Midwest and Great Plains Climate & Drought Outlook 15 October 2020

SDSU Extension

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Sunrise near Aberdeen, SD. Photo by Laura Edwards

National Drought Mitigation Center

NOAA National Oceanic and Atmospheric Administration U.S. Department of Commerce

Regional Climate Centers

AASC American Association of State Climatologists

USDA United States Department of Agriculture Midwest Climate Hub

Agenda

- Recent Conditions
- Impacts
- Outlooks
  - 1-3 months
  - Winter season

Cameron Peak fire, 10/14/20
Photo by Henry Reges

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A look back

Recent Conditions

Post-fire corn field, southwest MN
Photo by Andrew Heine, @heine_andrew

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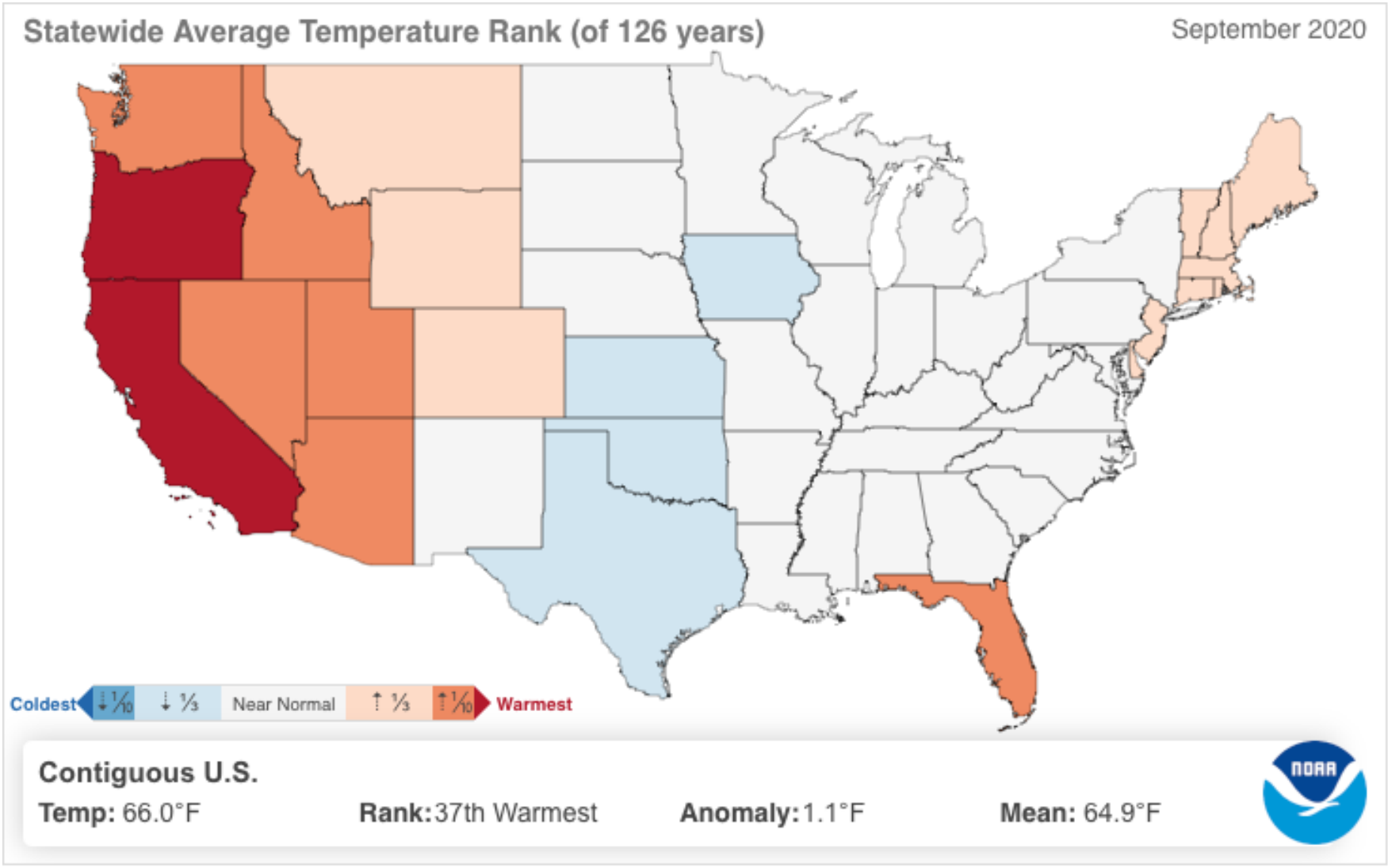
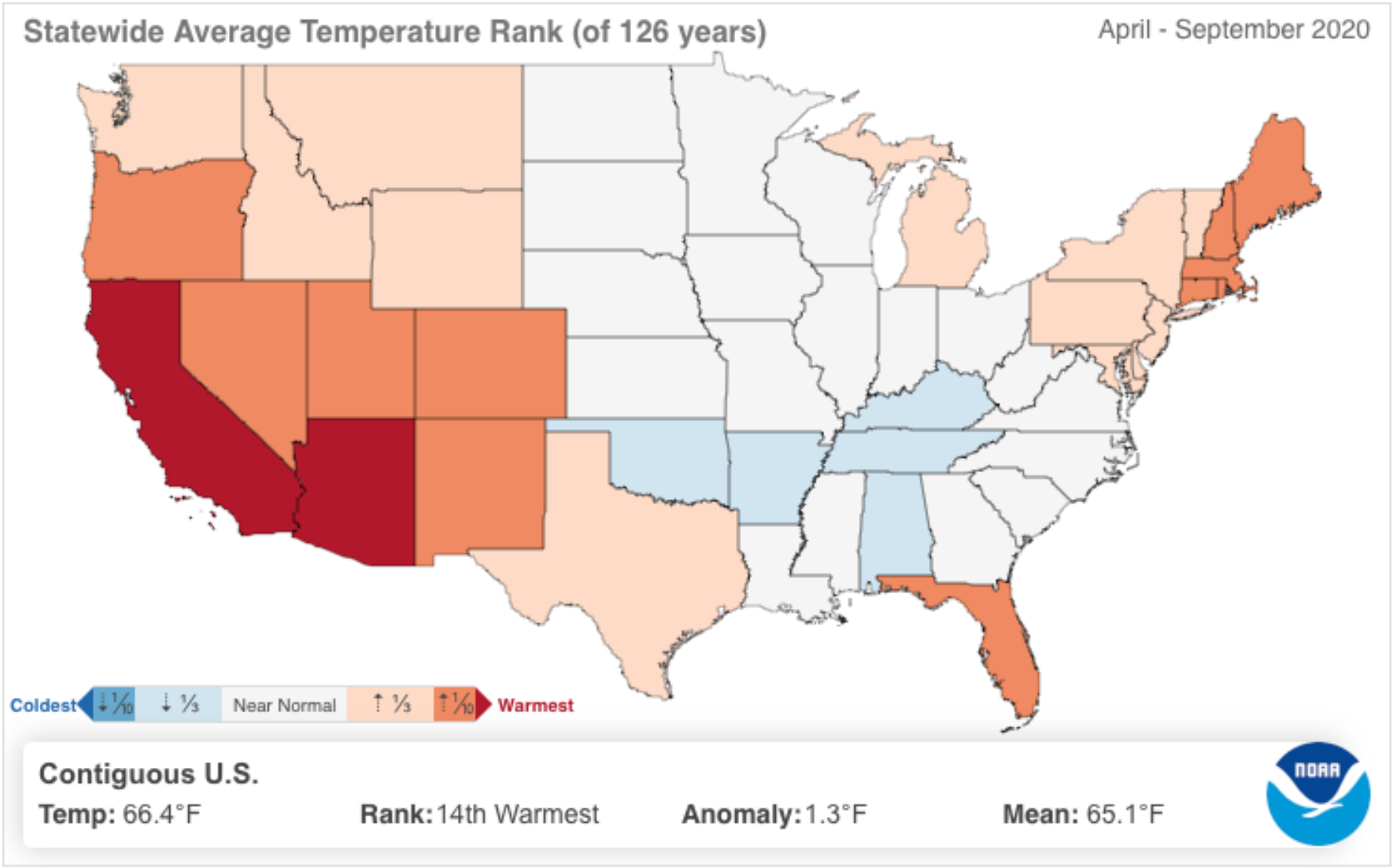
September Temperature Ranks



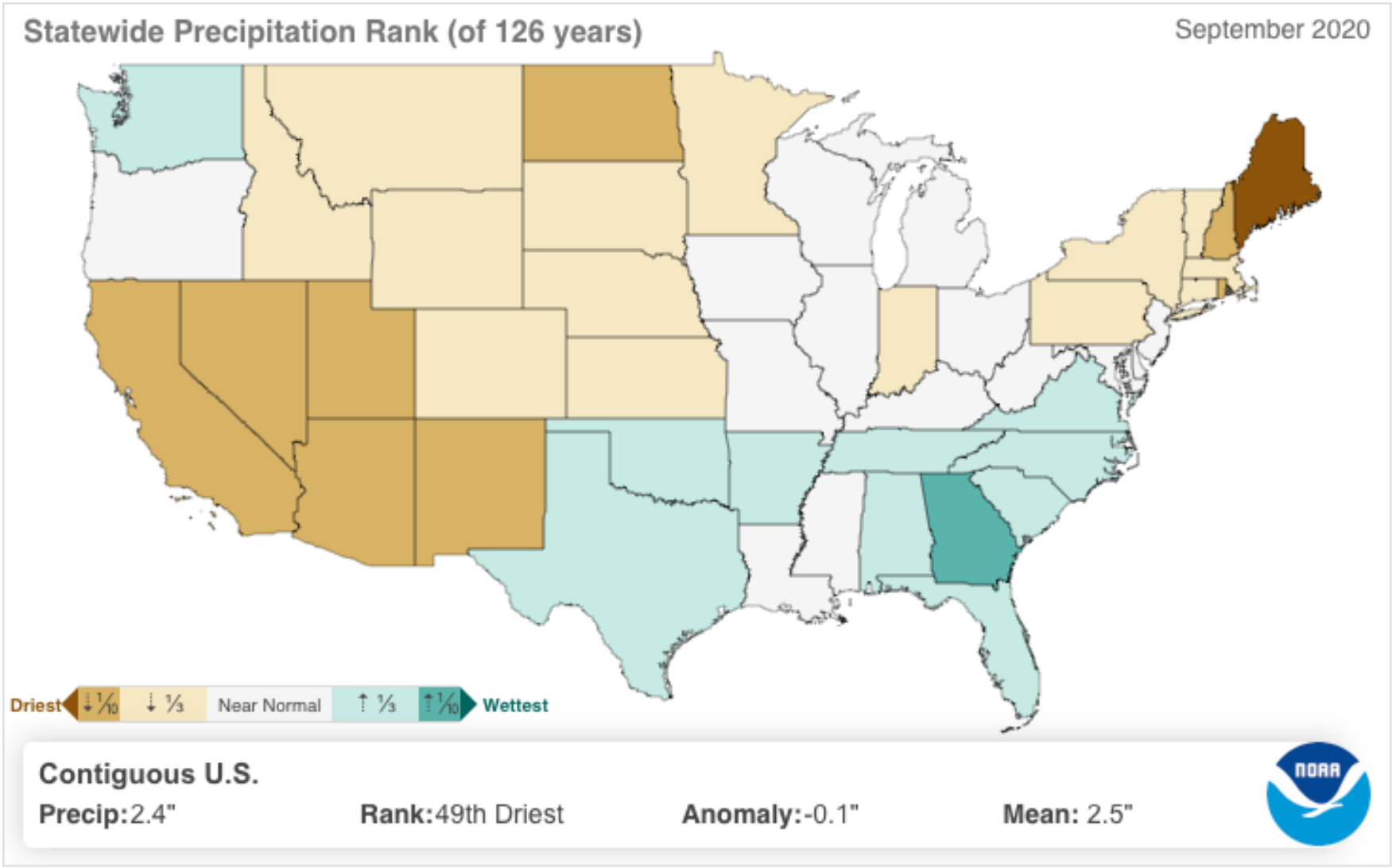
https://www.ncdc.noaa.gov/cag/

Growing Season Temperature Ranks



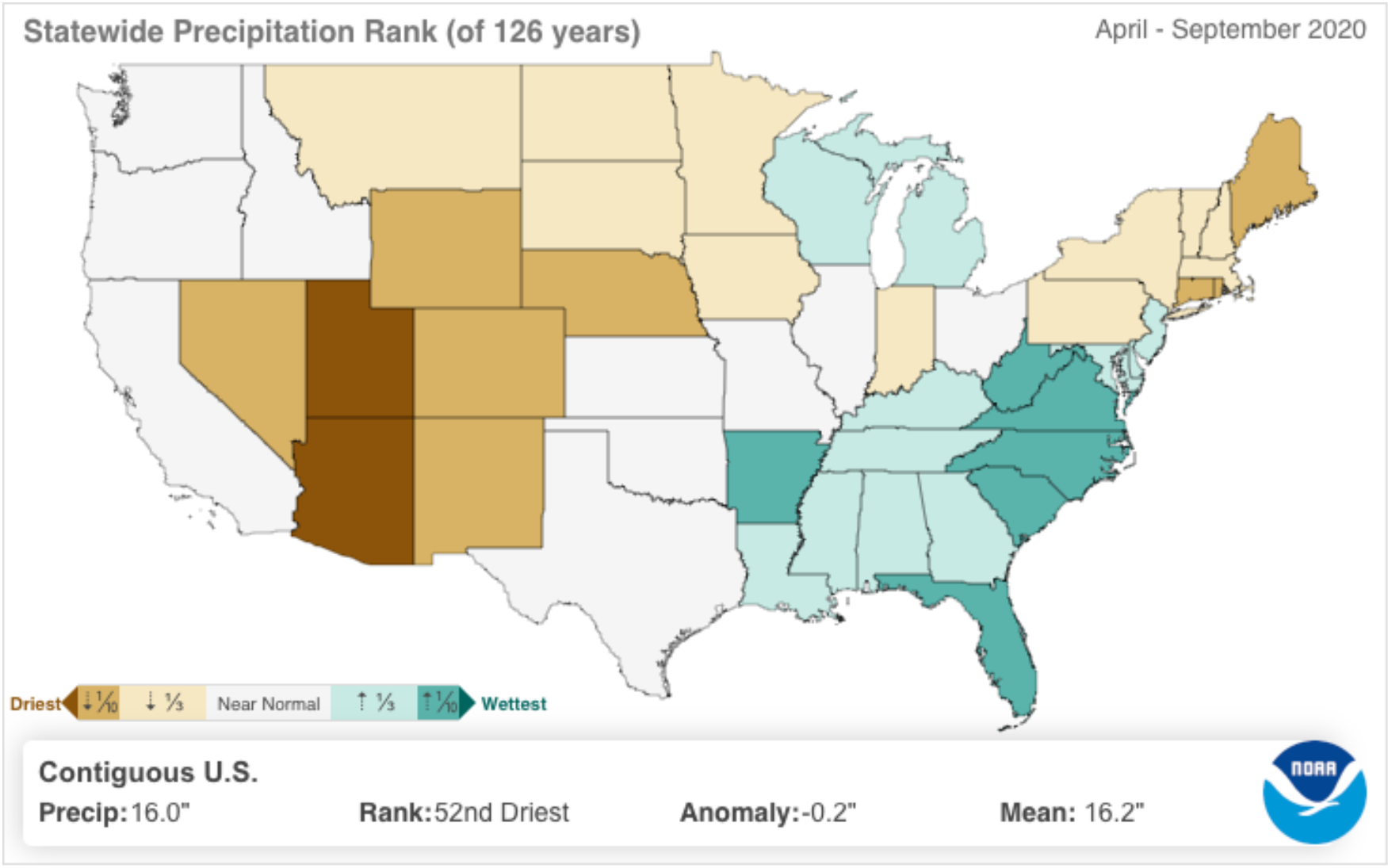
https://www.ncdc.noaa.gov/cag/

September Precipitation Ranks



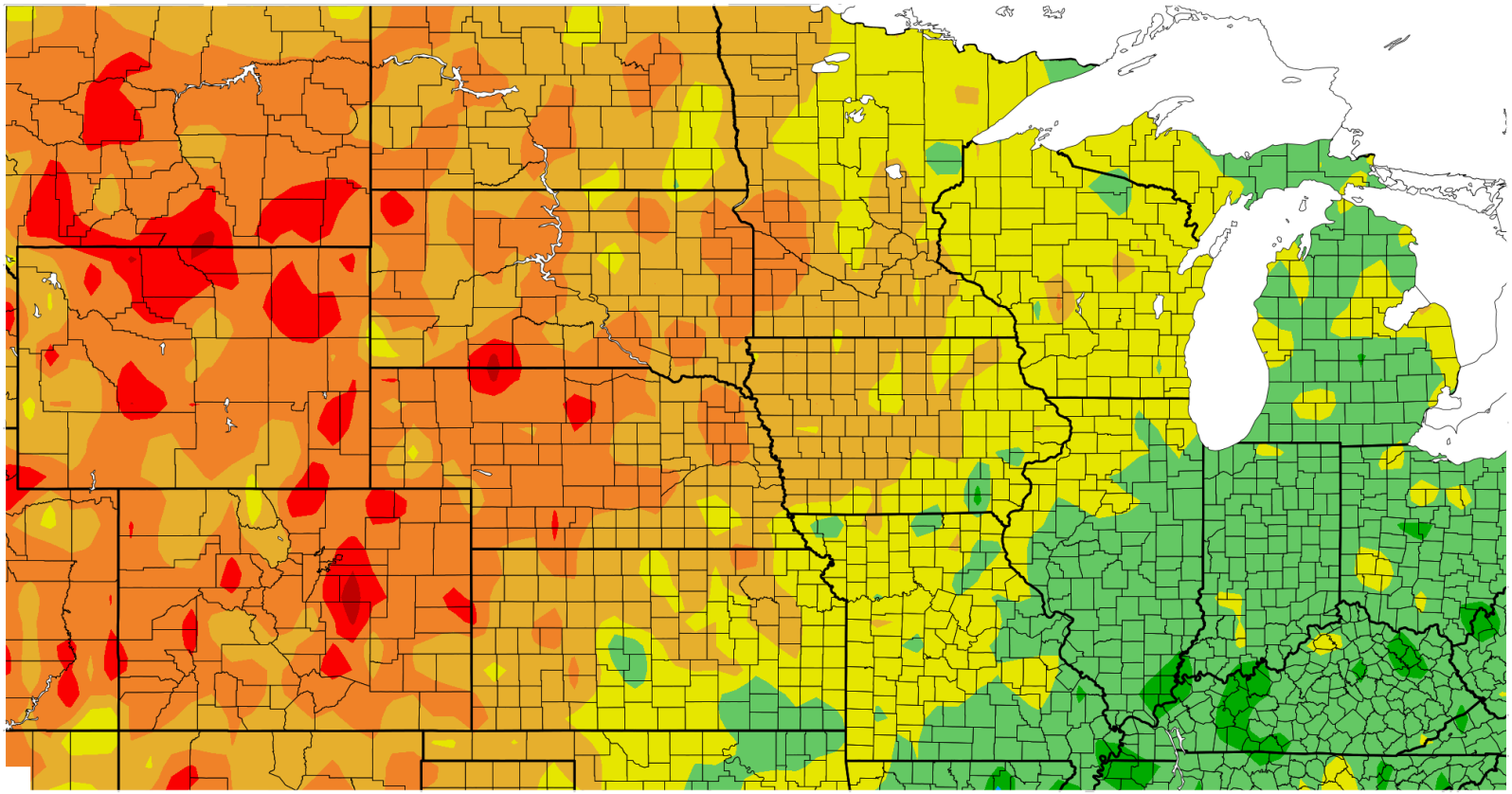
https://www.ncdc.noaa.gov/cag/

Growing Season Precipitation Ranks



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

Departure from Normal Temperature (F)
9/14/2020 - 10/13/2020



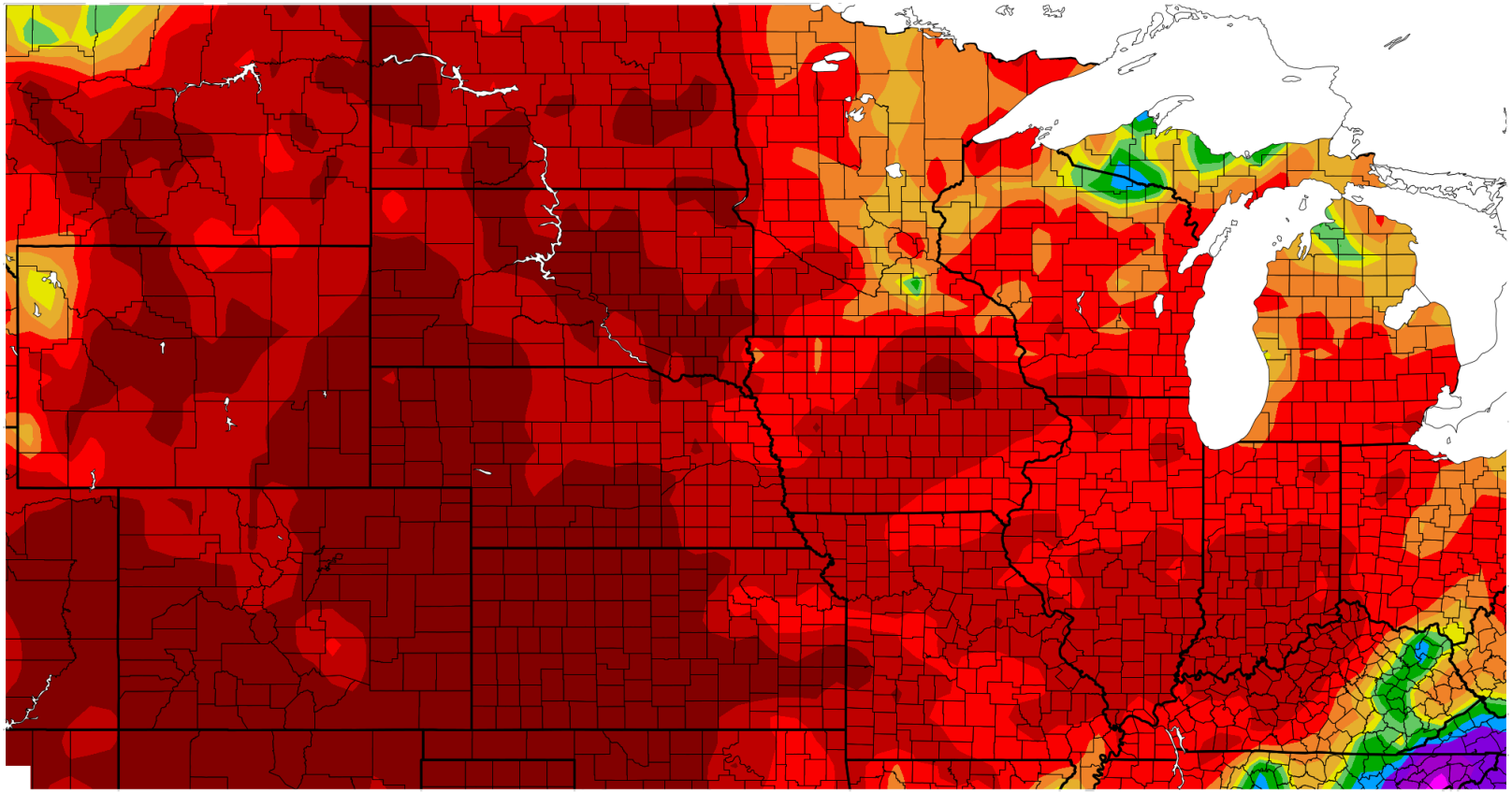
−10 −8 −6 −4 −2 0 2 4 6 8 10

Generated 10/14/2020 at HPRCC using provisional data.

NOAA Regional Climate Centers

https://hprcc.unl.edu/maps.php?map=ACISClimateMaps

Percent of Normal Precipitation (%)
9/14/2020 – 10/13/2020



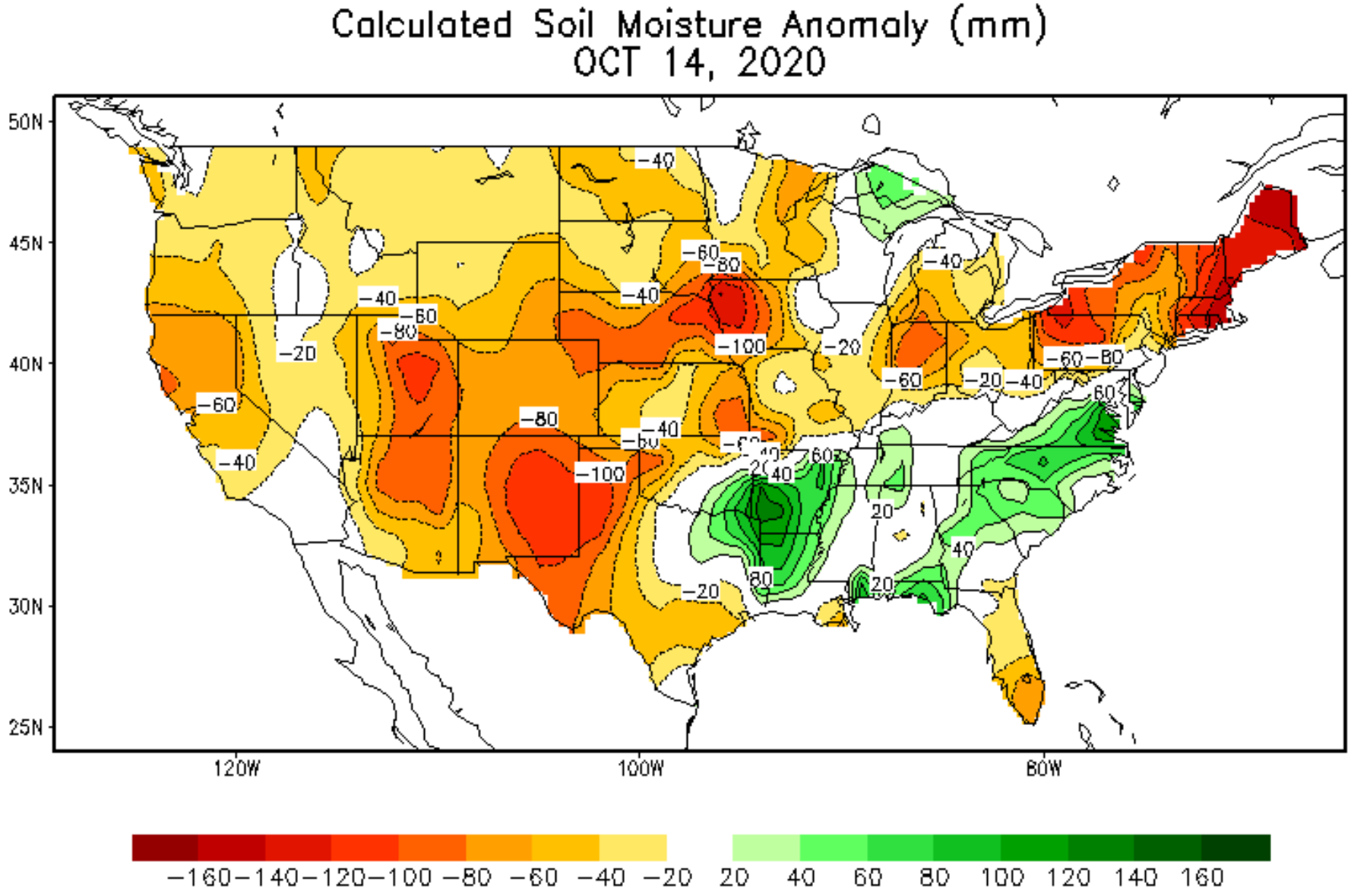
5 25 50 70 90 100 110 130 150 200 300

Generated 10/14/2020 at HPRCC using provisional data.

NOAA Regional Climate Centers

https://hprcc.unl.edu/maps.php?map=ACISClimateMaps

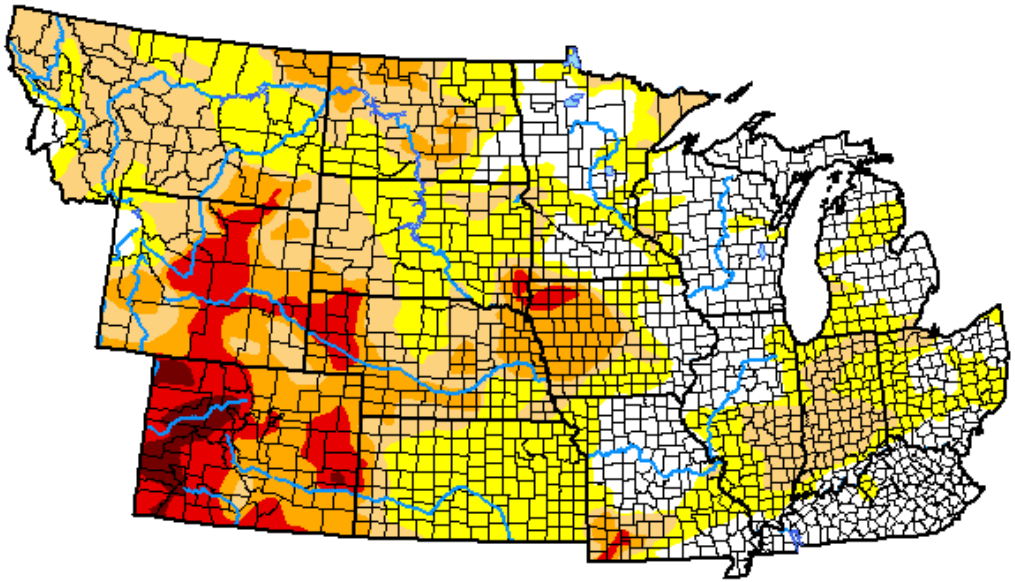
Soil Moisture



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

U.S. Drought Monitor

NWS Central Region



October 13, 2020

(Released Thursday, Oct. 15, 2020)

Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	24.59	75.41	44.85	22.26	8.93	1.51
Last Week *10-06-2020*	28.88	71.12	39.74	21.10	8.43	1.51
3 Months Ago *07-14-2020*	47.45	52.55	19.58	7.46	3.53	0.00
Start of Calendar Year *12-31-2019*	87.81	12.19	5.33	2.11	0.00	0.00
Start of Water Year *09-29-2020*	29.60	70.40	37.34	17.96	7.13	0.24
One Year Ago *10-15-2019*	80.40	19.60	8.44	1.91	0.14	0.00

Intensity:

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

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to https://droughtmonitor.unl.edu/About.aspx

Author:

