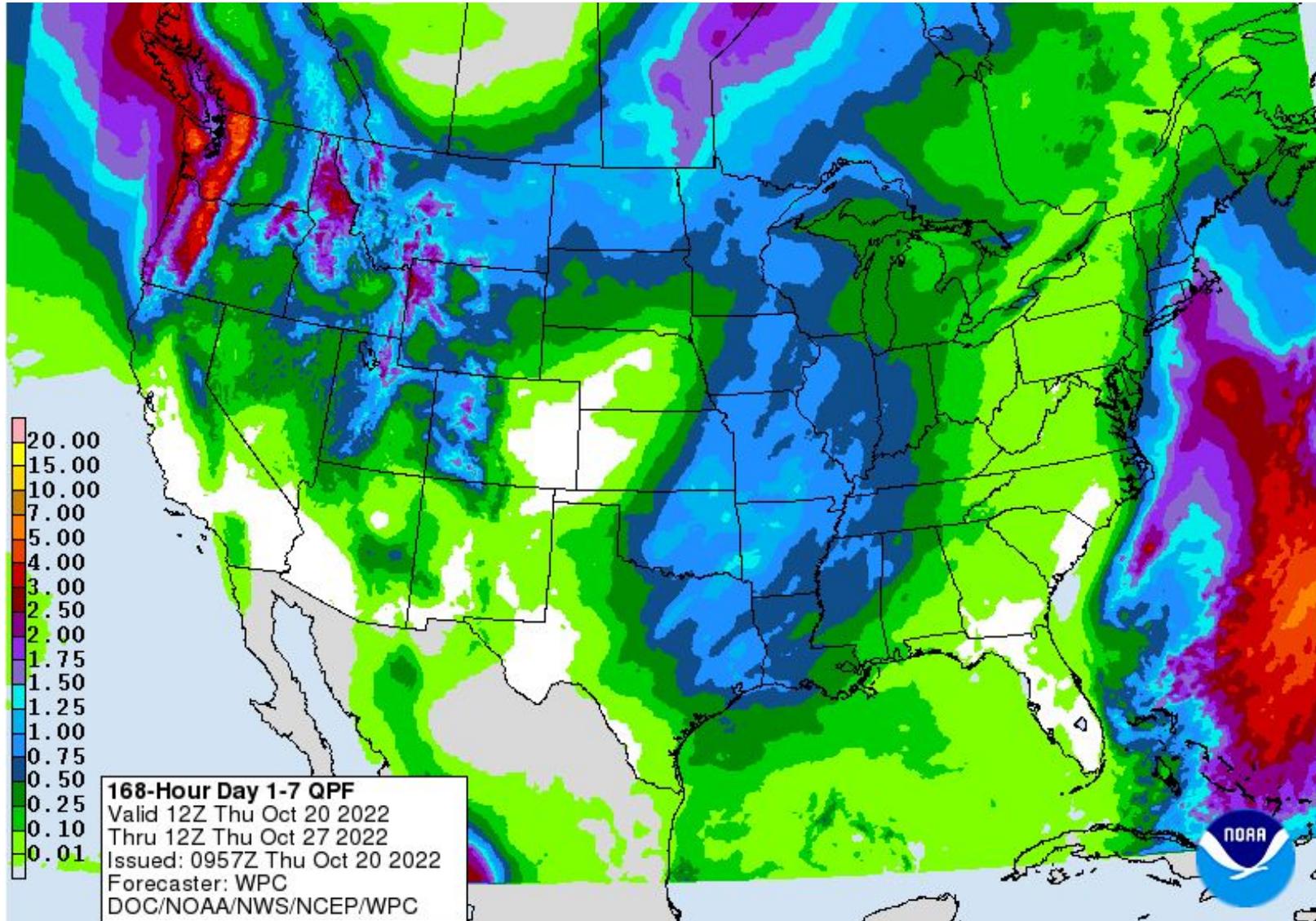
La Niña Winter Precipitation



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7-day Quantitative Precipitation Forecast

Valid: 20 Oct - 27 Oct



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



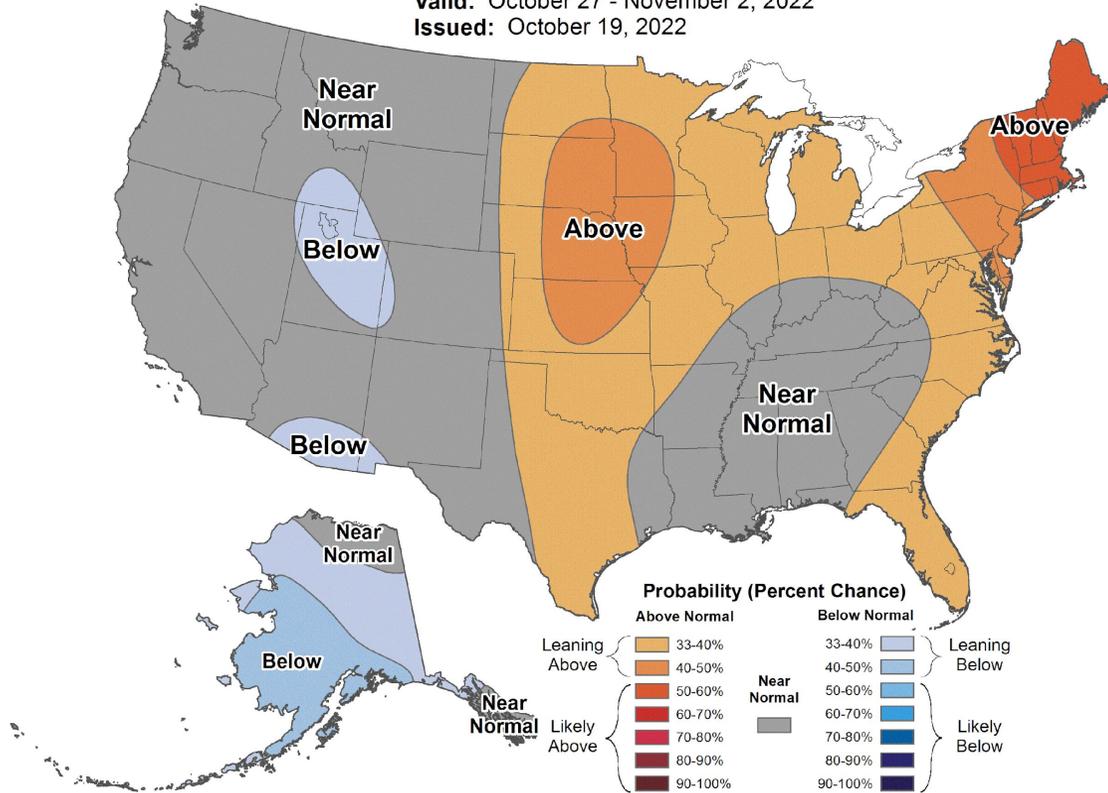
8-14 Day Outlook



8-14 Day Temperature Outlook



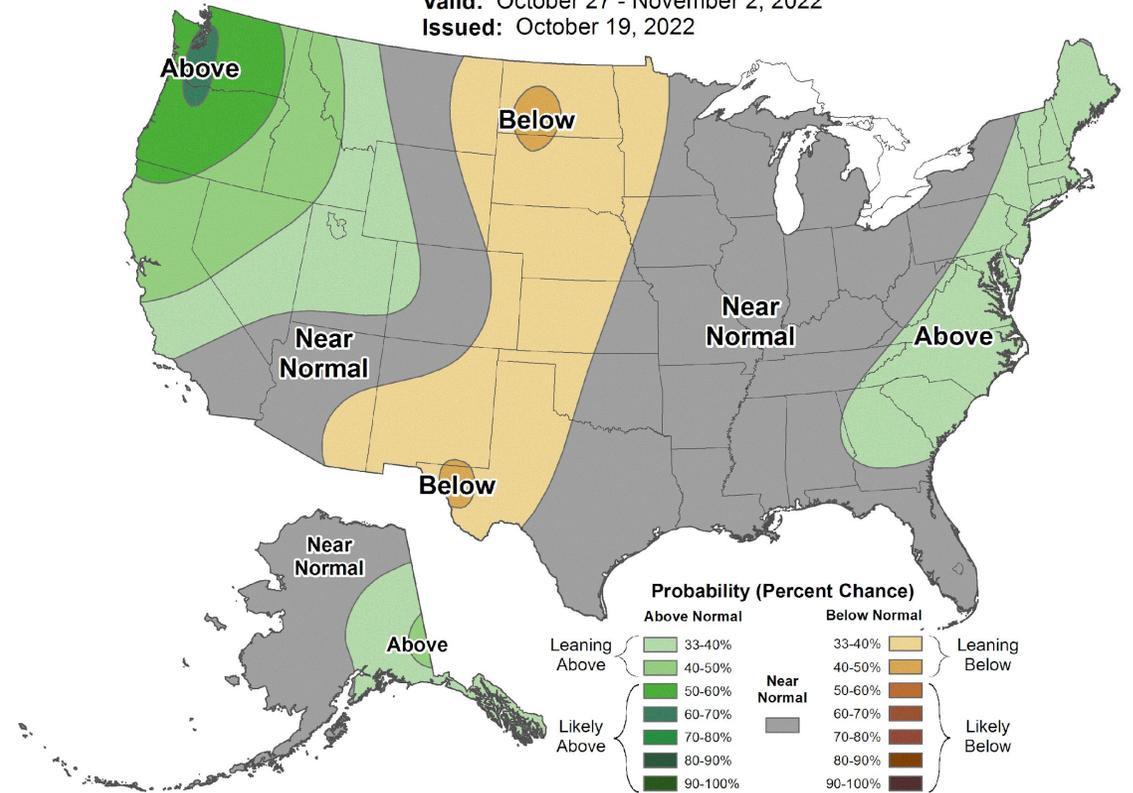
Valid: October 27 - November 2, 2022
Issued: October 19, 2022



8-14 Day Precipitation Outlook



Valid: October 27 - November 2, 2022
Issued: October 19, 2022





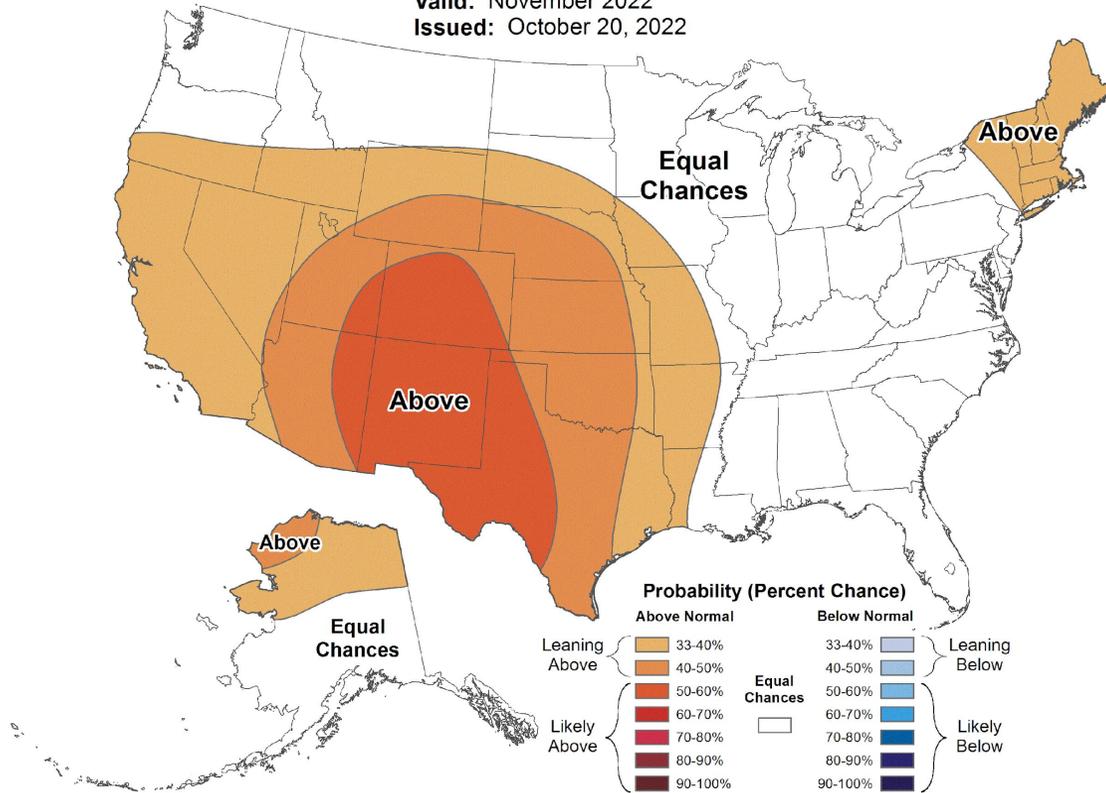
November Outlook



Monthly Temperature Outlook



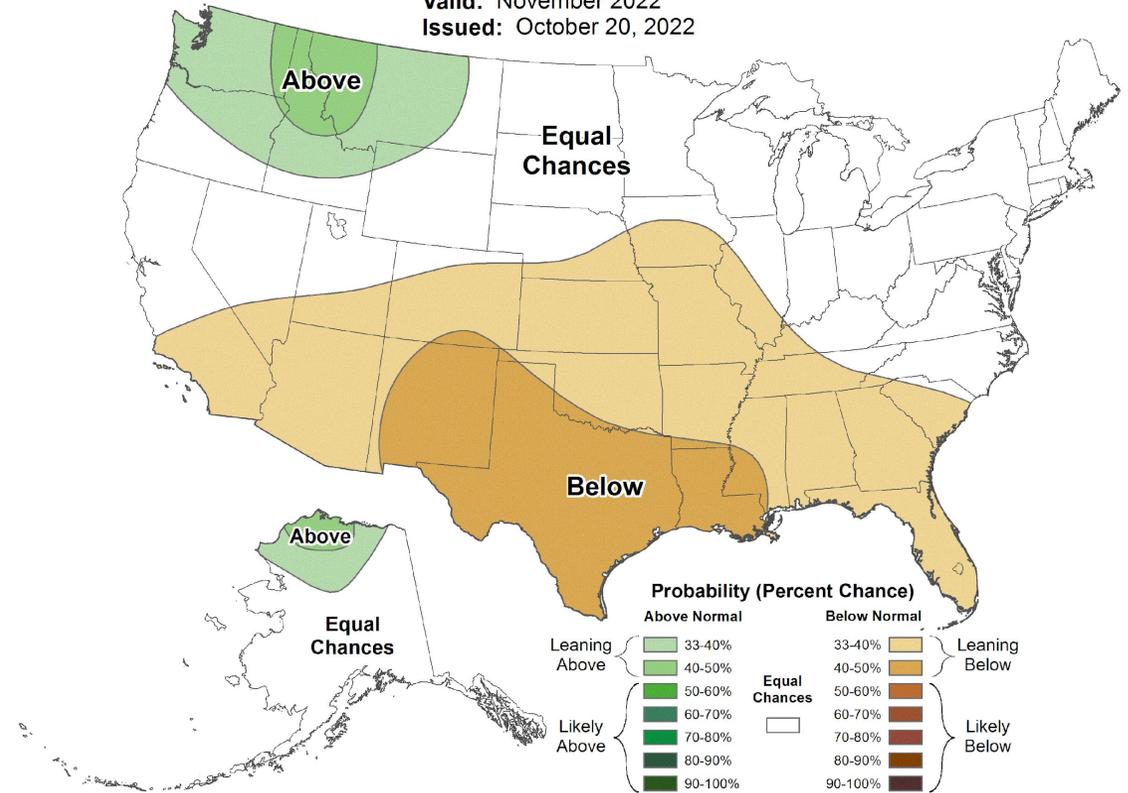
Valid: November 2022
Issued: October 20, 2022



Monthly Precipitation Outlook



Valid: November 2022
Issued: October 20, 2022





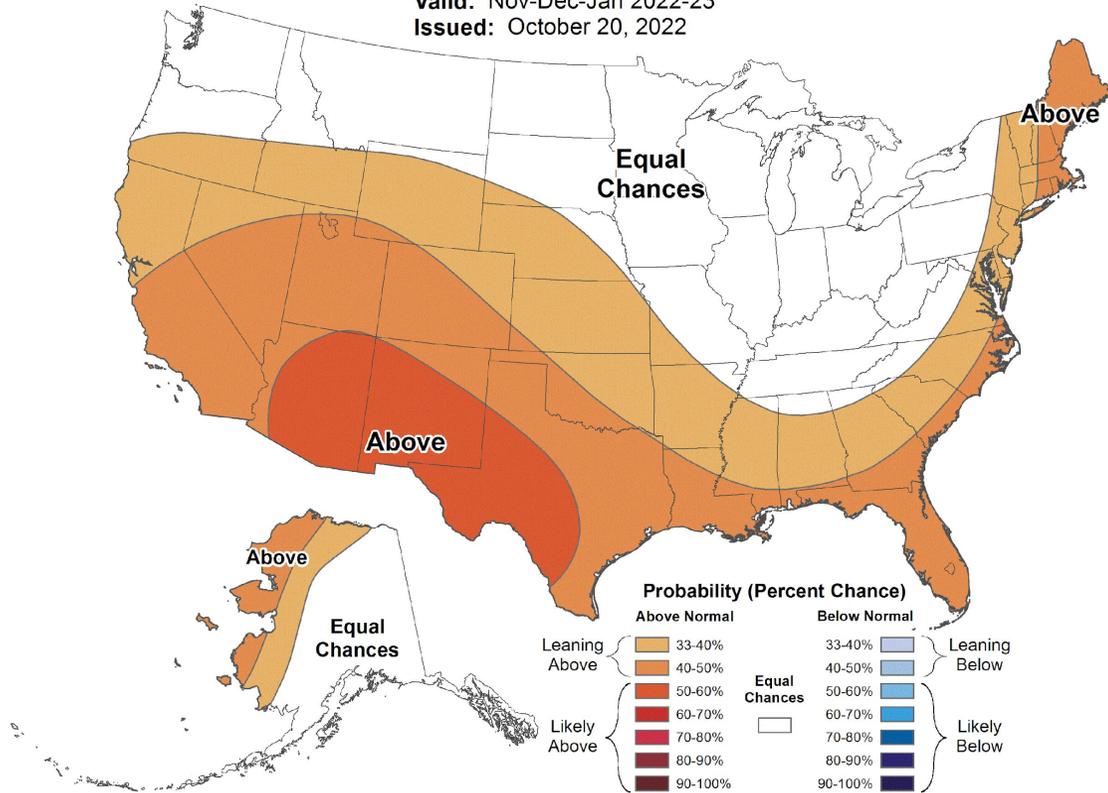
November-January Outlook



Seasonal Temperature Outlook



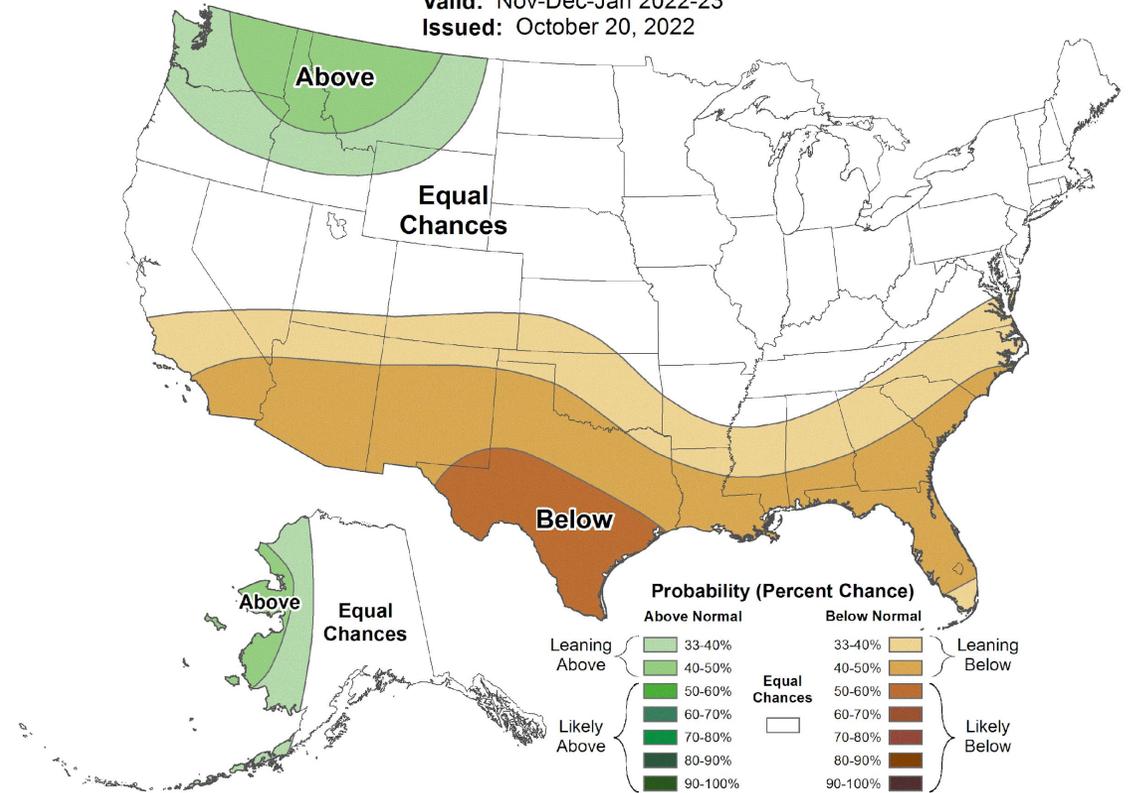
Valid: Nov-Dec-Jan 2022-23
Issued: October 20, 2022