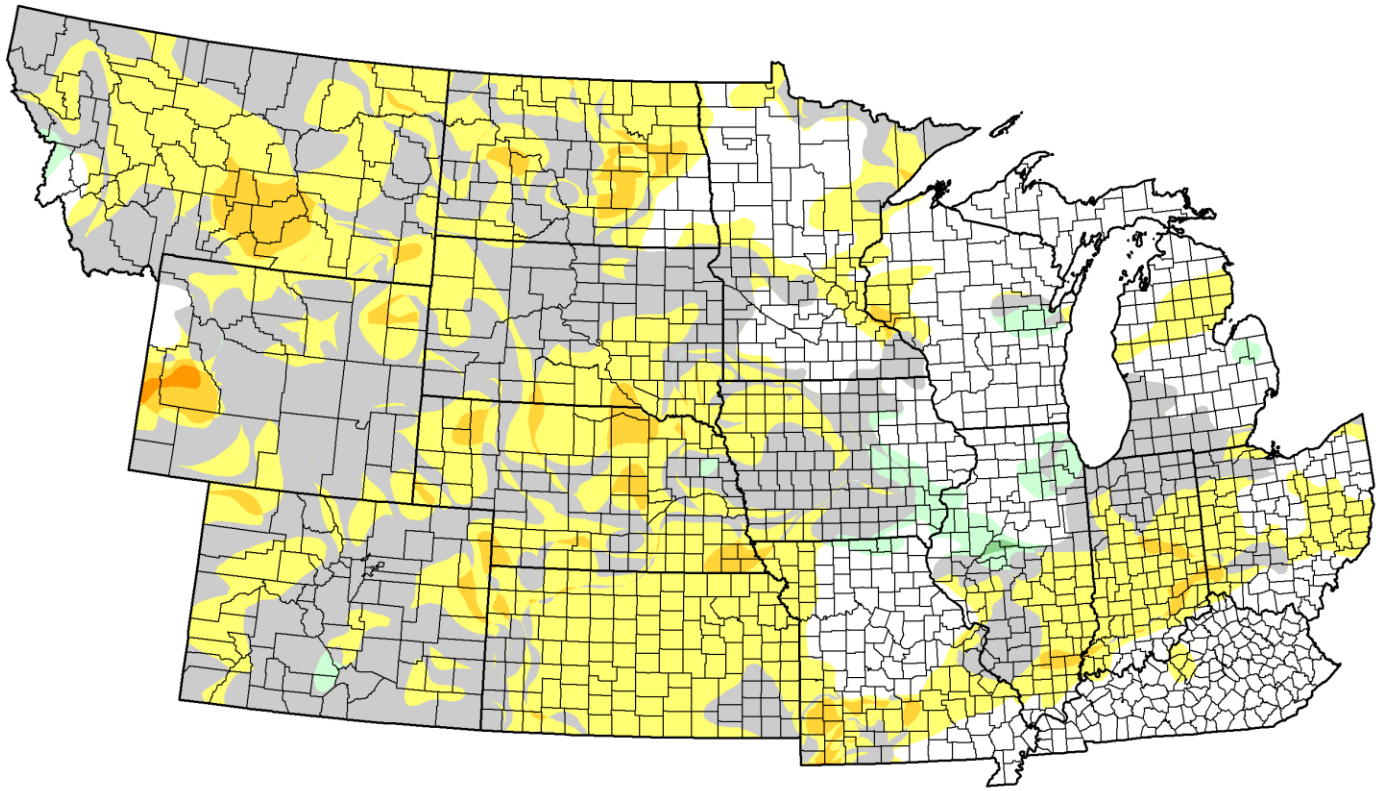
Curtis Riganti

National Drought Mitigation Center

droughtmonitor.unl.edu

U.S. Drought Monitor Class Change - NWS Central Region

1 Month



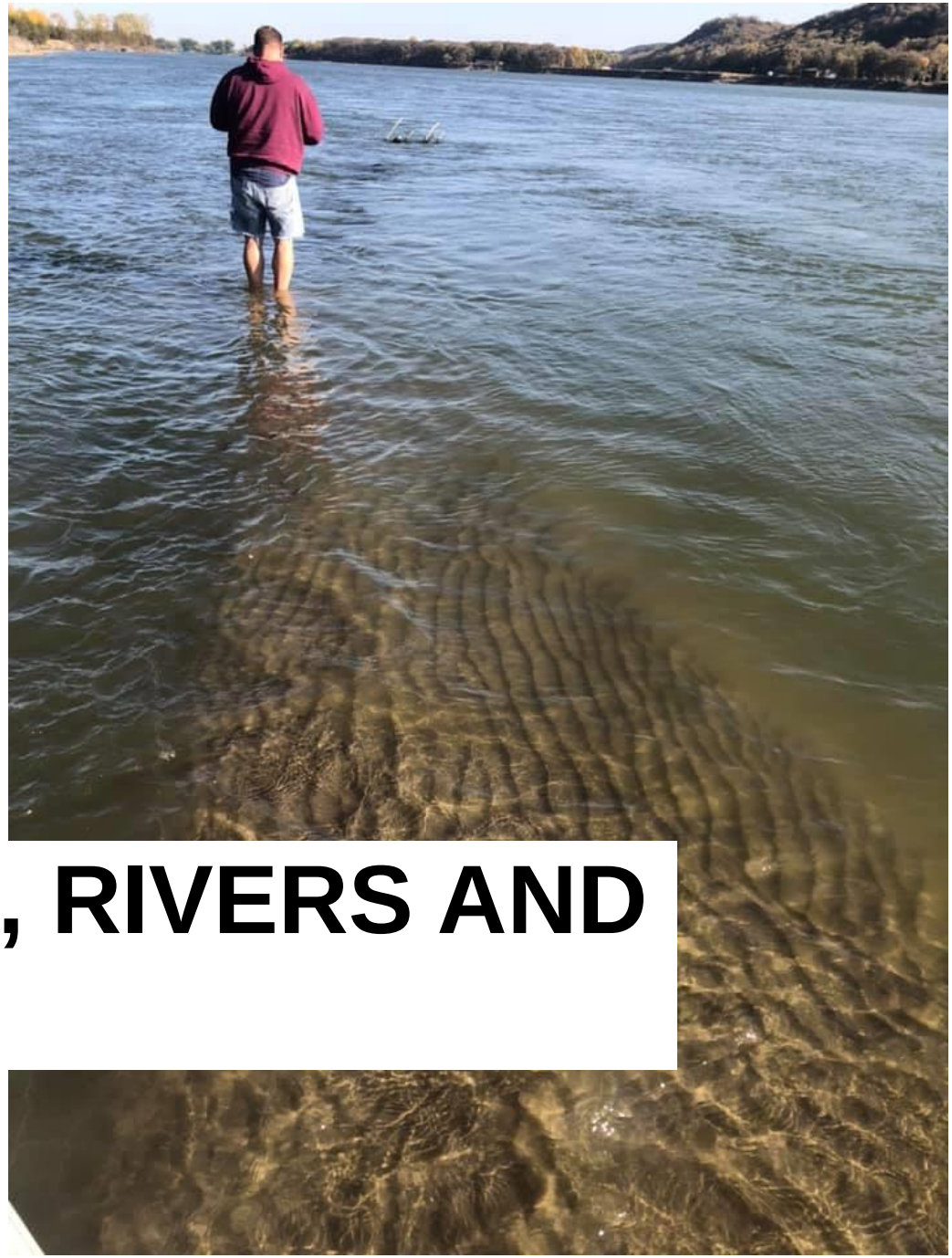
October 13, 2020
compared to
September 15, 2020

droughtmonitor.unl.edu

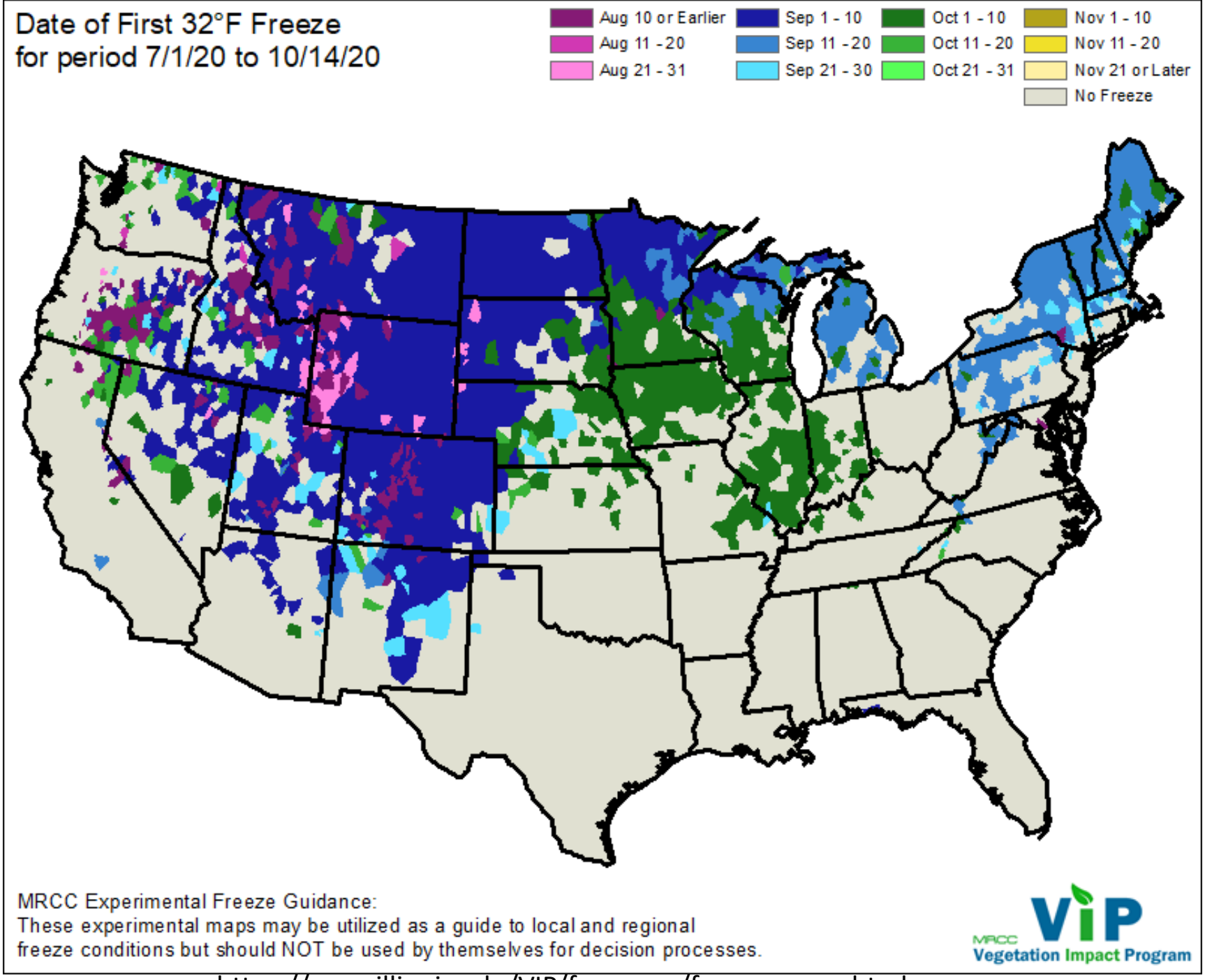
- 5 Class Degradation
- 4 Class Degradation
- 3 Class Degradation
- 2 Class Degradation
- 1 Class Degradation
- No Change
- 1 Class Improvement
- 2 Class Improvement
- 3 Class Improvement
- 4 Class Improvement
- 5 Class Improvement

Impacts

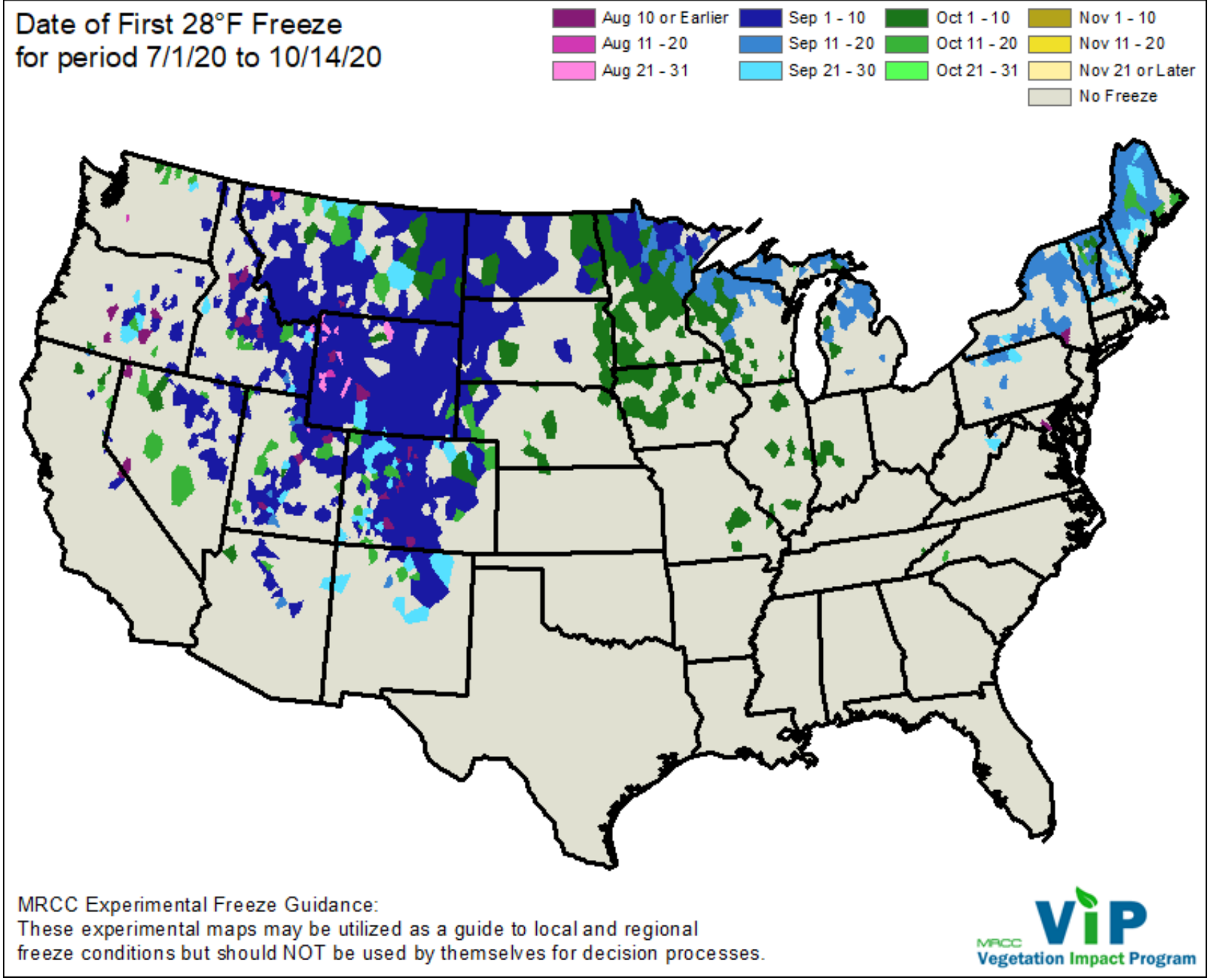
FROST, FIRE, RIVERS AND LAKES



USS Northern Alabama sunk in 1870. Missouri River between Vermilion and Yankton, SD, 10/11/20. Photo by Stephanie Rissler

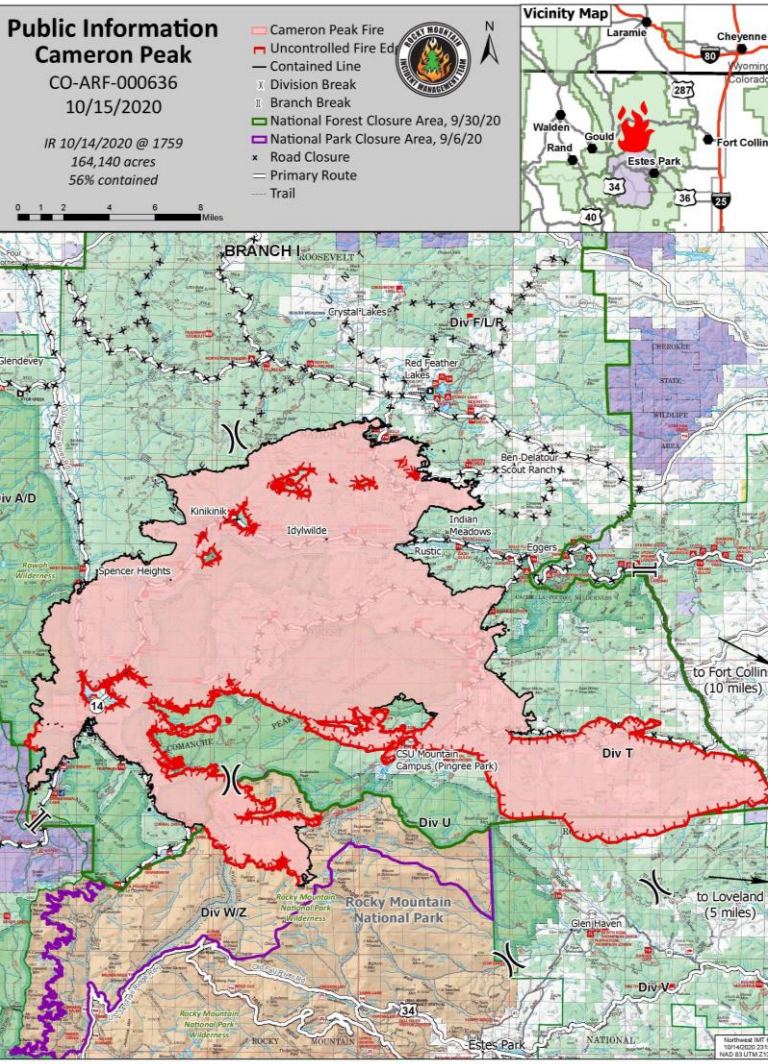


https://mrcc.illinois.edu/VIP/frz_maps/freeze_maps.html



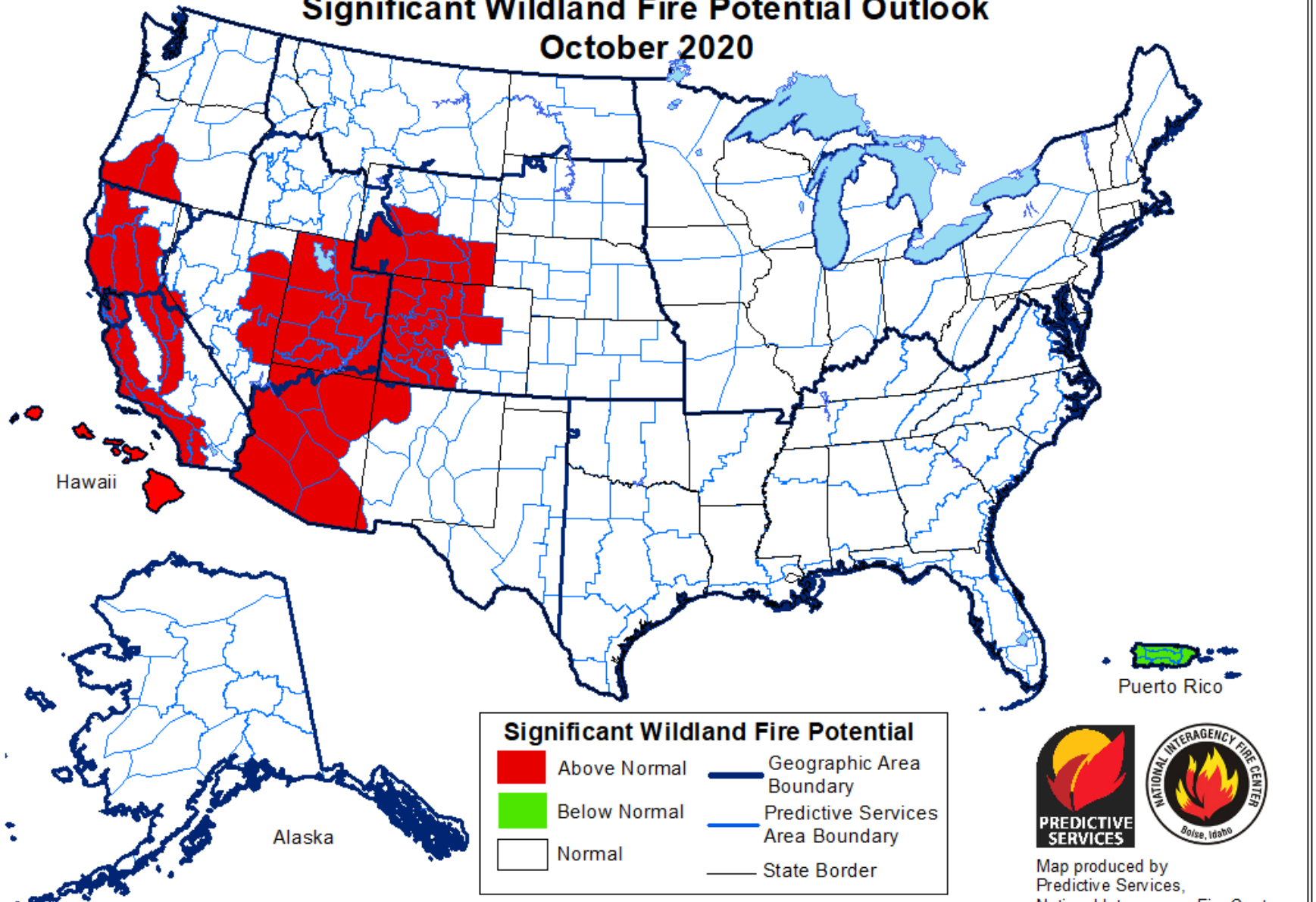
https://mrcc.illinois.edu/VIP/frz_maps/freeze_maps.html

Wildland Fires



- Cameron Peak fire, largest in CO history. 164,140 acres (8 am on 10/15)
- Mullen fire, 176,371 acres, 34% contained in WY & CO. 25 mi from Cameron Peak fire
- Regionally (N. Rockies & Rocky Mtn areas):
  - 5,726 fires
  - 1,172,161 acres
  - MT, ND, SD, NE, WY, western and northern CO

Significant Wildland Fire Potential Outlook
October 2020

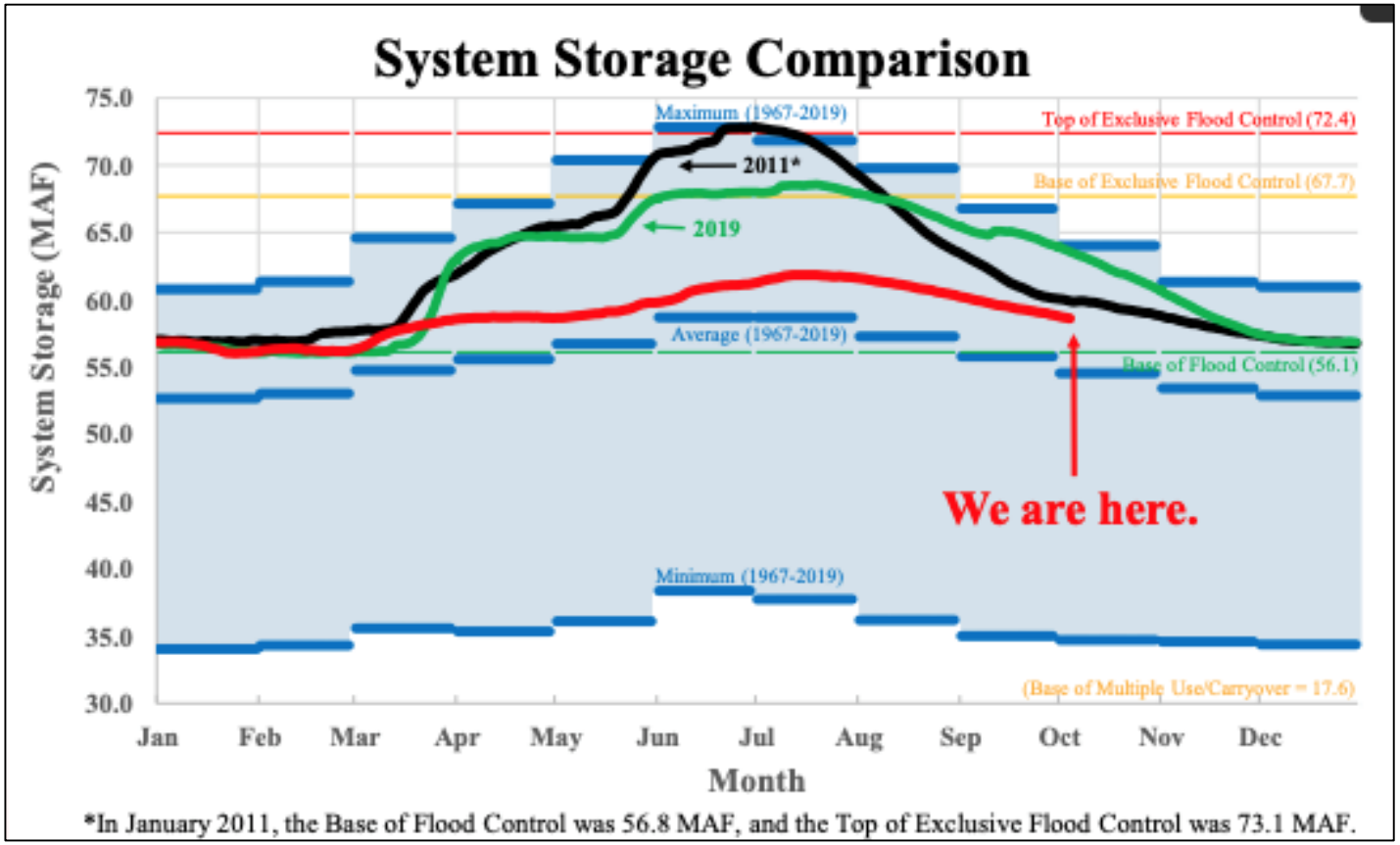


Above normal significant wildland fire potential indicates a greater than usual likelihood that significant wildland fires will occur.
Significant wildland fires should be expected at typical times and intervals during normal significant wildland fire potential conditions.
Significant wildland fires are still possible but less likely than usual during forecasted below normal periods.

Map produced by
Predictive Services,
National Interagency Fire Center
Boise, Idaho
Issued October 1, 2020
Next issuance November 1, 2020

https://www.predictiveservices.nifc.gov/outlooks/outlooks.htm

Missouri River



Missouri Mainstem Reservoir Status (as of 10/6/20):

2020 runoff forecast = 117% of average

http://www.nwd-mr.usace.army.mil/rcc/reports/pdfs/weeklyupdate_previous.pdf

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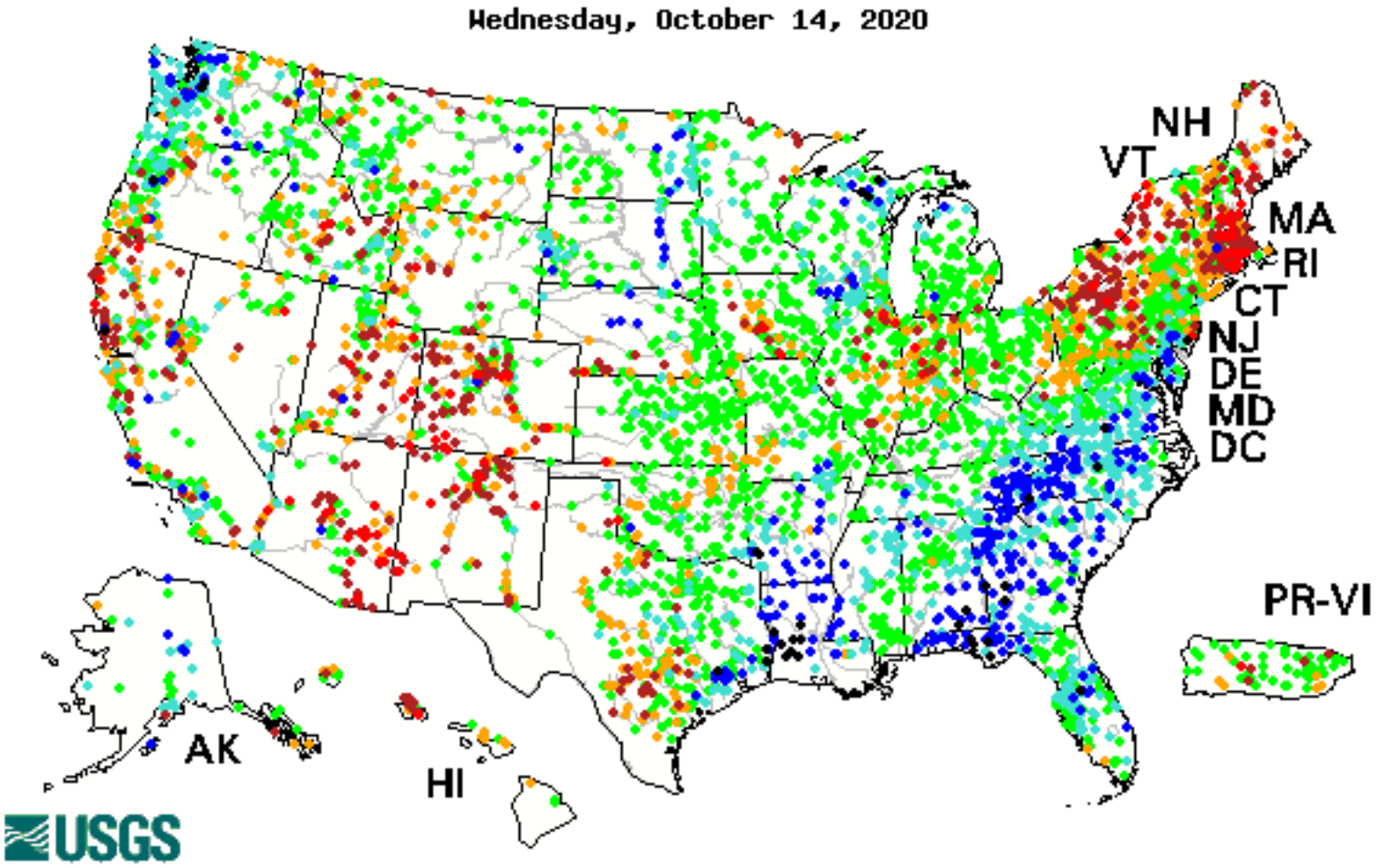
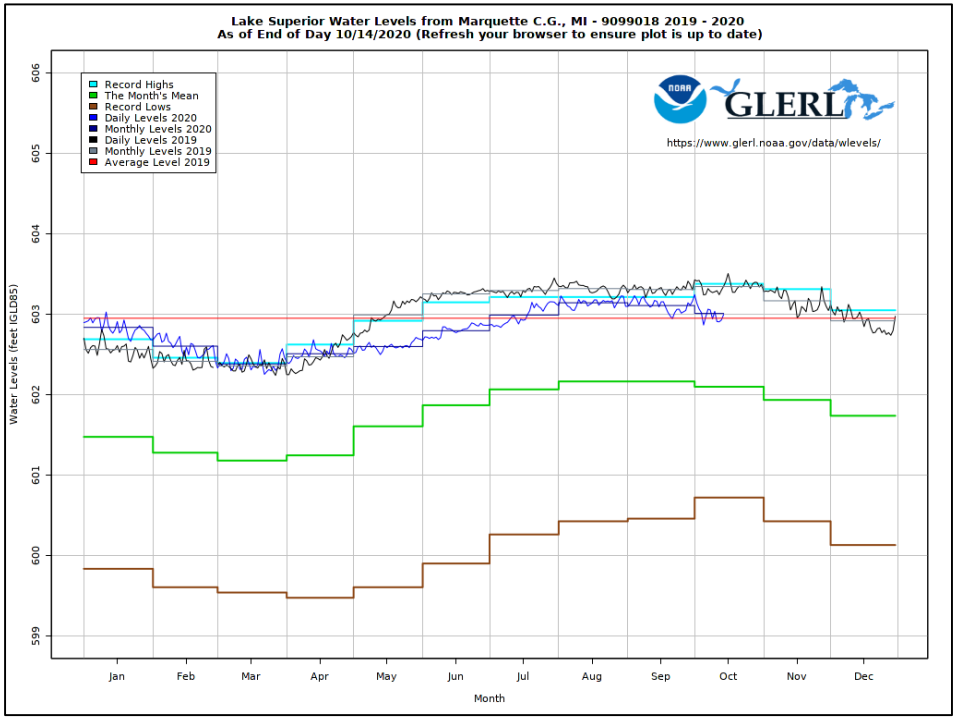
28-day Average Streamflow



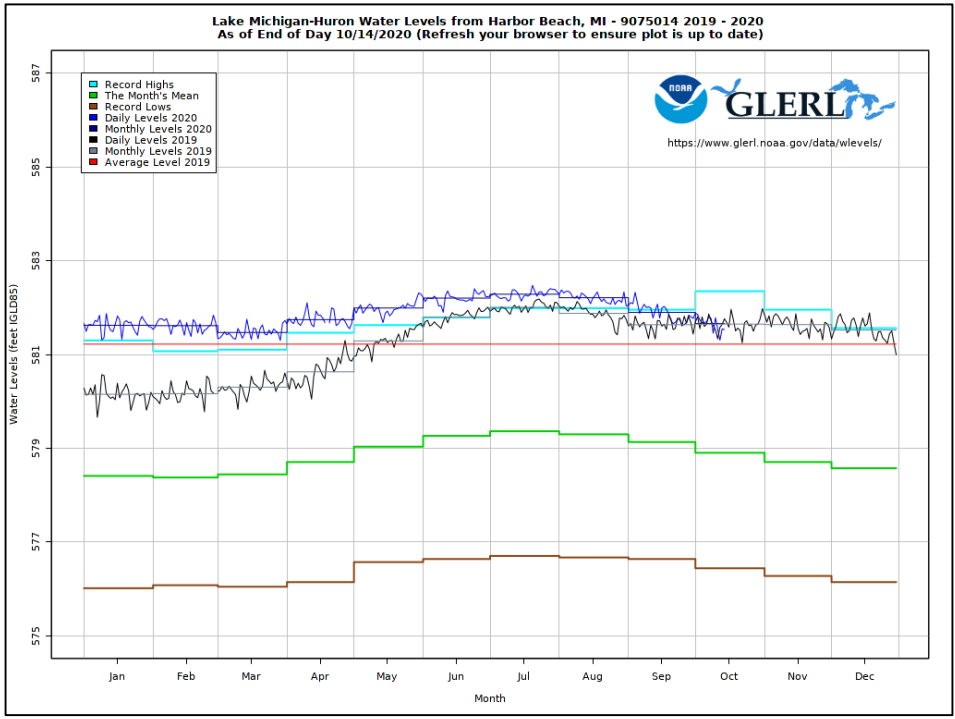
Explanation - Percentile classes						
Low	<10	10-24	25-75	76-90	>90	High
	Much below normal	Below normal	Normal	Above normal	Much above normal	

http://waterwatch.usgs.gov/index.php?id=pa07d

Great Lakes Water Level



Lake Superior



Lake Michigan-Huron

https://www.glerl.noaa.gov/data/wlevels/levels.html#observations

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Looking Ahead

CLIMATE OUTLOOKS

Photo by Laura Edwards

Climate Outlooks

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

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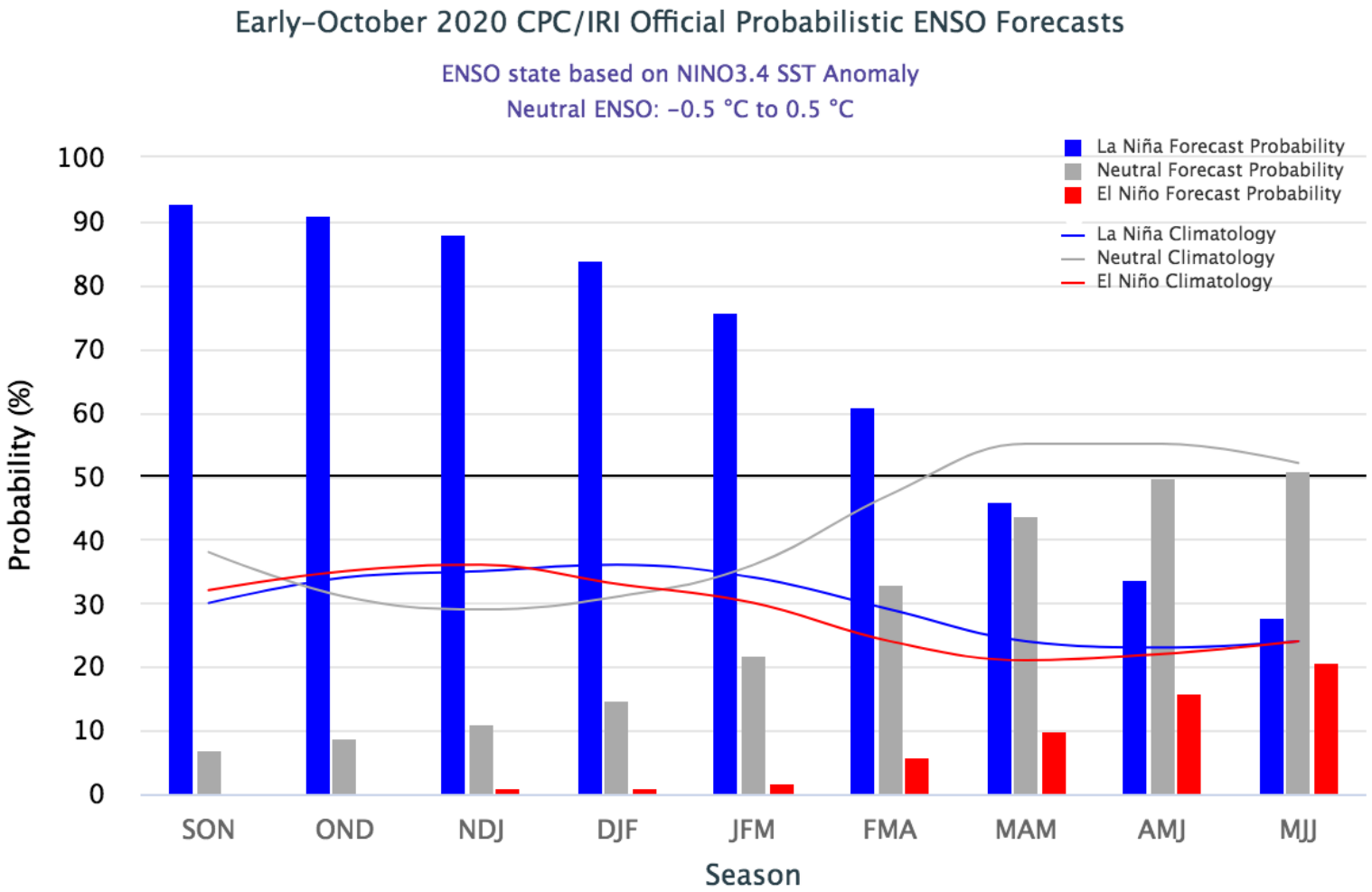
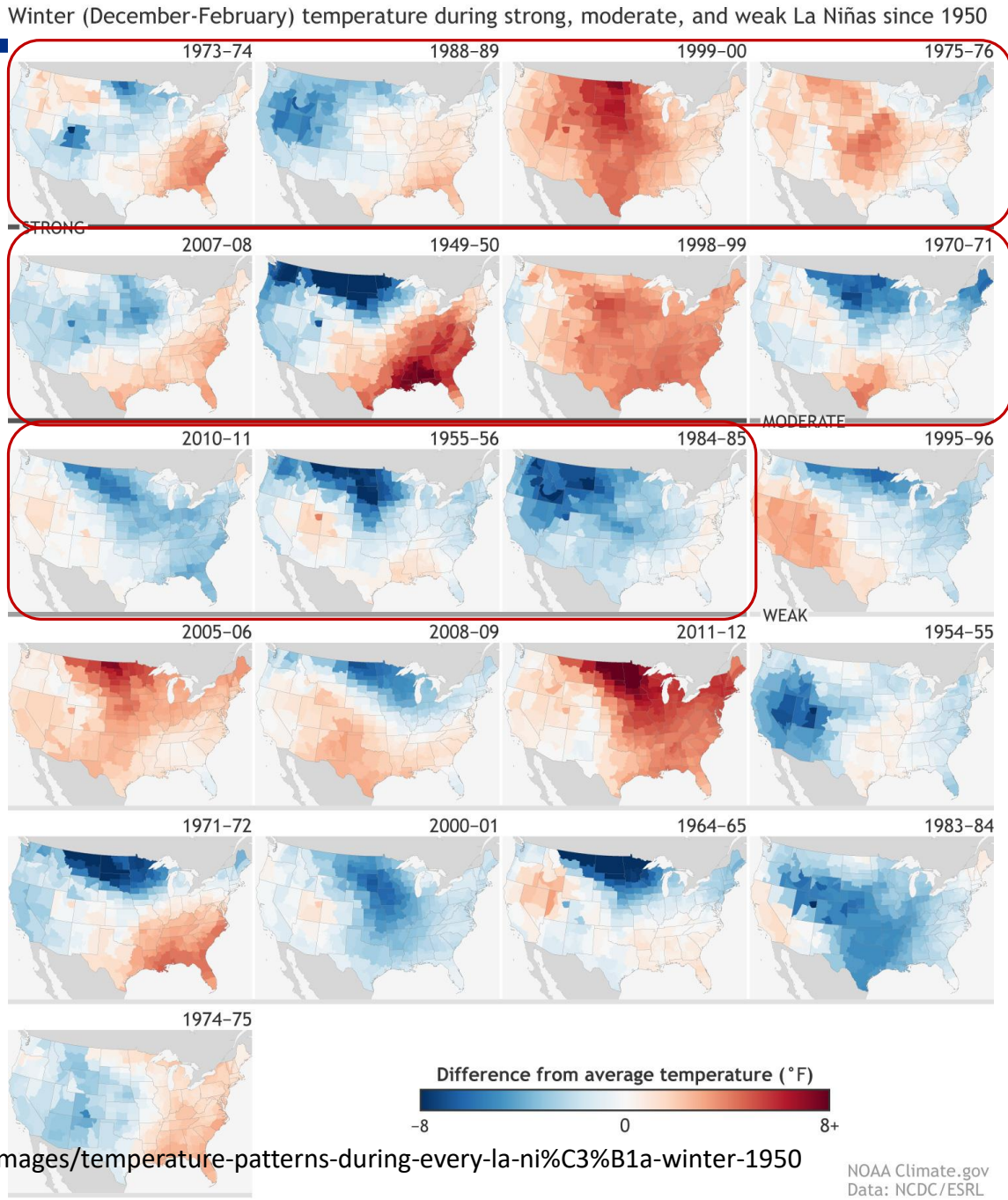
La Niña Advisory



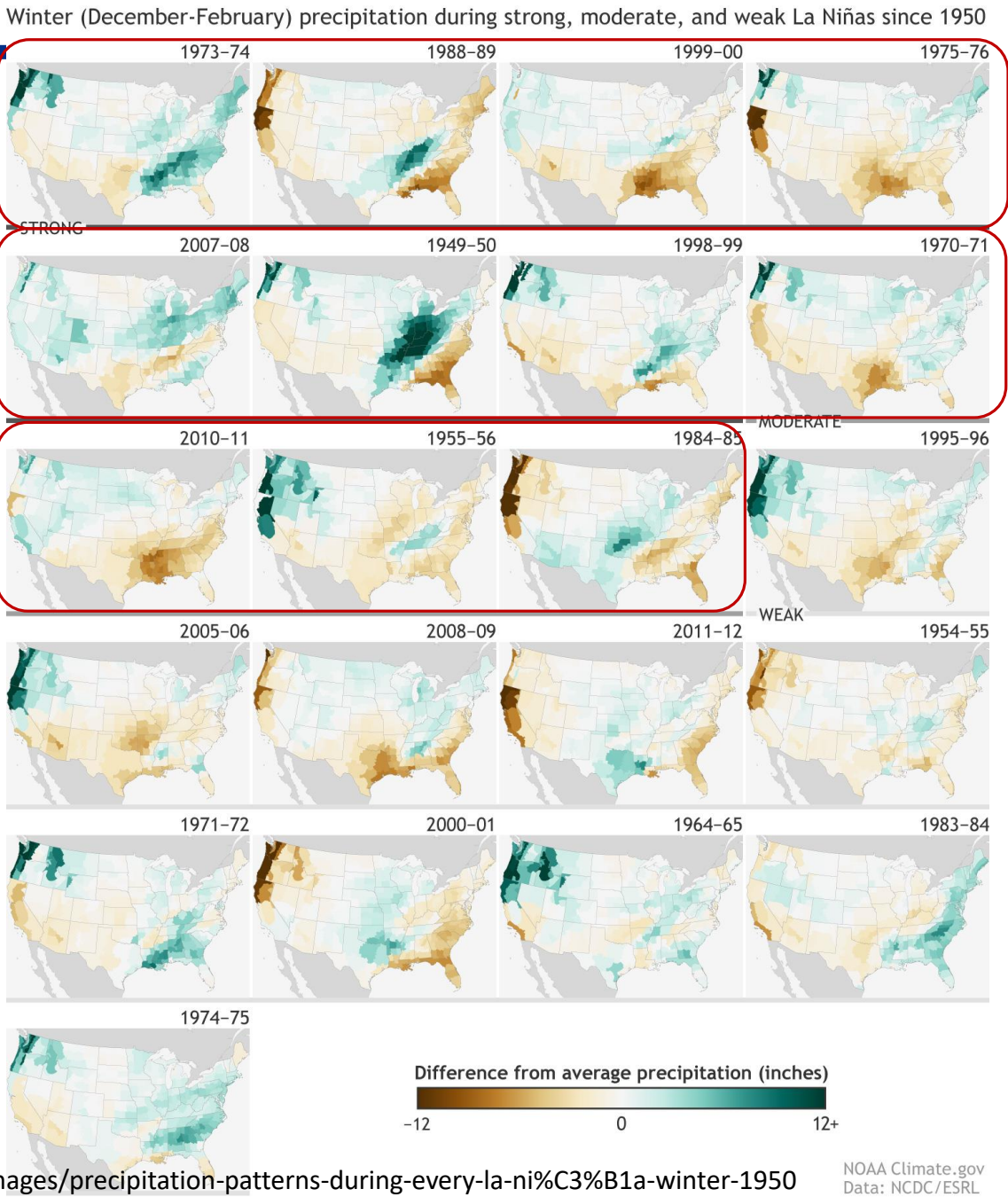
https://iri.columbia.edu/our-expertise/climate/forecasts/enso/current/?enso_tab=enso-cpc_plume

La Niña Temperatures



https://www.climate.gov/news-features/featured-images/temperature-patterns-during-every-la-ni%C3%B1a-winter-1950

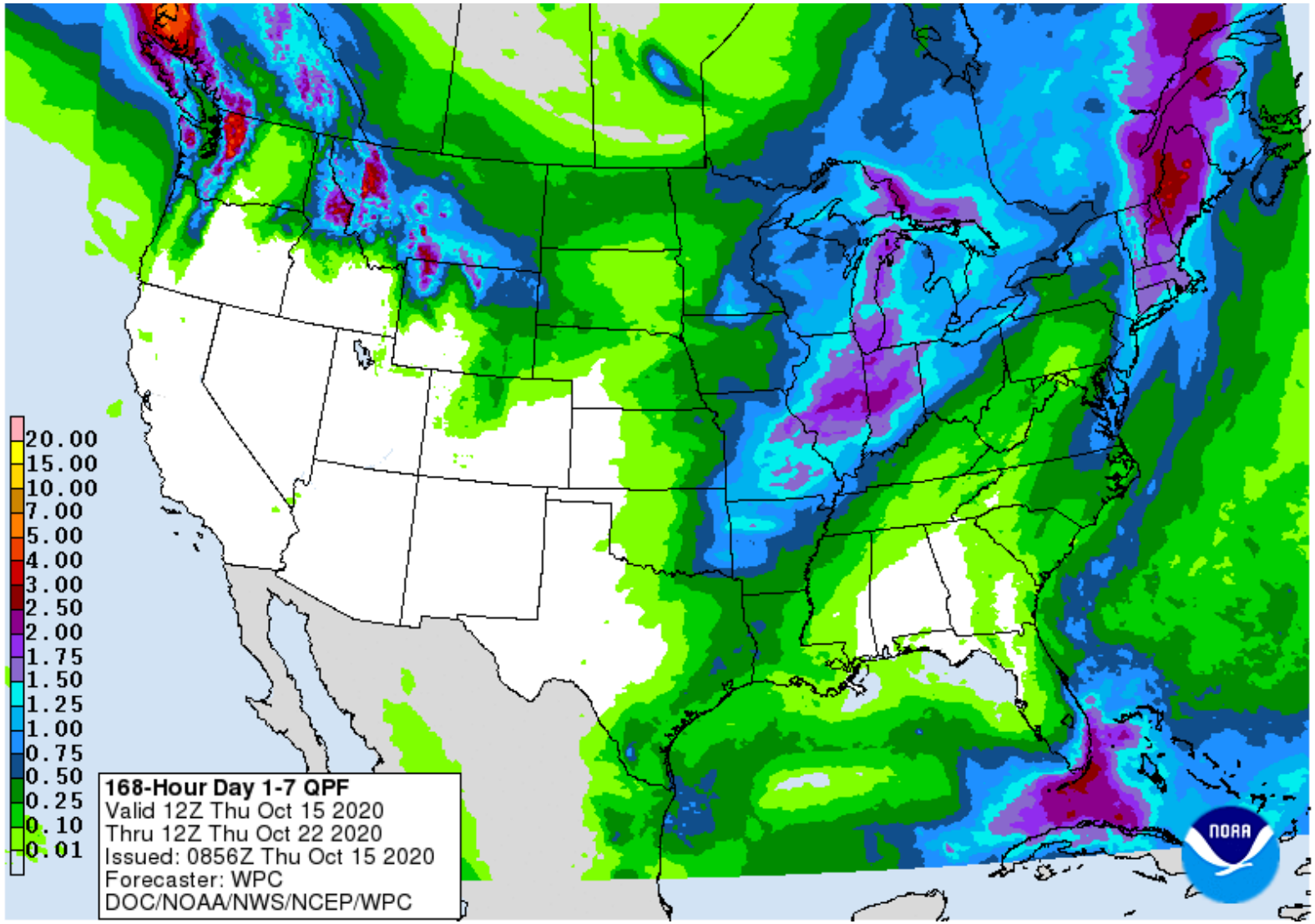
La Niña Precipitation



https://www.climate.gov/news-features/featured-images/precipitation-patterns-during-every-la-ni%C3%B1a-winter-1950

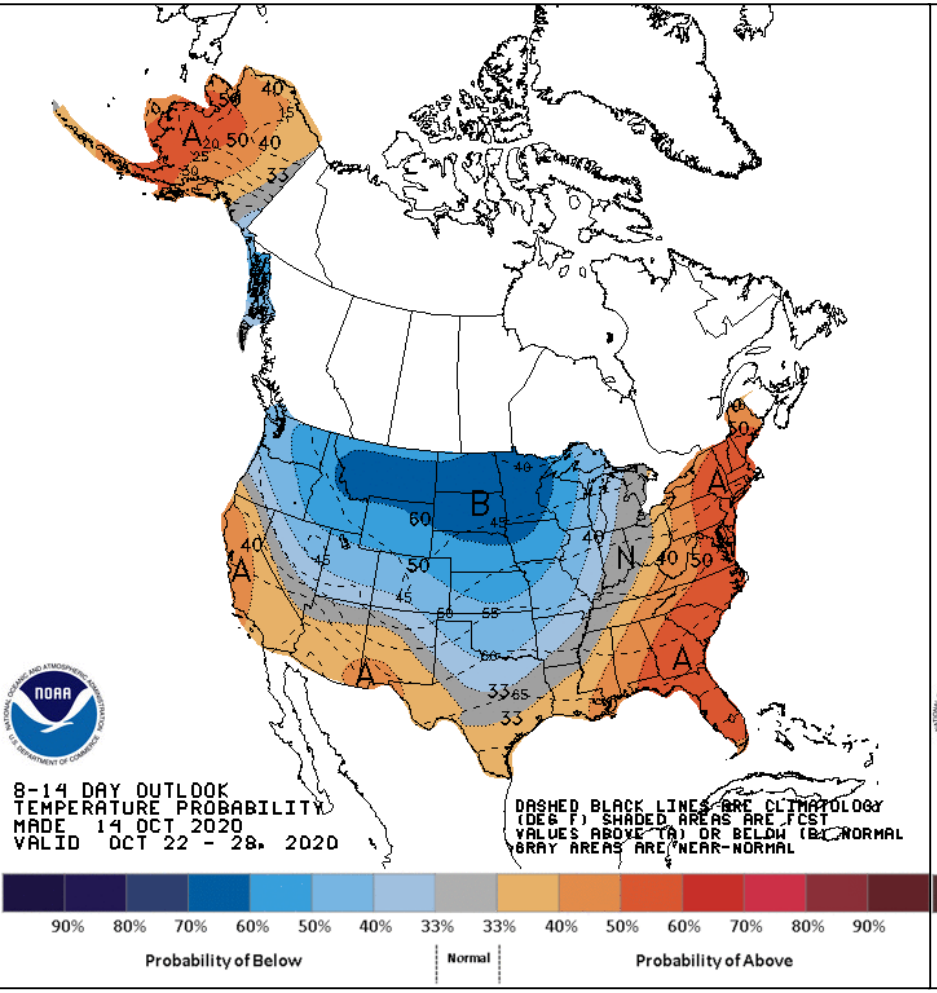
7-day Quantitative Precipitation Forecast

Valid: 15 Oct – 22 Oct

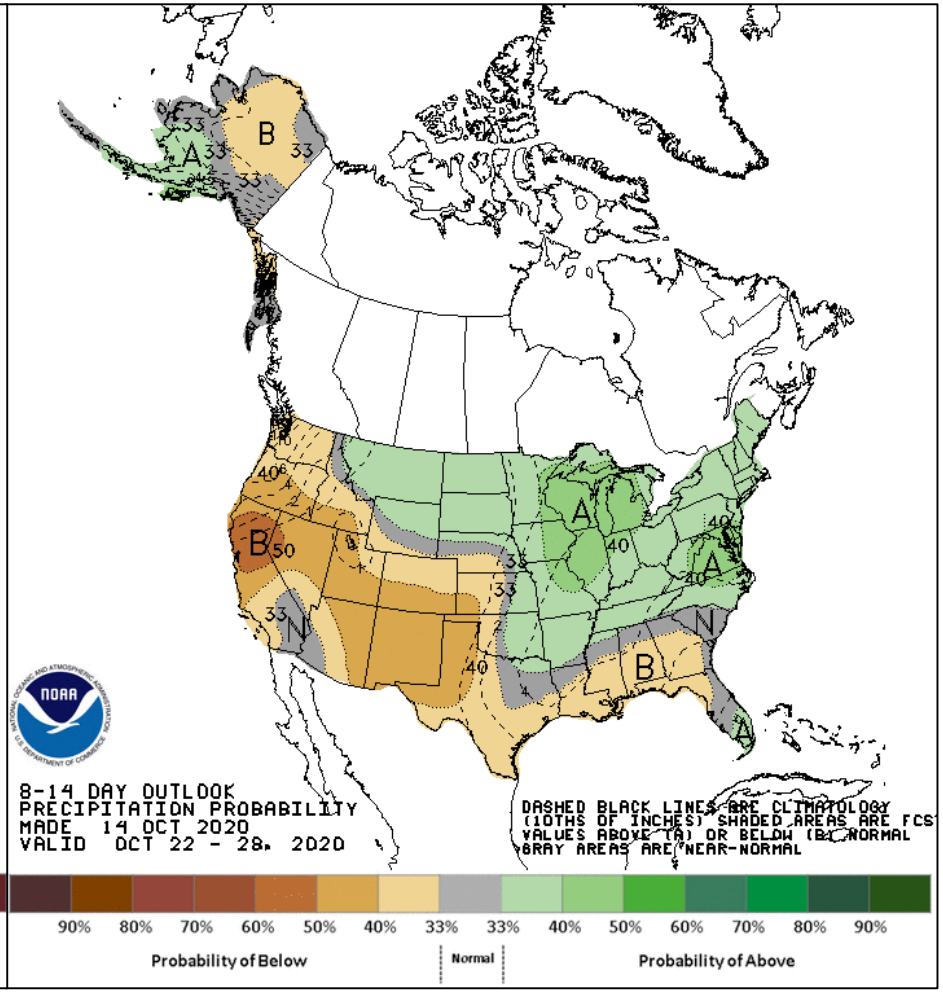


http://www.wpc.ncep.noaa.gov/qpf/day1-7.shtml

8-14 Day Outlook



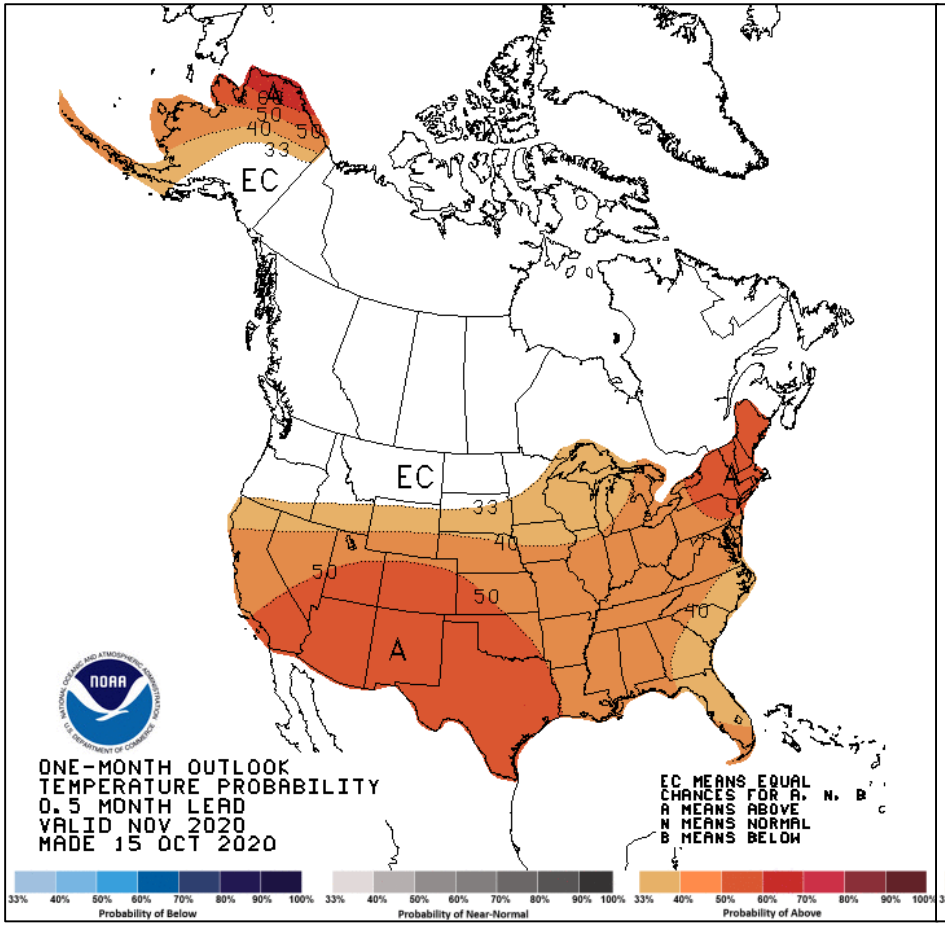
Temperature



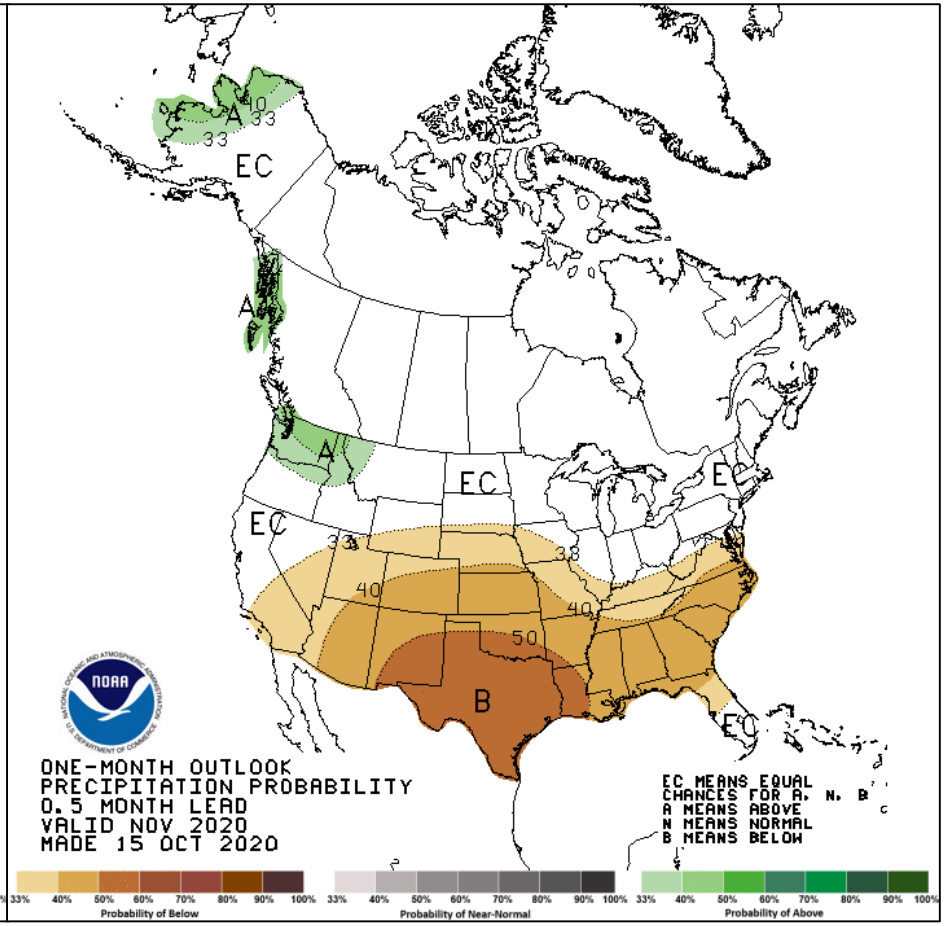
Precipitation

http://www.cpc.ncep.noaa.gov/products/predictions/814day/index.php

November Temperature and Precipitation Outlooks



Temperature



Precipitation

http://www.cpc.ncep.noaa.gov/products/predictions/30day/

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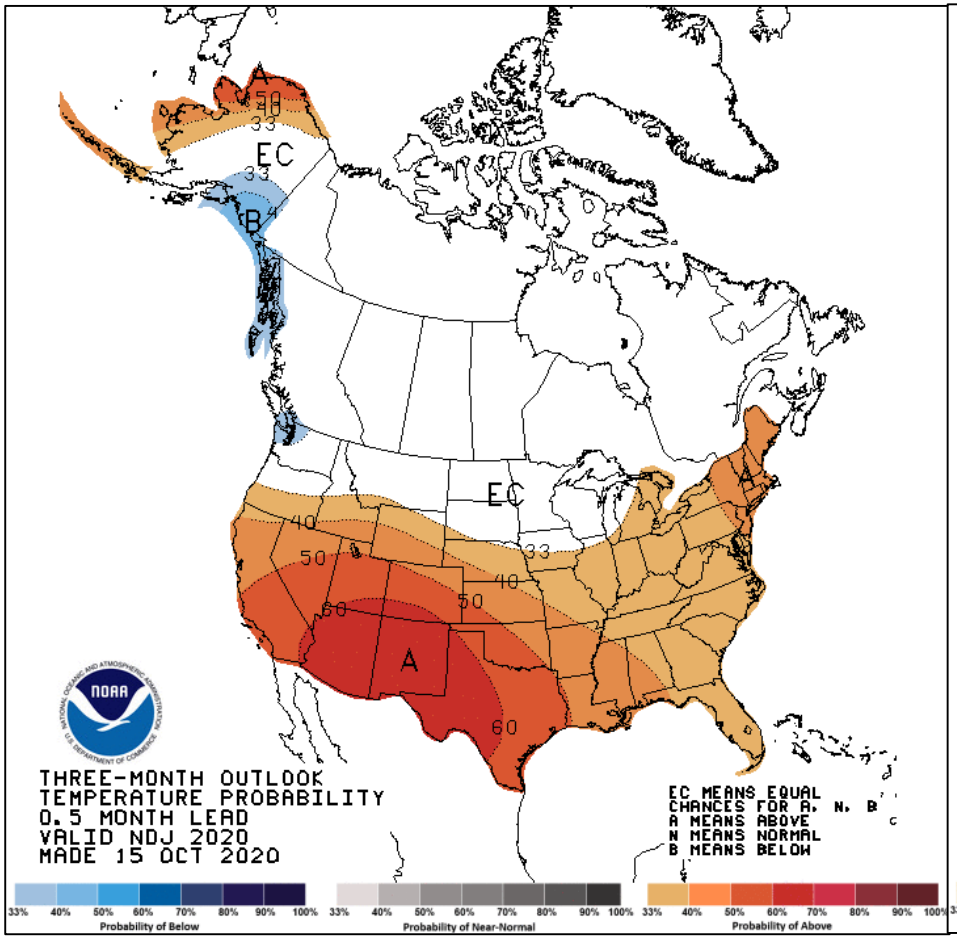
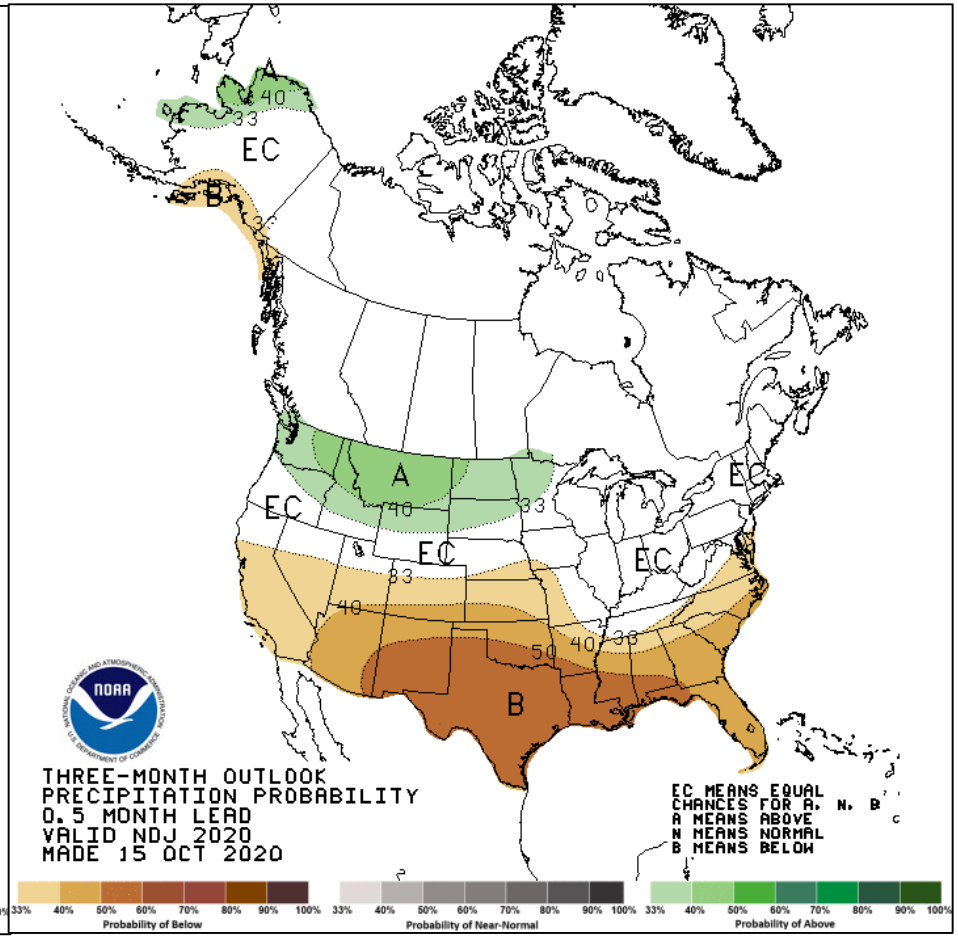
3 Month Temperature and Precipitation Outlooks, Nov-Jan