Seasonal Precipitation Outlook



Valid: Nov-Dec-Jan 2022-23
Issued: October 20, 2022





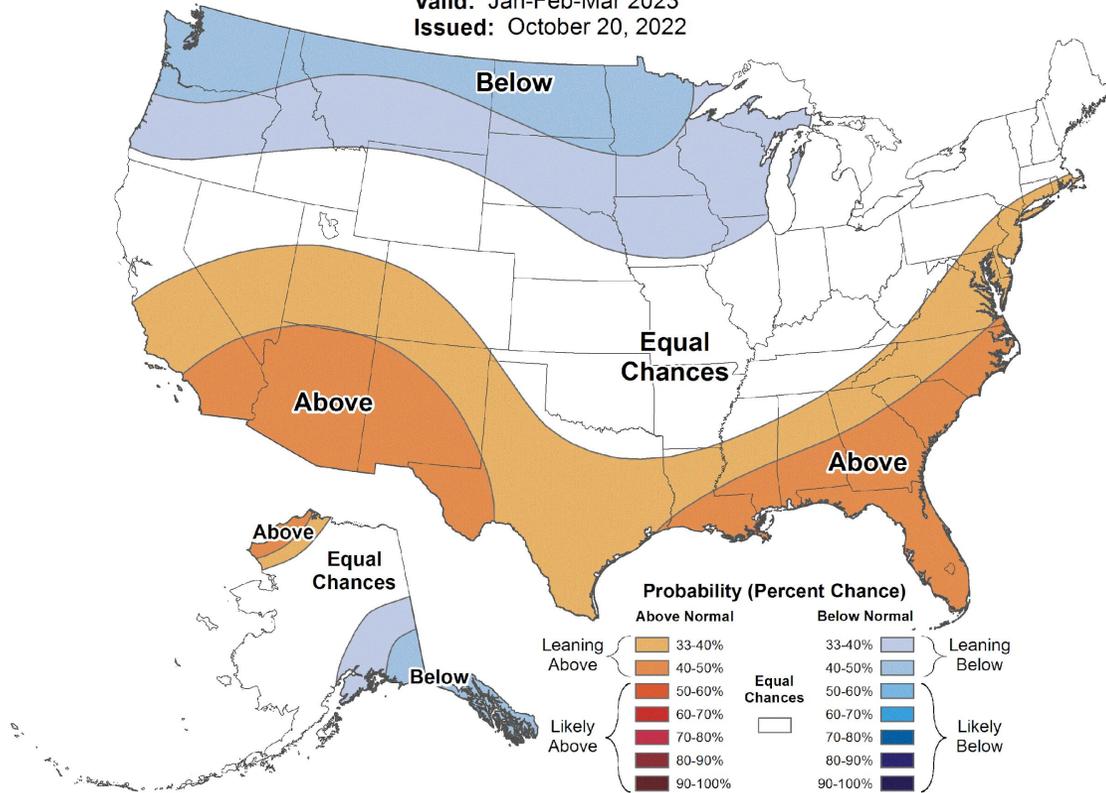
January-March Outlook



Seasonal Temperature Outlook



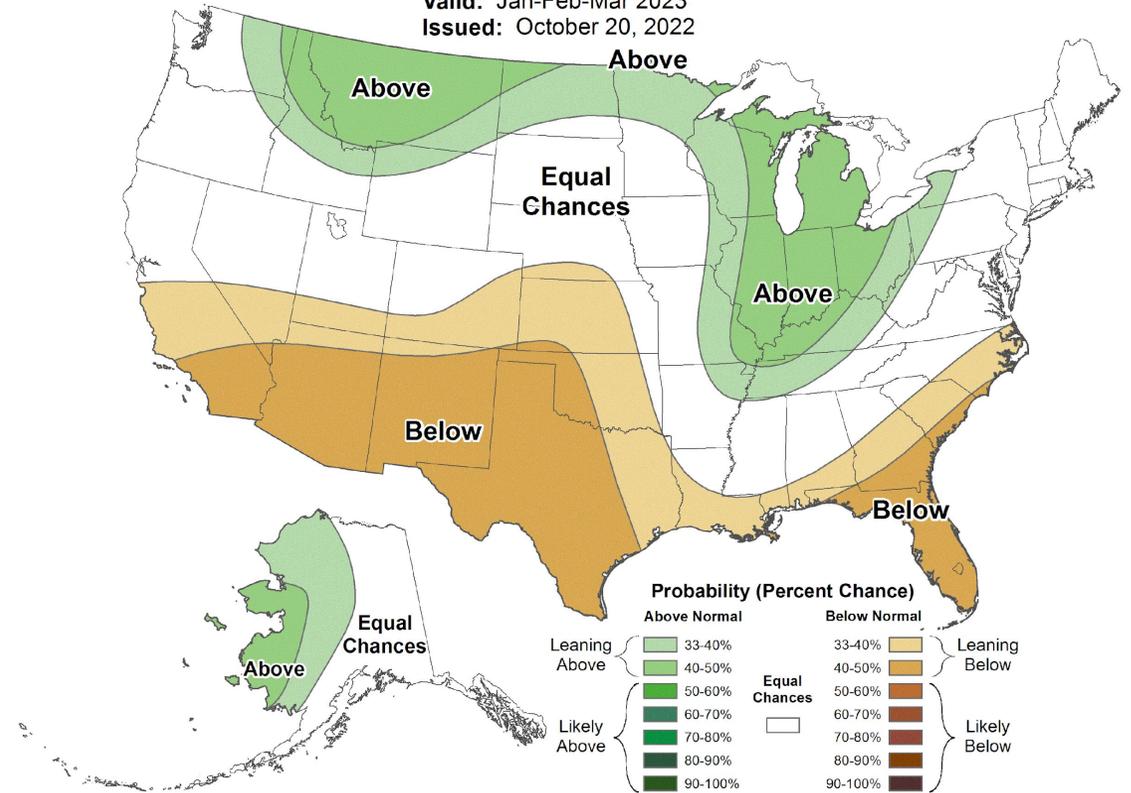
Valid: Jan-Feb-Mar 2023
Issued: October 20, 2022



Seasonal Precipitation Outlook



Valid: Jan-Feb-Mar 2023
Issued: October 20, 2022





Key Messages

- Mississippi, Missouri & Ohio rivers all experiencing drought at the same time. Unusual low river levels for fall season. Little optimism for substantial rises in the near future.
 - Concerns on early cold temperatures, potential to lead to deeper frost depths without snow cover to insulate the ground
 - Drought has intensified and expanded in last 30 days. Little improvement expected unless La Nina wetness arrives to
- **Great Lakes**
 - La Niña: 3rd year in a row, historically points to colder late winter temperatures and wetter winter over Great Lakes/Midwest

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, 816-994-3008
 - Brian Fuchs: bfuchs2@unl.edu 402 472-6775

- **Agriculture:**

- Brad Rippey, brad.rippy@usda.gov

- **Weather:**

- crhroc@noaa.gov



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Laura Edwards

SDSU Extension State Climatologist



Office: 605.626.2870



laura.edwards@sdstate.edu



Aberdeen Regional Center
13 Second Ave. SE
Aberdeen, SD 57401



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Illinois

Meramec River

Rt. 50/
I-255

Rt. 50/
I-255

I-55

Barges

Missouri

**Midwest/Great Plains
Agricultural Update,
October 20, 2022**

**Mississippi River near
Mehlville, MO, Oct. 4, 2022.
Photo by Brad Rippey.**

River and Barge Highlights, Mississippi Basin

- **Low-water records from August 30, 2012, have been broken in Missouri at New Madrid and Caruthersville. Records from July 1988, have been set in Osceola, AR, and Memphis, TN. Greenville, MS, broke a low-water record set on January 4, 1964.**
- **Low water comes as Midwestern corn and soybean harvests are well underway.**
- **Some 60% of all grain shipped from the U.S. moves through New Orleans.**
- **Volume on the waterway is effectively 45% lower than usual because 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.**



MISSISSIPPI RIVER AT MEMPHIS

Universal Time (UTC)

13Z Oct 13 13Z Oct 15 13Z Oct 17 13Z Oct 19 13Z Oct 21 13Z Oct 23 13Z Oct 25 13Z Oct 27 13Z Oct 29 13Z Oct 31 13Z Nov 2

Latest observed value: -10.74 ft at 8:00 AM CDT 20-Oct-2022. Flood Stage is 34 ft

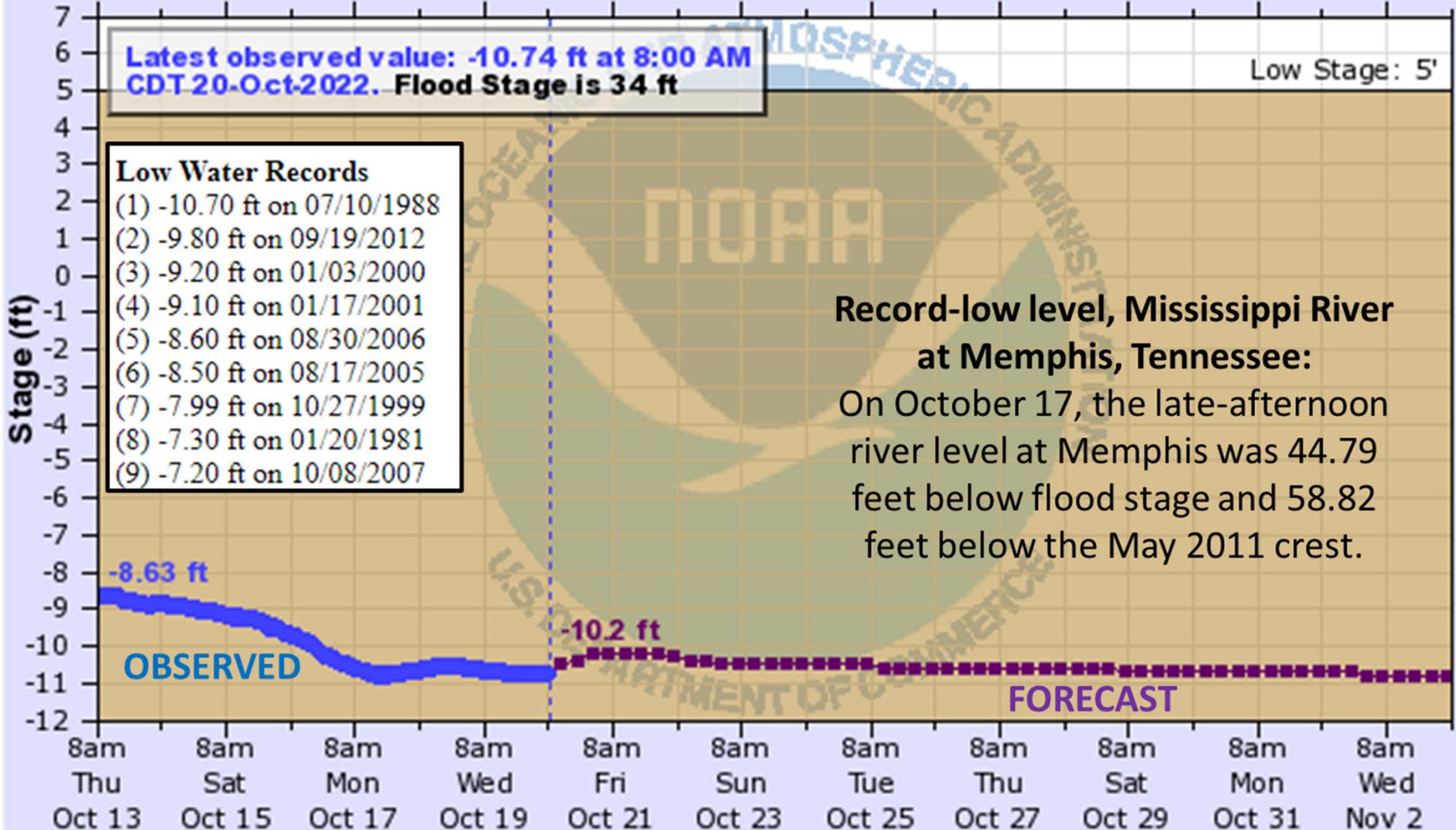
Low Stage: 5'

Low Water Records

- (1) -10.70 ft on 07/10/1988
- (2) -9.80 ft on 09/19/2012
- (3) -9.20 ft on 01/03/2000
- (4) -9.10 ft on 01/17/2001
- (5) -8.60 ft on 08/30/2006
- (6) -8.50 ft on 08/17/2005
- (7) -7.99 ft on 10/27/1999
- (8) -7.30 ft on 01/20/1981
- (9) -7.20 ft on 10/08/2007

Record-low level, Mississippi River at Memphis, Tennessee:

On October 17, the late-afternoon river level at Memphis was 44.79 feet below flood stage and 58.82 feet below the May 2011 crest.



--- Graph Created (8:45AM Oct 20, 2022) ● Observed -■- Forecast (issued 10:34AM Oct 19)

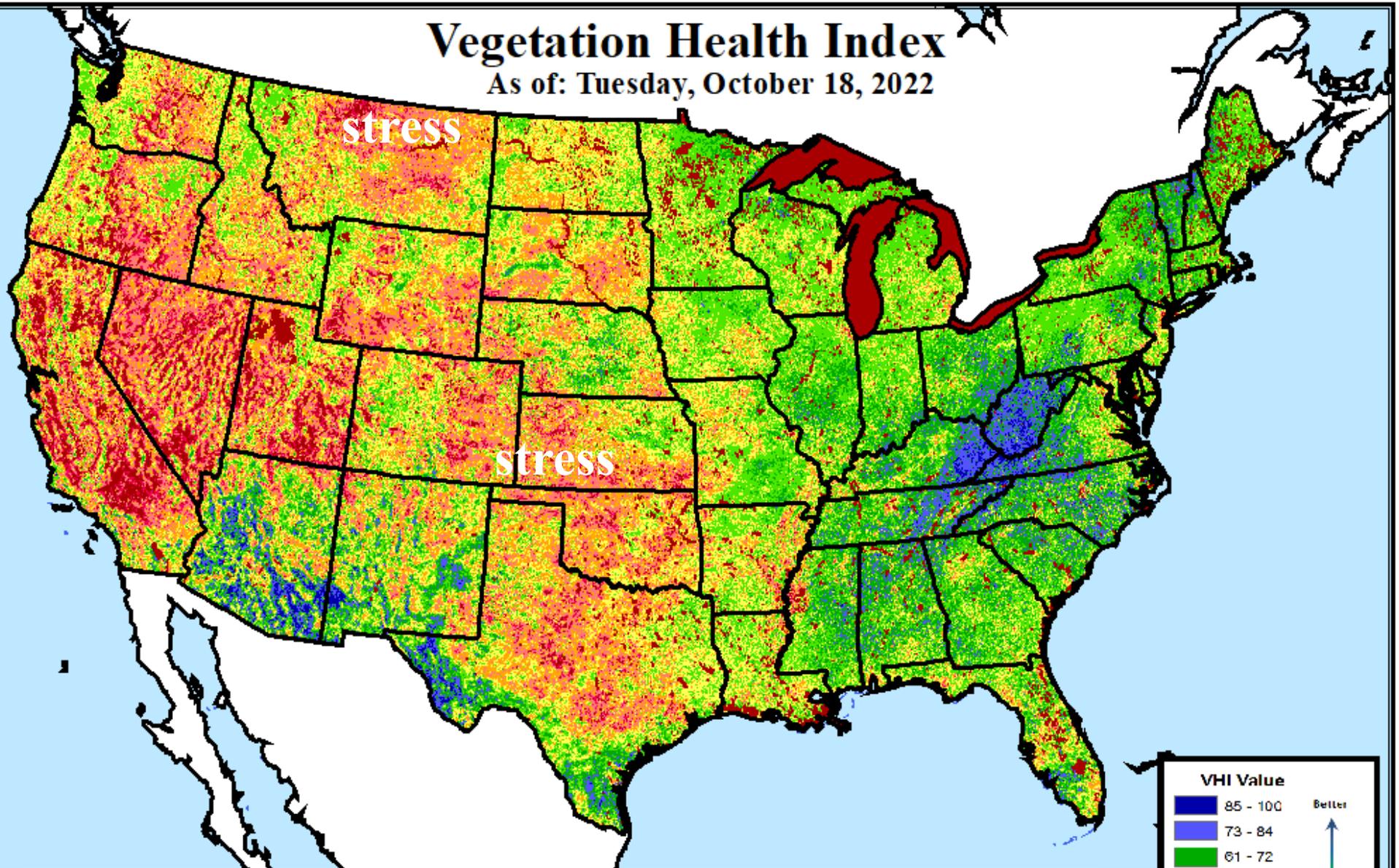
2022: drought shifts south; northern/eastern areas okay

- Slow spring planting some areas
- Minimal heat stress (< 95°F), east of the Mississippi River
- Hot weather in western areas
- Heat and drought cut crop prospects KS, MO, NE, and SD
- Only 2nd time in last 7 years with corn production < 14 billion bushels
- Major impacts for crops grown on Plains, including sorghum
- Commodity prices increased compared to a year ago (factors include inflation, supply and demand, weather, and war), but input costs (fuel and fertilizer, for example) remain high

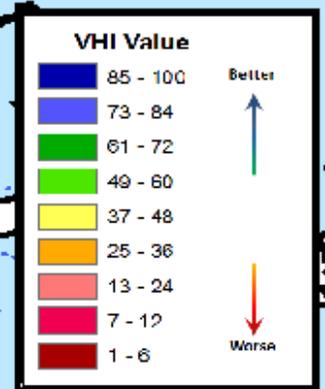


Vegetation Health Index

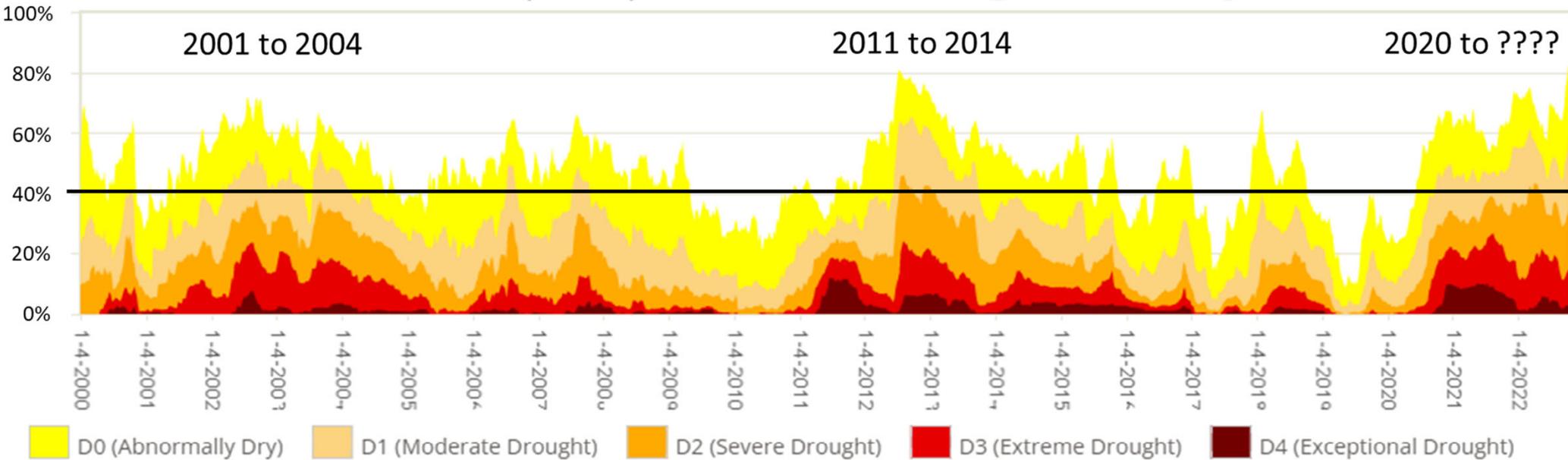
As of: Tuesday, October 18, 2022



October 2022: Drought-related impacts are apparent across the Great Plains and much of the West. Relatively lush conditions exist east of the Mississippi River.



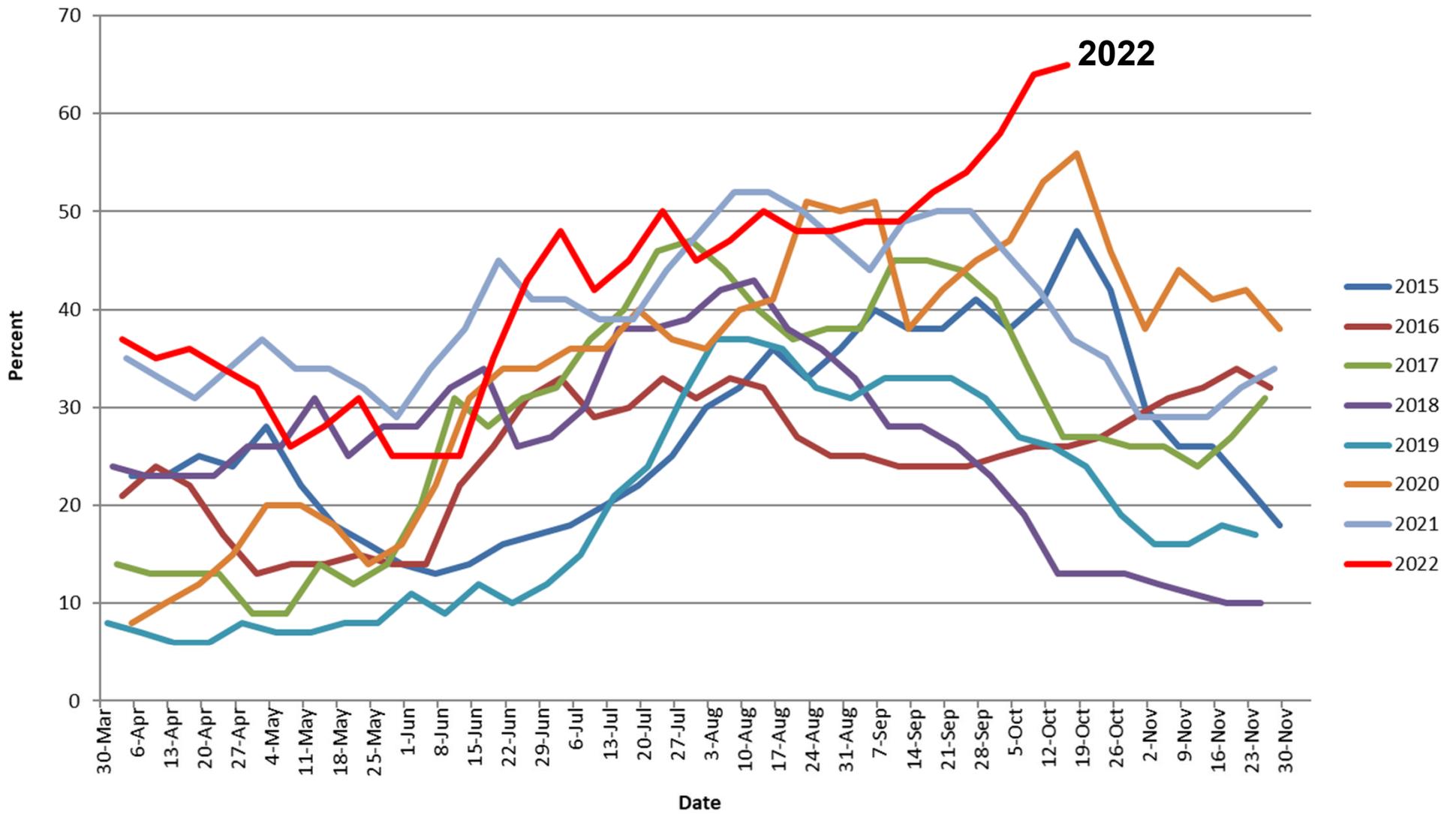
Continental U.S. (CONUS) Percent Area in U.S. Drought Monitor Categories



Longest Streaks of U.S. Drought Coverage > 40%

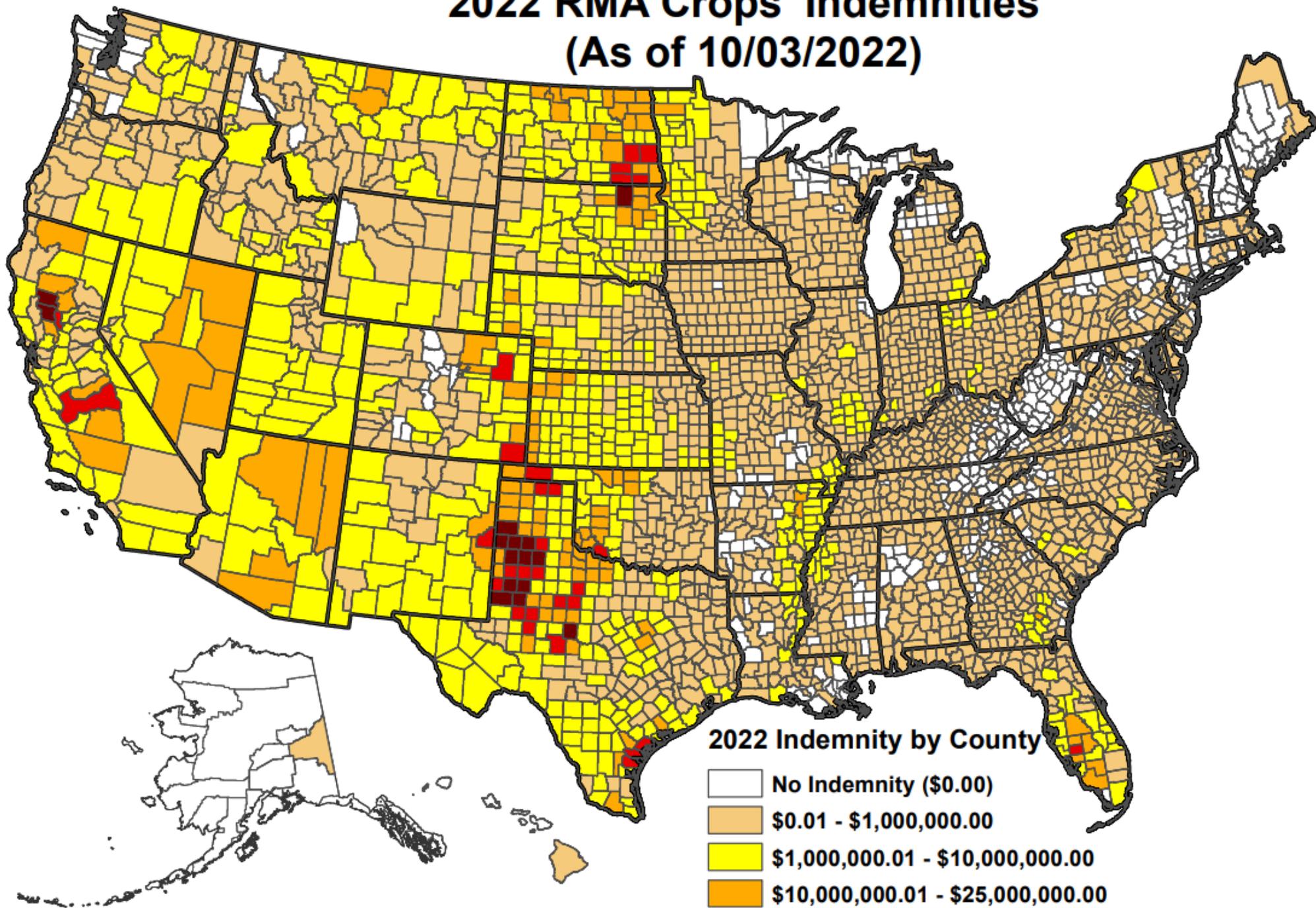
1. Sep. 29, 2020 – Oct. 18, 2022 (108 weeks)
2. Jun. 19, 2012 – Oct. 1, 2013 (68 weeks)
3. Mar. 12, 2002 – Jun. 3, 2003 (65 weeks)

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



Based on NASS crop progress data.