Temperature



Precipitation

http://www.cpc.ncep.noaa.gov/products/predictions/long_range/seasonal.php?lead=2

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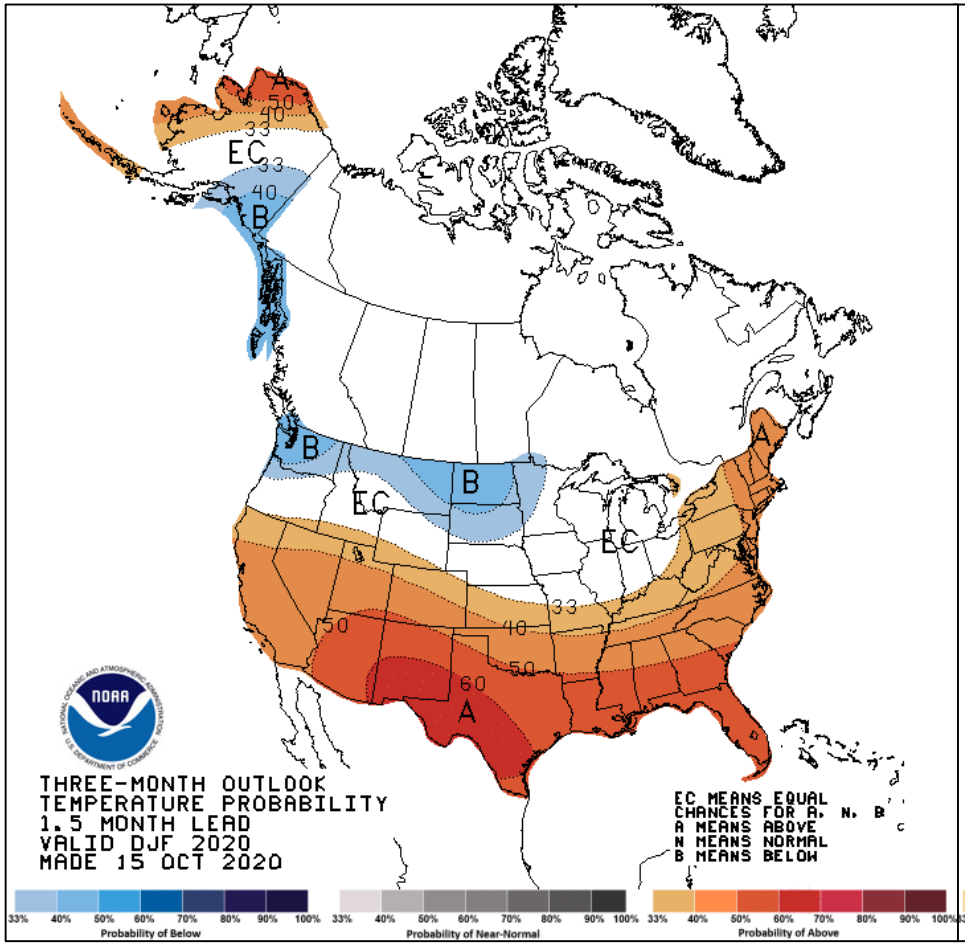
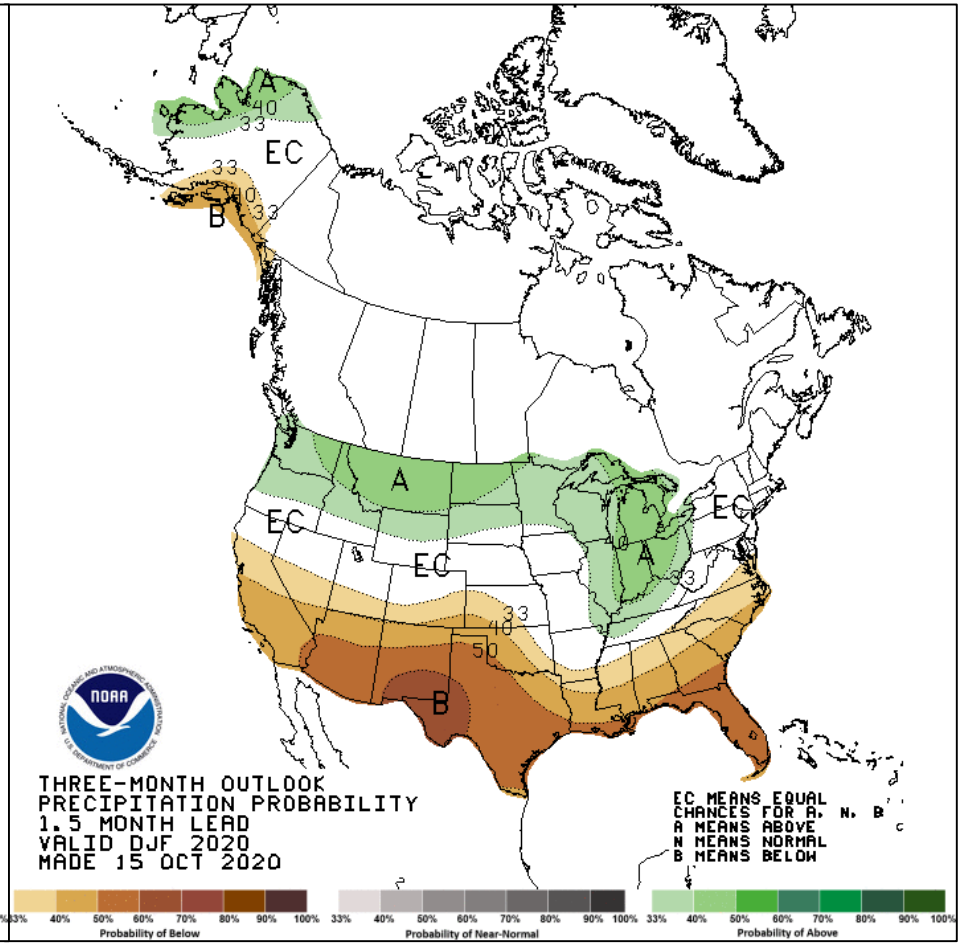
3 Month Temperature and Precipitation Outlooks, Dec-Feb



Temperature



Precipitation

http://www.cpc.ncep.noaa.gov/products/predictions/long_range/seasonal.php?lead=2

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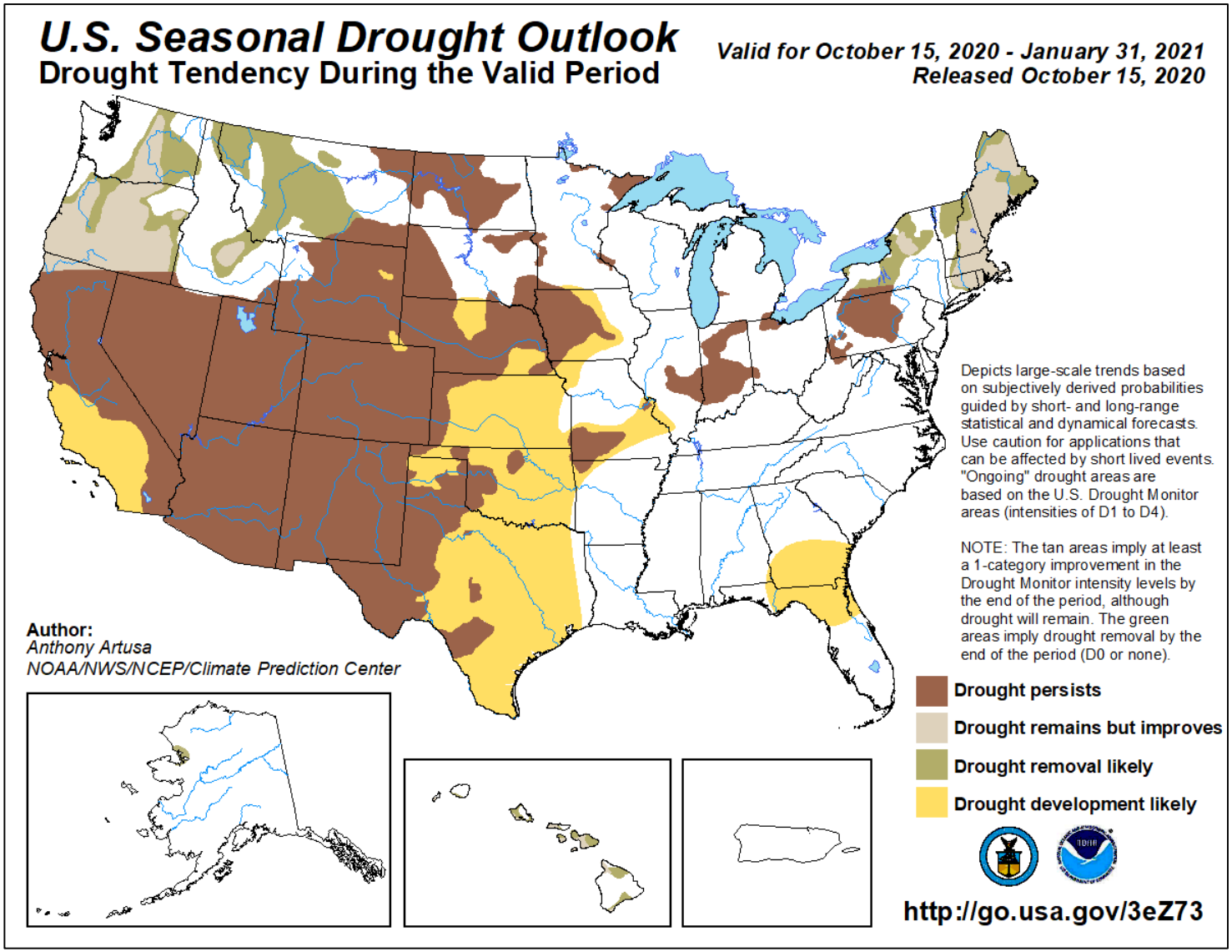
Seasonal Drought Outlook



http://www.cpc.ncep.noaa.gov/products/expert_assessment/season_drought.png

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Further Information - Partners

- **Today's and Past Recorded Presentations:**
- http://mrcc.isws.illinois.edu/webinars.htm
  http://www.hprcc.unl.edu
  Next webinar: November 19, 2020 with Justin Glisan, Iowa State Climatologist

- NOAA's Climate Prediction Center: www.cpc.ncep.noaa.gov
- 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
  - http://mrcc.isws.illinois.edu
  - http://www.hprcc.unl.edu

Thank You and Questions?

- Questions:
  - **Climate:**
  - Laura Edwards: laura.edwards@sdstate.edu, 605-626-2870
  - Dennis Todey: dennis.todey@ars.usda.gov , 515-294-2013
  - Doug Kluck: doug.kluck@noaa.gov, 816-994-3008
  - Mike Timlin: mtimlin@illinois.edu; 217-333-8506
  - Natalie Umphlett: numphlett2@unl.edu_ ; 402 472-6764
  - Brian Fuchs: bfuchs2@unl.edu 402 472-6775

  - **Weather:**
  - crhroc@noaa.gov

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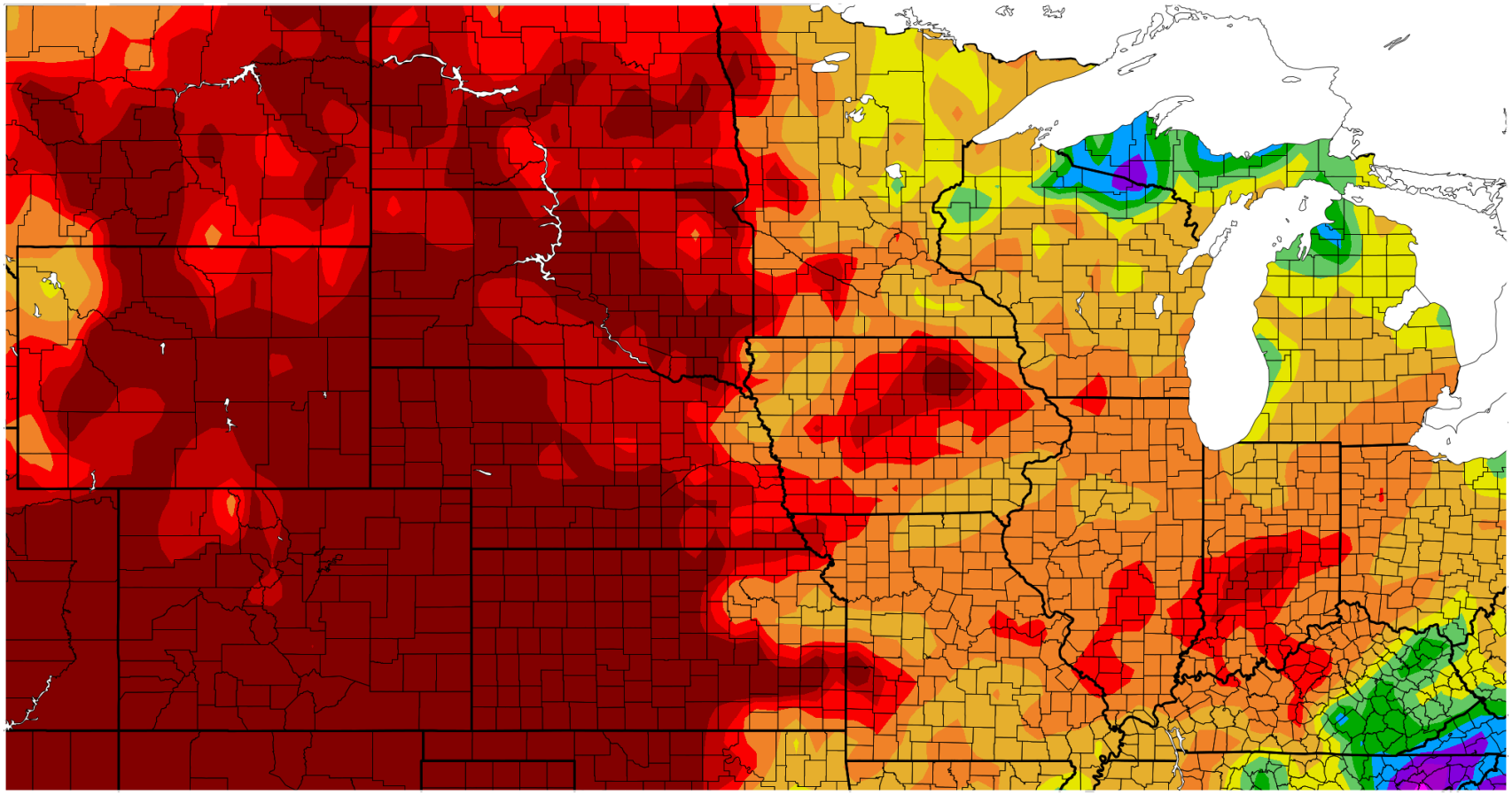
Precipitation (in)
9/14/2020 – 10/13/2020



0.1 0.25 0.5 1 1.75 2.5 3.25 4 4.75 5.5 6.25

Generated 10/14/2020 at HPRCC using provisional data.

NOAA Regional Climate Centers

General Information

- **Providing climate services to the Central Region**
  - Collaboration Activity Between:
    - State Climatologists/American Association of State Climatologists
    - National Oceanic and Atmospheric Administration
    - USDA Climate Hubs
    - Midwest and High Plains Regional Climate Centers
    - National Drought Mitigation Center

- **Next Regular Climate/Drought Outlook Webinar**
  - November 19, 2020 (1 PM CDT)

- **Access to Future Climate Webinars and Information**
- HPRCC: https://hprcc.unl.edu/webinars.php

- MRCC: http://mrcc.illinois.edu/multimedia/webinars.jsp

- **Open for questions at the end**

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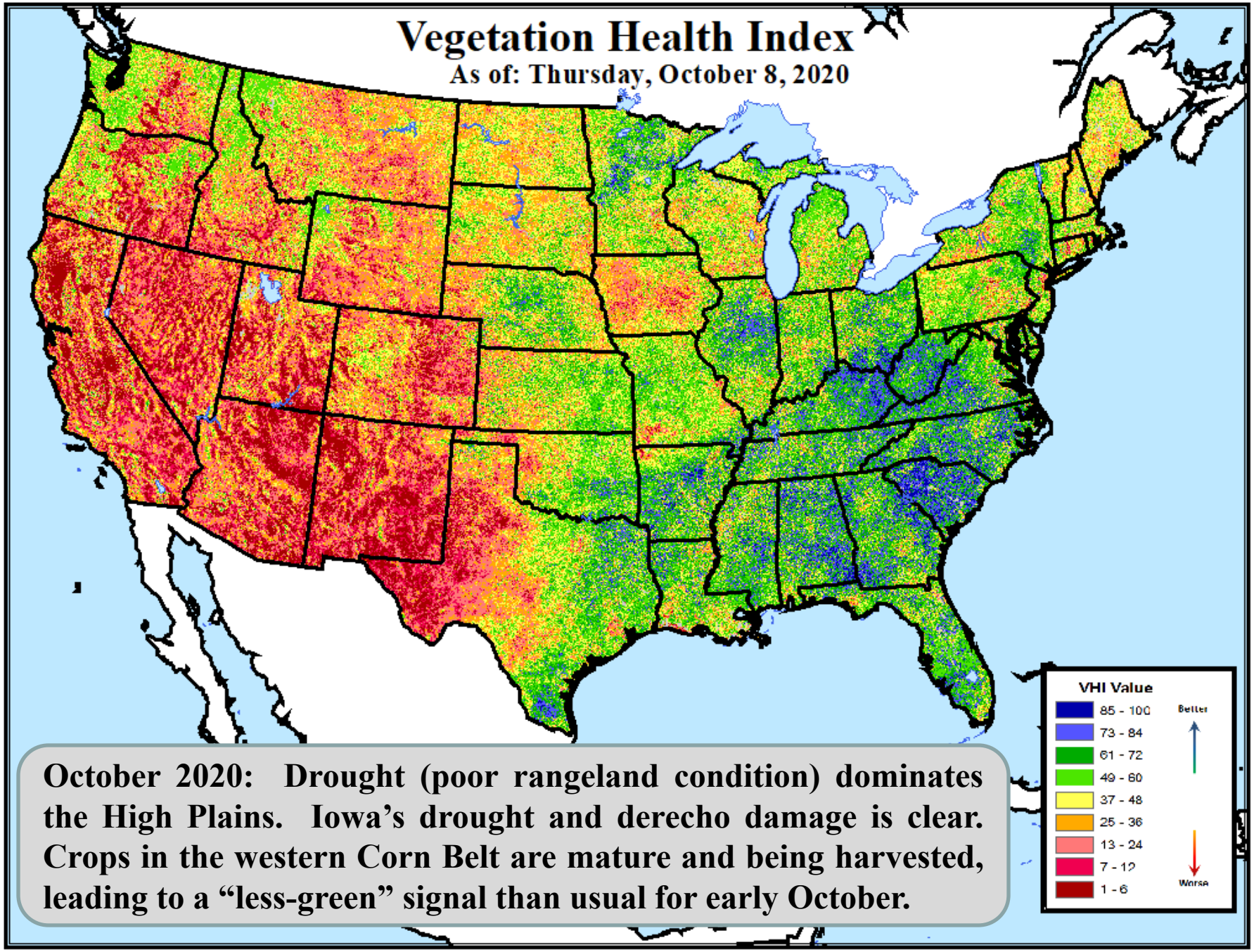
Midwest/Great Plains Agricultural Update, Oct. 15, 2020

Ear of Corn in Stafford County, VA, Oct. 9, 2020. Photo by B. Rippey, USDA.

2020: A "good" year for U.S. agriculture; far from perfect

- Record U.S. yield for corn (178.4 bushels/acre) and soybeans (51.9 bushels/acre)
- Very little heat stress (<95°F)
- Quick planting w. Corn Belt
- Some adversity in e. Corn Belt (e.g. spring flooding/replanting, mid-May frost, dryness during grain/pod filling stage)
- Drought struck Iowa, etc.
- Damage from Aug. 10 derecho
- Frost in Dakotas, Sep. 8-9
- Worsening drought, High Plains
- Late-summer, autumn drought reduces hay production and limits moisture for wheat.



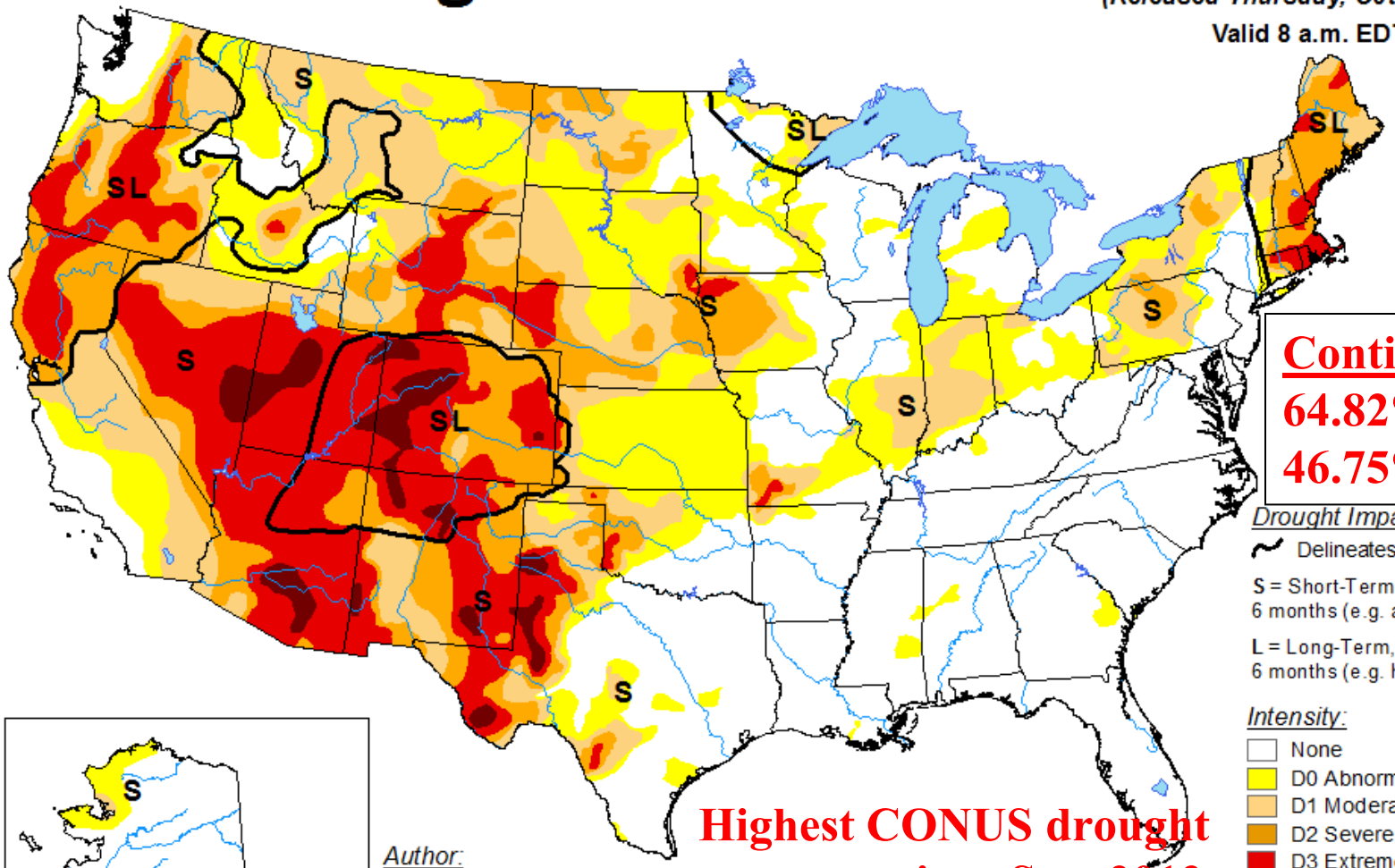
October 2020: Drought (poor rangeland condition) dominates the High Plains. Iowa's drought and derecho damage is clear. Crops in the western Corn Belt are mature and being harvested, leading to a "less-green" signal than usual for early October.

U.S. Drought Monitor

October 13, 2020

(Released Thursday, Oct. 15, 2020)

Valid 8 a.m. EDT



Contiguous U.S.

64.82% D0 – D4

46.75% D1 – D4

Drought Impact Types:

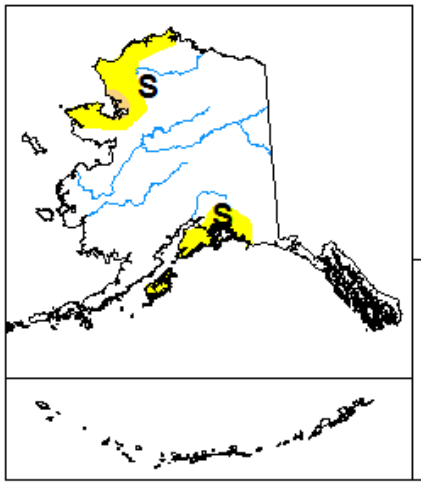
Delineates dominant impacts

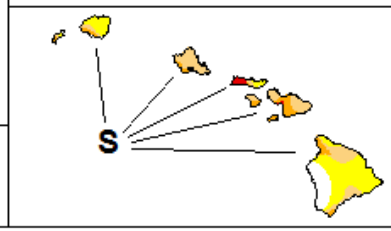
S = Short-Term, typically less than 6 months (e.g. agriculture, grasslands)

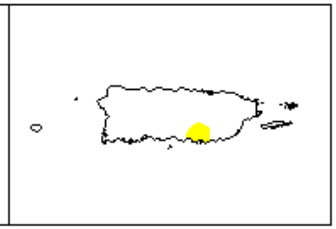
L = Long-Term, typically greater than 6 months (e.g. hydrology, ecology)

Intensity:

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







Highest CONUS drought coverage since Sep. 2013

Author:
Curtis Riganti
National Drought Mitigation Center

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

USDA NDMC

droughtmonitor.unl.edu

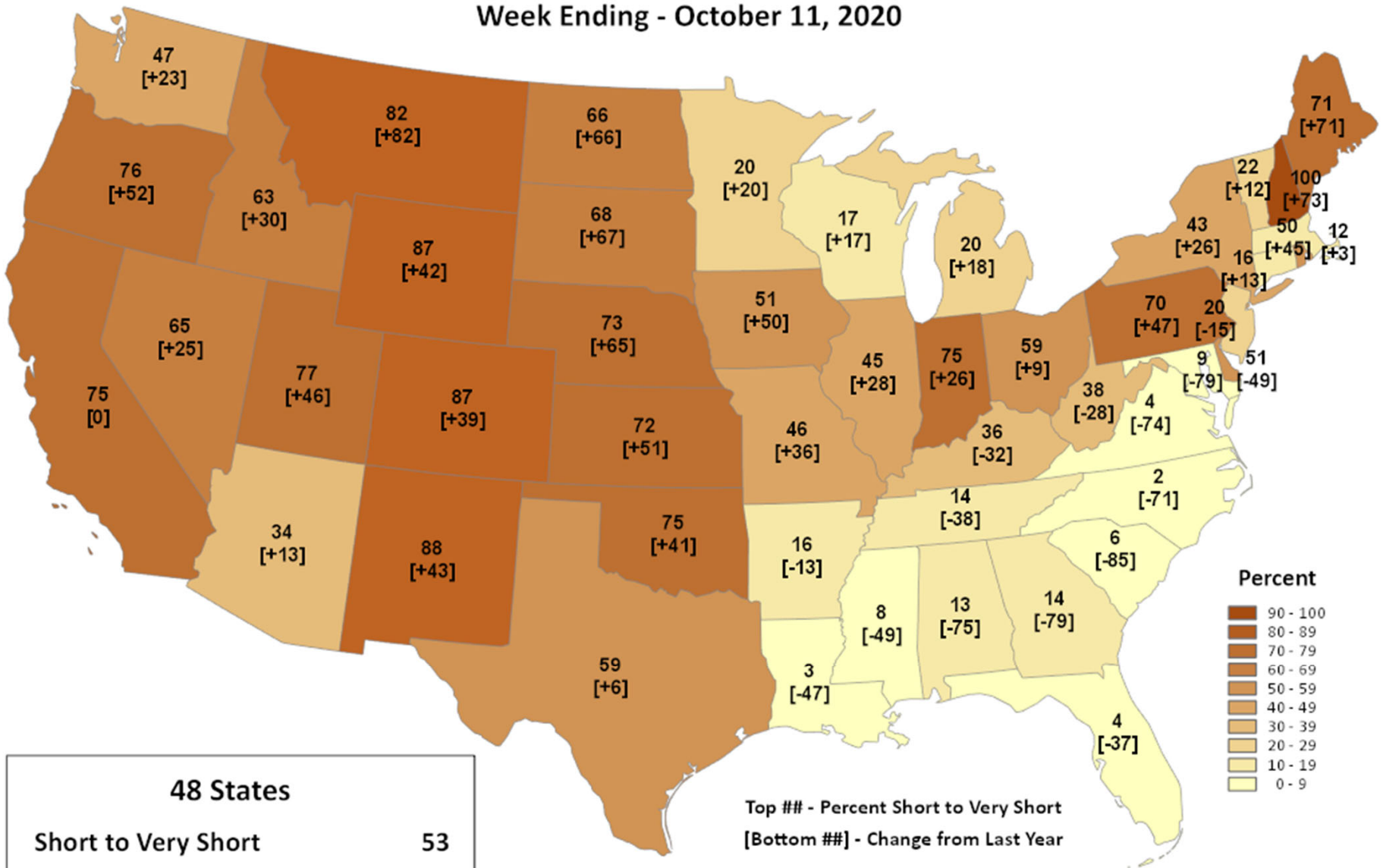
United States Department of Agriculture

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

Topsoil Moisture

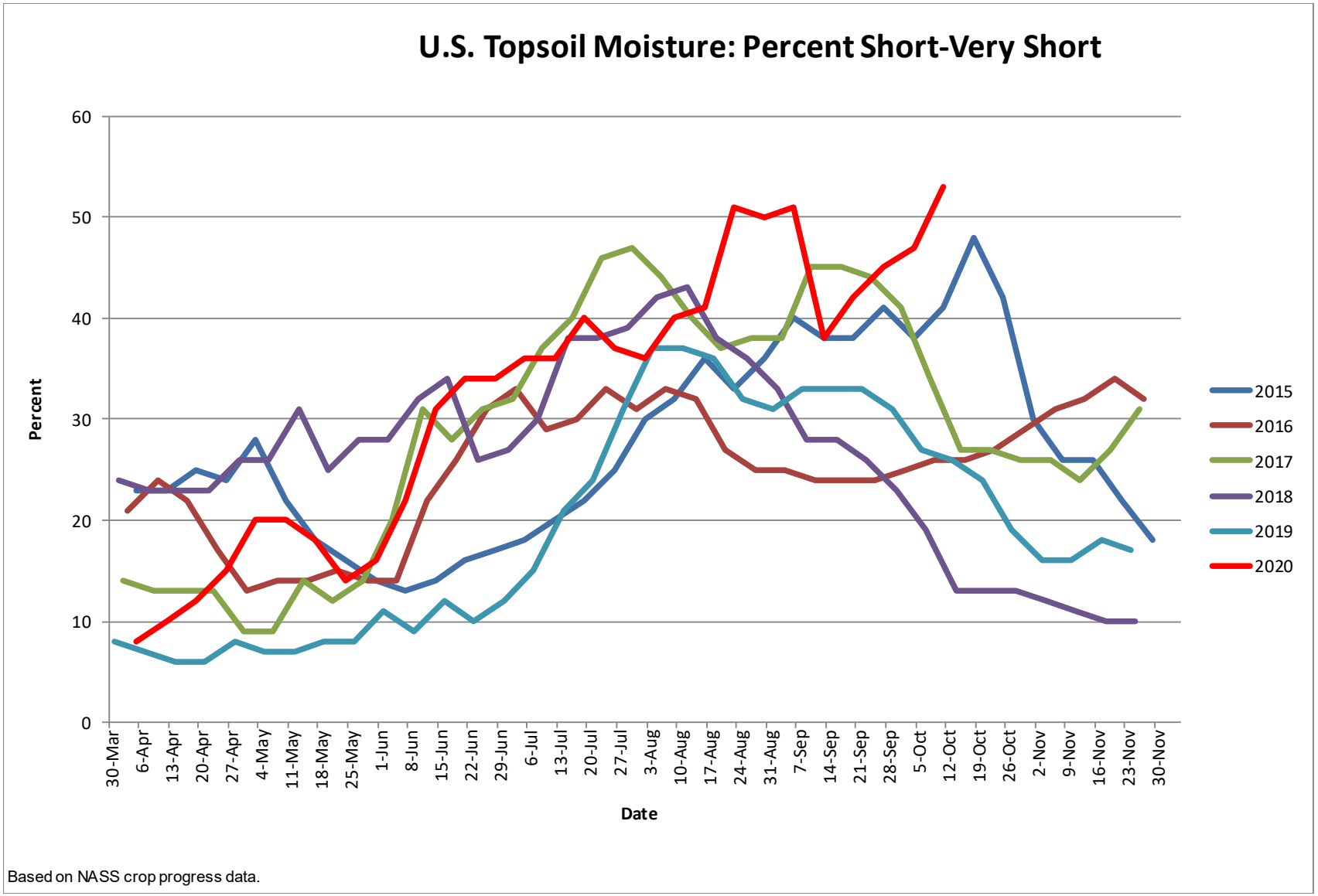
Percent Short to Very Short

Week Ending - October 11, 2020



48 States	
Short to Very Short	53
Change from Last Year	+27

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



Based on NASS crop progress data.

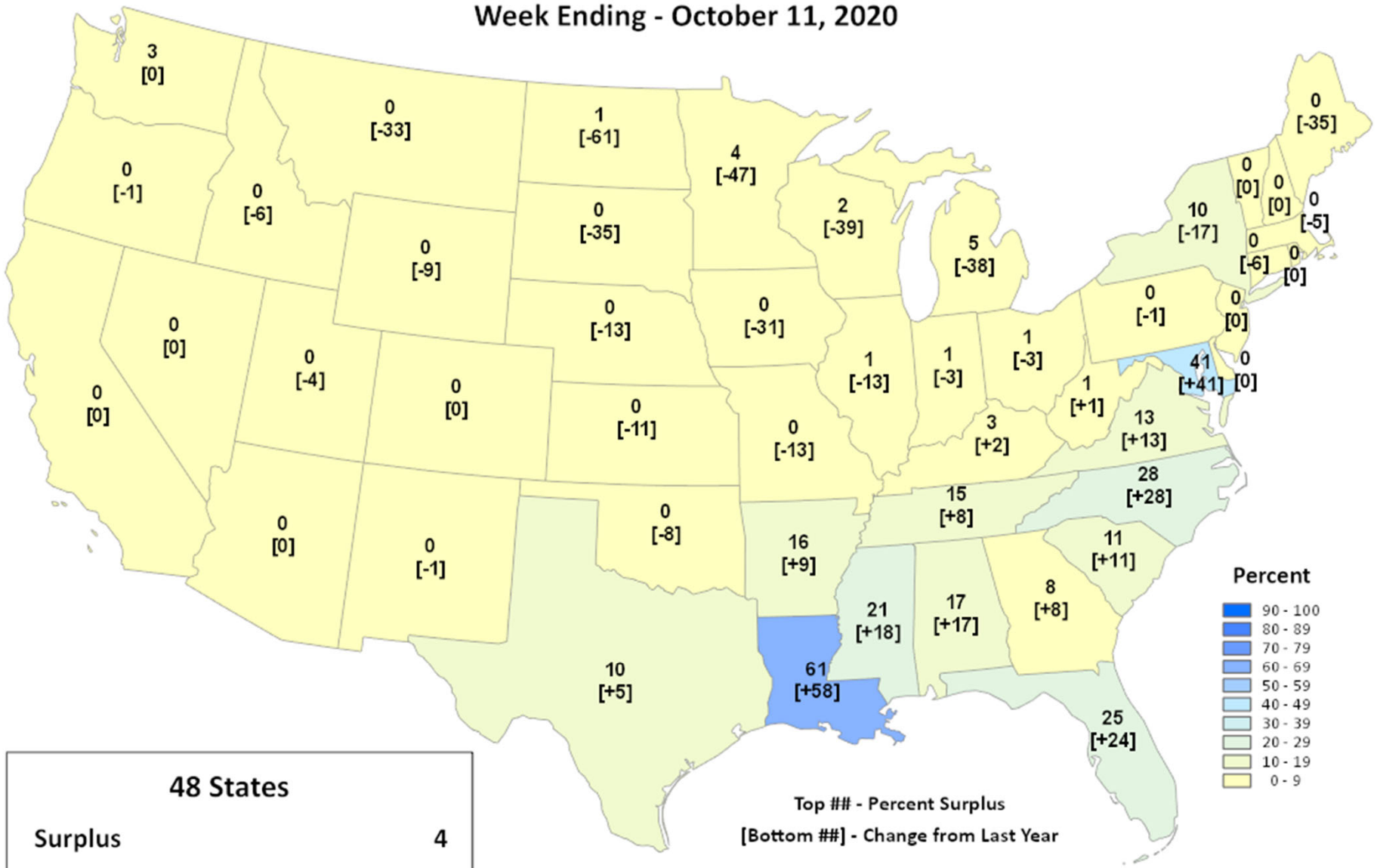
United States Department of Agriculture

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

Topsoil Moisture

Percent Surplus

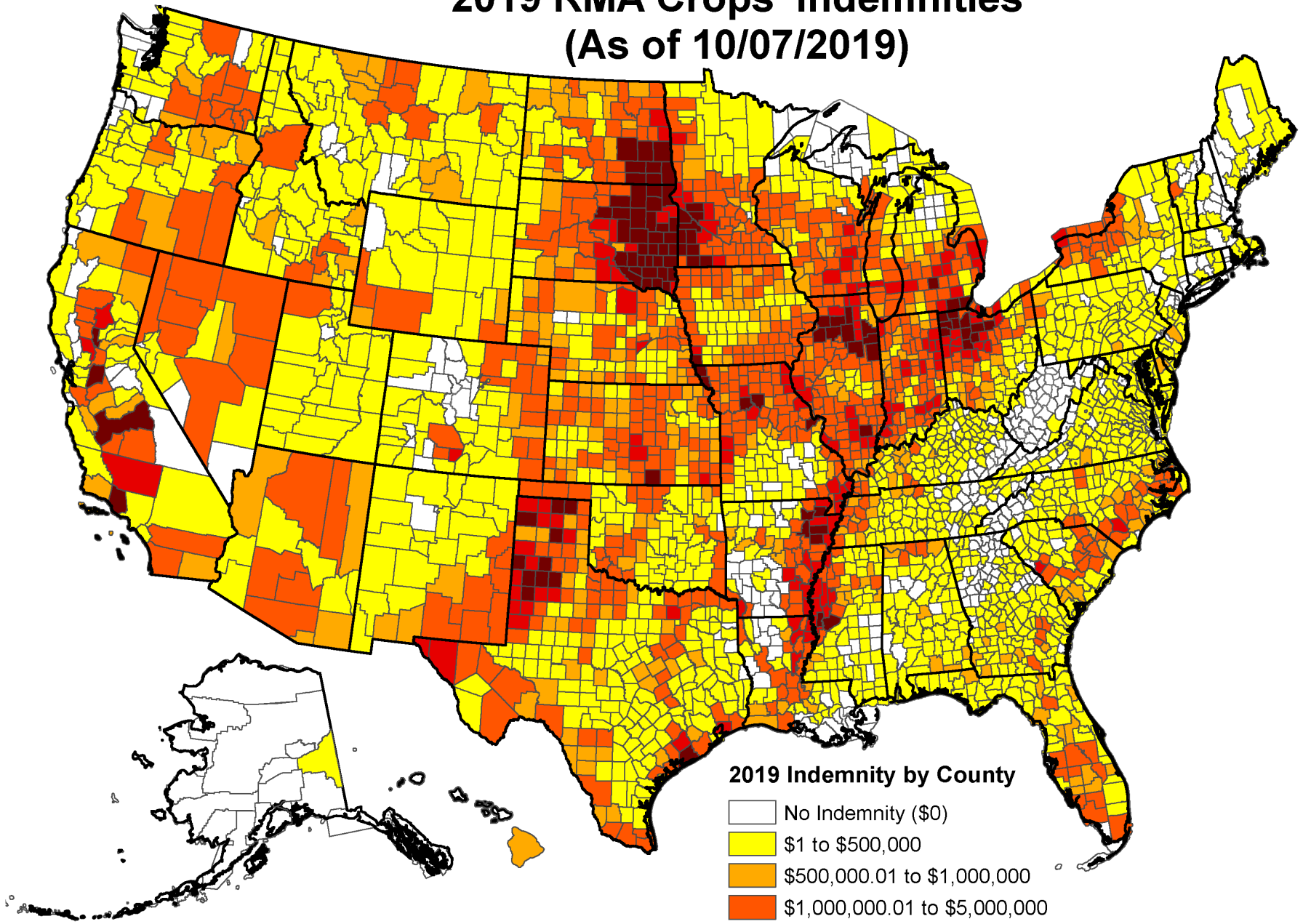
Week Ending - October 11, 2020



48 States	
Surplus	4
Change from Last Year	-15

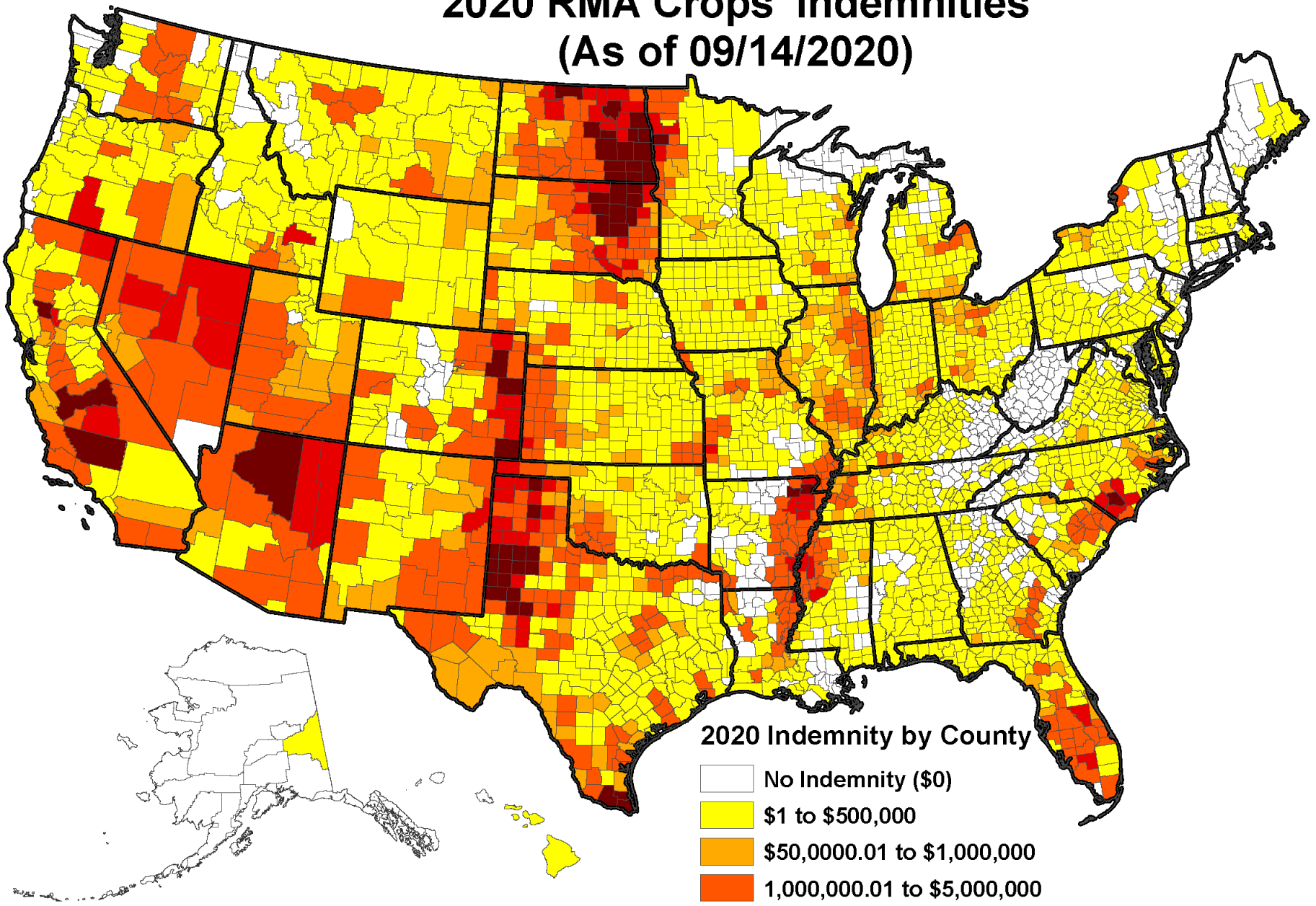
Data obtained from USDA National Agricultural Statistics Service weekly Crop Progress reports.

2019 RMA Crops' Indemnities
(As of 10/07/2019)



RMA USDA Risk Management Agency

2020 RMA Crops' Indemnities
(As of 09/14/2020)

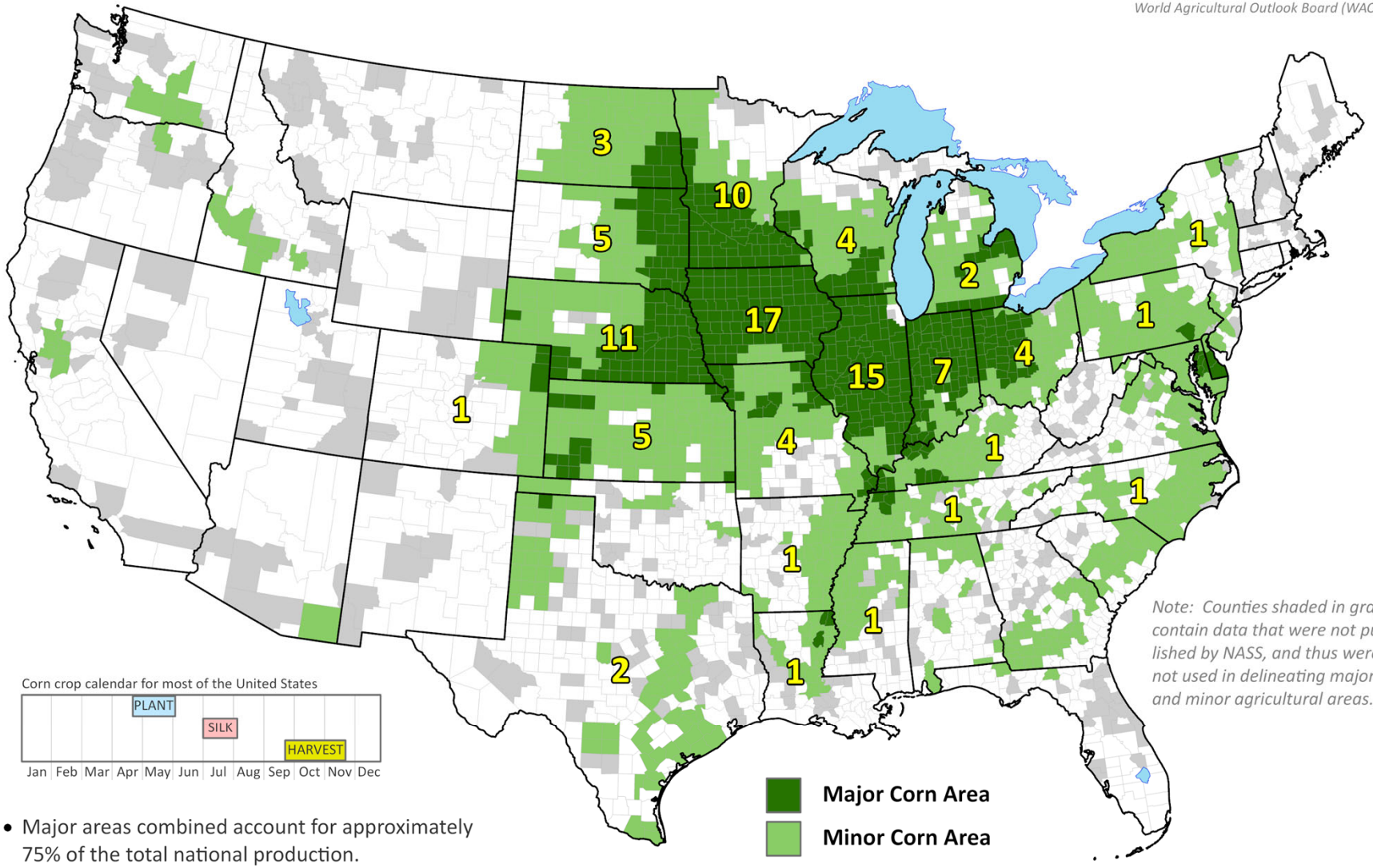


USDA Risk Management Agency

United States: Corn

United States Department of Agriculture

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



Corn crop calendar for most of the United States

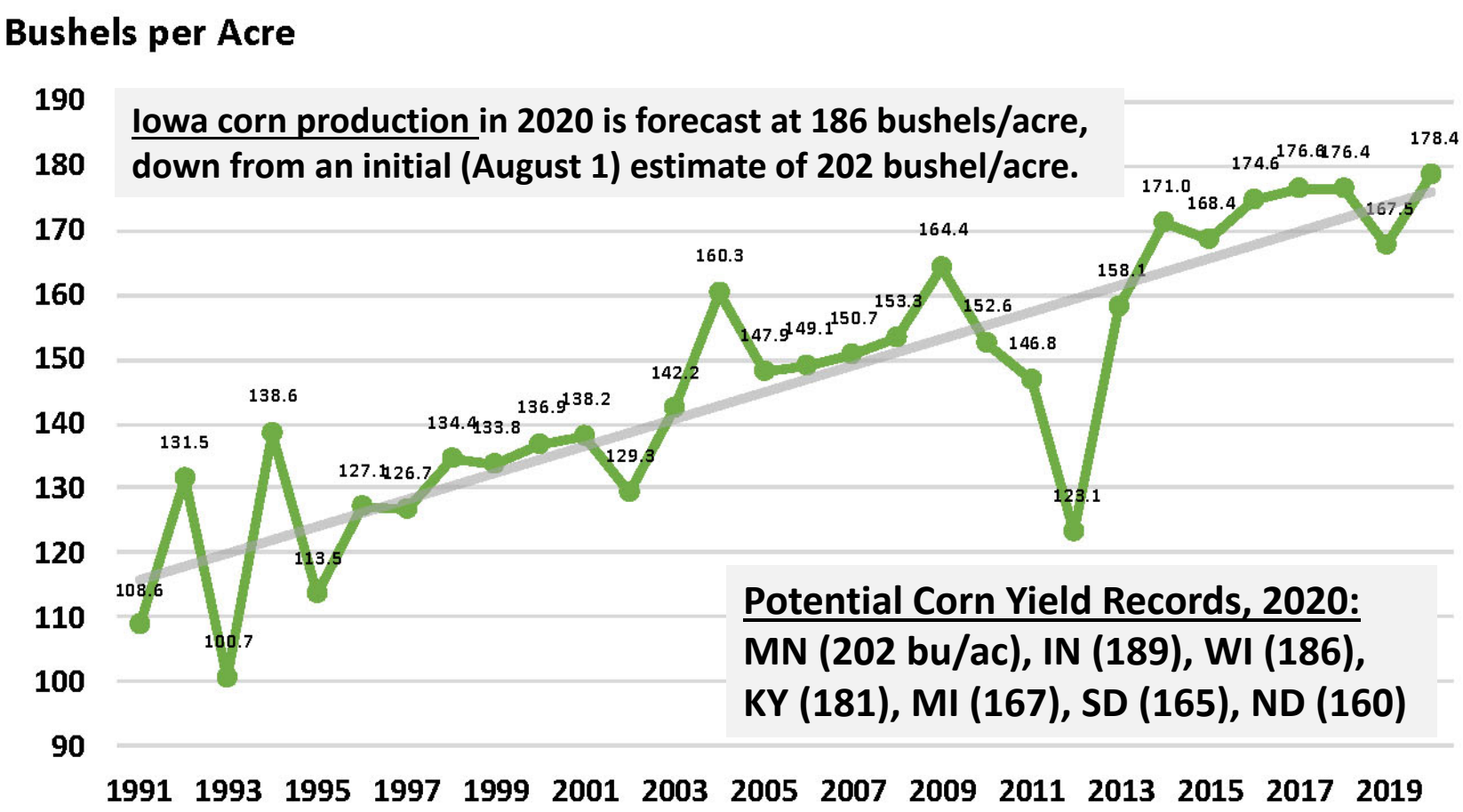
Note: Counties shaded in gray contain data that were not published by NASS, and thus were not used in delineating major and minor agricultural areas.

- 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.

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.

October 2020 Corn Yield

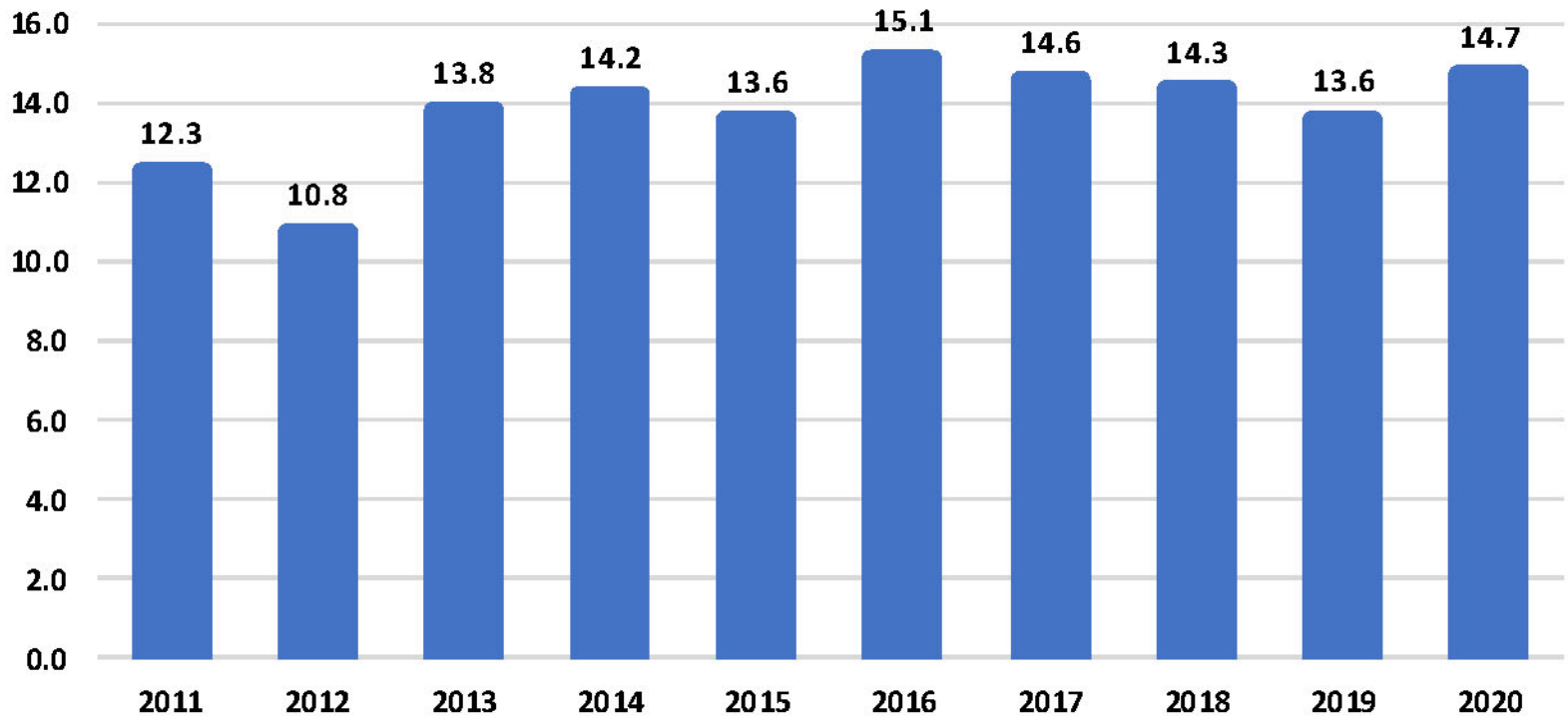
United States



October 2020 Corn Production

United States

Billion Bushels

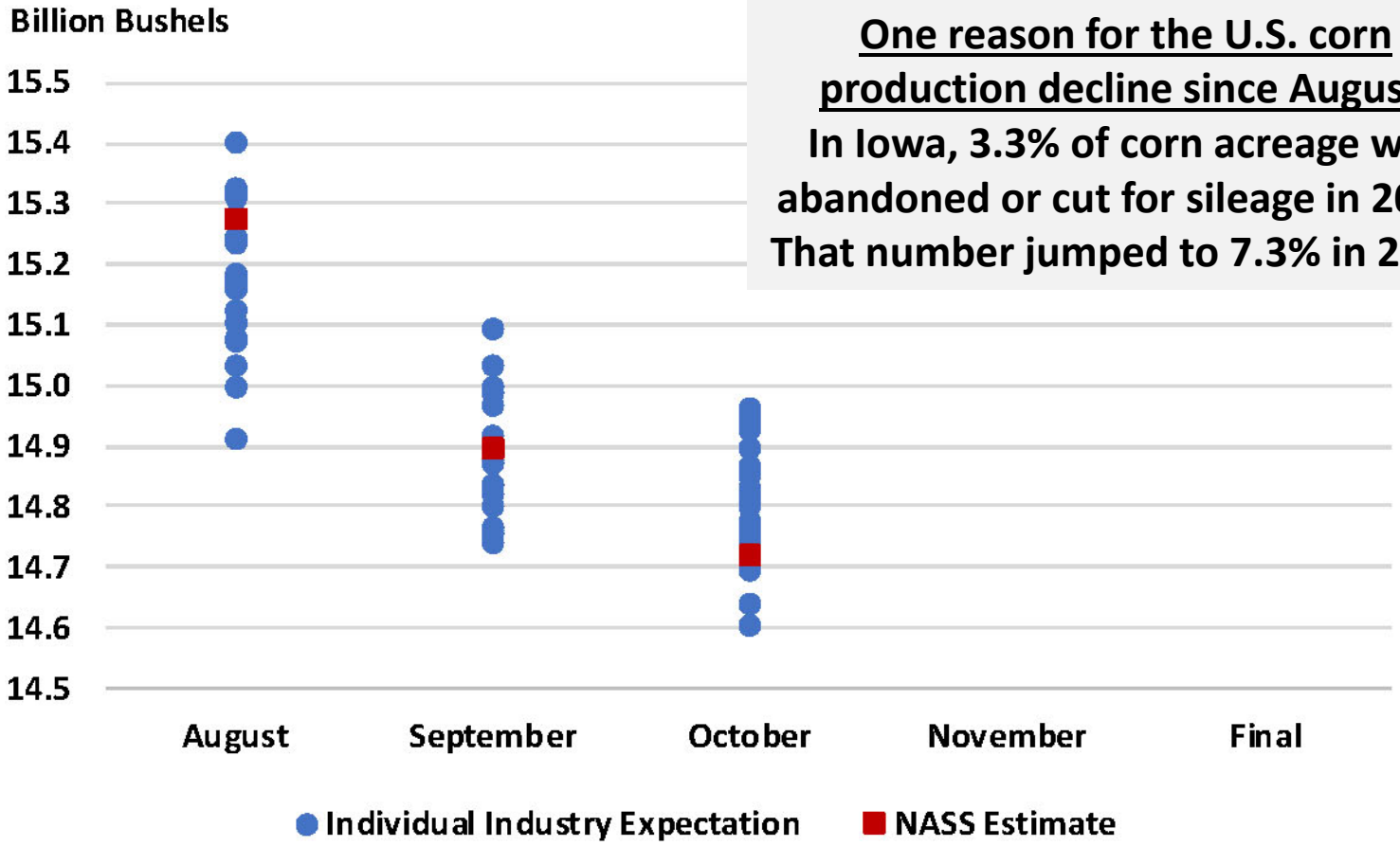


United States Department of Agriculture
National Agricultural Statistics Service

October 9, 2020

2020 U.S. Corn Production

Industry Expectations vs NASS



One reason for the U.S. corn production decline since August:
In Iowa, 3.3% of corn acreage was abandoned or cut for sileage in 2019. That number jumped to 7.3% in 2020.

USDA United States Department of Agriculture

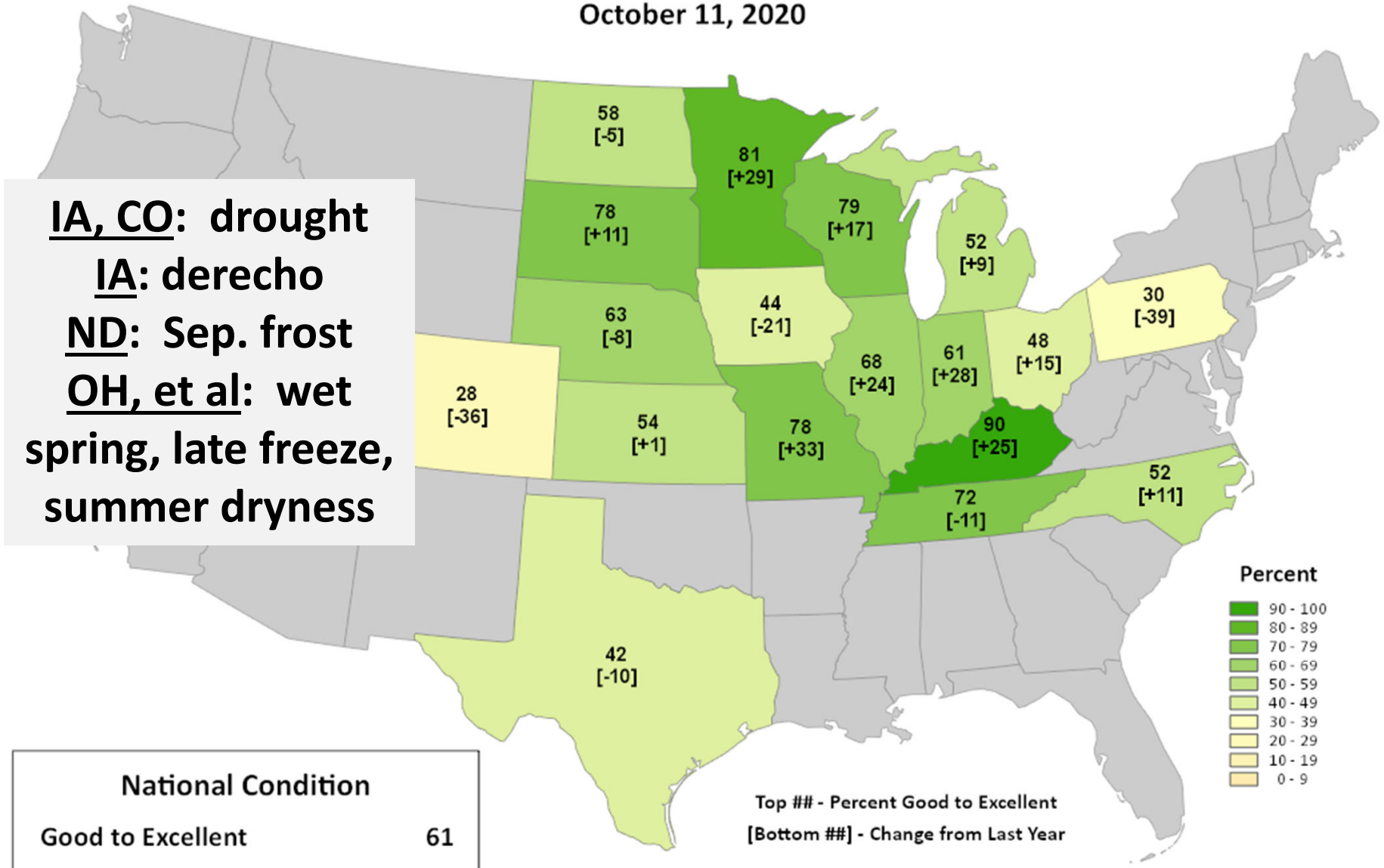
This product was prepared by the USDA Office of the Chief Economist (OCE) World Agricultural Outlook Board (WAOB)

Corn Conditions

Percent Good to Excellent

October 11, 2020

IA, CO: drought
IA: derecho
ND: Sep. frost
OH, et al: wet spring, late freeze, summer dryness