2022 RMA Crops' Indemnities (As of 10/03/2022)

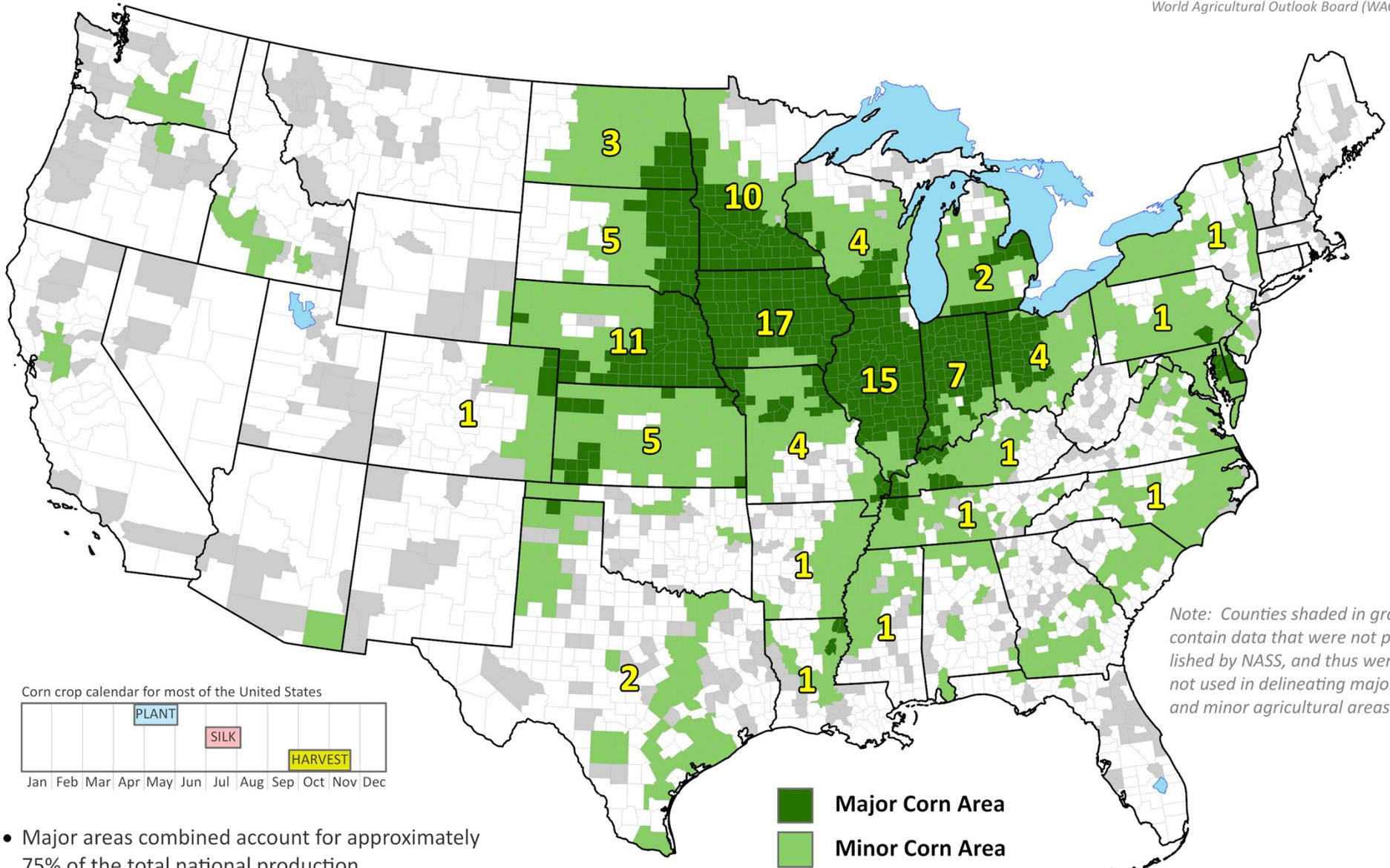


2022 Indemnity by County

-  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 - \$110,890,486.00

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.

Major Corn Area
Minor Corn Area

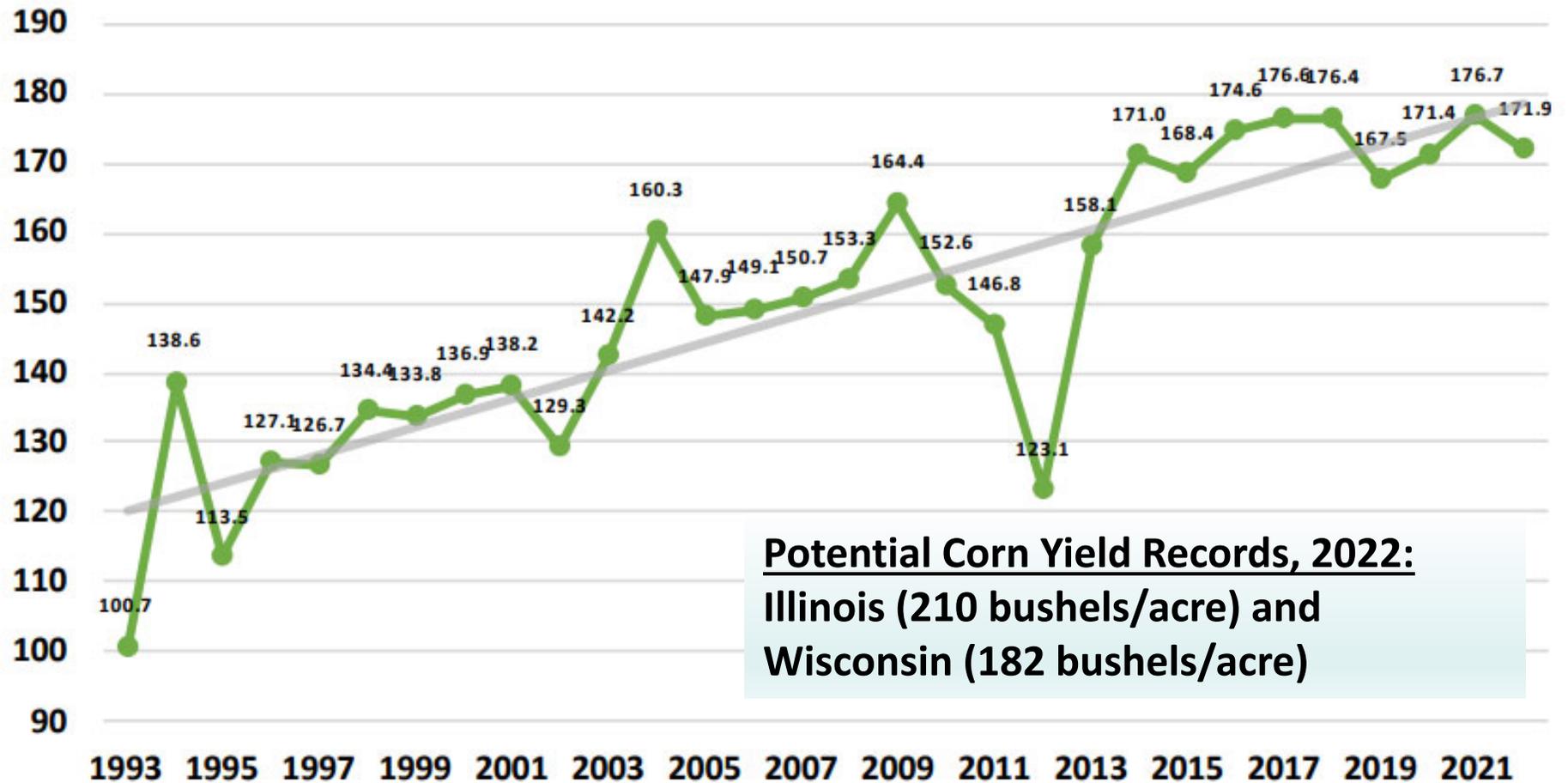
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- Major and minor areas combined account for approximately 99% of the total national production.
- Major and minor areas and state production percentages are derived from NASS 2017 Census of Agriculture data.

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/2022/10-12-2022.pdf](https://www.nass.usda.gov/Newsroom/Executive_Briefings/2022/10-12-2022.pdf)

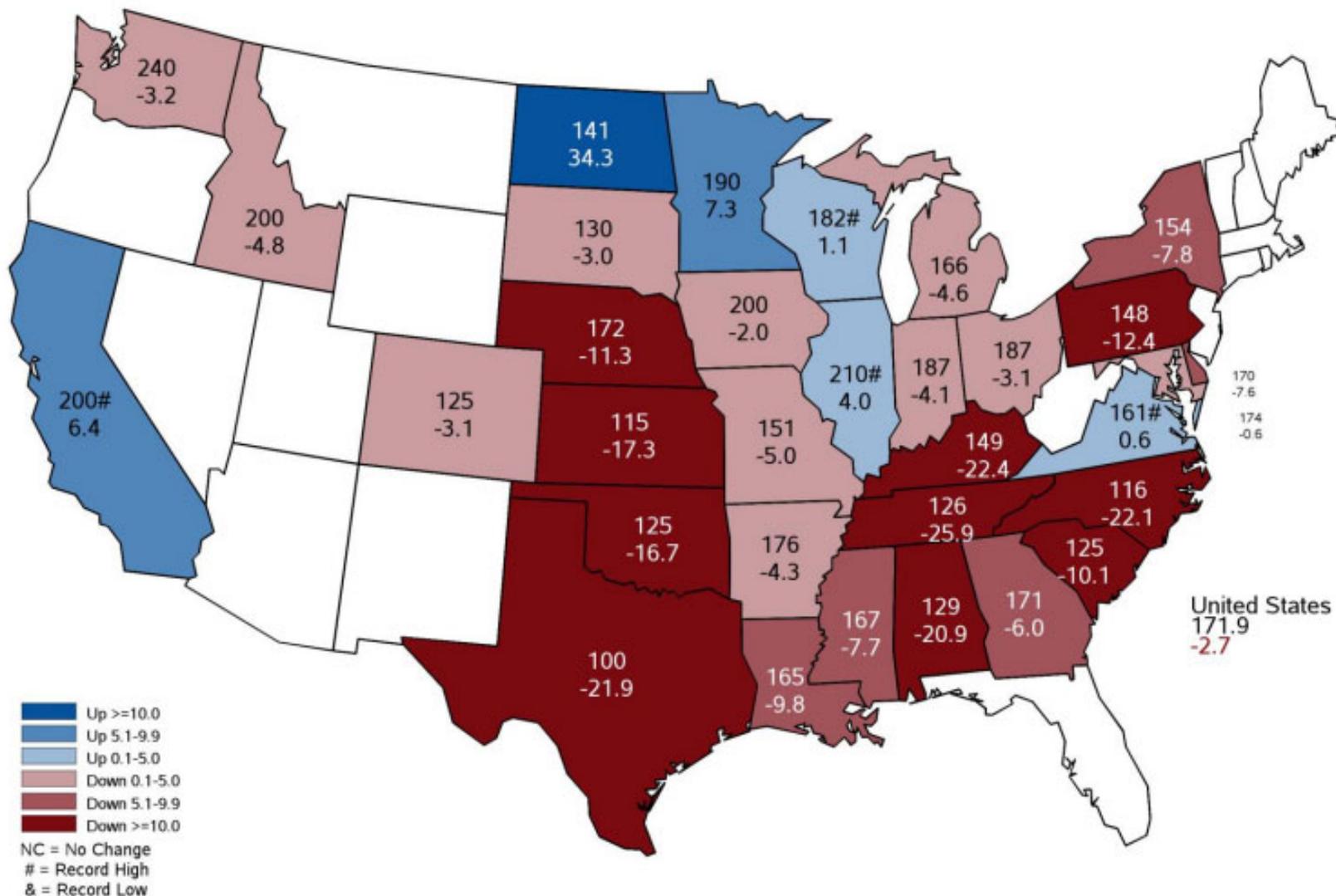
Bushels per Acre



Potential Corn Yield Records, 2022:
 Illinois (210 bushels/acre) and
 Wisconsin (182 bushels/acre)

October 2022 Corn Yield

Bushels and Percent Change from Previous Year



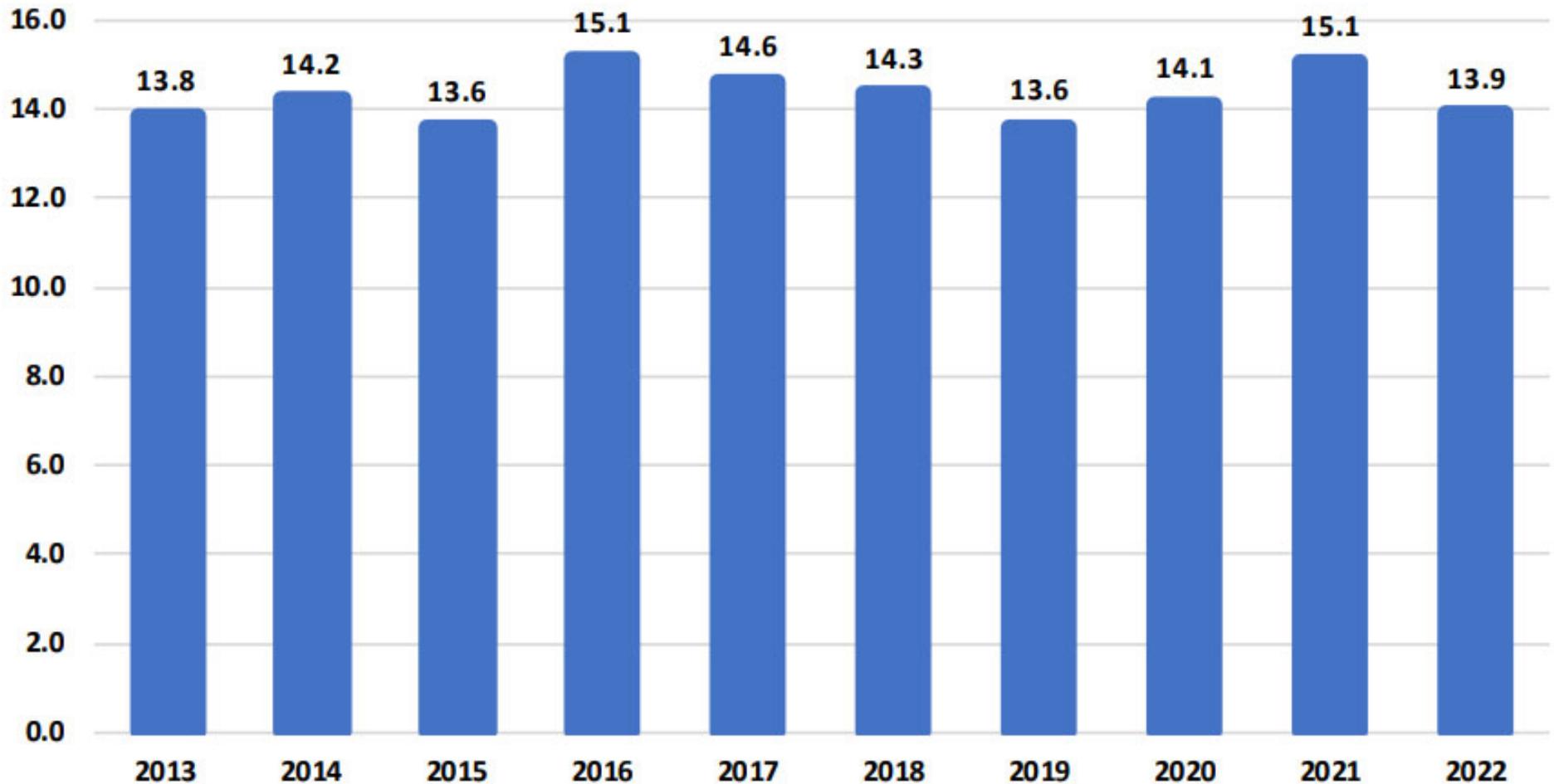
[https://www.nass.usda.gov/Newsroom/Executive Briefings/2022/10-12-2022.pdf](https://www.nass.usda.gov/Newsroom/Executive_Briefings/2022/10-12-2022.pdf)



Corn Production United States

[https://www.nass.usda.gov/Newsroom/Executive Briefings/2022/10-12-2022.pdf](https://www.nass.usda.gov/Newsroom/Executive_Briefings/2022/10-12-2022.pdf)

Billion Bushels

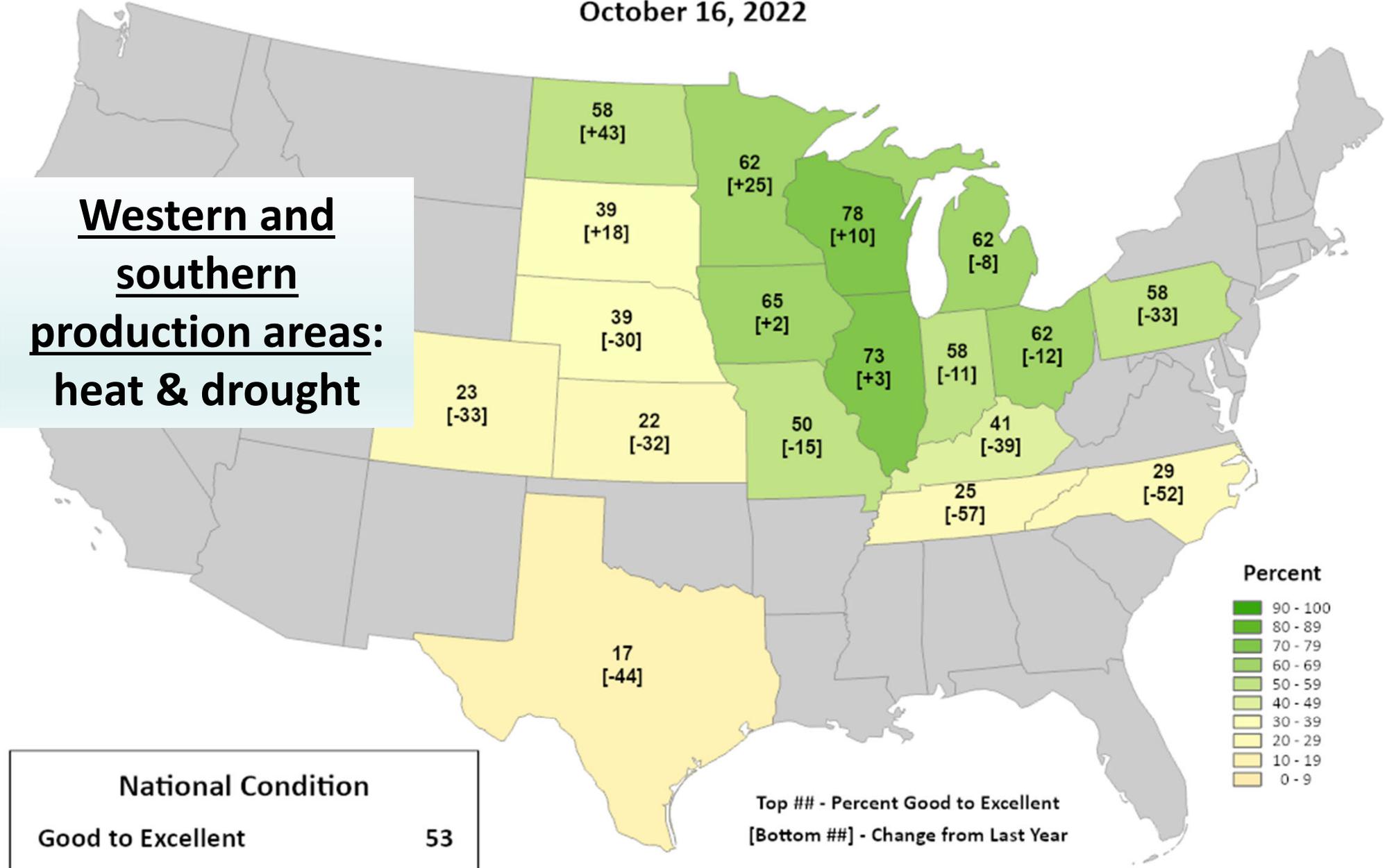


Corn Conditions

Percent Good to Excellent

October 16, 2022

**Western and southern production areas:
heat & drought**



National Condition	
Good to Excellent	53
Change from Last Year	-7

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

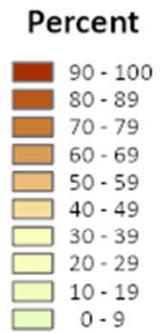
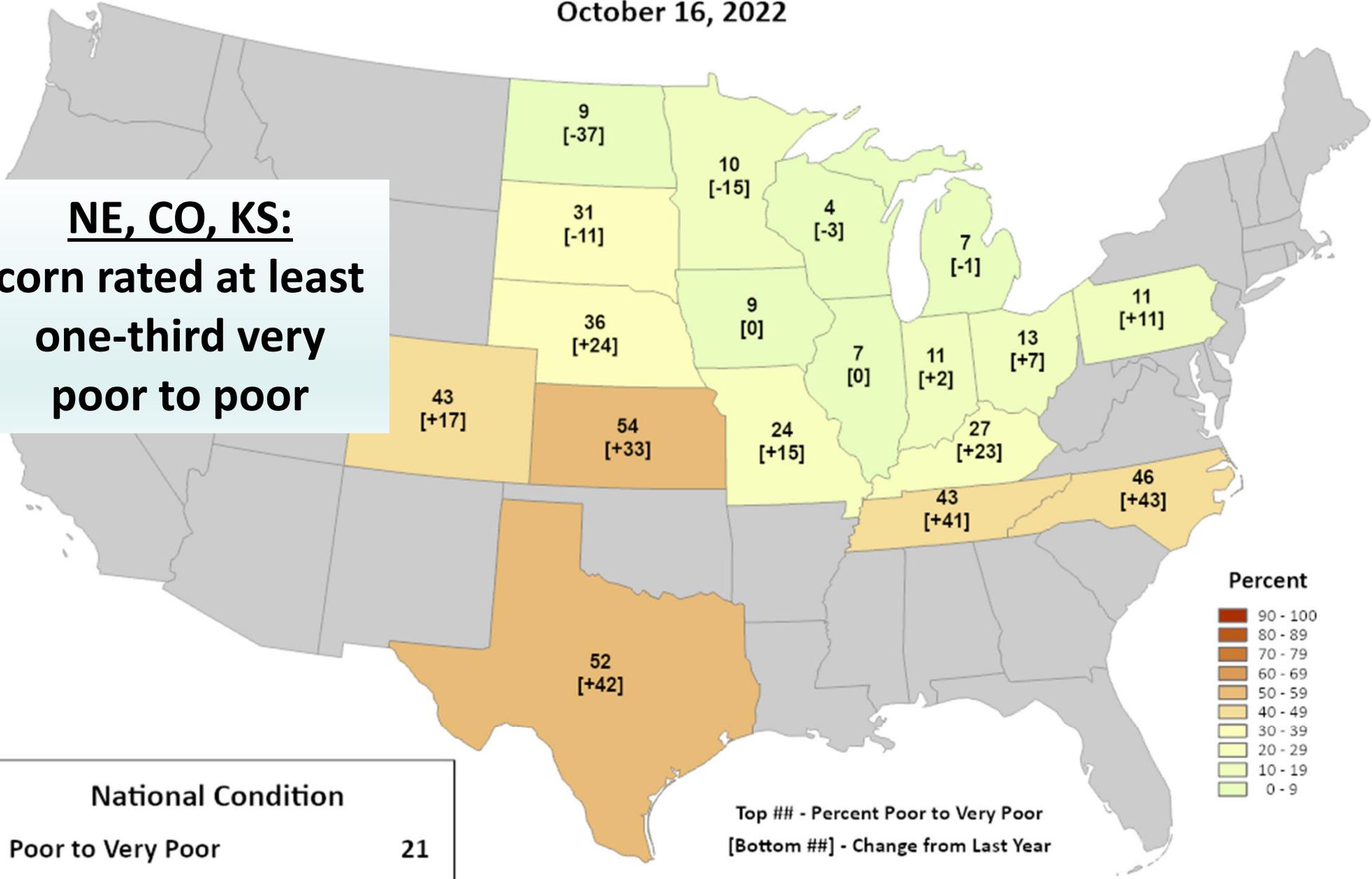
Data obtained from USDA National Agricultural Statistics Service weekly Crop Progress reports.