National Condition	
Good to Excellent	61
Change from Last Year	+6

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

USDA United States Department of Agriculture

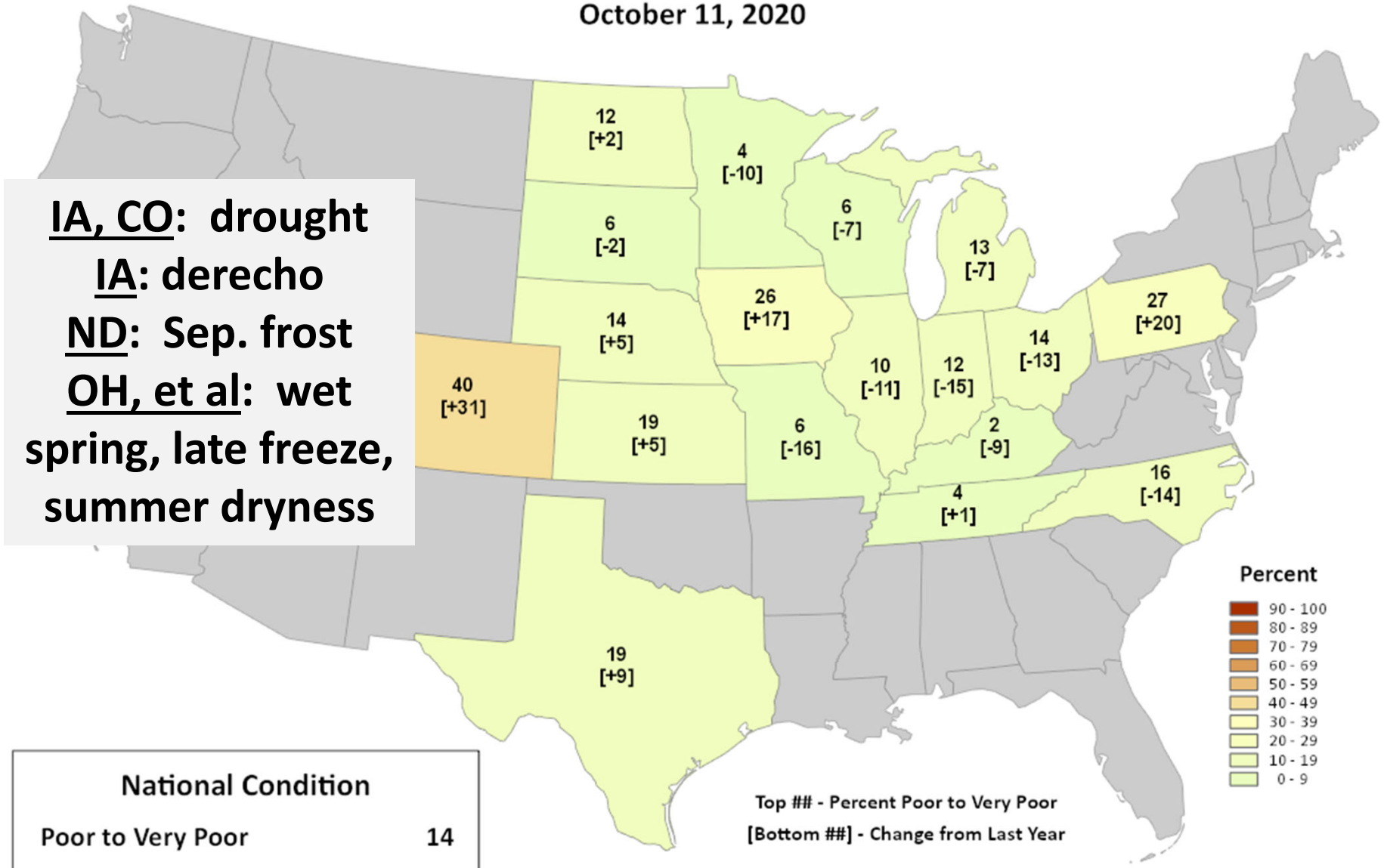
This product was prepared by the USDA Office of the Chief Economist (OCE) World Agricultural Outlook Board (WAOB)

Corn Conditions

Percent Poor to Very Poor

October 11, 2020

IA, CO: drought
IA: derecho
ND: Sep. frost
OH, et al: wet spring, late freeze, summer dryness



National Condition	
Poor to Very Poor	14
Change from Last Year	-1

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

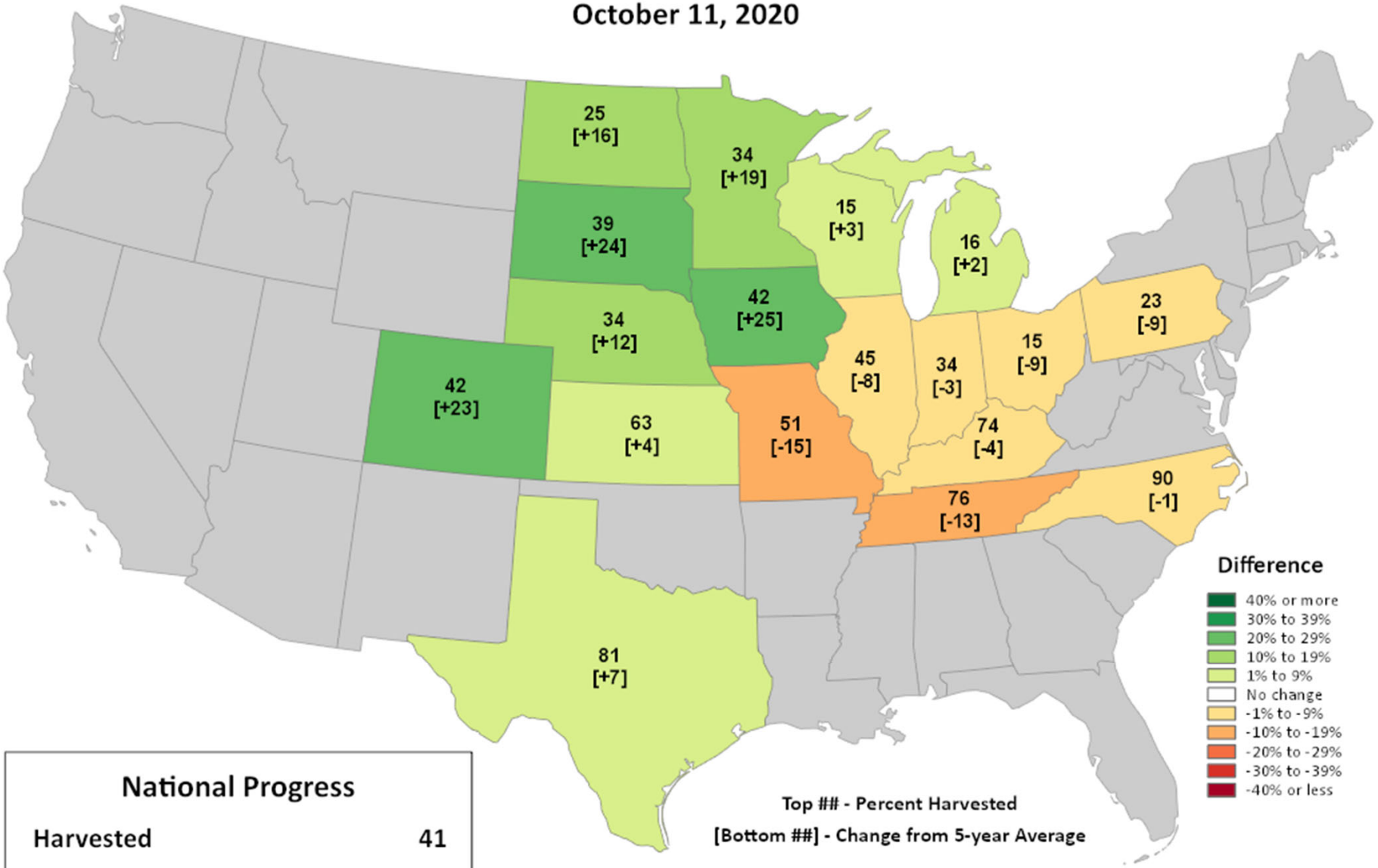
USDA United States Department of Agriculture

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

Corn Progress

Percent Harvested

October 11, 2020



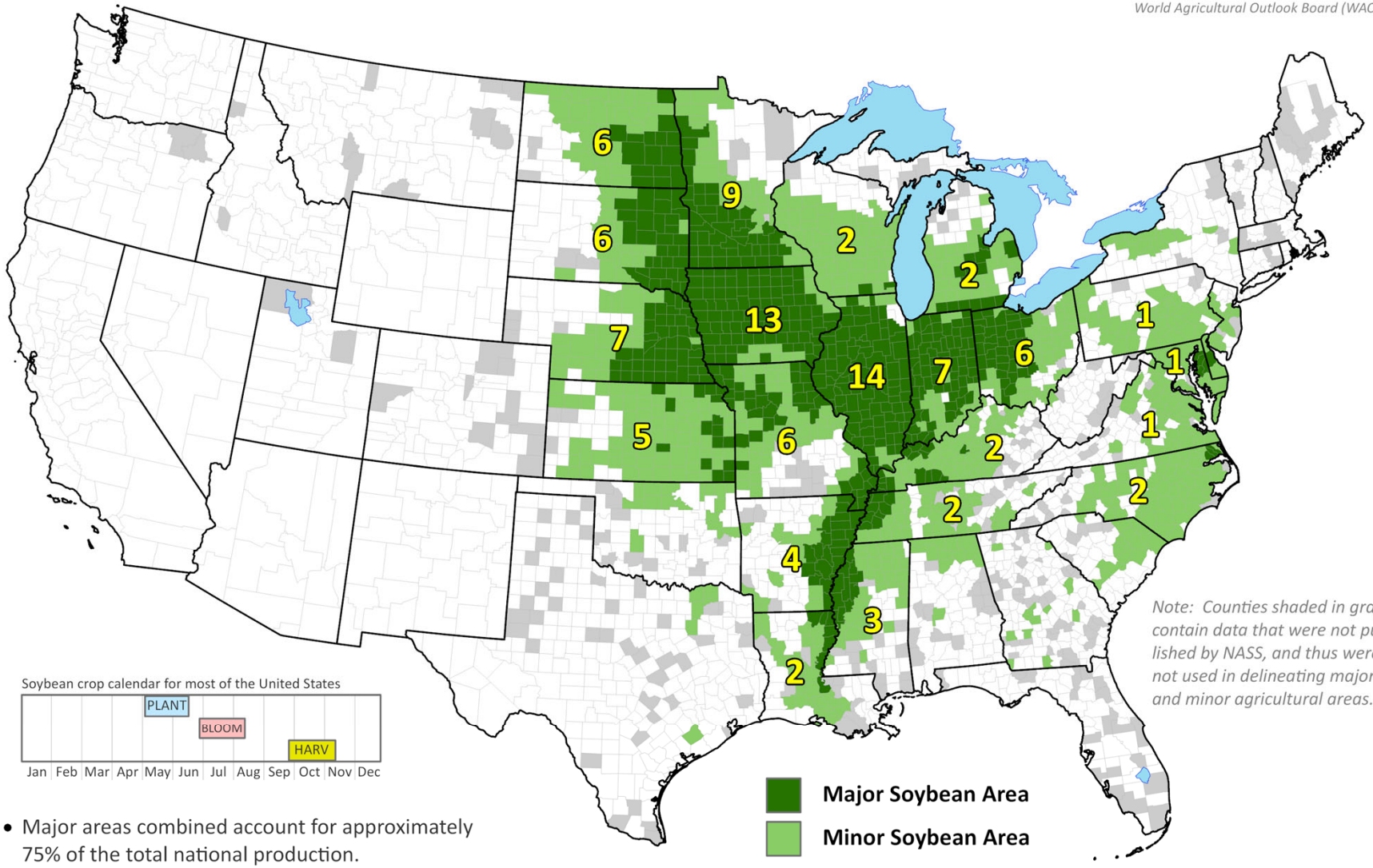
National Progress	
Harvested	41
Change from 5-year Average	+9

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

United States: Soybeans

United States Department of Agriculture

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.

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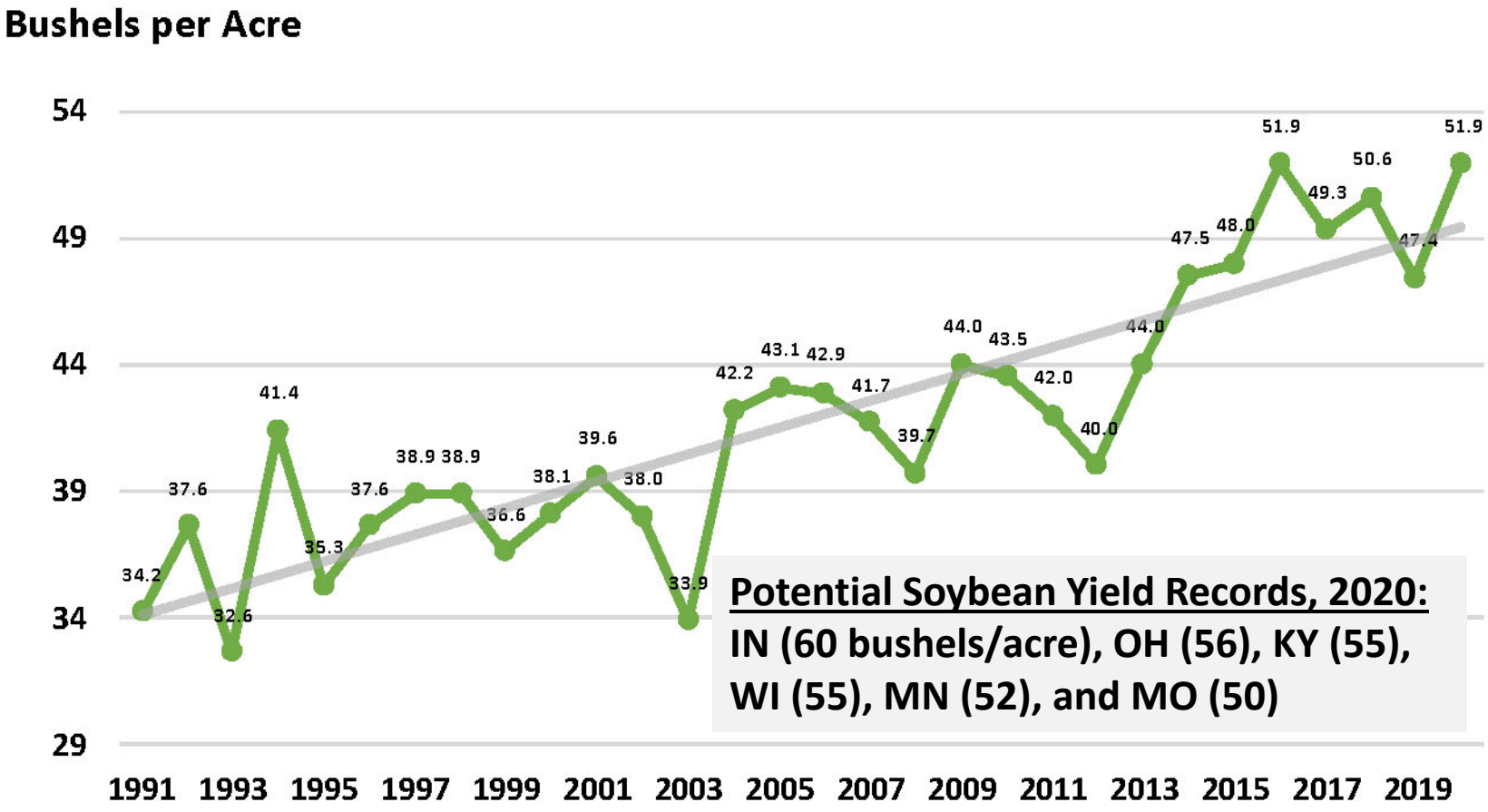
October 2020 Soybean Yield

United States



Potential Soybean Yield Records, 2020:
IN (60 bushels/acre), OH (56), KY (55), WI (55), MN (52), and MO (50)

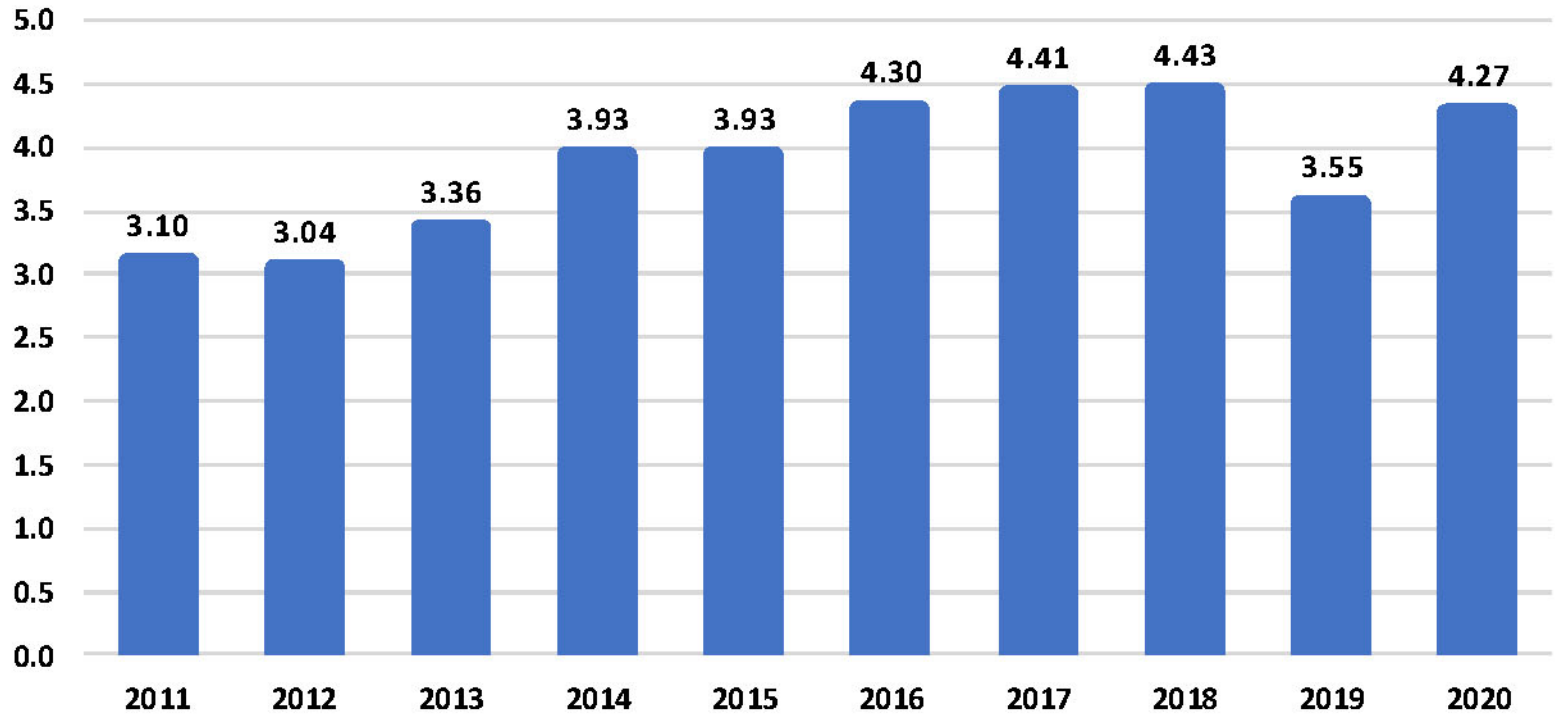
United States Department of Agriculture
National Agricultural Statistics Service

October 9, 2020

October 2020 Soybean Production

United States

Billion Bushels



United States Department of Agriculture
National Agricultural Statistics Service

October 9, 2020

USDA United States Department of Agriculture

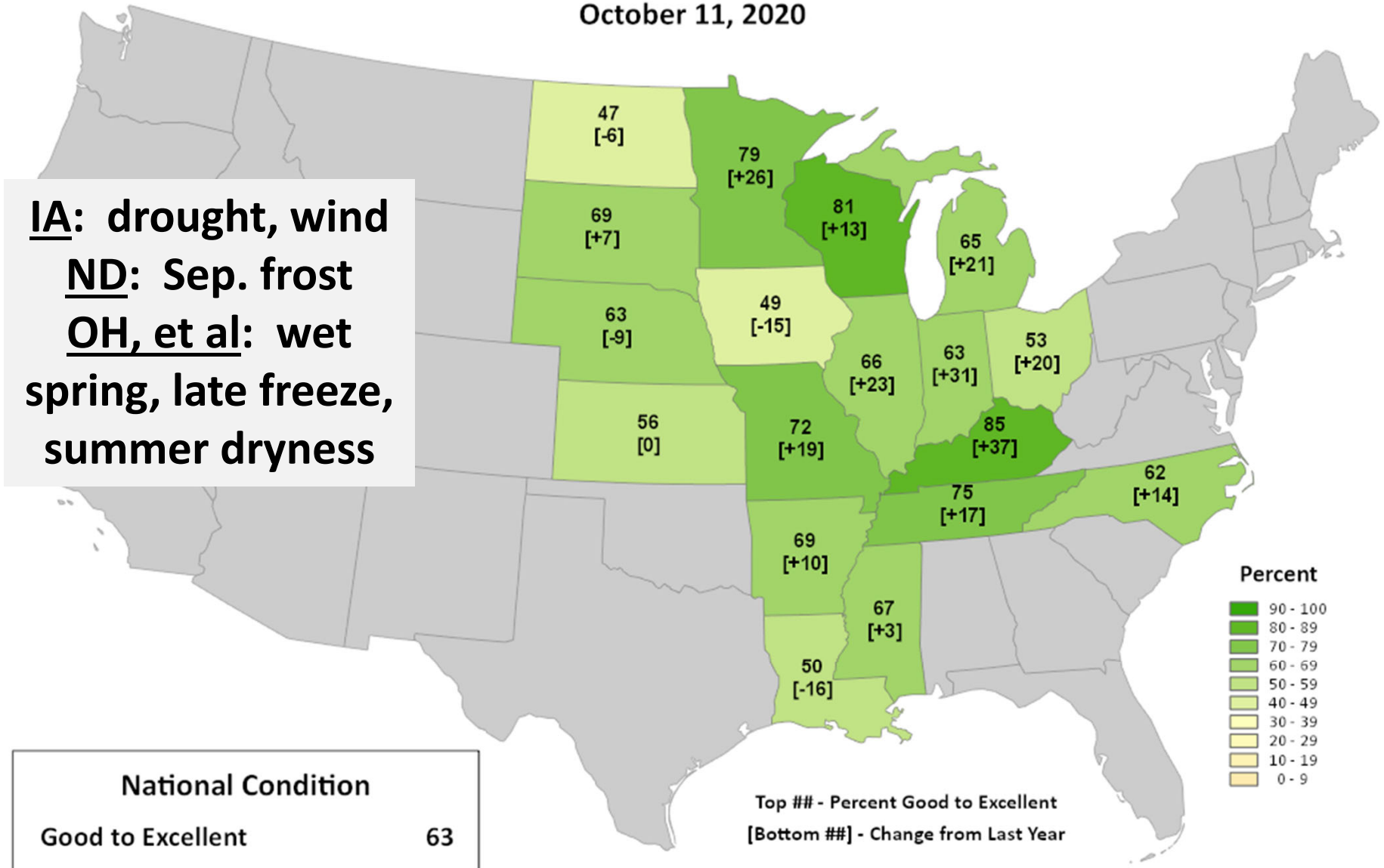
This product was prepared by the USDA Office of the Chief Economist (OCE) World Agricultural Outlook Board (WAOB)

Soybean Conditions

Percent Good to Excellent

October 11, 2020

IA: drought, wind
ND: Sep. frost
OH, et al: wet spring, late freeze, summer dryness



National Condition	
Good to Excellent	63
Change from Last Year	+9

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

USDA United States Department of Agriculture

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

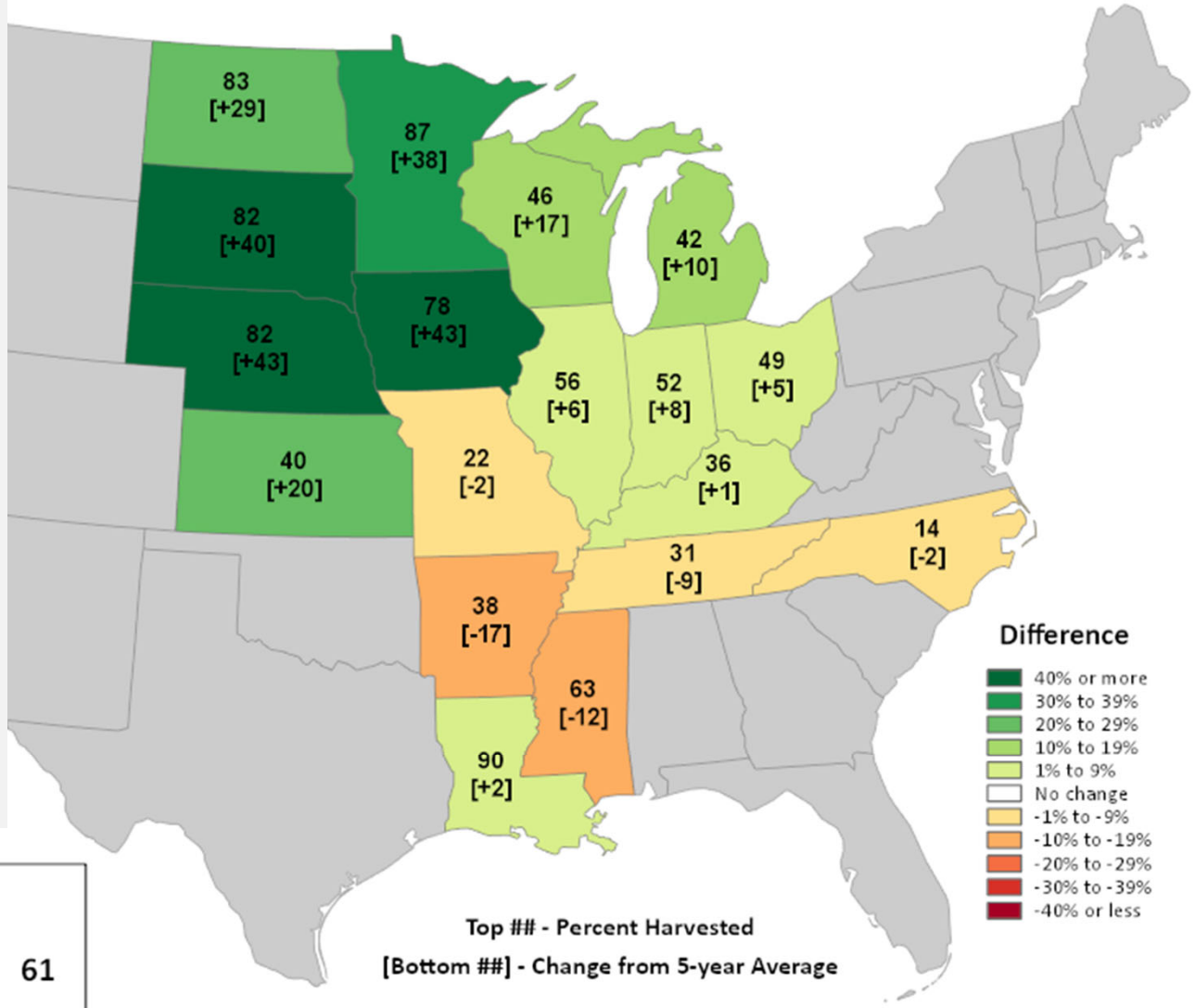
Soybeans Progress

Percent Harvested

October 11, 2020

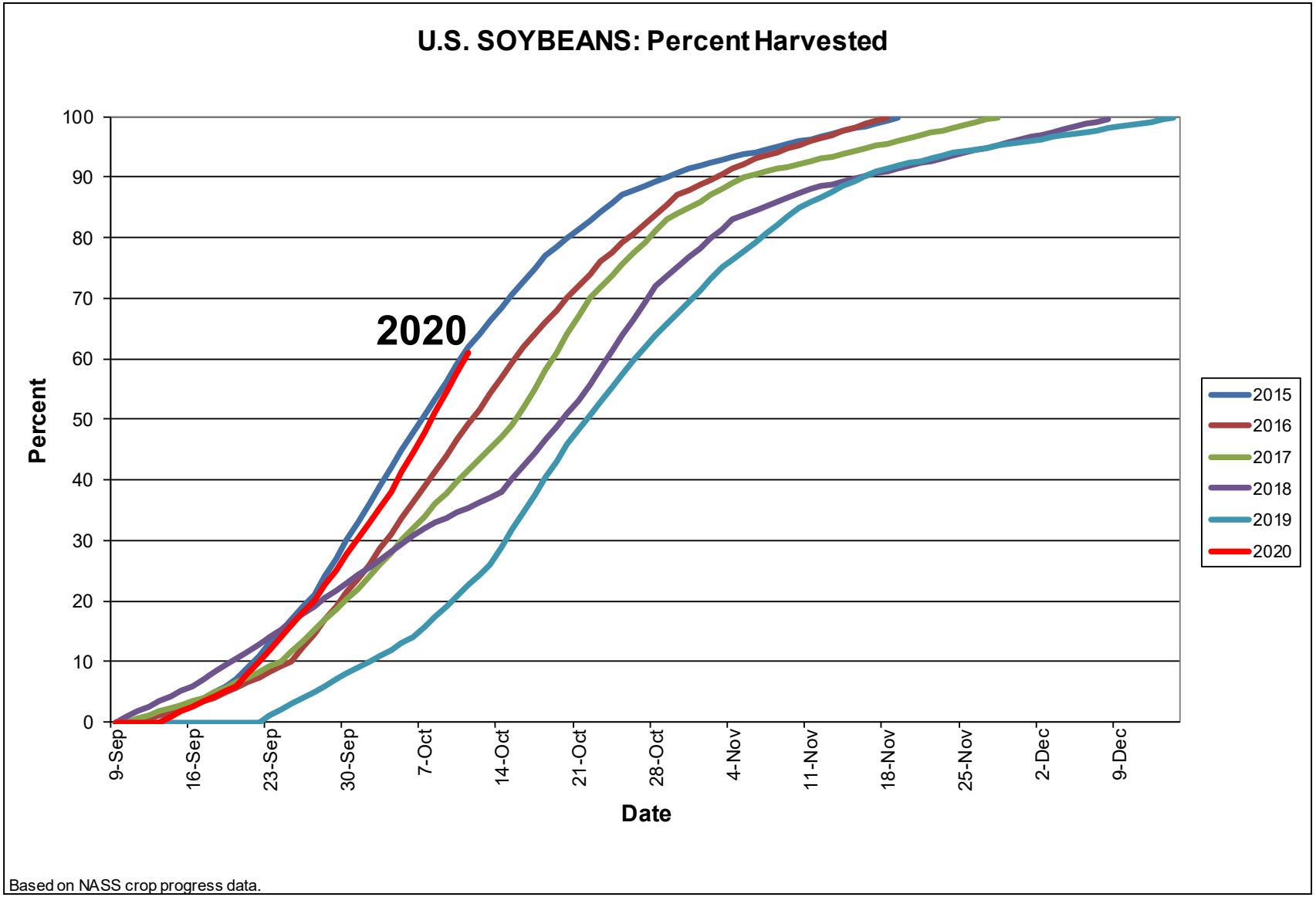
Most U.S. Soybeans Harvested by October 11, 1996-2020

1. 69% in 2010
2. 65% in 2012
3. 65% in 2000
4. 65% in 2005
5. 62% in 2015
6. **61% in 2020**



National Progress	
Harvested	61
Change from 5-year Average	+19

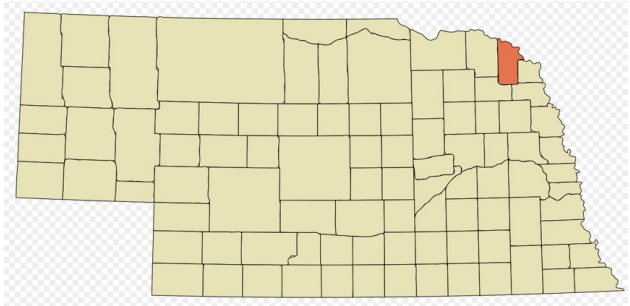
Data obtained from USDA National Agricultural Statistics Service weekly Crop Progress reports.



Based on NASS crop progress data.

KCAU STAFF
Posted: Oct 9, 2020 / 06:38 PM CDT

EMERSON, Neb. (KCAU) – The drought across Siouxland led to two different combine fires this afternoon. The first fire was reported a little after 3 p.m. on 220th and M Avenue near Hubbard. Fire crews were then called to a second combine fire around 4 p.m., this time in rural **Dixon County** near Emerson, making the situation especially challenging is the fact Emerson Fire Volunteers were at the Hubbard Fire when the second fire was reported. Both pieces of equipment were seriously damaged, but no injuries were reported in either fire.