Corn Conditions

Percent Poor to Very Poor

October 16, 2022

**NE, CO, KS:
corn rated at least
one-third very
poor to poor**



National Condition	
Poor to Very Poor	21
Change from Last Year	+7

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

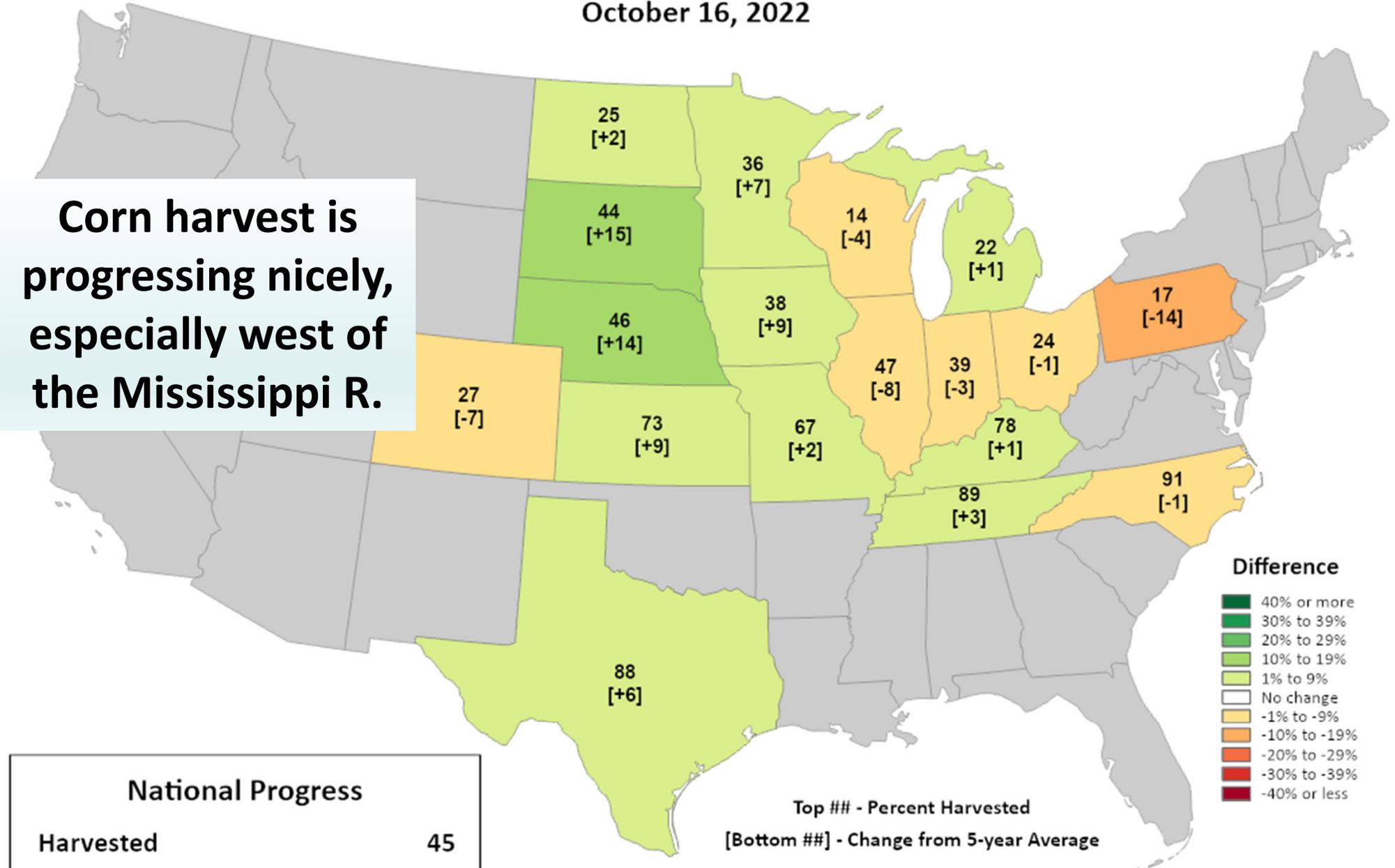
Data obtained from USDA National Agricultural Statistics Service weekly Crop Progress reports.

Corn Progress

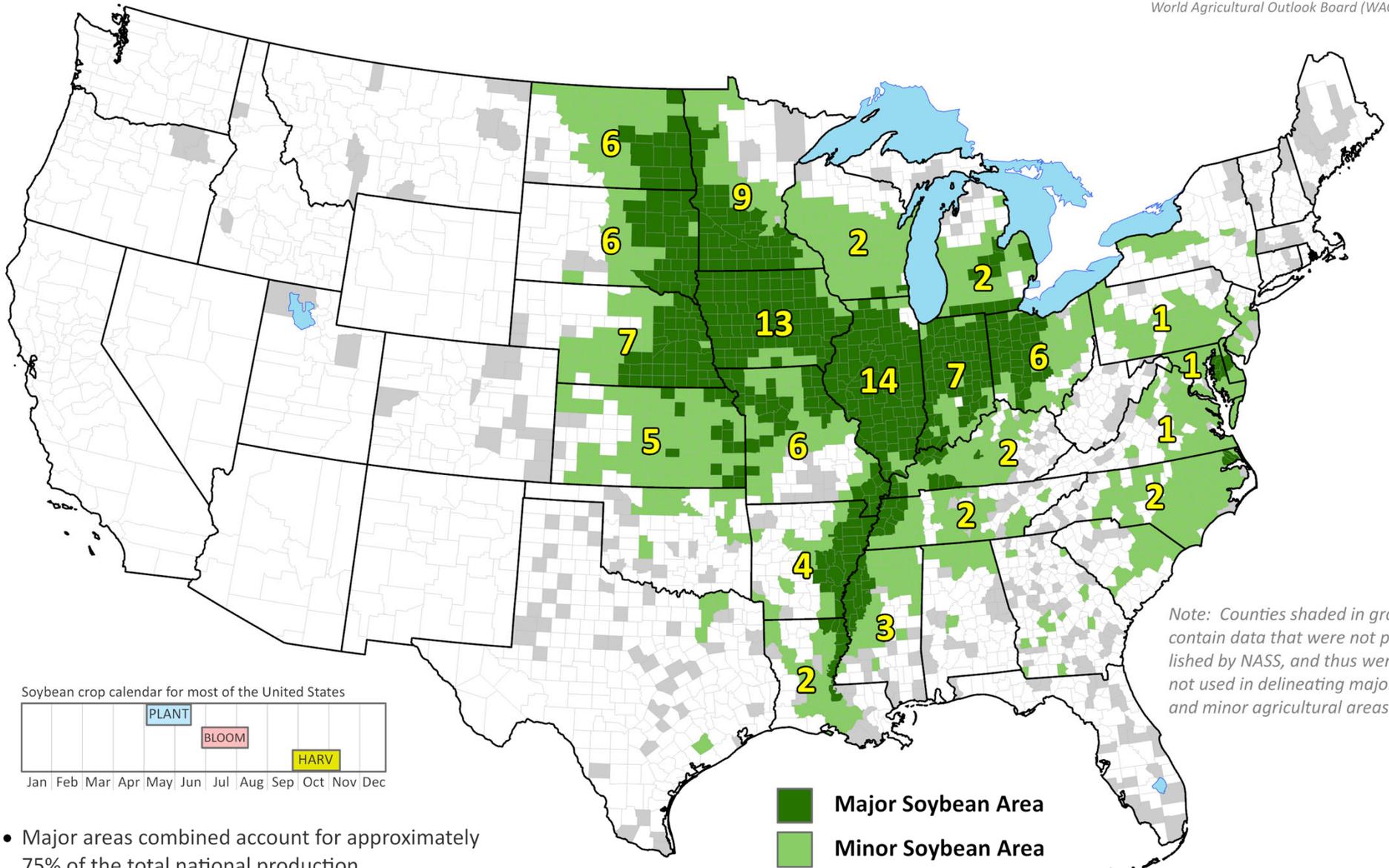
Percent Harvested

October 16, 2022

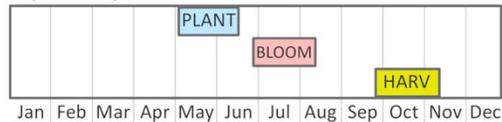
Corn harvest is progressing nicely, especially west of the Mississippi R.



United States: Soybeans



Soybean crop calendar for most of the United States



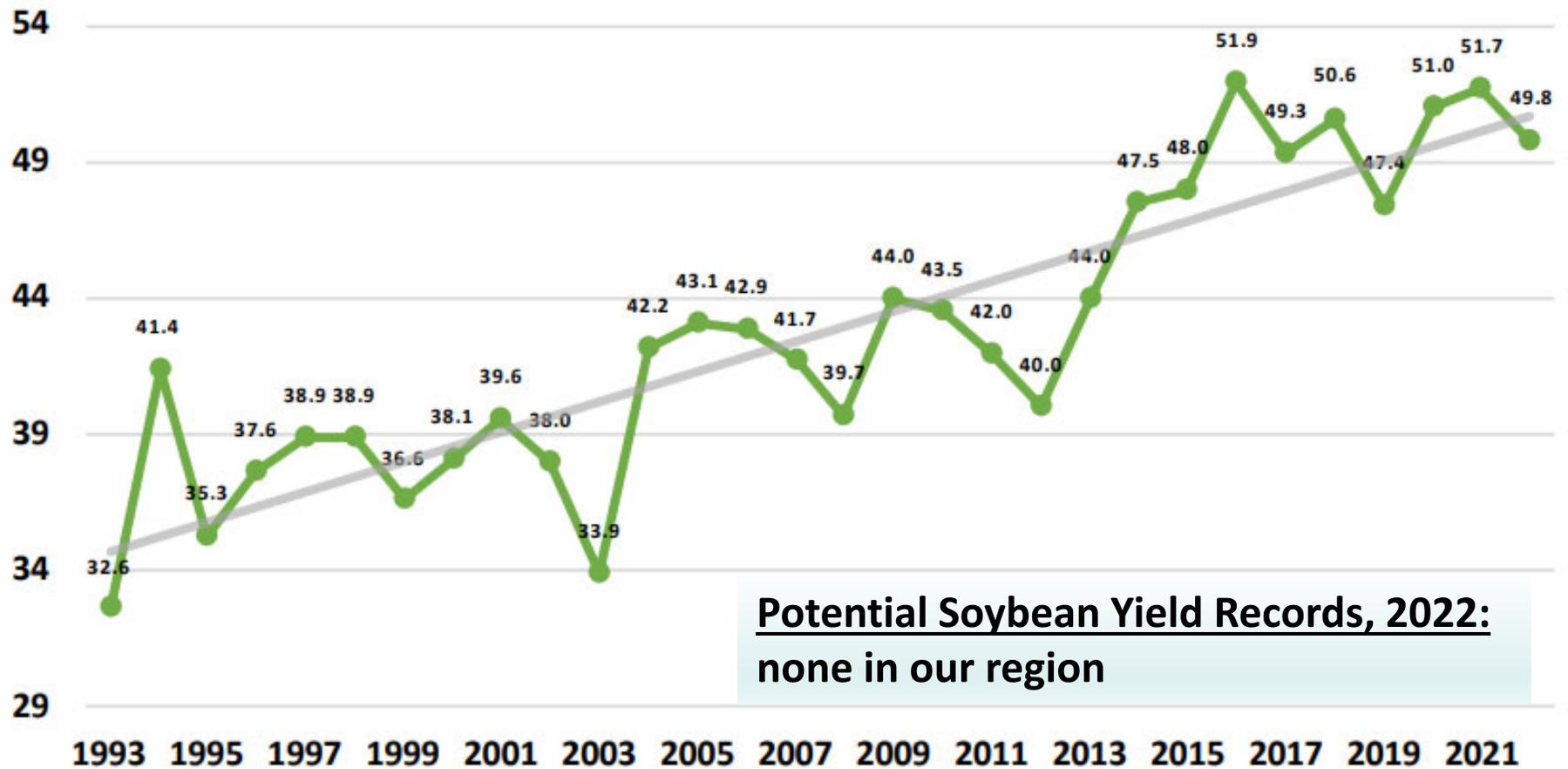
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- Major and minor areas combined account for approximately 99% of the total national production.
- Major and minor areas and state production percentages are derived from NASS 2017 Census of Agriculture data.

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.

Soybean Yield United States

[https://www.nass.usda.gov/Newsroom/Executive Briefings/2022/10-12-2022.pdf](https://www.nass.usda.gov/Newsroom/Executive_Briefings/2022/10-12-2022.pdf)

Bushels per Acre



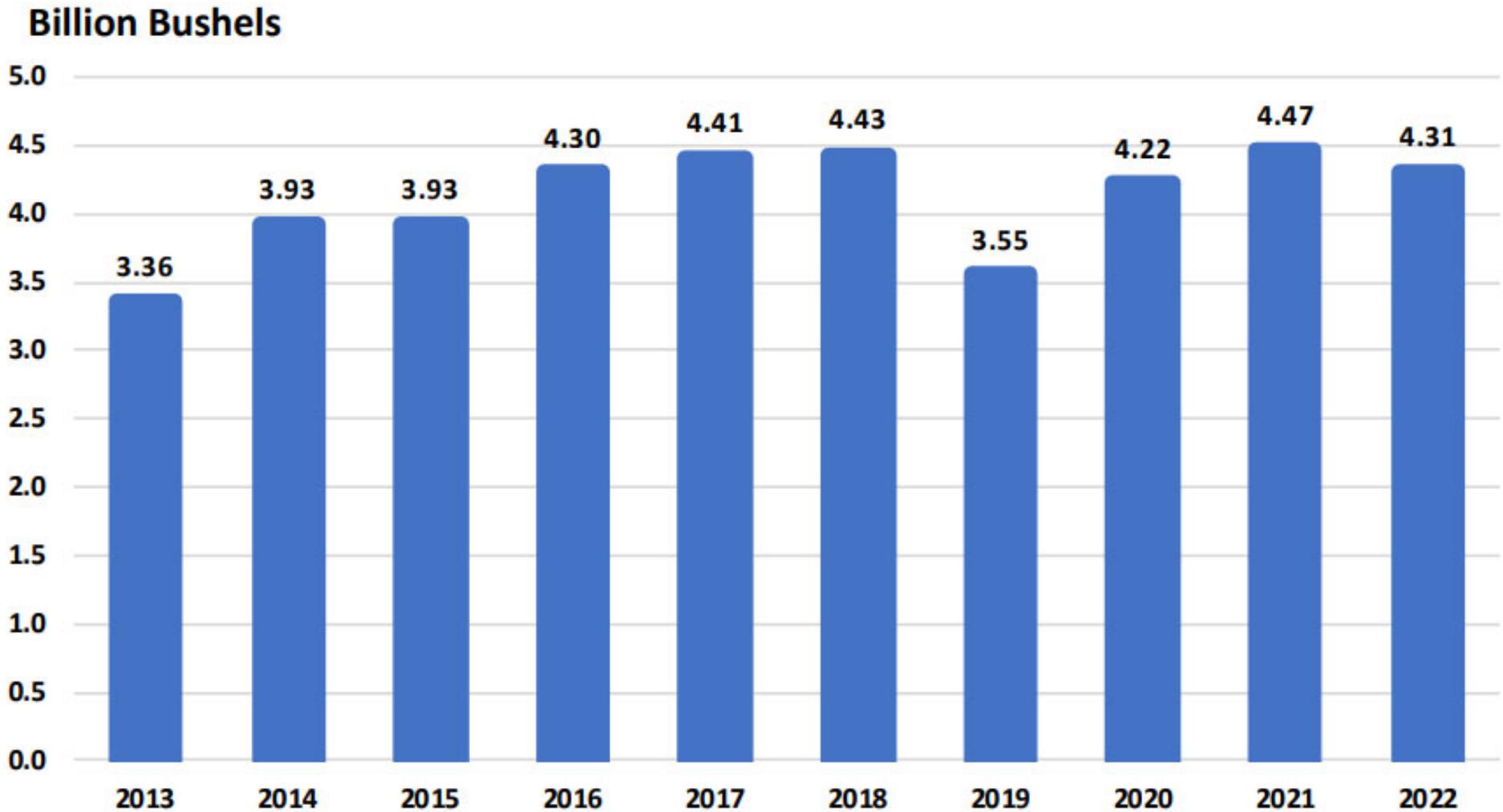
Potential Soybean Yield Records, 2022:
none in our region



Soybean Production

United States

[https://www.nass.usda.gov/Newsroom/Executive Briefings/2022/10-12-2022.pdf](https://www.nass.usda.gov/Newsroom/Executive_Briefings/2022/10-12-2022.pdf)

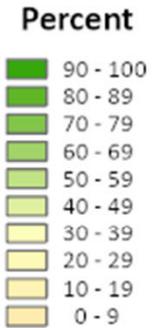
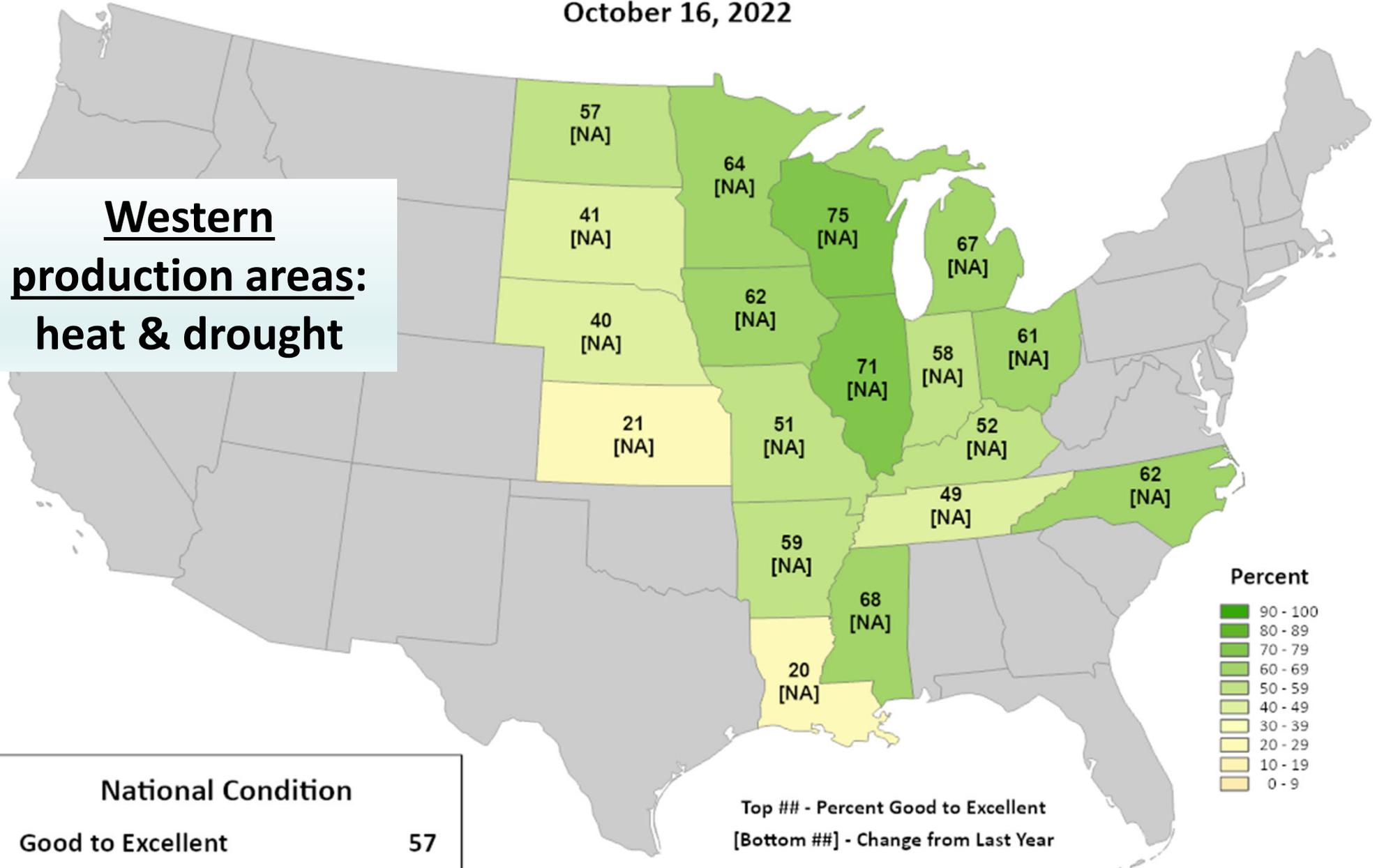


Soybean Conditions

Percent Good to Excellent

October 16, 2022

**Western
production areas:
heat & drought**



National Condition	
Good to Excellent	57
Change from Last Year	NA

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

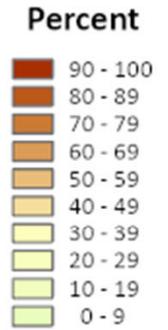
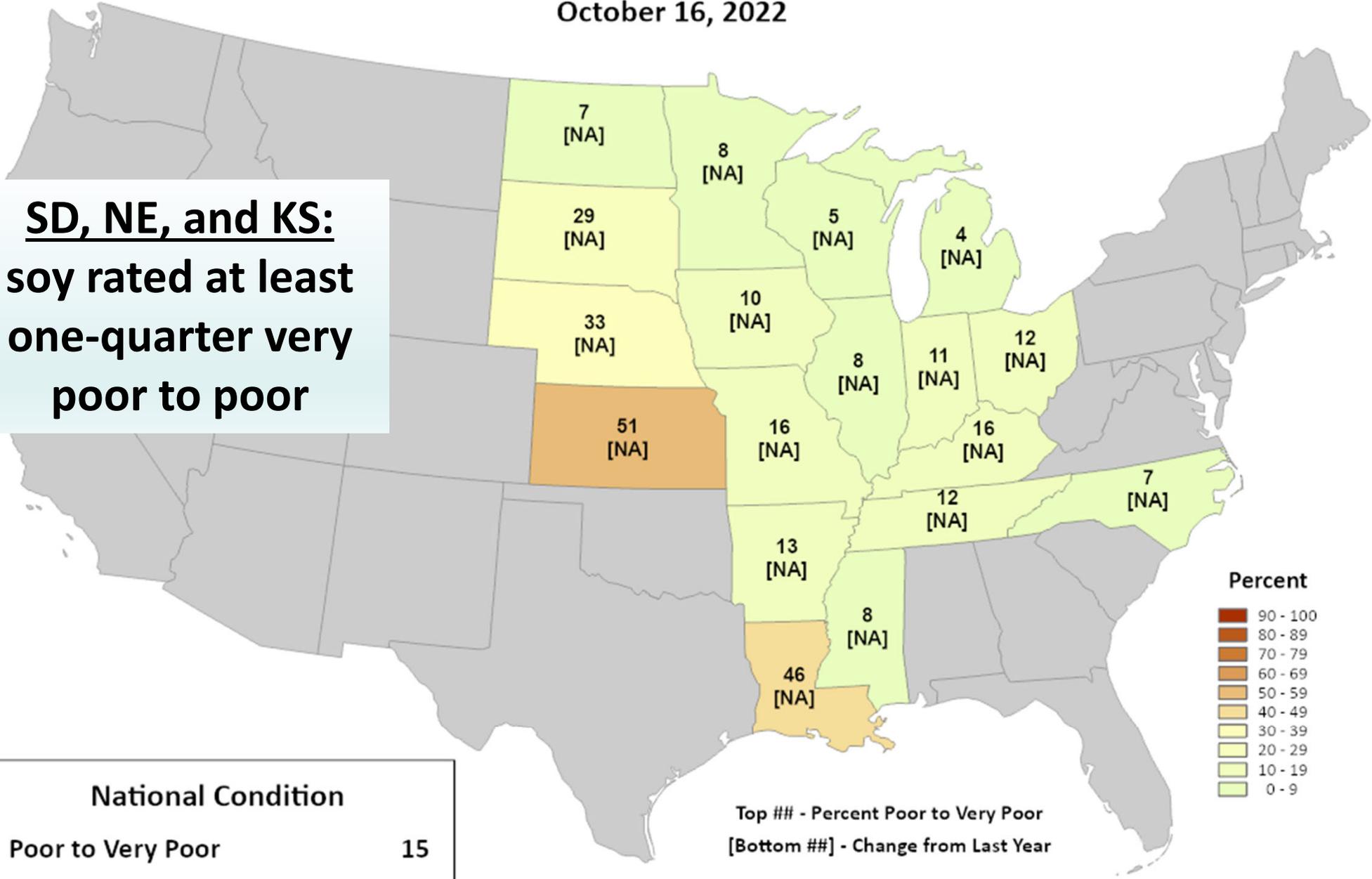
Data obtained from USDA National Agricultural Statistics Service weekly Crop Progress reports.

Soybean Conditions

Percent Poor to Very Poor

October 16, 2022

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



National Condition	
Poor to Very Poor	15
Change from Last Year	NA

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

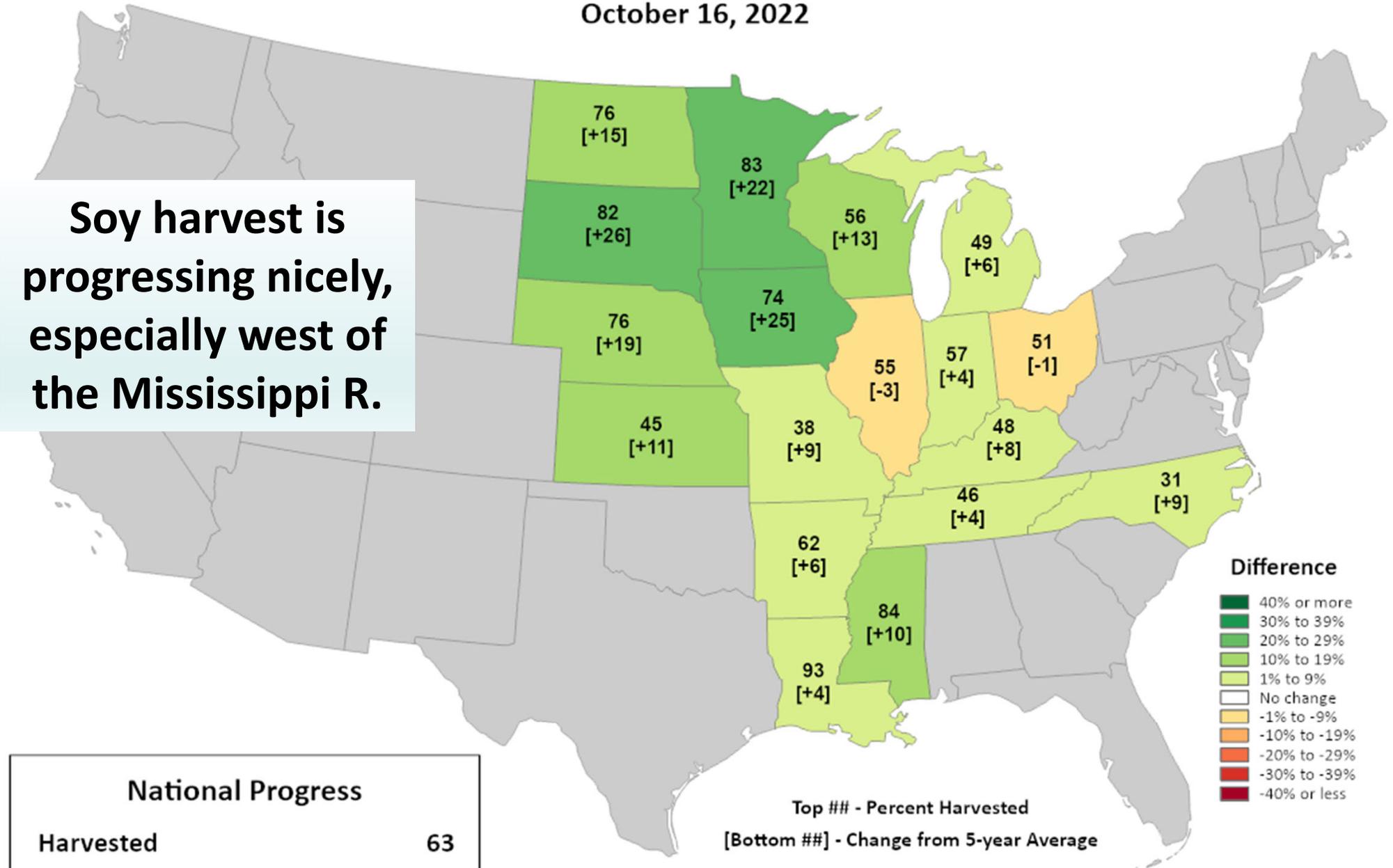
Data obtained from USDA National Agricultural Statistics Service weekly Crop Progress reports.

Soybeans Progress

Percent Harvested

October 16, 2022

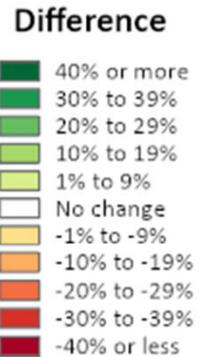
Soy harvest is progressing nicely, especially west of the Mississippi R.



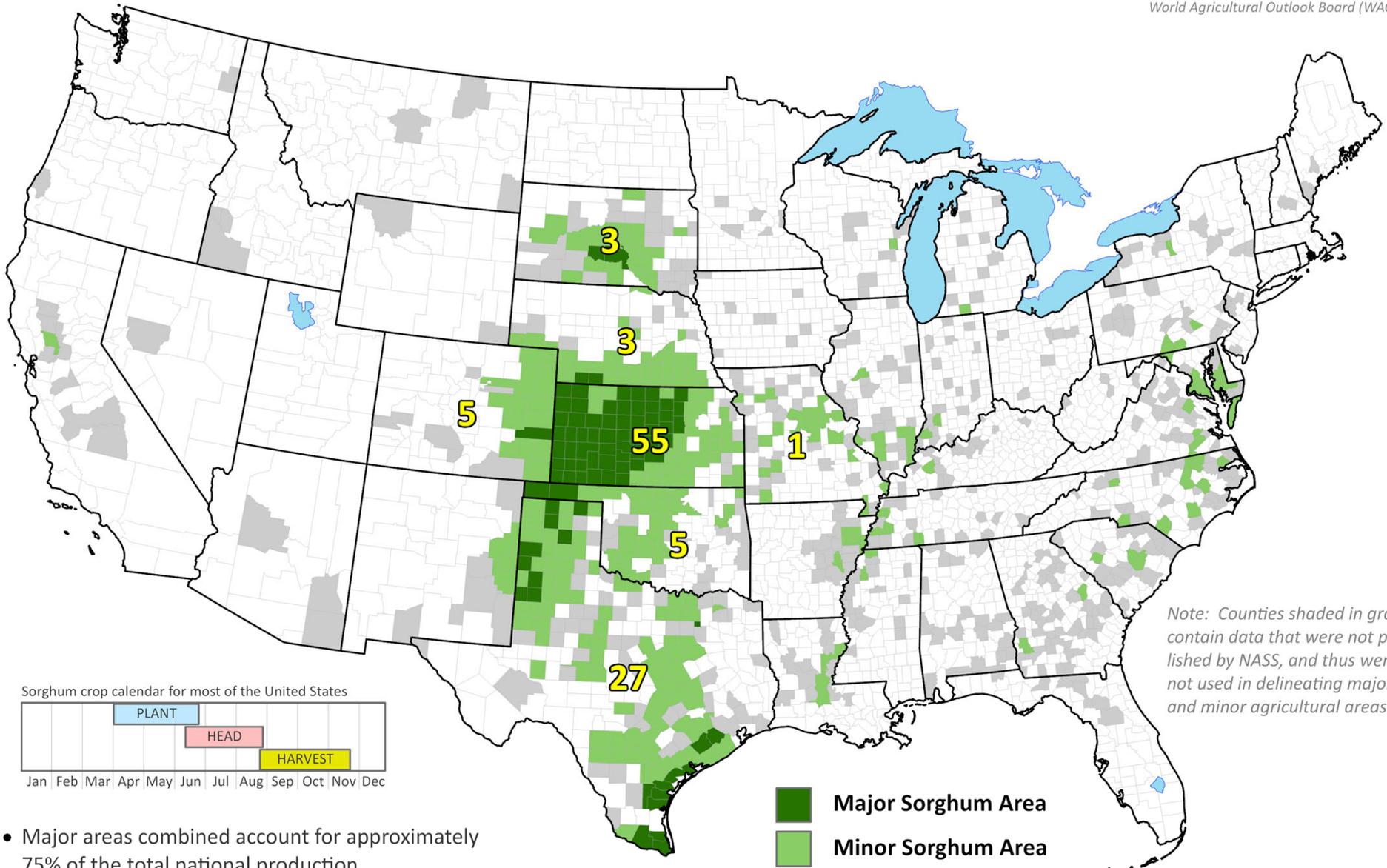
National Progress

Harvested	63
Change from 5-year Average	+11

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



United States: Sorghum



- 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.

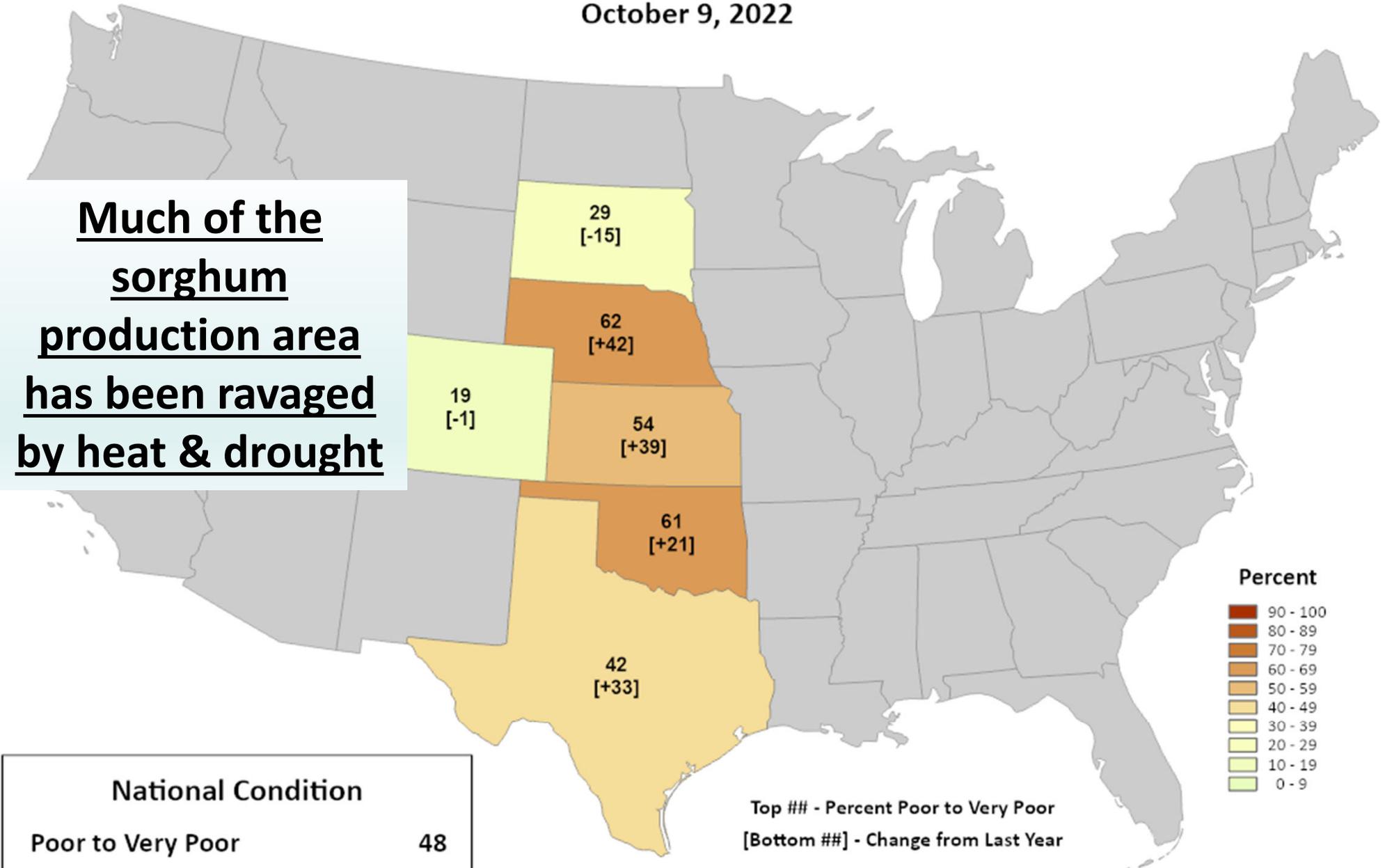
Yellow numbers approximate the percent each state contributed to the total national production. States not numbered contributed less than 1% to the national total or the state production was not disclosed by NASS.

Sorghum Conditions

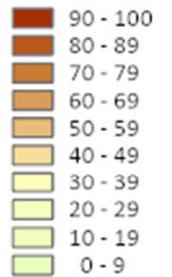
Percent Poor to Very Poor

October 9, 2022

Much of the sorghum production area has been ravaged by heat & drought



Percent



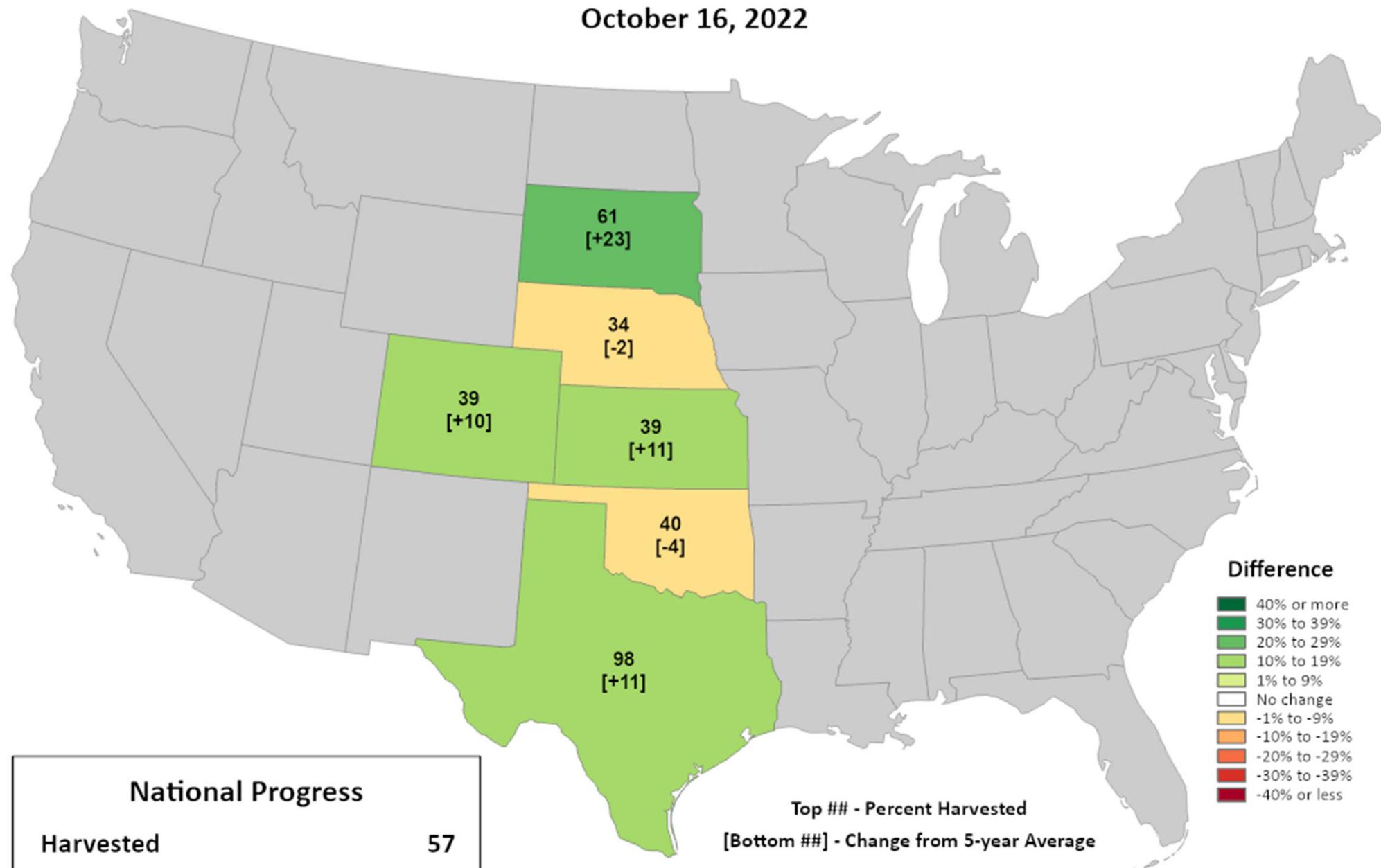
National Condition	
Poor to Very Poor	48
Change from Last Year	+32

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

Sorghum Progress

Percent Harvested

October 16, 2022



Other Agricultural Highlights

Spring Wheat: Timely growing-season rain boosted production by 46% over last year's drought ravaged crop. Yield increased 42%.

Durum Wheat: Recovery in the wake of the 2021 drought lifted production by 70%. Yield was up 64% from last year.

Sunflowers: Production was up 53%, based on a yield increase of 17% and a harvested area increase of 31%.

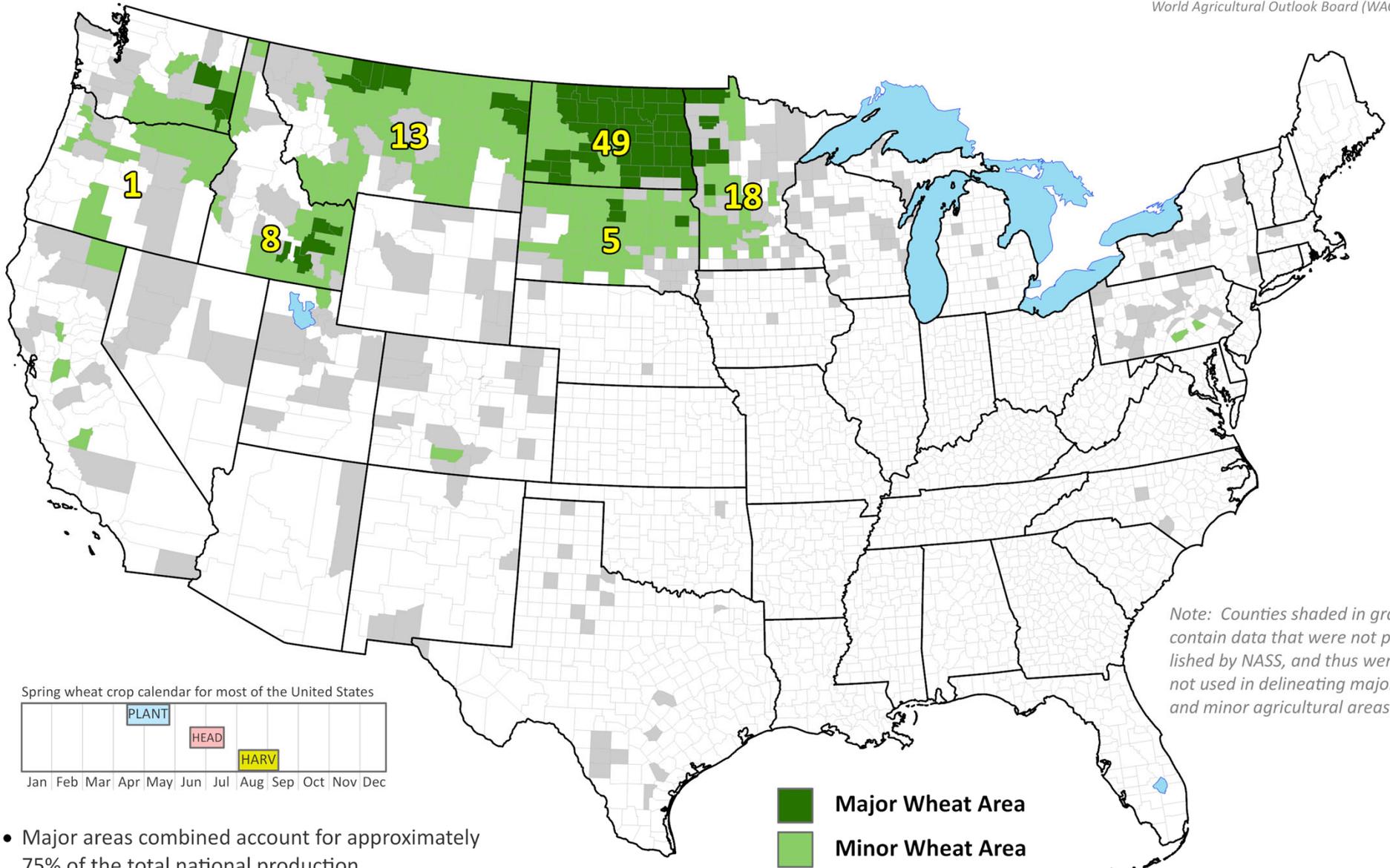
Sugarbeets: Production was down 10% and yield was down 13%.

Winter Wheat: Plains were hurt by drought. Compared to 2021, production was down 14%, while yield was down more than 6%.

Hay: Ongoing drought in the Western and Central States cut U.S. production by 11%, compared to 2021, while yield fell by 12.5%



United States: Spring Wheat



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.