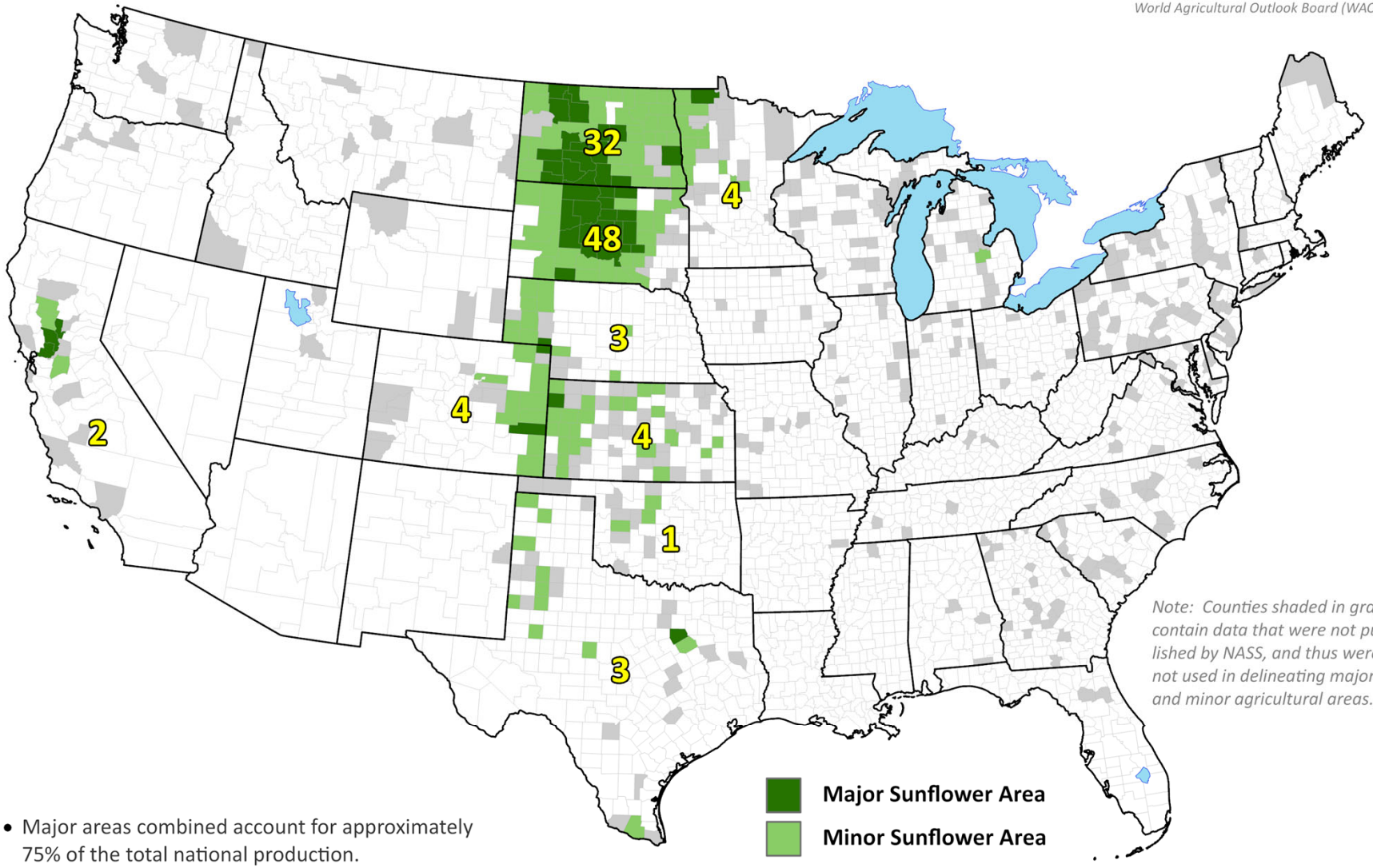
Other Current Agricultural Highlights

- **Spring wheat harvest was far faster than last year and was 96% complete by September 20.**
- **Sunflower production is expected to be up 43.5% from last year (10.9% yield increase and 29.4% increase in harvested area).**
- **Sugarbeet harvest is nearly done in the Red River Valley and far ahead of 2019. Production estimate is up 25.2% from 2019.**
- **Sorghum production is forecast to be up 8.5% from 2019, though much of the change is from a 7.0% increase in harvested area.**
- **Winter wheat is emerging in most major production areas—but autumn establishment has been hampered by dry conditions.**
- **Rangeland and pastures are in rough shape across the region's western areas, along with parts of Iowa and environs. Still, U.S. hay yield was nearly unchanged from 2019; production: up 1.4%.**

United States: Sunflowers

United States Department of Agriculture

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



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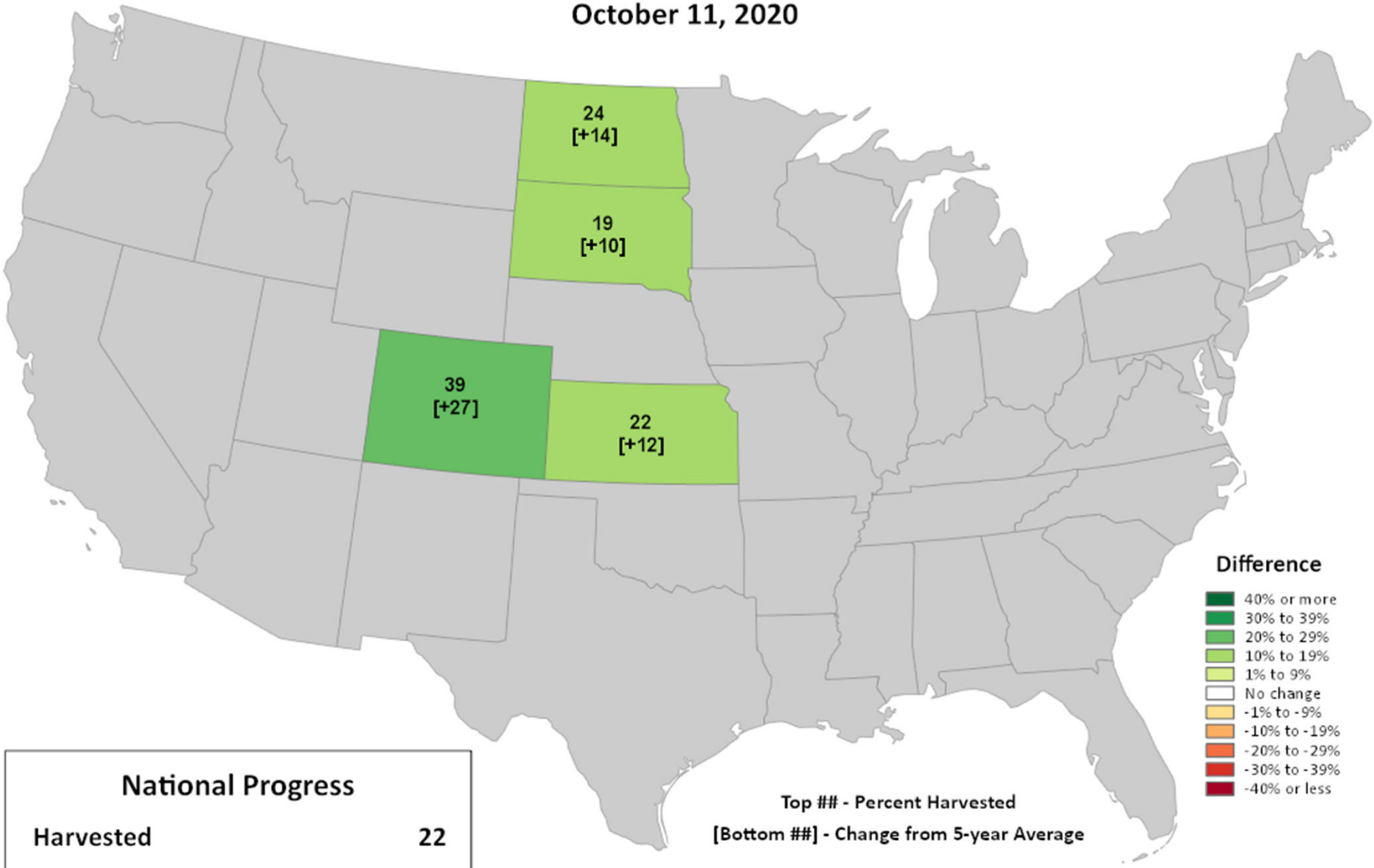
United States Department of Agriculture

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

Sunflowers Progress

Percent Harvested

October 11, 2020



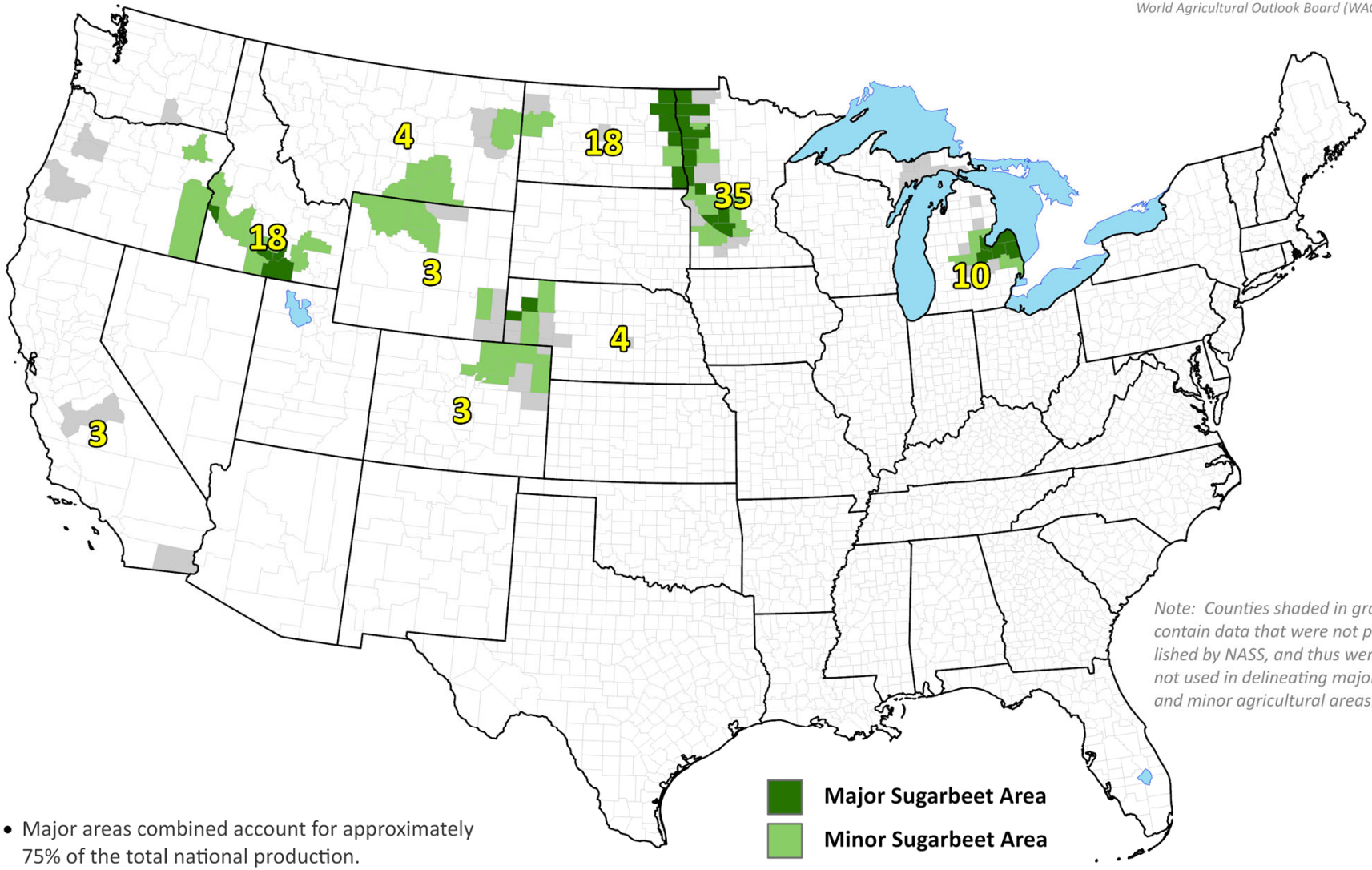
National Progress	
Harvested	22
Change from 5-year Average	+12

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

United States: Sugarbeets

United States Department of Agriculture

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



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United States Department of Agriculture

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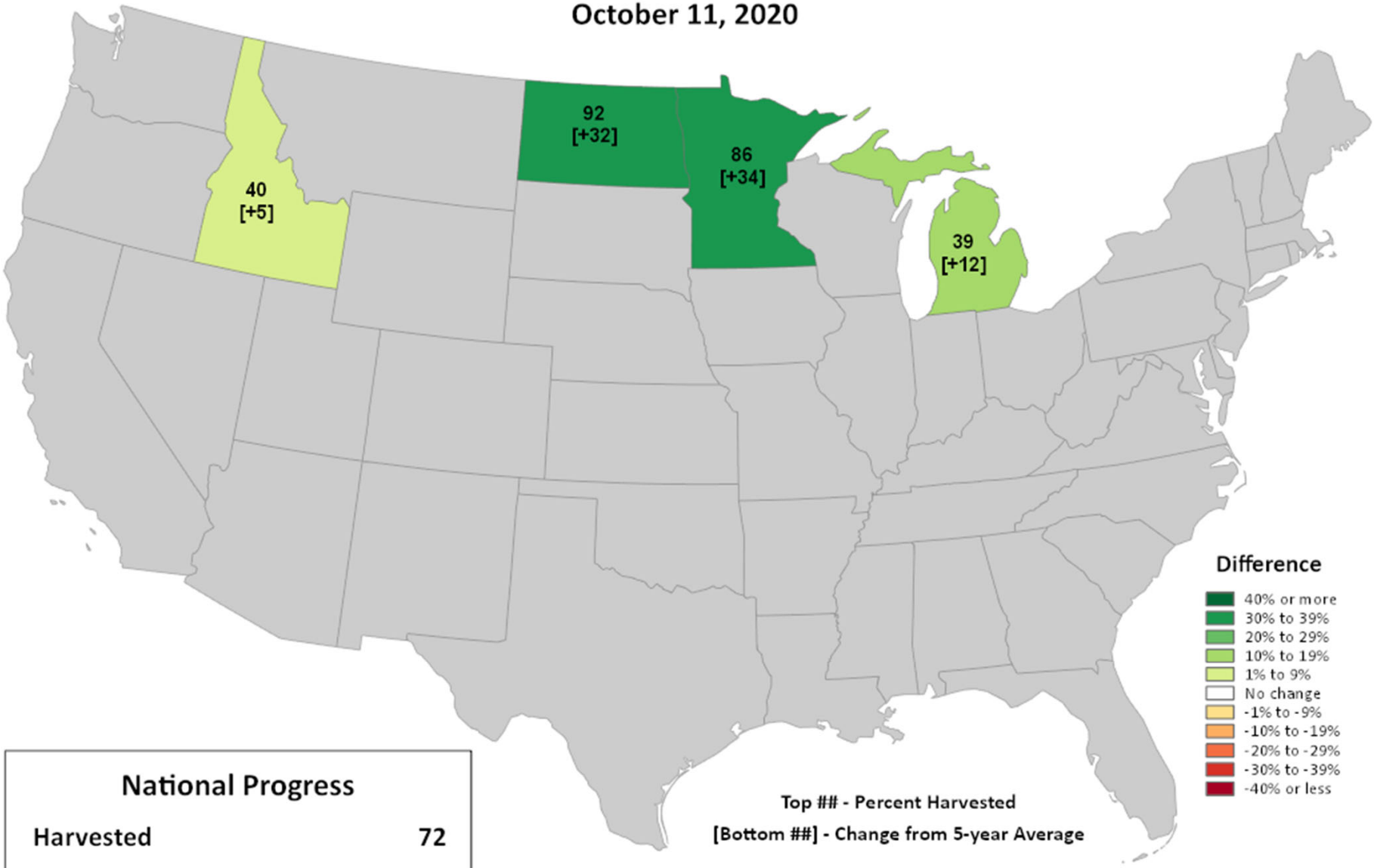
Sugarbeets Progress

Percent Harvested

October 11, 2020



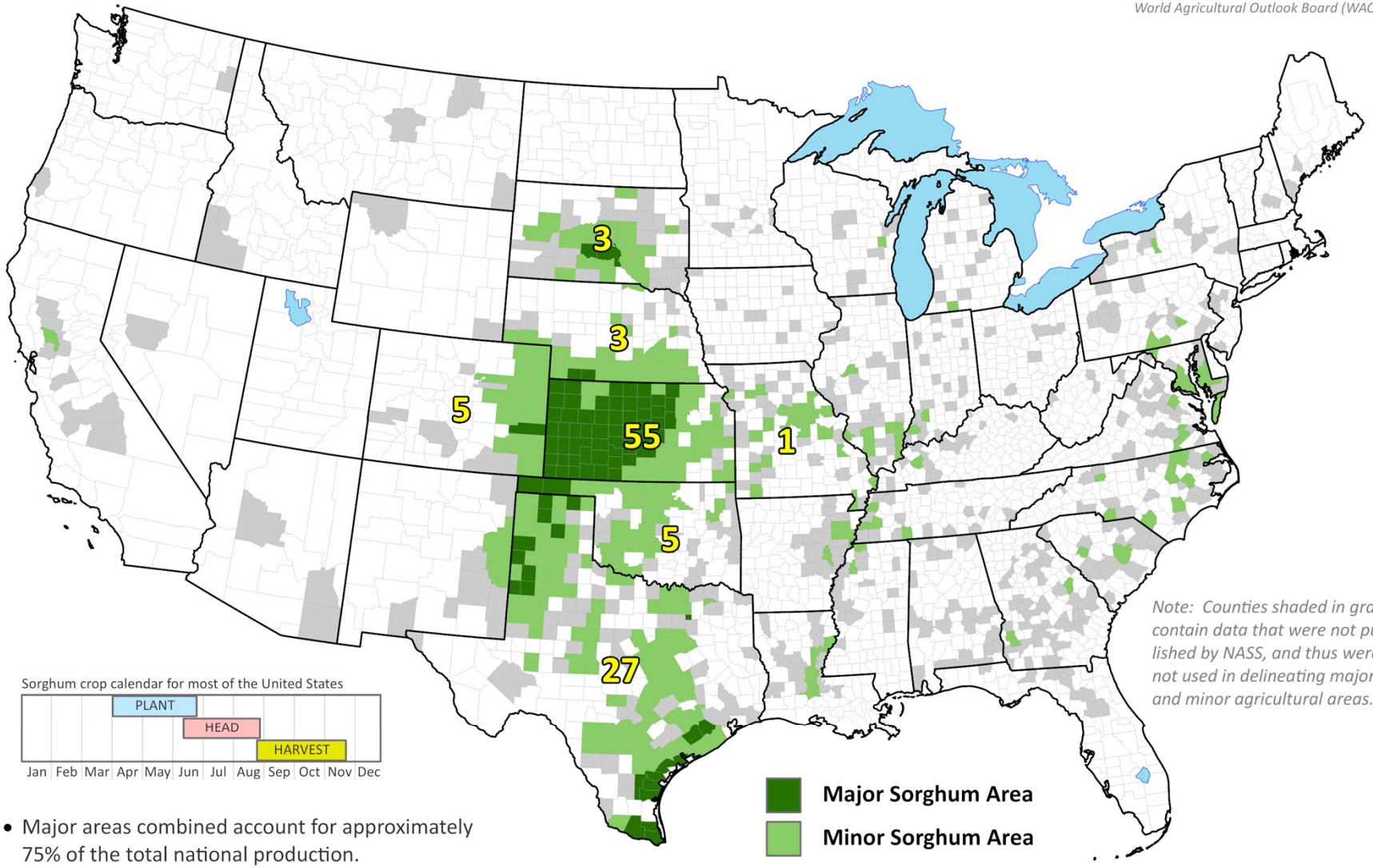
National Progress	
Harvested	72
Change from 5-year Average	+25

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

United States: Sorghum

United States Department of Agriculture

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



Sorghum crop calendar for most of the United States

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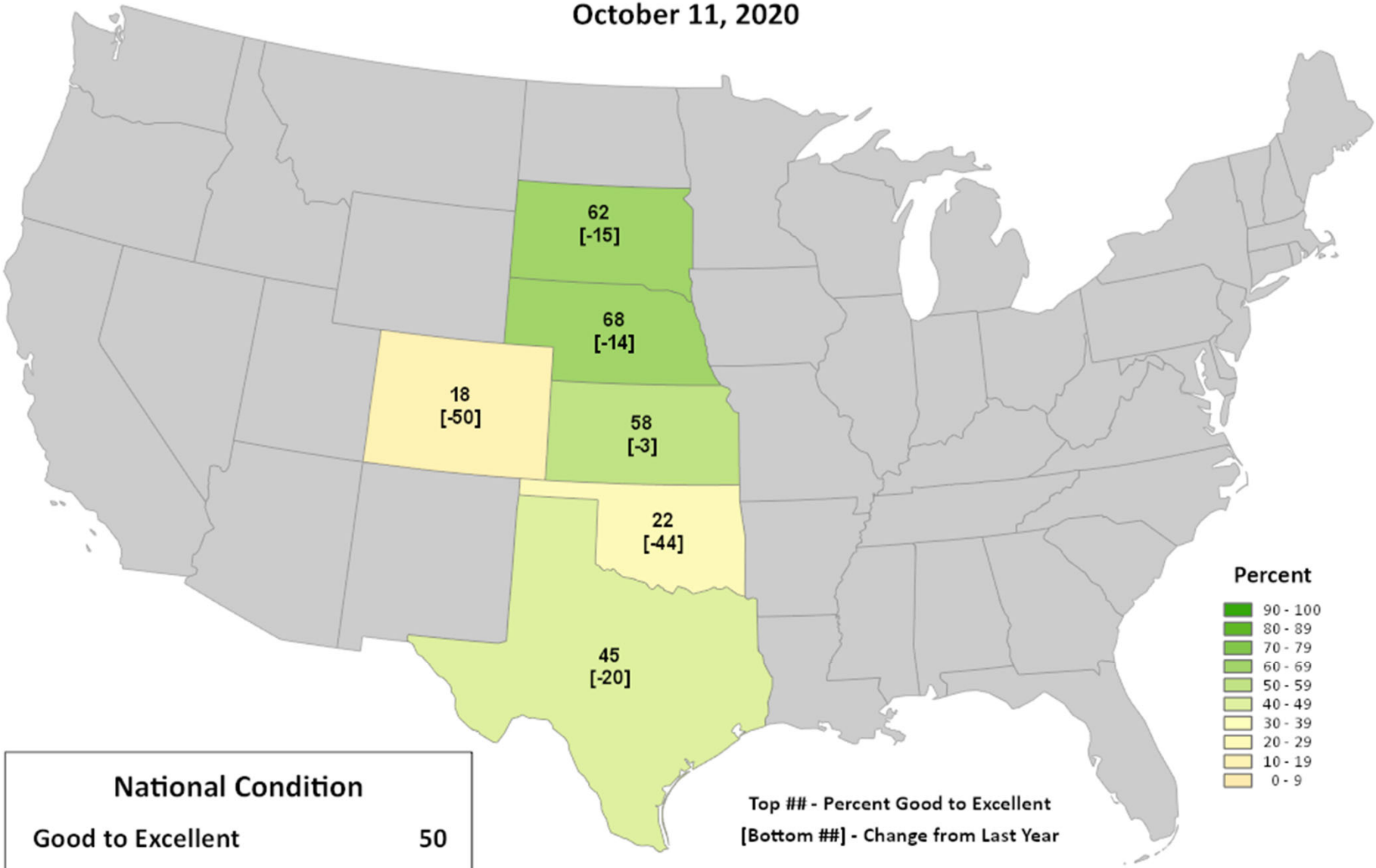
United States Department of Agriculture

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

Sorghum Conditions

Percent Good to Excellent

October 11, 2020



National Condition	
Good to Excellent	50
Change from Last Year	-15

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

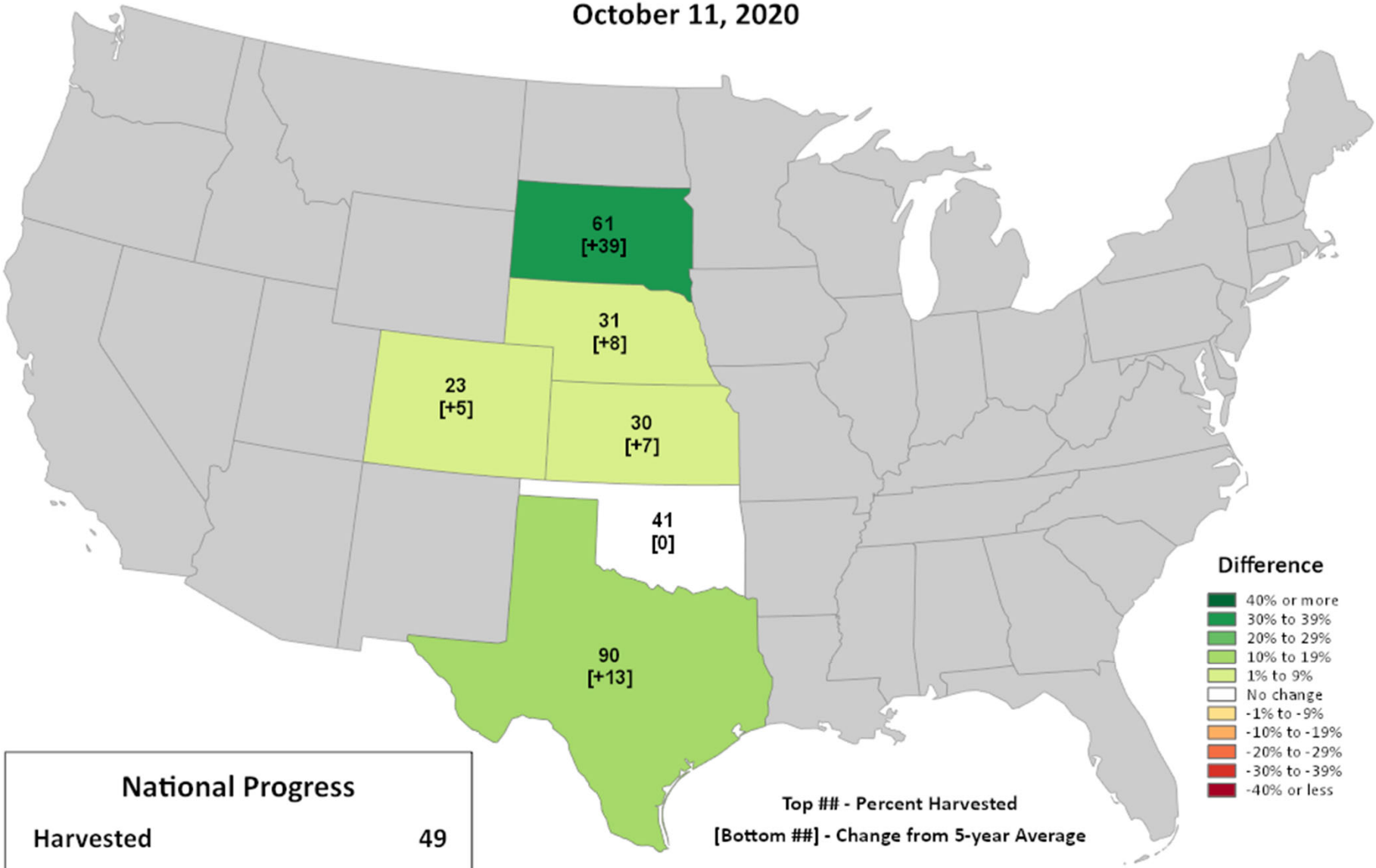
United States Department of Agriculture

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

Sorghum Progress

Percent Harvested

October 11, 2020



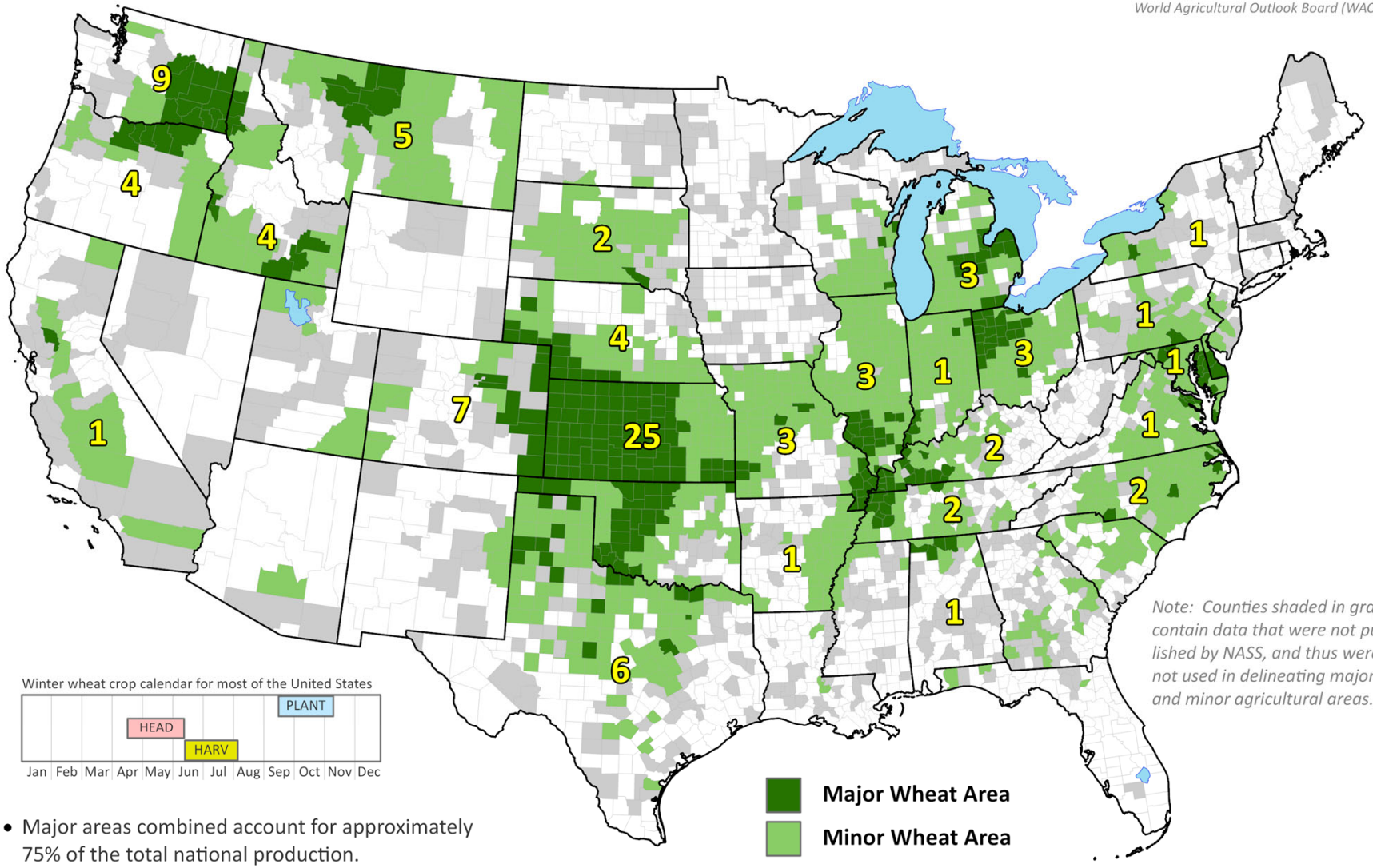
National Progress	
Harvested	49
Change from 5-year Average	+6

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

United States: Winter Wheat

USDA United States Department of Agriculture

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



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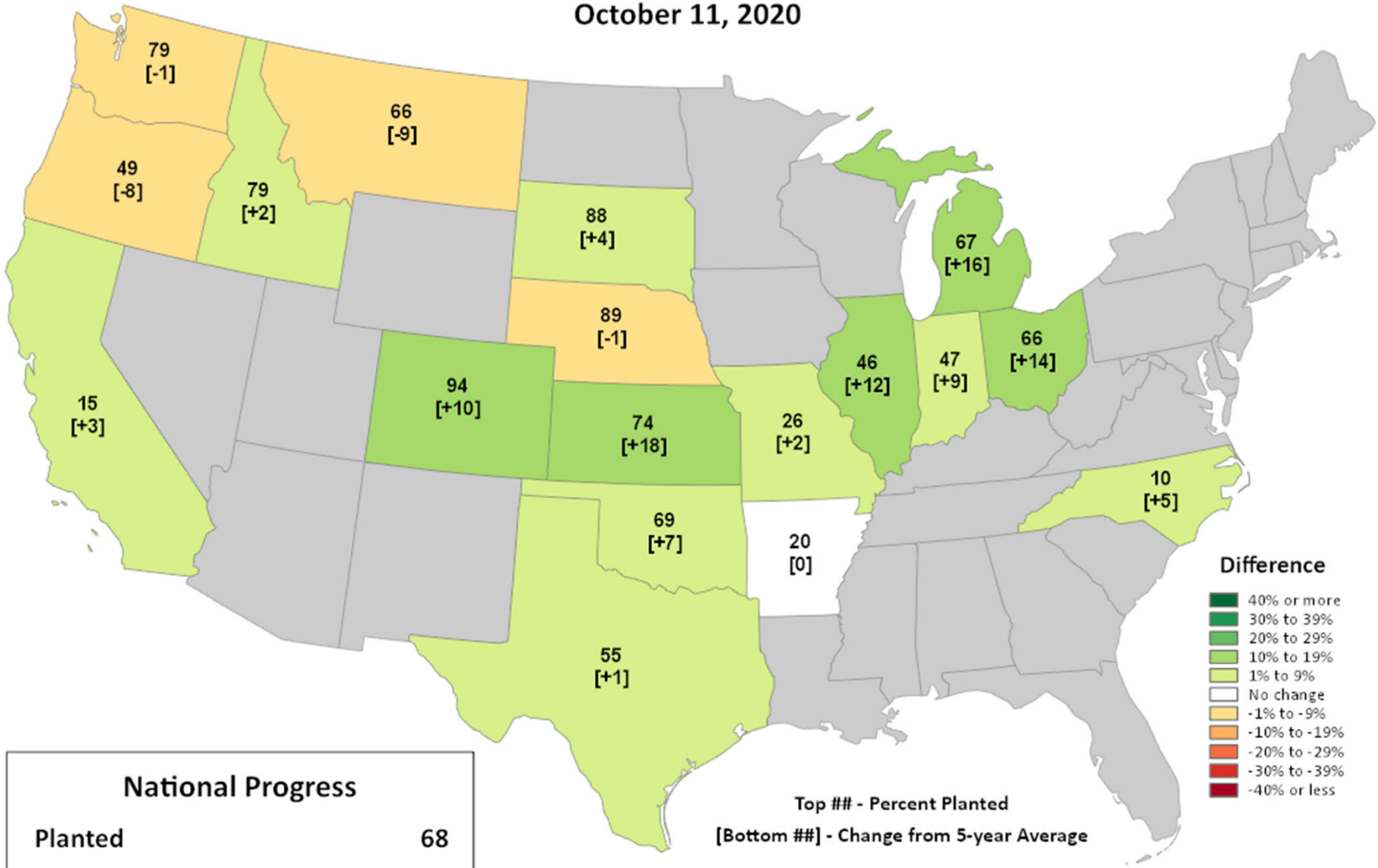
USDA United States Department of Agriculture