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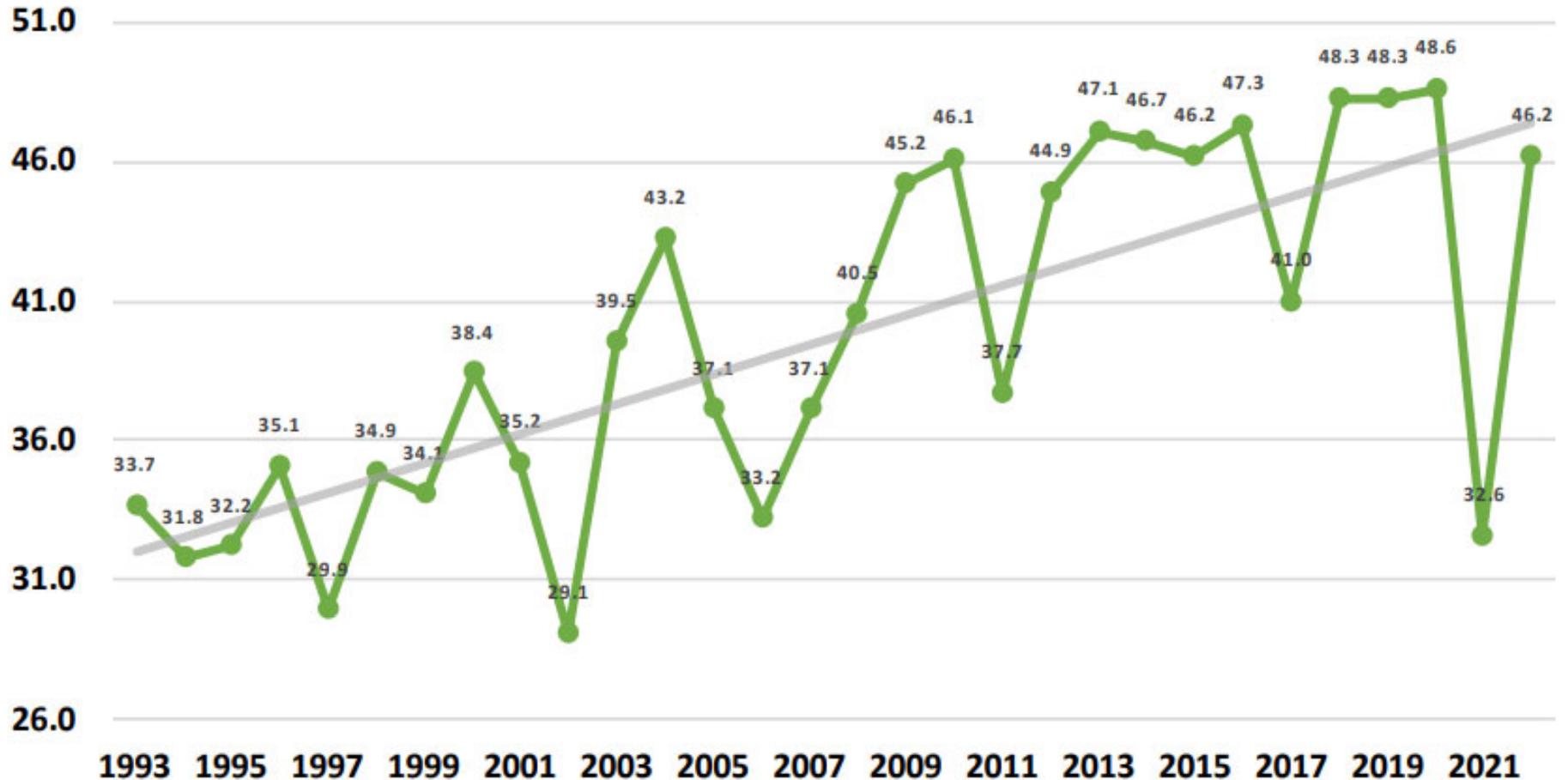
Yellow numbers approximate the percent each state contributed to the total national production. States not numbered contributed less than 1% to the national total or the state production was not disclosed by NASS.



Other Spring Wheat Yield United States

1988: 19.5 bushels/acre
1989: 28.8 bushels/acre

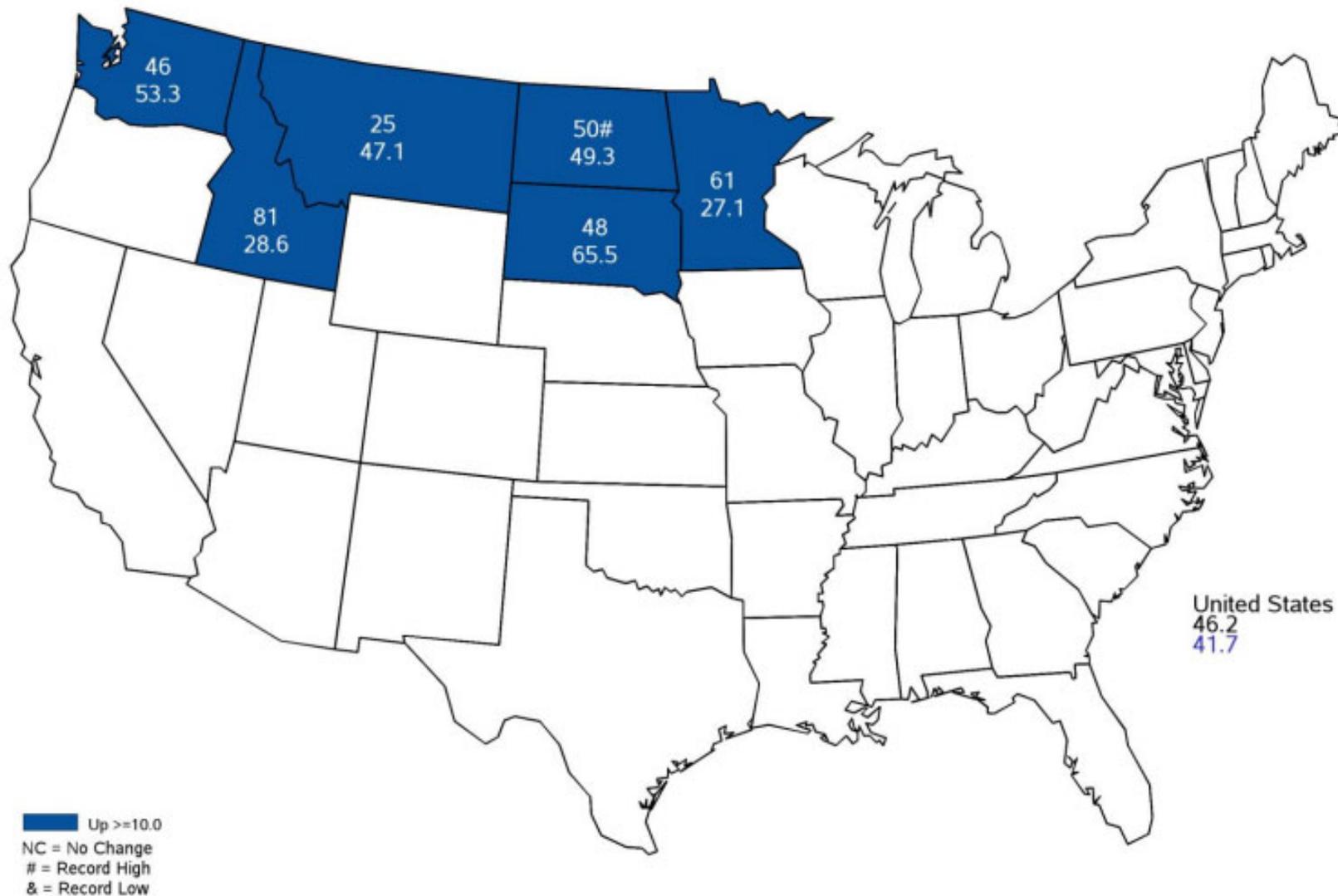
Bushels per Acre



[https://www.nass.usda.gov/Newsroom/Executive Briefings/2022/09-30-2022.pdf](https://www.nass.usda.gov/Newsroom/Executive_Briefings/2022/09-30-2022.pdf)

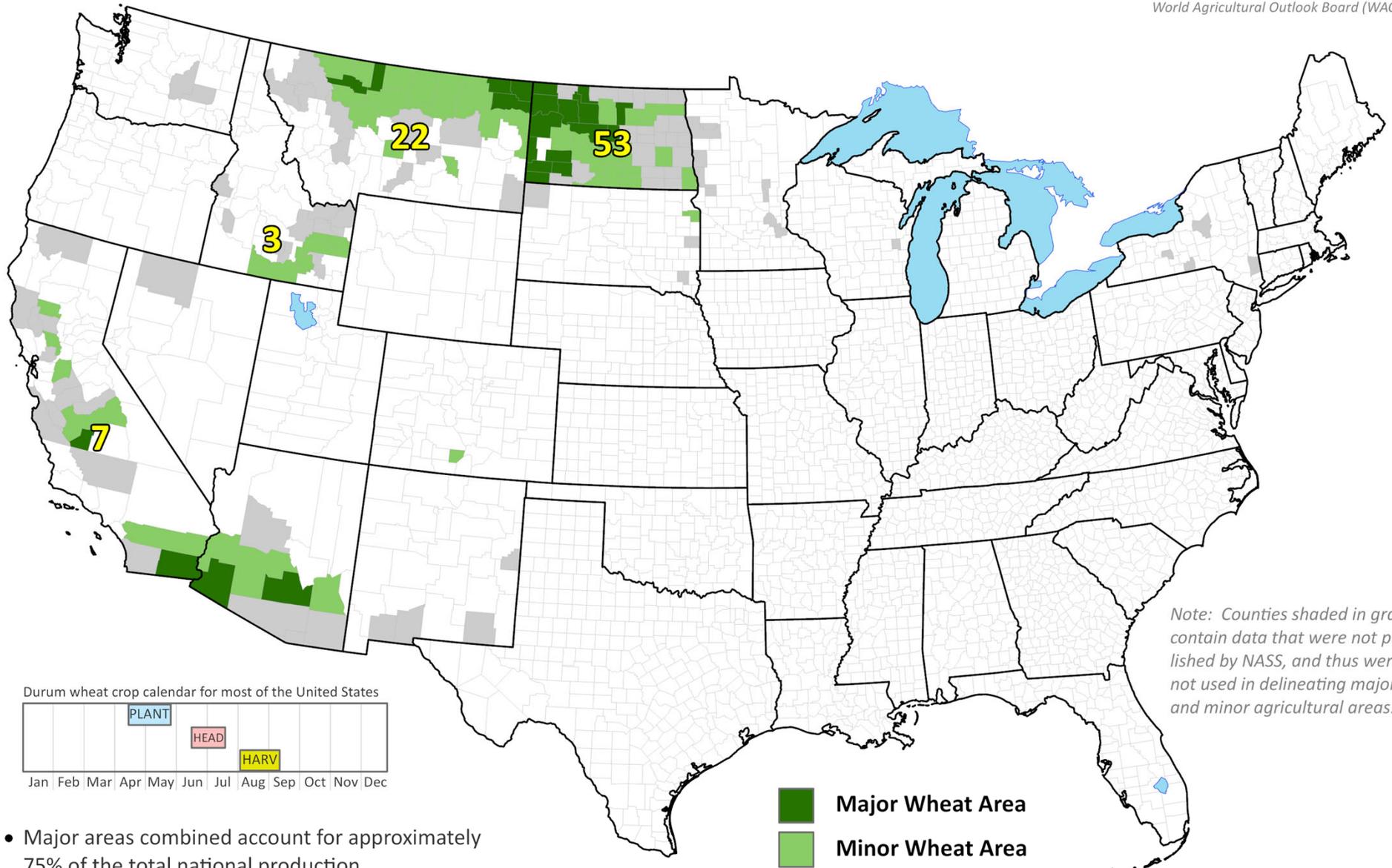
2022 Other Spring Wheat Yield

Bushels and Percent Change from Previous Year



https://www.nass.usda.gov/Newsroom/Executive_Briefings/2022/09-30-2022.pdf

United States: Durum Wheat



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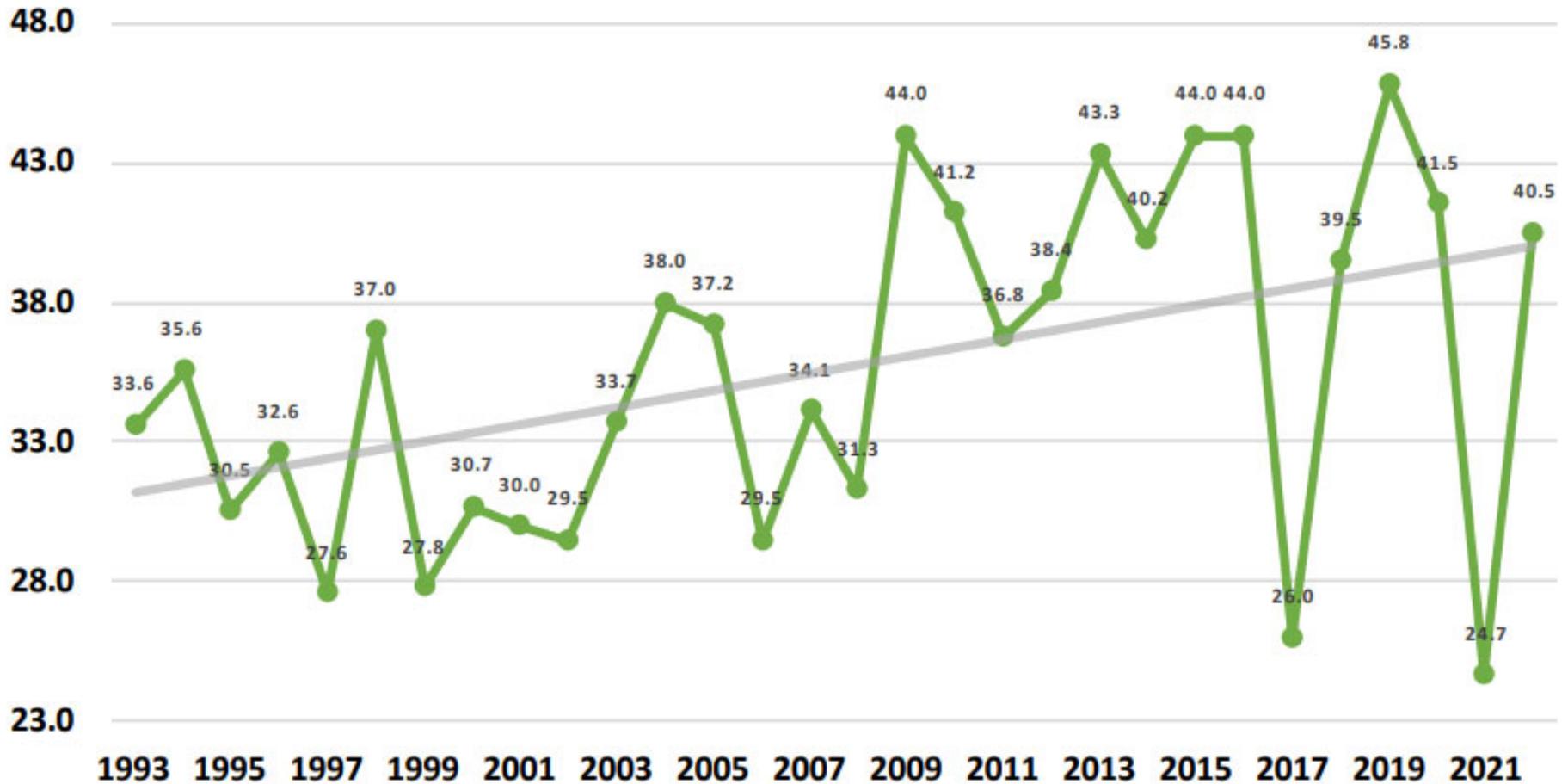
Yellow numbers approximate the percent each state contributed to the total national production. States not numbered contributed less than 1% to the national total or the state production was not disclosed by NASS.

Durum Wheat Yield

United States

1988: 15.7 bushels/acre
1989: 25.1 bushels/acre

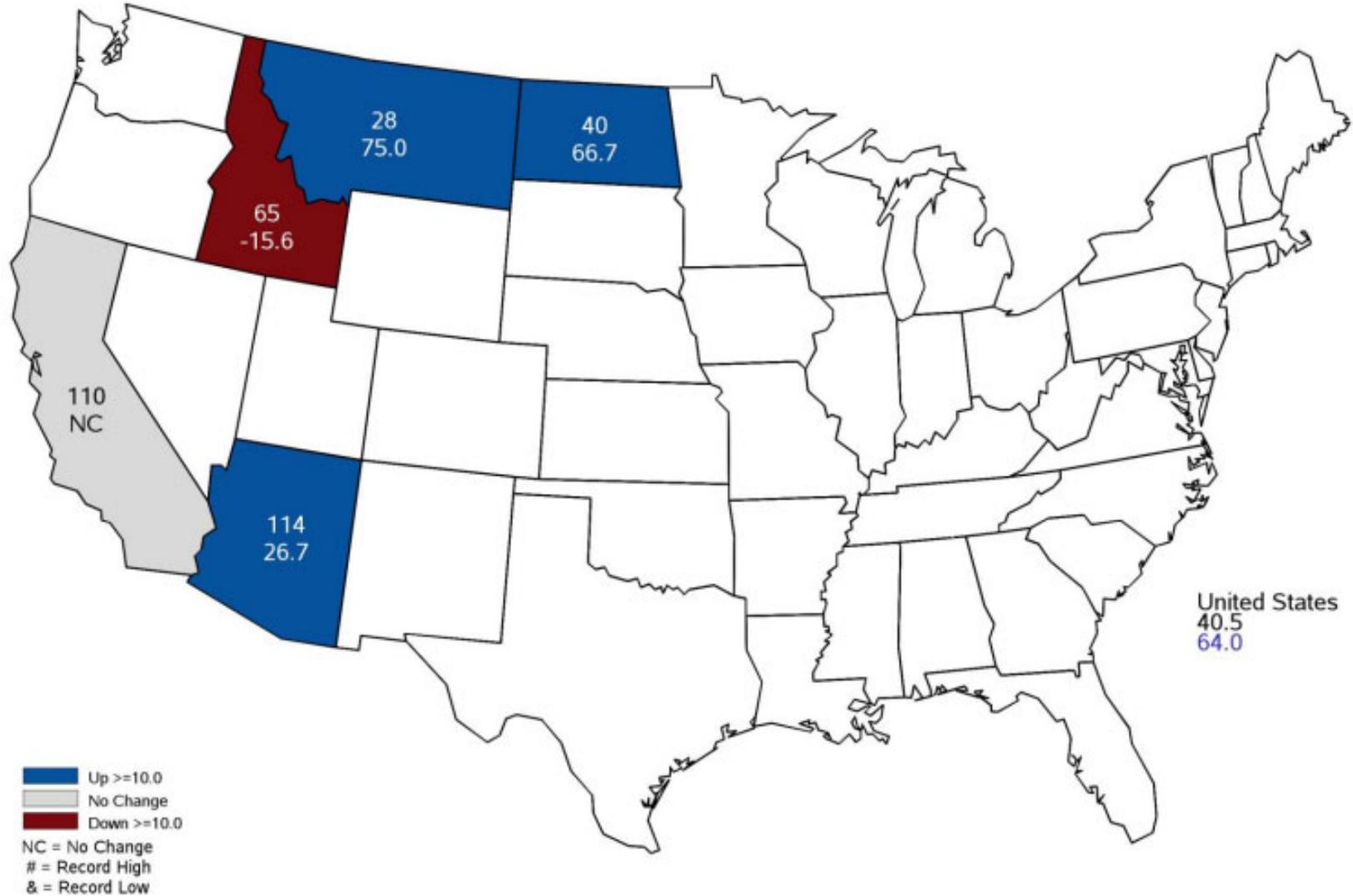
Bushels per Acre



https://www.nass.usda.gov/Newsroom/Executive_Briefings/2022/09-30-2022.pdf

2022 Durum Wheat Yield

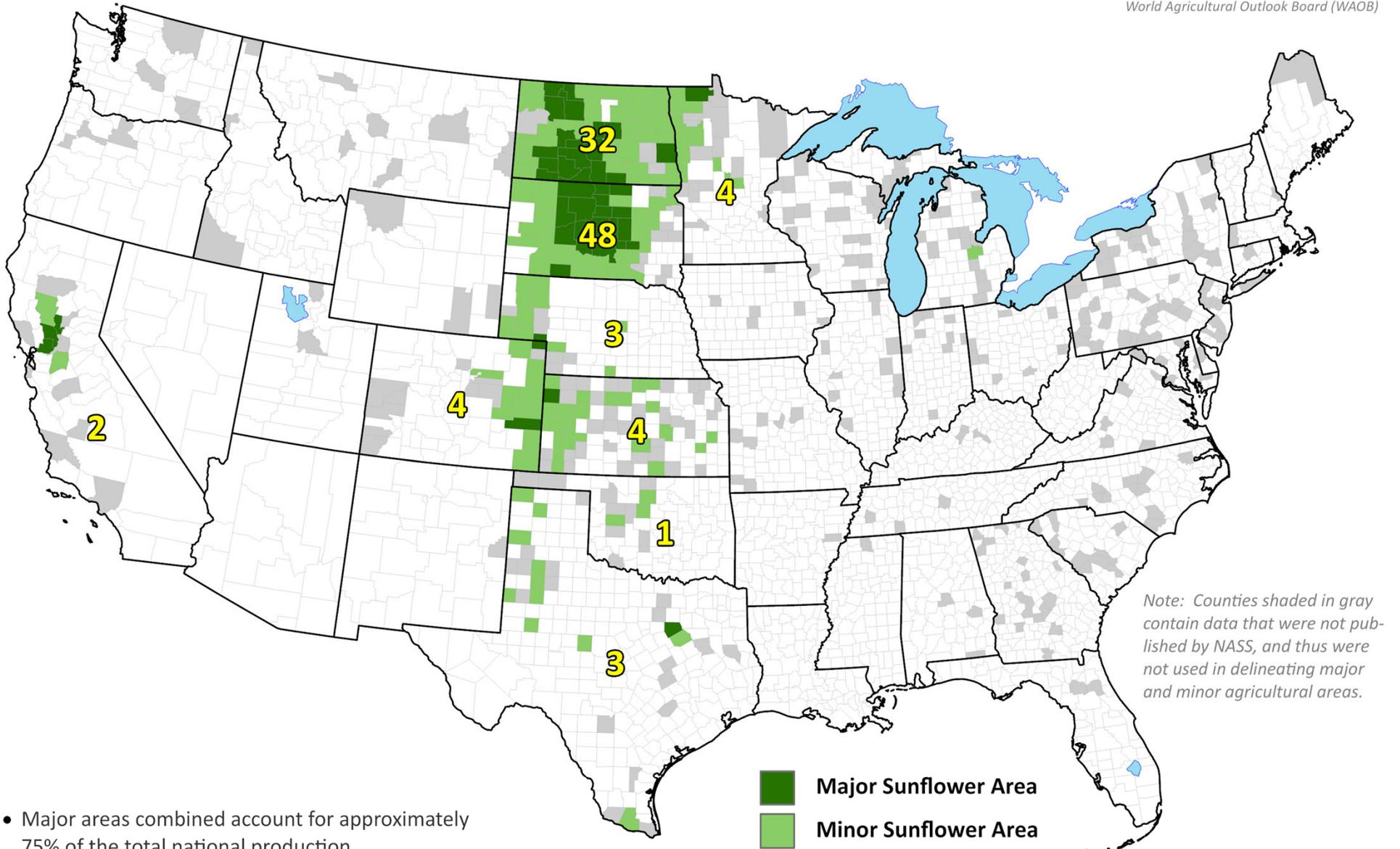
Pounds and Percent Change from Previous Year



https://www.nass.usda.gov/Newsroom/Executive_Briefings/2022/09-30-2022.pdf

United States: Sunflowers

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



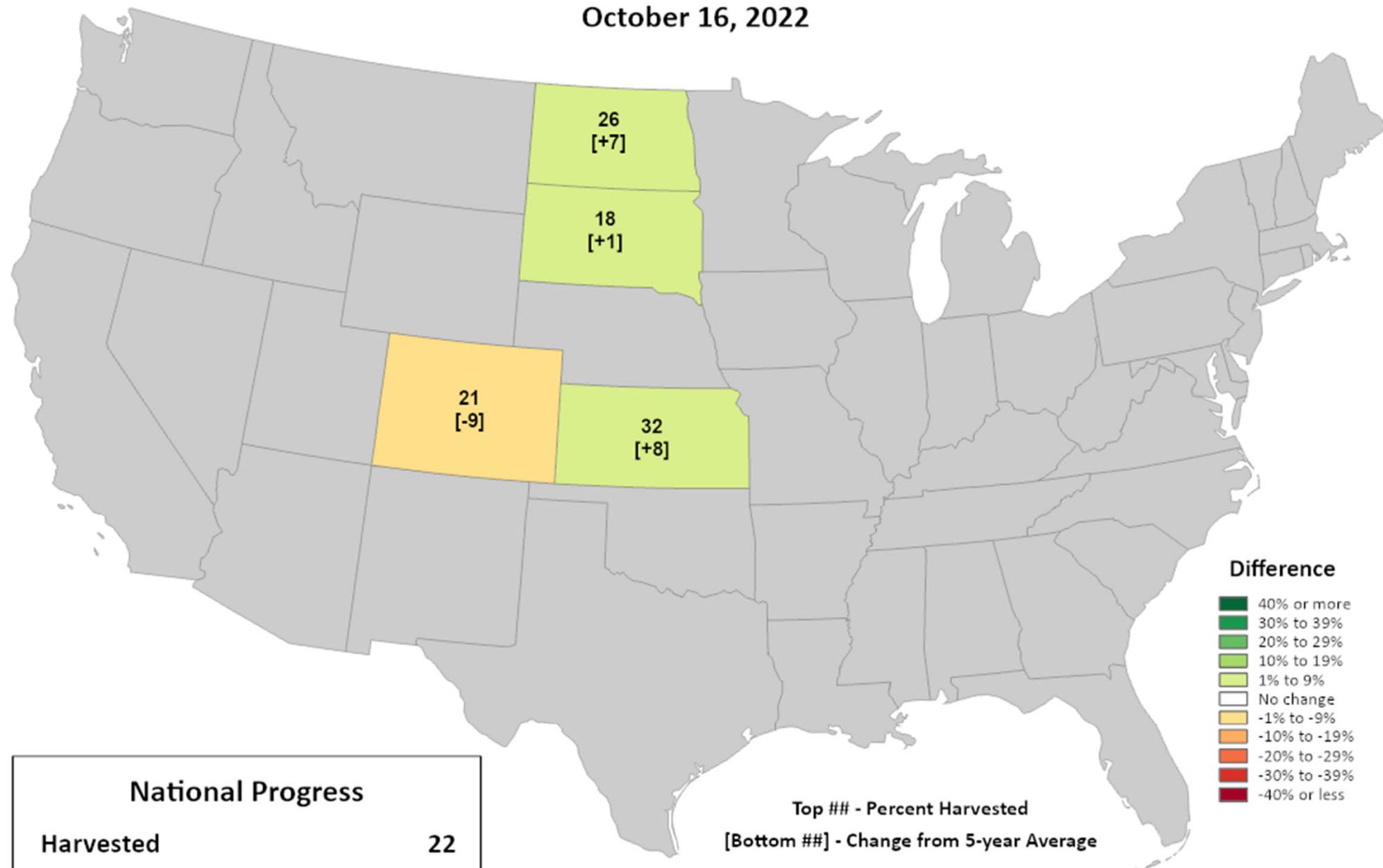
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Sunflowers Progress

Percent Harvested

October 16, 2022



Difference

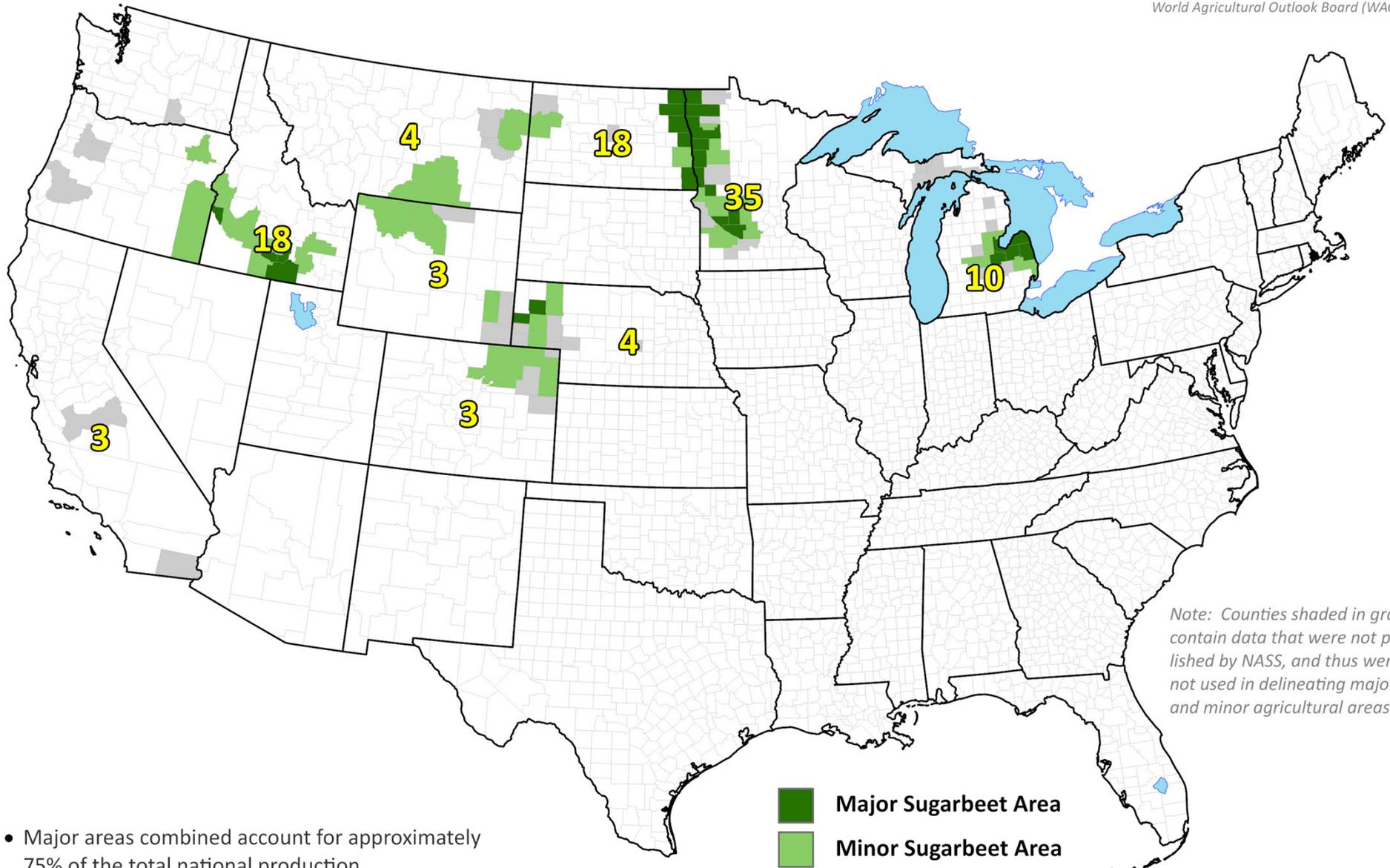


National Progress

Harvested	22
Change from 5-year Average	+3

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

United States: Sugarbeets



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.

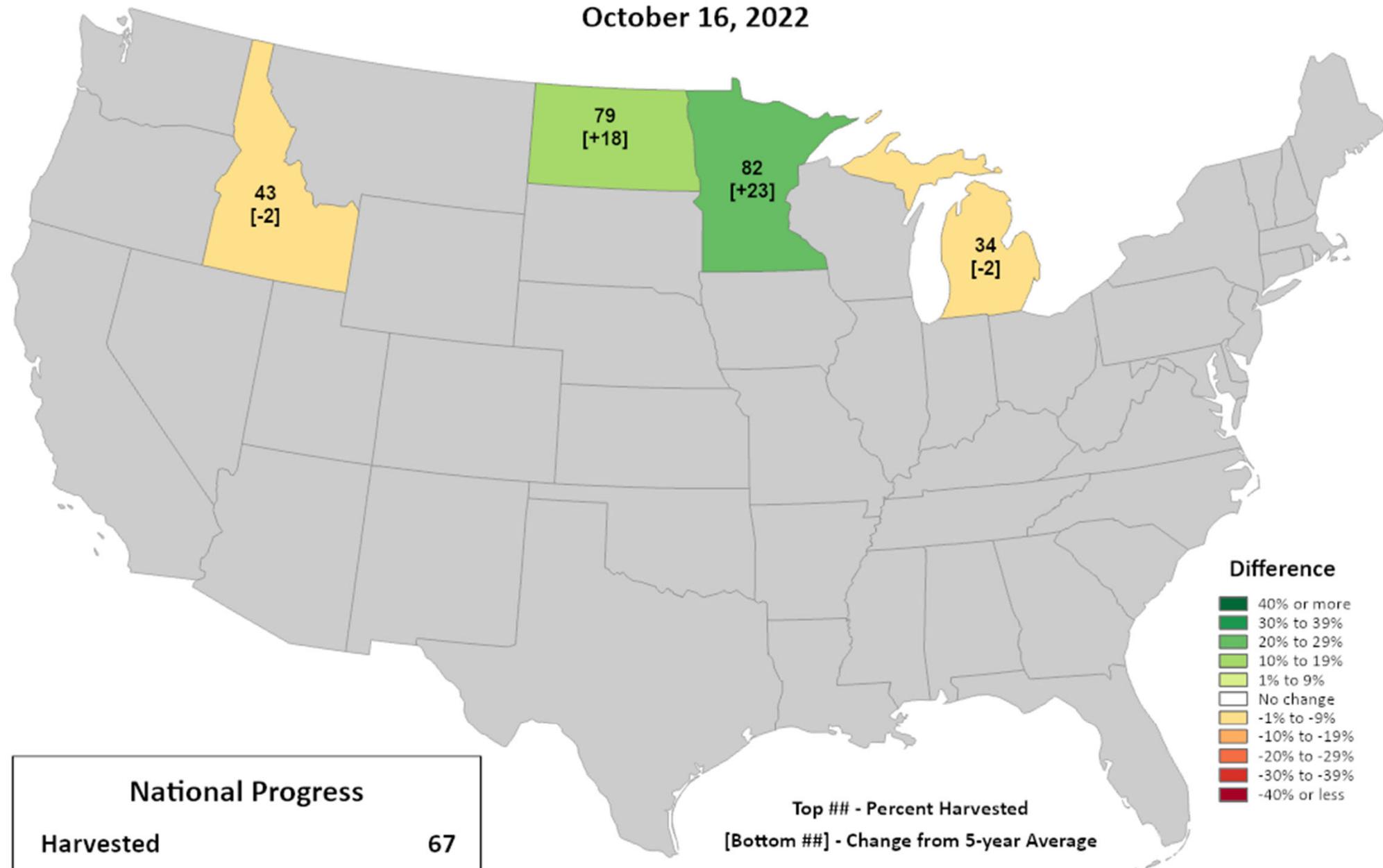
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Sugarbeets Progress

Percent Harvested

October 16, 2022



Difference



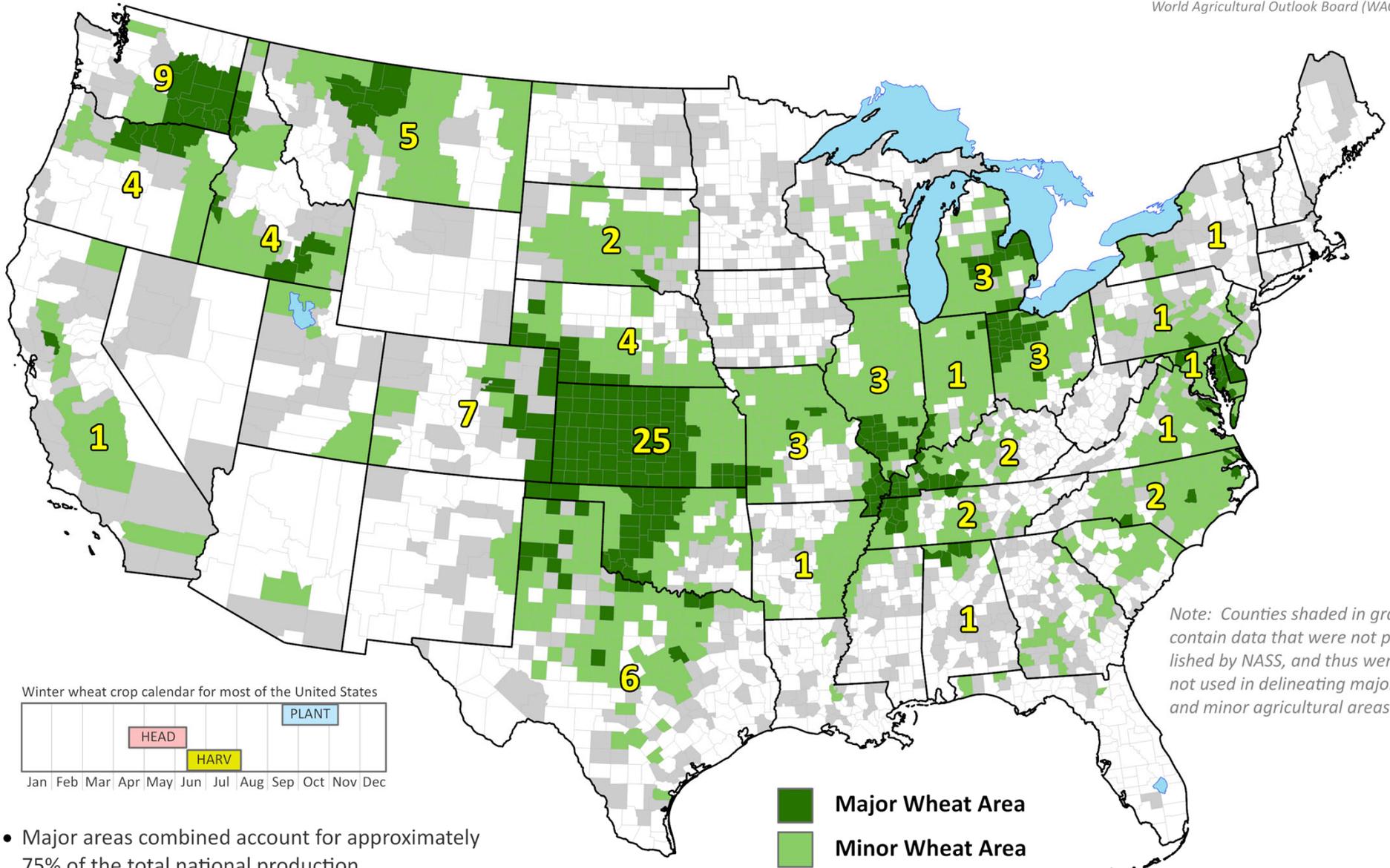
National Progress

Harvested	67
Change from 5-year Average	+13

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

United States: Winter Wheat

*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.

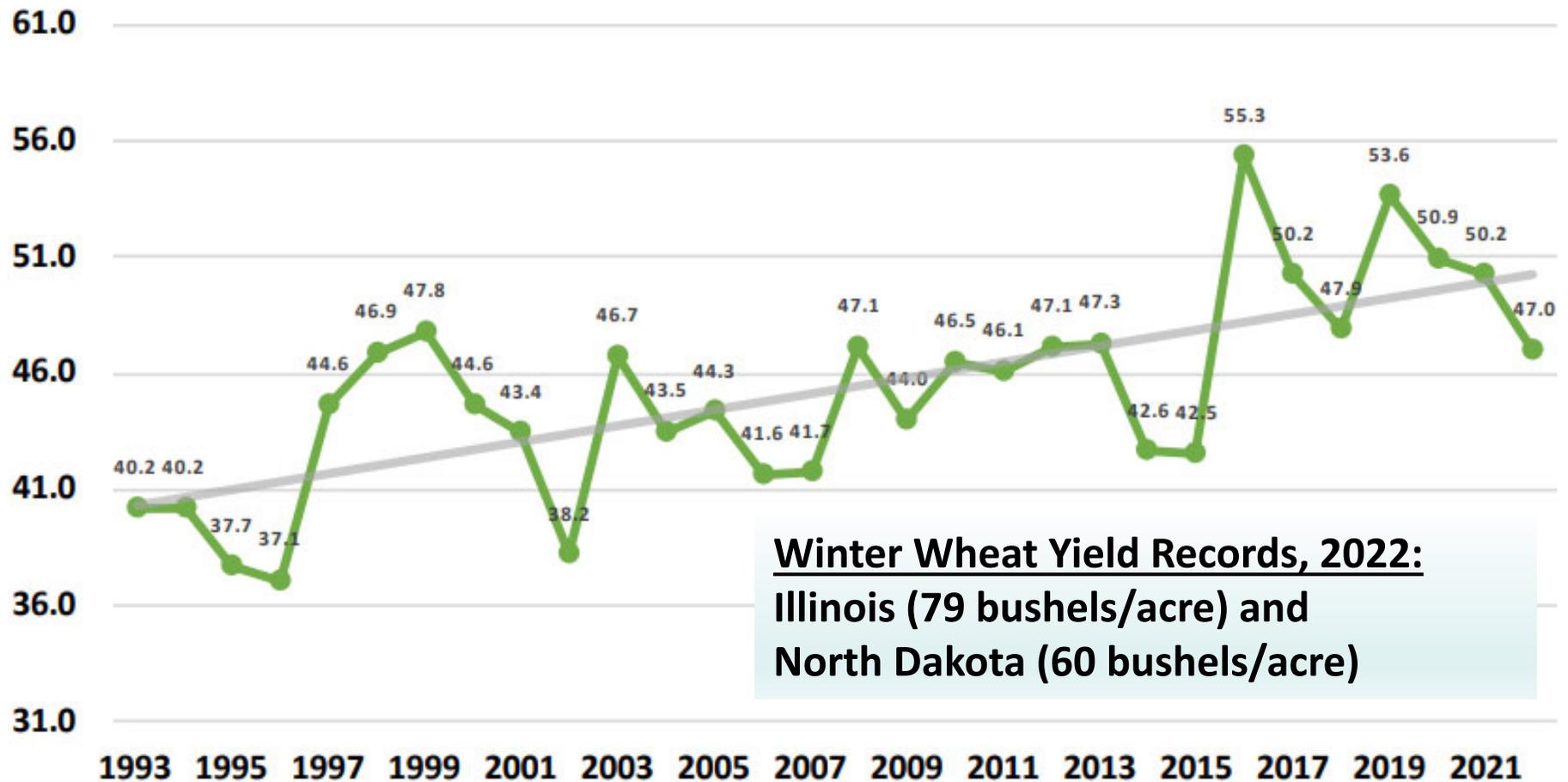
- Major areas combined account for approximately 75% of the total national production.
- Major and minor areas combined account for approximately 99% of the total national production.
- Major and minor areas and state production percentages are derived from NASS 2017 Census of Agriculture data.

Major Wheat Area
Minor Wheat 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.

Winter Wheat Yield United States

Bushels per Acre

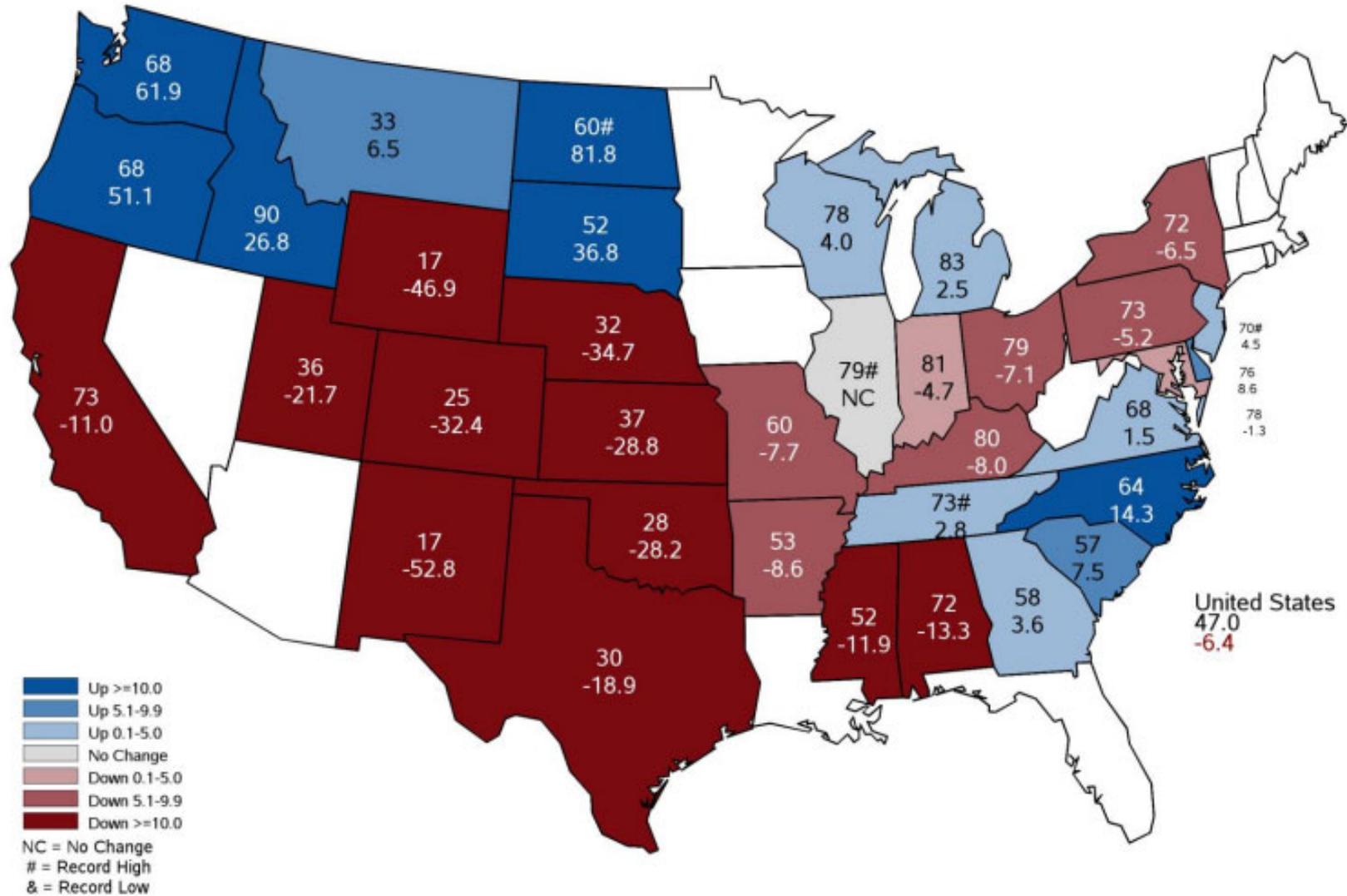


Winter Wheat Yield Records, 2022:
 Illinois (79 bushels/acre) and
 North Dakota (60 bushels/acre)

https://www.nass.usda.gov/Newsroom/Executive_Briefings/2021/09-30-2021.pdf

2022 Winter Wheat Yield

Bushels and Percent Change from Previous Year

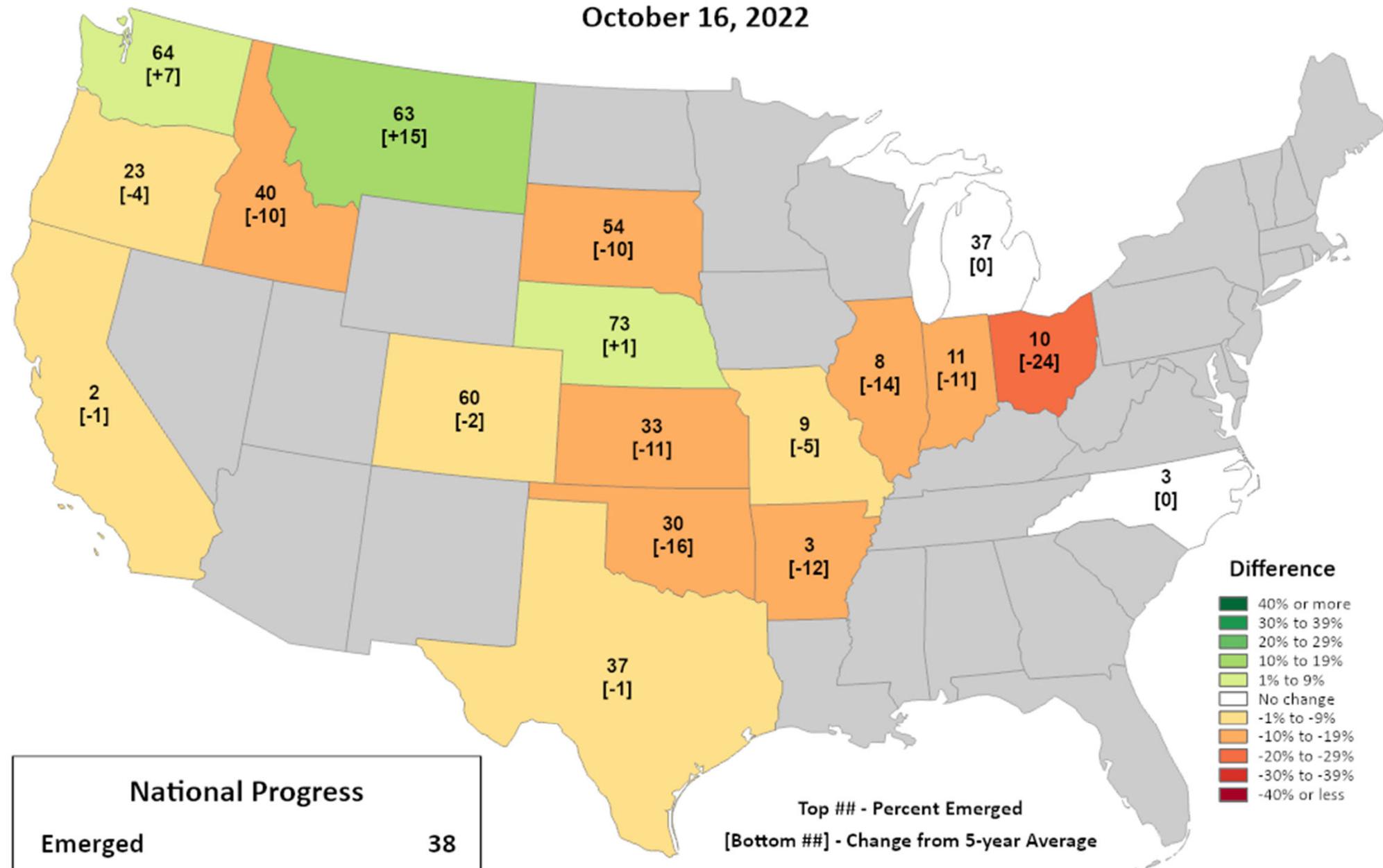


[https://www.nass.usda.gov/Newsroom/Executive Briefings/2022/09-30-2022.pdf](https://www.nass.usda.gov/Newsroom/Executive_Briefings/2022/09-30-2022.pdf)