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

Winter Wheat Progress

Percent Planted

October 11, 2020



National Progress	
Planted	68
Change from 5-year Average	+7

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

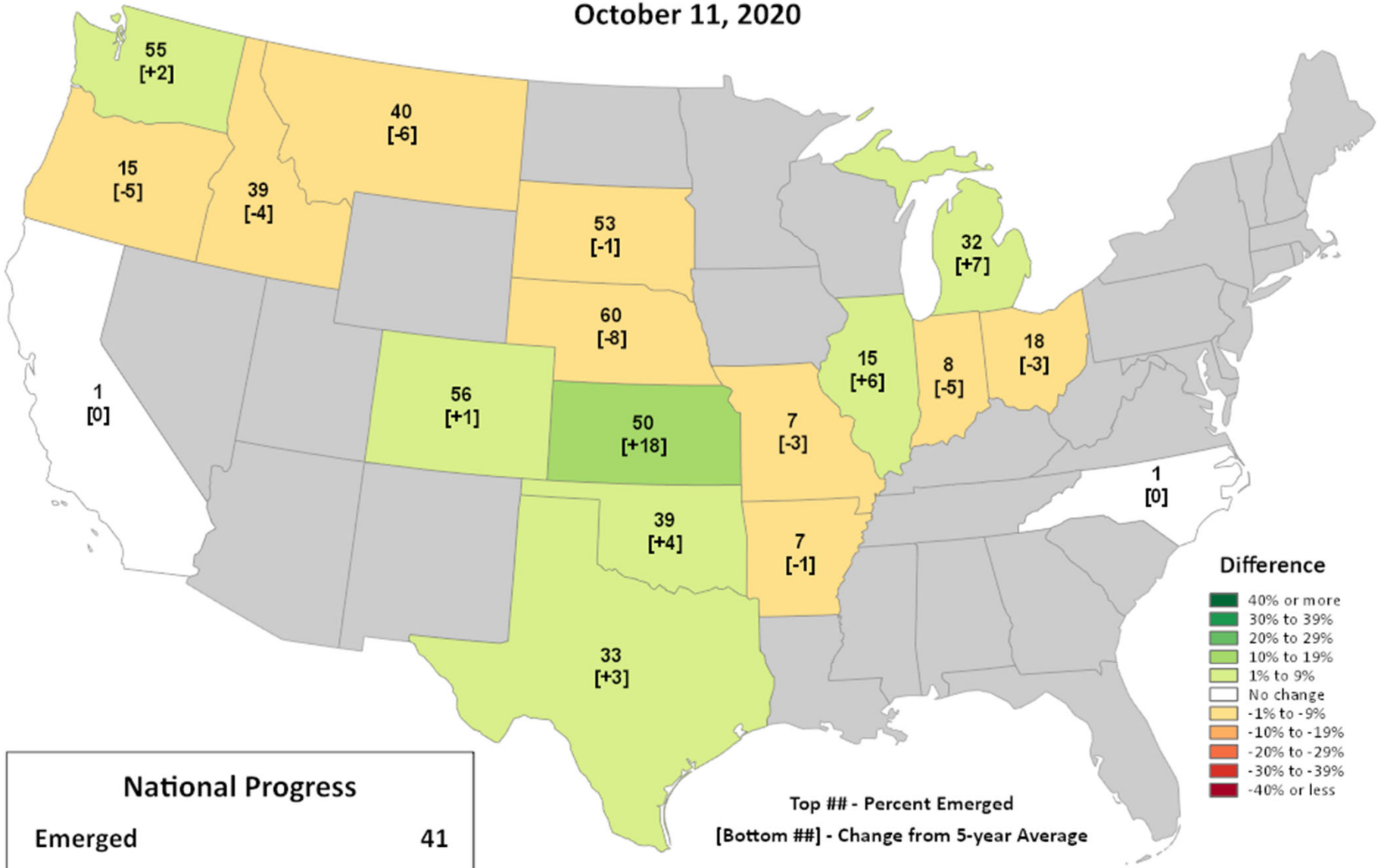
United States Department of Agriculture

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

Winter Wheat Progress

Percent Emerged

October 11, 2020



National Progress	
Emerged	41
Change from 5-year Average	+6

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

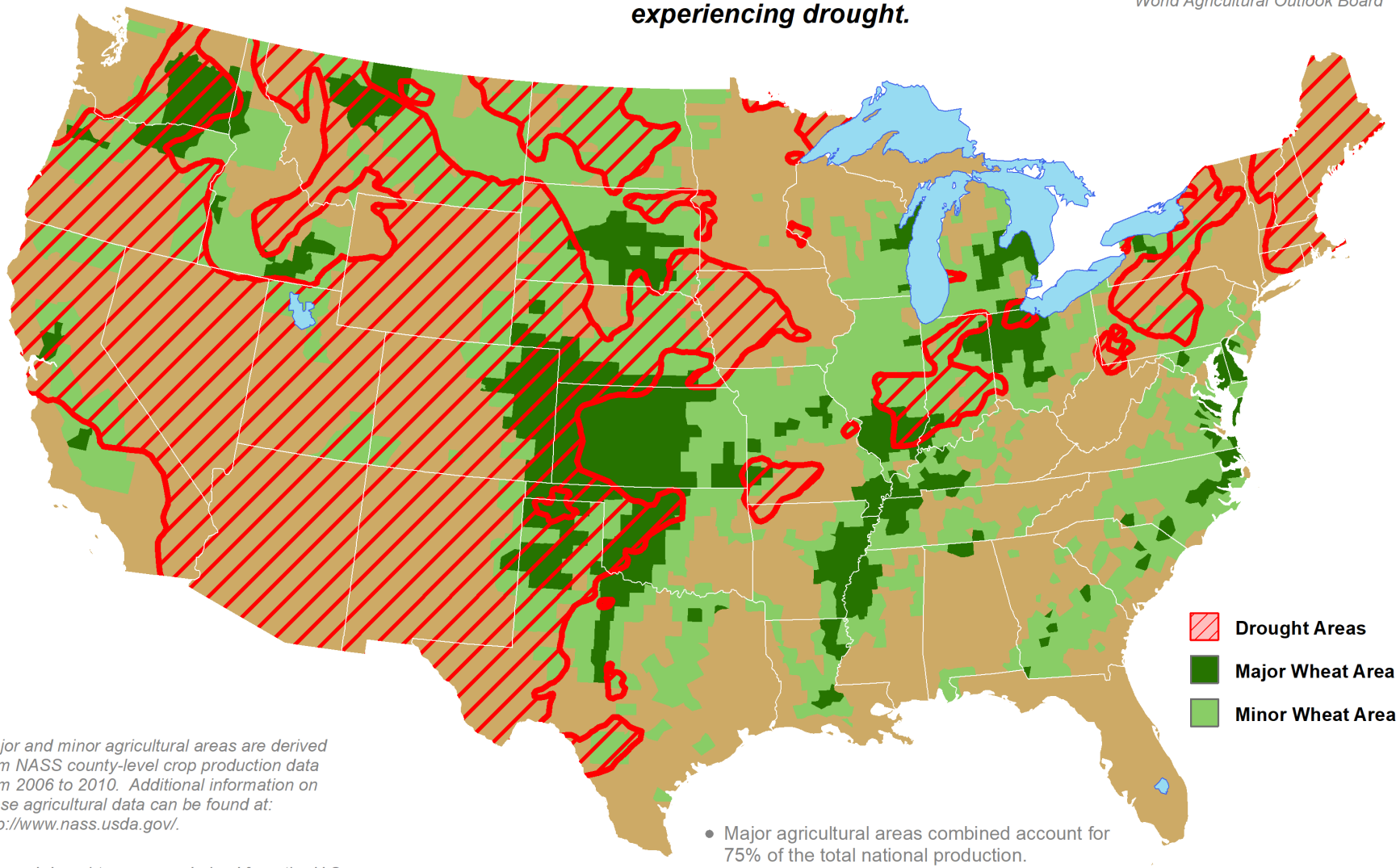
U.S. Winter Wheat Areas Experiencing Drought

United States Department of Agriculture

This product was prepared by the USDA Office of the Chief Economist World Agricultural Outlook Board

Reflects October 13, 2020 U.S. Drought Monitor data

Approximately 41% of winter wheat production is within an area experiencing drought.

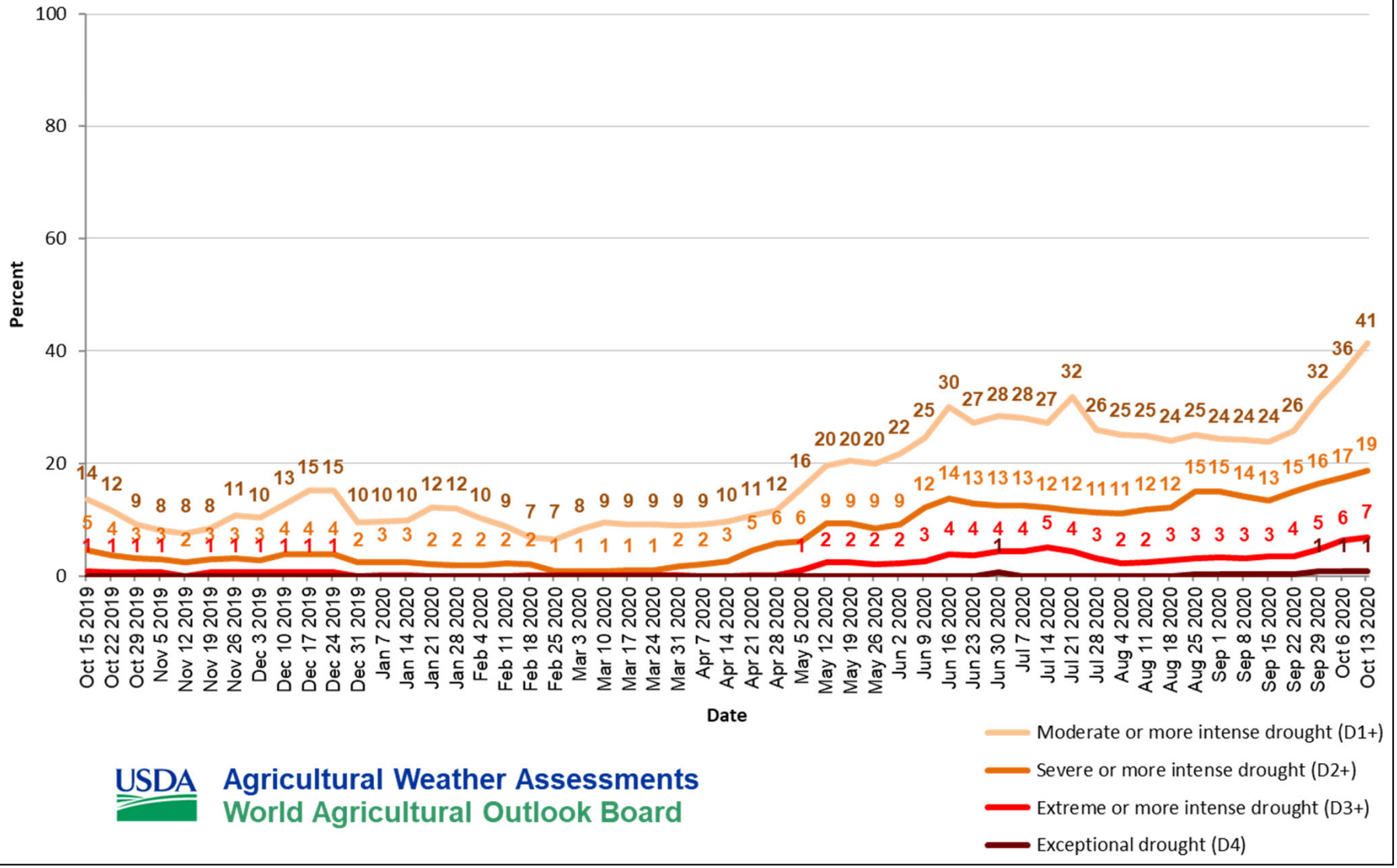


Major and minor agricultural areas are derived from NASS county-level crop production data from 2006 to 2010. Additional information on these agricultural data can be found at: http://www.nass.usda.gov/.

Mapped drought areas are derived from the U.S. Drought Monitor product and do not depict the intensity of drought in any particular location. More information on the Drought Monitor can be found at: http://droughtmonitor.unl.edu/.

- Major agricultural areas combined account for 75% of the total national production.
- Major and minor agricultural areas combined account for 99% of the total national production.

United States Winter Wheat Areas Located in Drought



USDA Agricultural Weather Assessments
World Agricultural Outlook Board

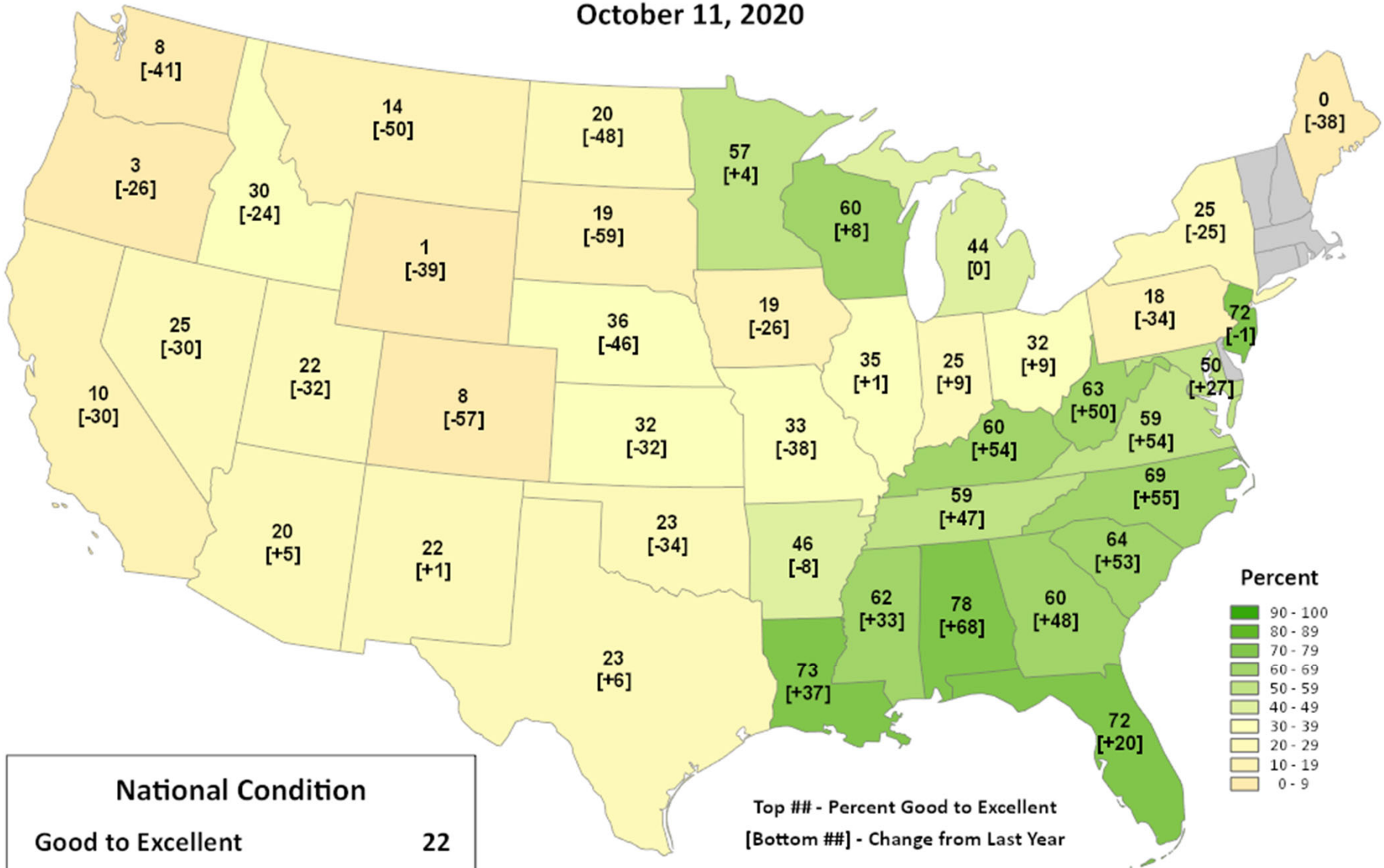
United States Department of Agriculture

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

Pasture and Range Conditions

Percent Good to Excellent

October 11, 2020



National Condition	
Good to Excellent	22
Change from Last Year	-21

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

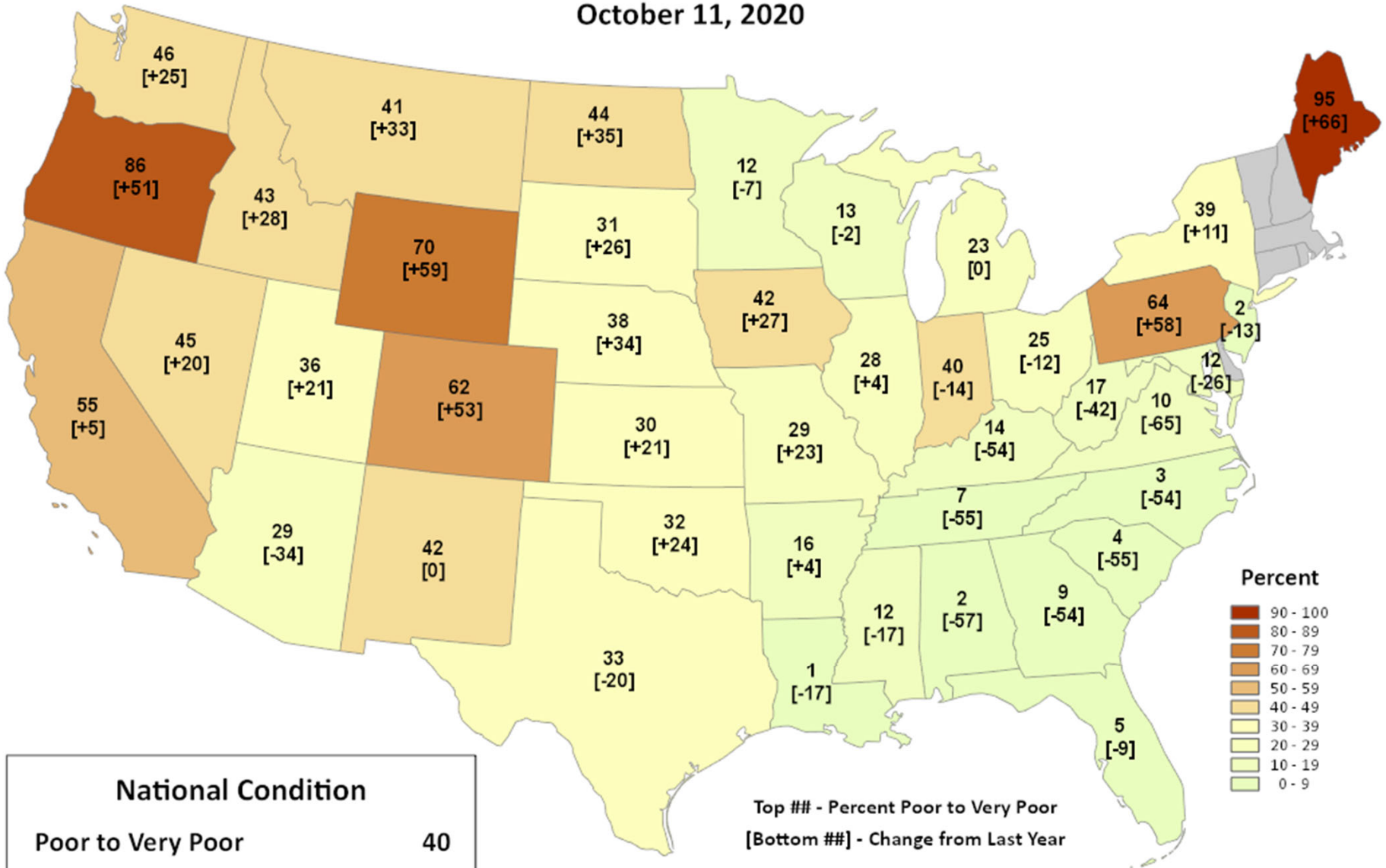
United States Department of Agriculture

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

Pasture and Range Conditions

Percent Poor to Very Poor

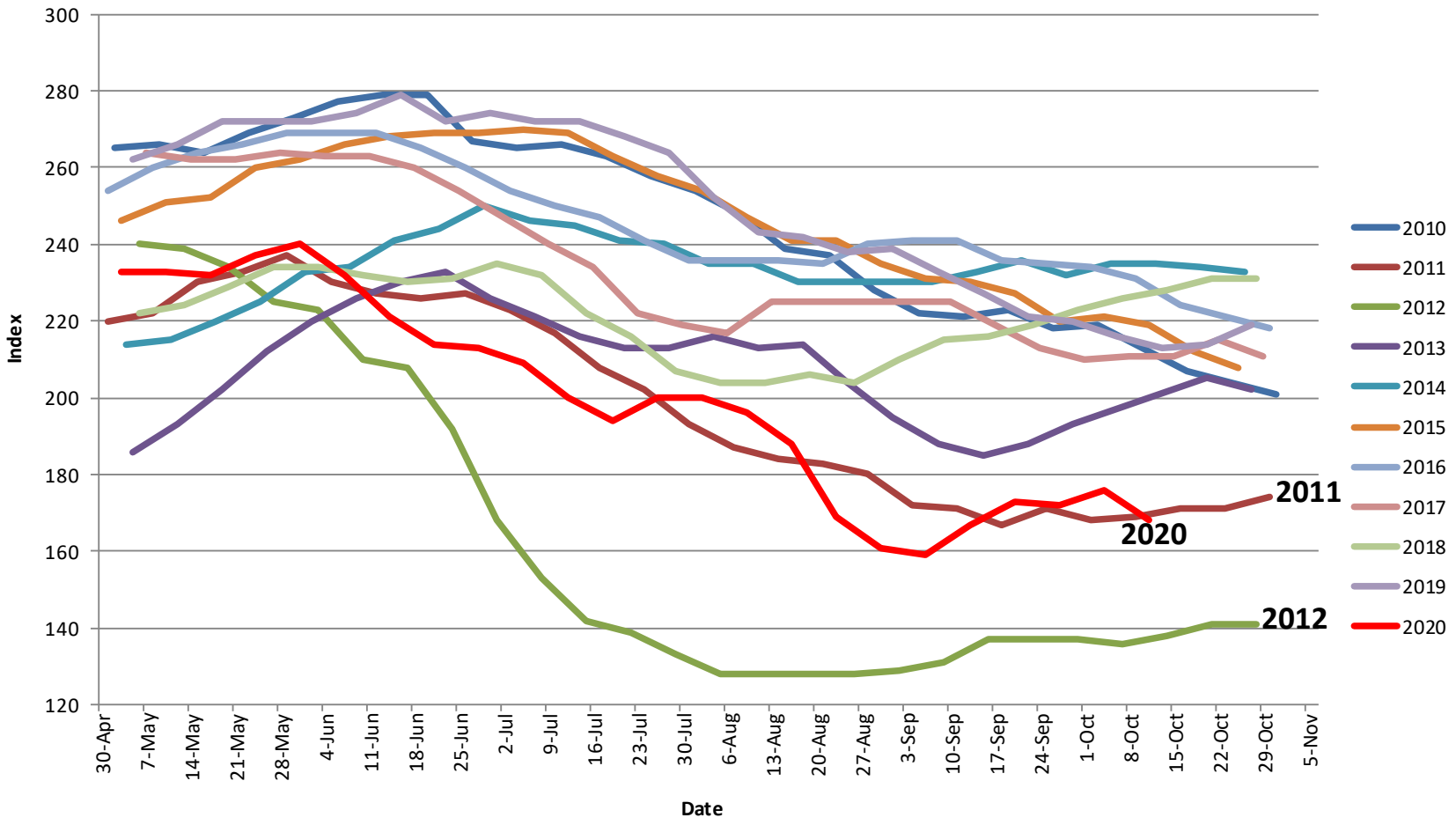
October 11, 2020



National Condition	
Poor to Very Poor	40
Change from Last Year	+12

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

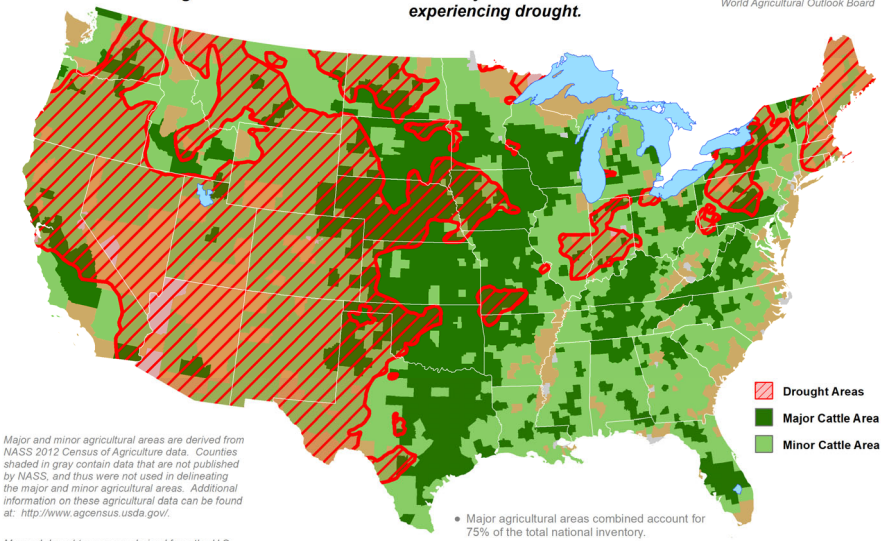
U.S. Cattle Areas Experiencing Drought

United States Department of Agriculture

Reflects October 13, 2020 U.S. Drought Monitor data

Approximately 40% of cattle inventory is within an area experiencing drought.

This product was prepared by the USDA Office of the Chief Economist World Agricultural Outlook Board



Major and minor agricultural areas are derived from NASS 2012 Census of Agriculture data. Counties shaded in gray contain data that are not published by NASS, and thus were not used in delineating the major and minor agricultural areas. Additional information on these agricultural data can be found at: http://www.agcensus.usda.gov/.

Mapped drought areas are derived from the U.S. Drought Monitor product and do not depict the intensity of drought in any particular location. More information on the Drought Monitor can be found at: http://droughtmonitor.unl.edu/.

- Major agricultural areas combined account for 75% of the total national inventory.
- Major and minor agricultural areas combined account for 99% of the total national inventory.

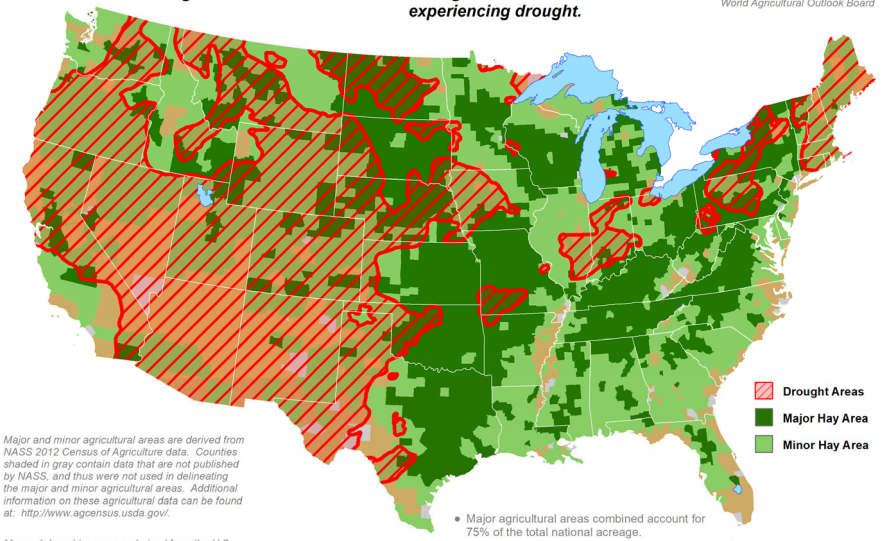
U.S. Hay Areas Experiencing Drought

United States Department of Agriculture

Reflects October 13, 2020 U.S. Drought Monitor data

Approximately 33% of hay acreage is within an area experiencing drought.

This product was prepared by the USDA Office of the Chief Economist World Agricultural Outlook Board

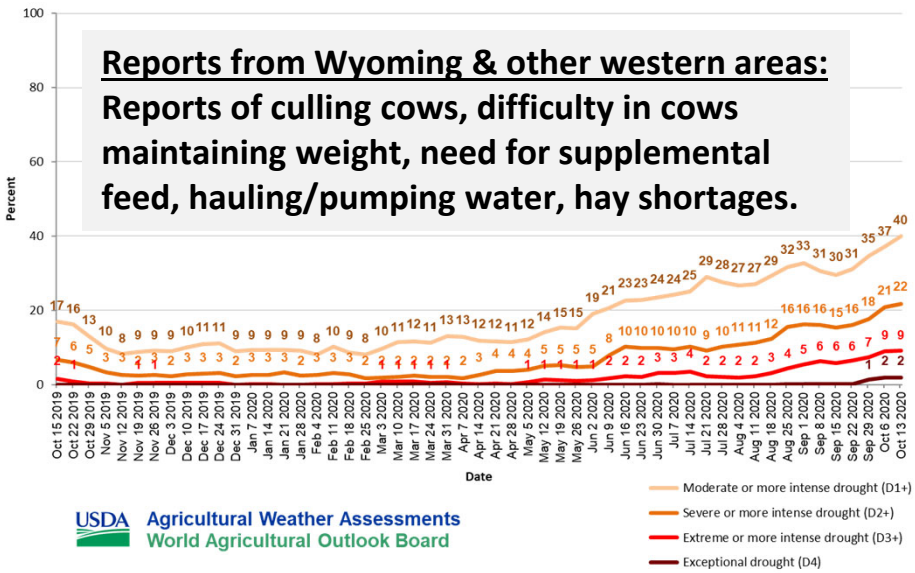


Major and minor agricultural areas are derived from NASS 2012 Census of Agriculture data. Counties shaded in gray contain data that are not published by NASS, and thus were not used in delineating the major and minor agricultural areas. Additional information on these agricultural data can be found at: http://www.agcensus.usda.gov/.

Mapped drought areas are derived from the U.S. Drought Monitor product and do not depict the intensity of drought in any particular location. More information on the Drought Monitor can be found at: http://droughtmonitor.unl.edu/.

- Major agricultural areas combined account for 75% of the total national acreage.
- Major and minor agricultural areas combined account for 99% of the total national acreage.

United States Cattle Areas Located in Drought



Reports from Wyoming & other western areas:
Reports of culling cows, difficulty in cows maintaining weight, need for supplemental feed, hauling/pumping water, hay shortages.

USDA Agricultural Weather Assessments
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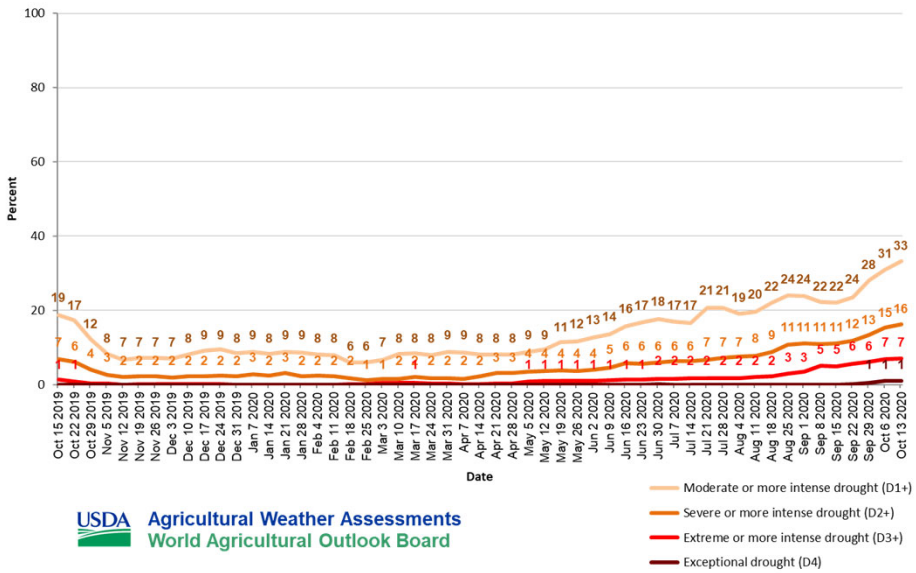
United States Hay Areas Located in Drought



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Corn Field Sunset
September 27, 2020
(photo by B. Rippey)