Winter Wheat Progress

Percent Emerged

October 16, 2022



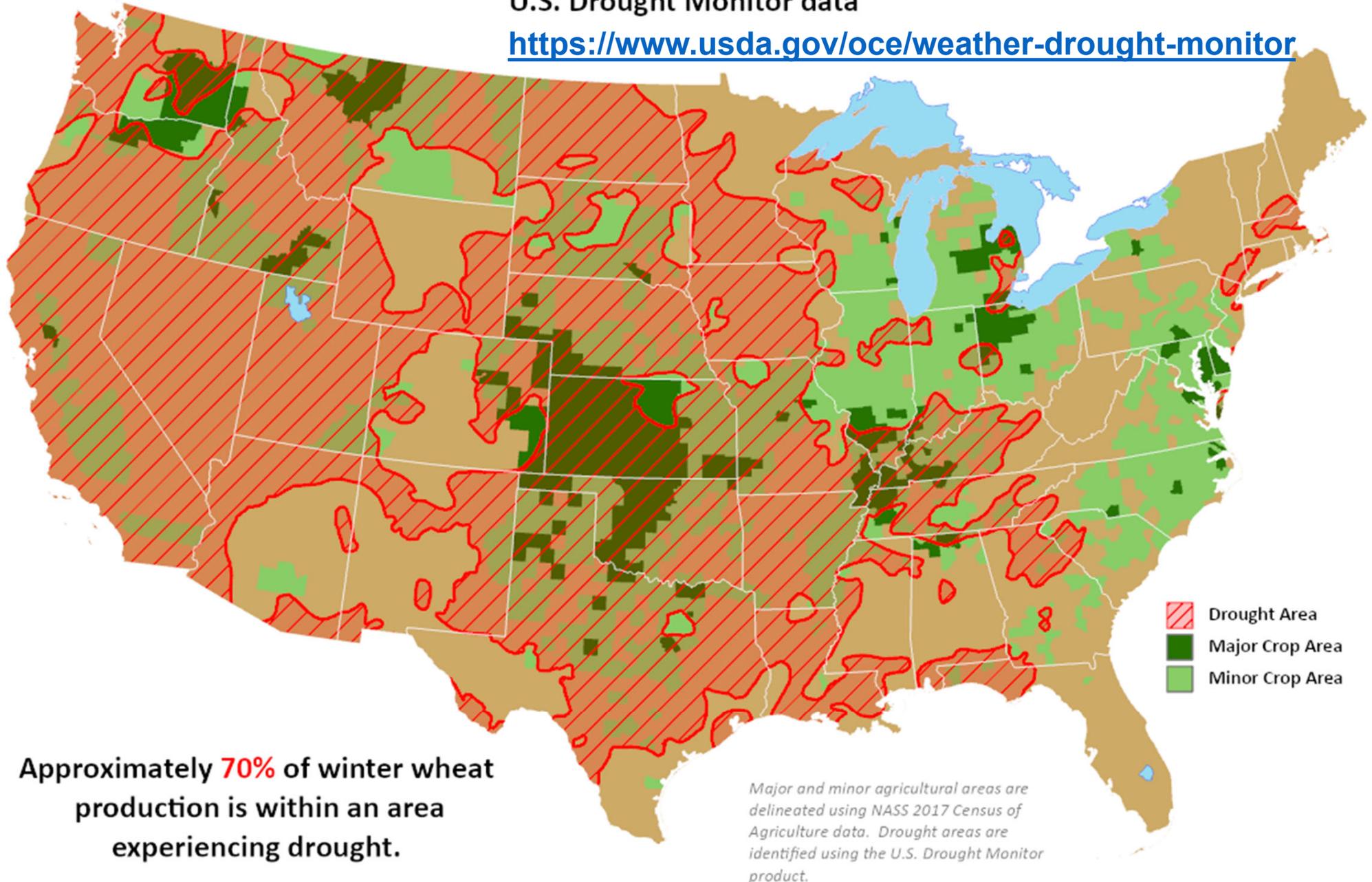
Winter Wheat Areas in Drought

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

Reflects **October 18, 2022**

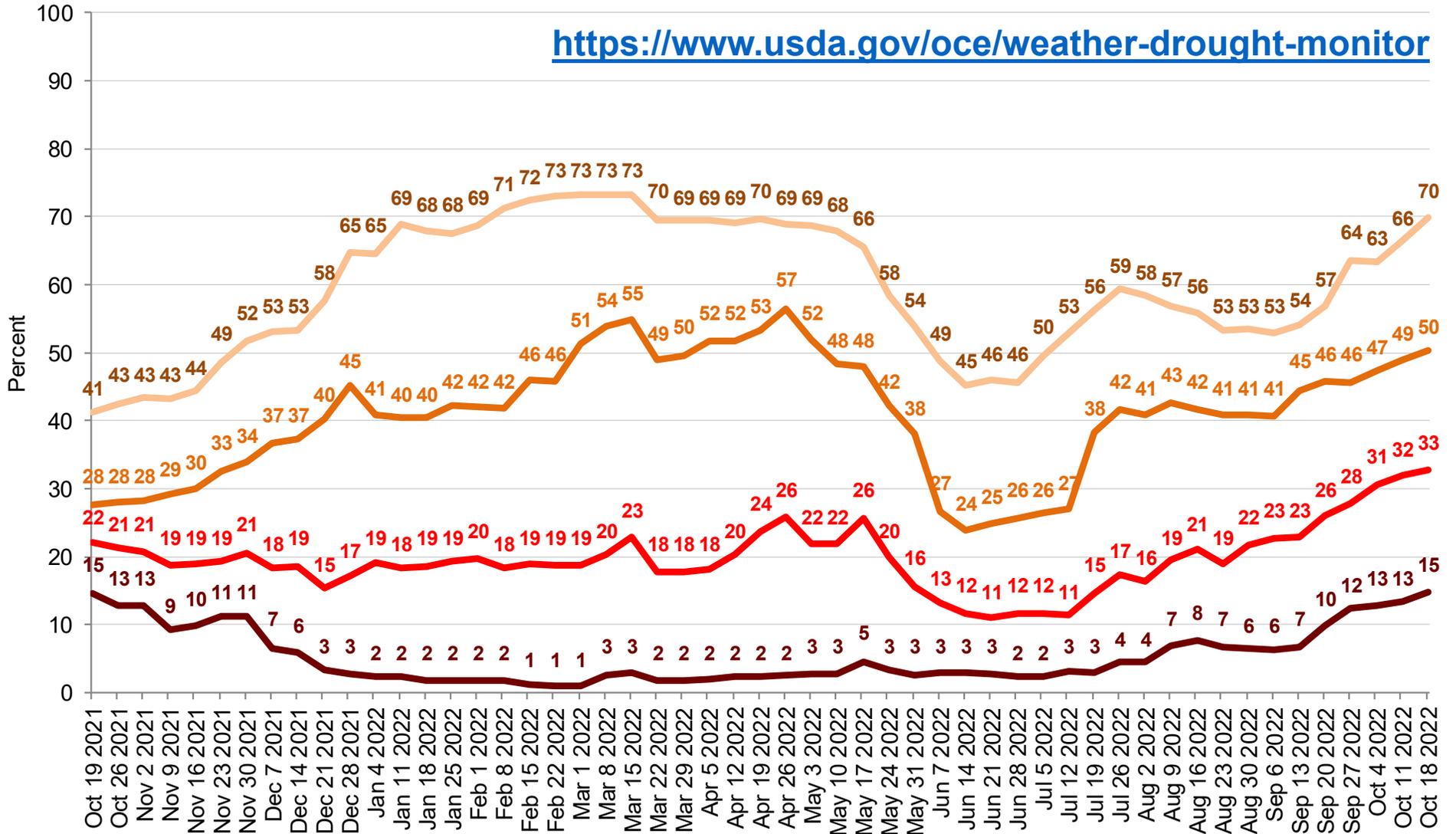
U.S. Drought Monitor data

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



Percent of United States Winter Wheat Located in Drought

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



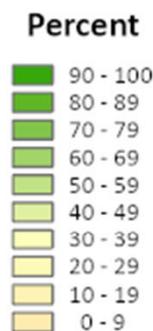
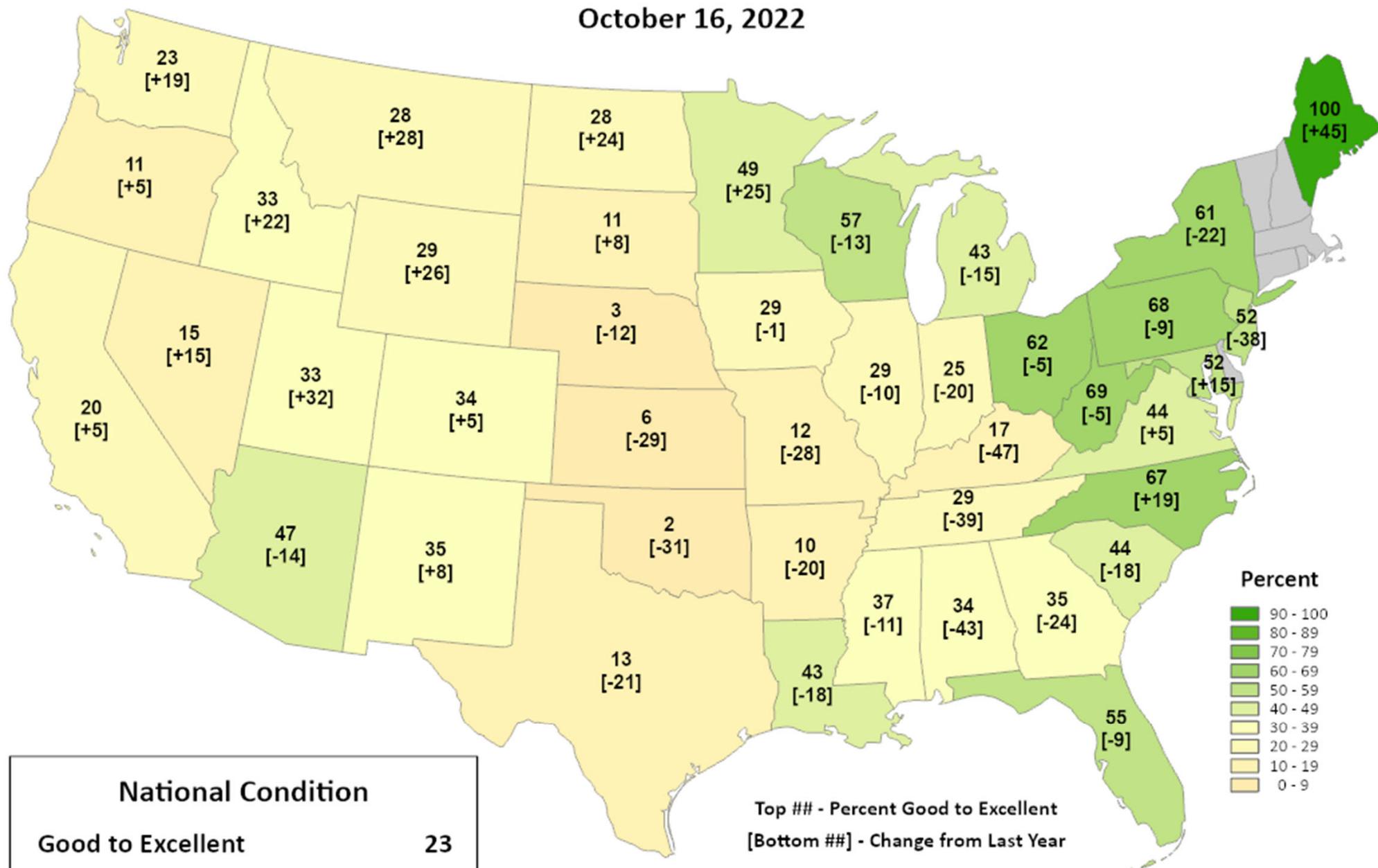
- Moderate or more intense drought (D1+)
- Severe or more intense drought (D2+)
- Extreme or more intense drought (D3+)
- Exceptional drought (D4)

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

Pasture and Range Conditions

Percent Good to Excellent

October 16, 2022

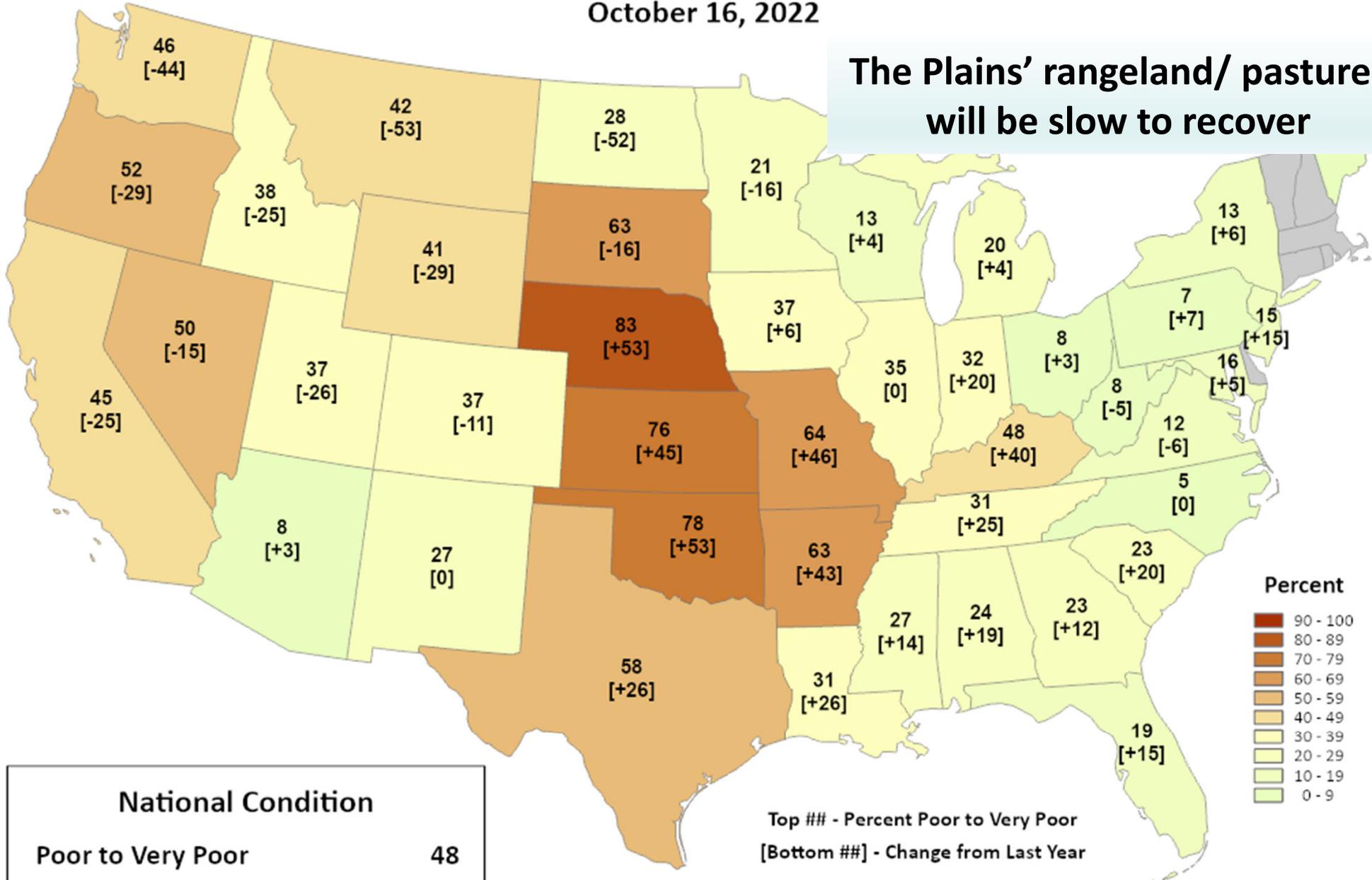


Pasture and Range Conditions

Percent Poor to Very Poor

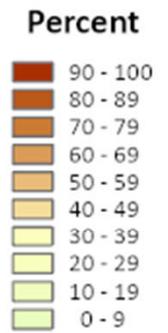
October 16, 2022

The Plains' rangeland/ pastures will be slow to recover



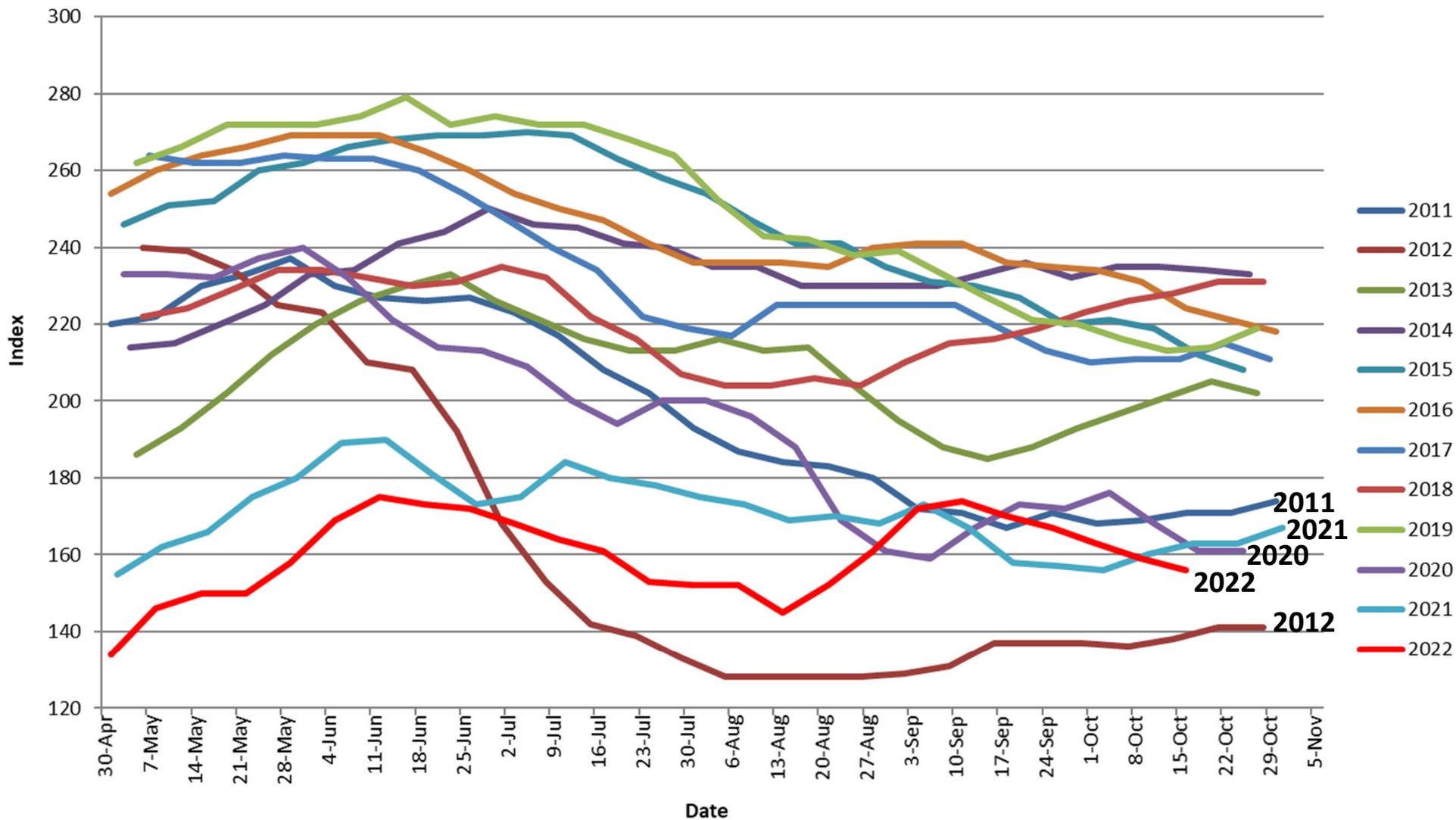
National Condition	
Poor to Very Poor	48
Change from Last Year	+3

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



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

U.S. PASTURE AND RANGE Condition Index



Based on NASS crop progress data.

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

August 2022 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 136.0, is up 0.1 percent from July and up 12 percent from August 2021.

Feed: At 146.7, the August index **increased 1.3 percent from July and increased 17 percent from August 2021.**

Livestock and poultry: The August index, at 124.8, **increased 3.1 percent from July and increased 14 percent from last year.**

Fertilizer: The index for August, at 118.2, is **down 5.1 percent from July but up 27 percent from August a year ago.**

Contact information:

Brad Rippey, USDA Meteorologist

Office of the Chief Economist

World Agricultural Outlook Board

Washington, D.C.

Phone: 202-720-2397

E-Mail: brad.rippley@usda.gov

**D.C. Sunrise
September 22, 2021
(photo by B. Rippey)**