Midwest and Great Plains Climate & Drought Outlook 19 October 2017

Laura Edwards
SD State Climatologist
SDSU Extension
Aberdeen, SD
laura.edwards@sdstate.edu
605-626-2870

DuPage River flooding in Naperville, IL (courtesy of Matt Piechota)

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

General Information

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

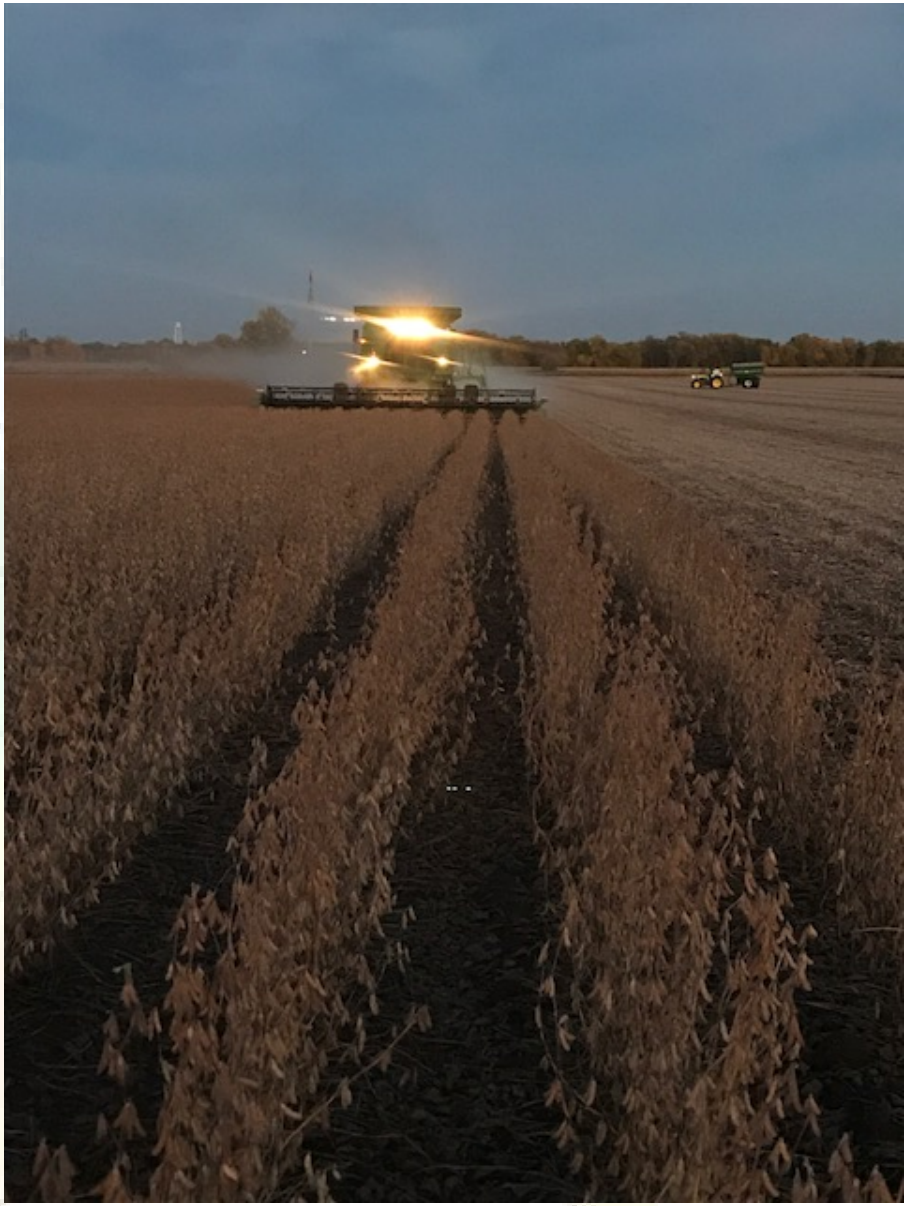
- **Next Regular Climate/Drought Outlook Webinar**
  - November 16, 2017 (1 PM CDT), presenter TBD

- **Access to Future Climate Webinars and Information**
- http://www.drought.gov/drought/content/regional-programs/regional-drought-webinars

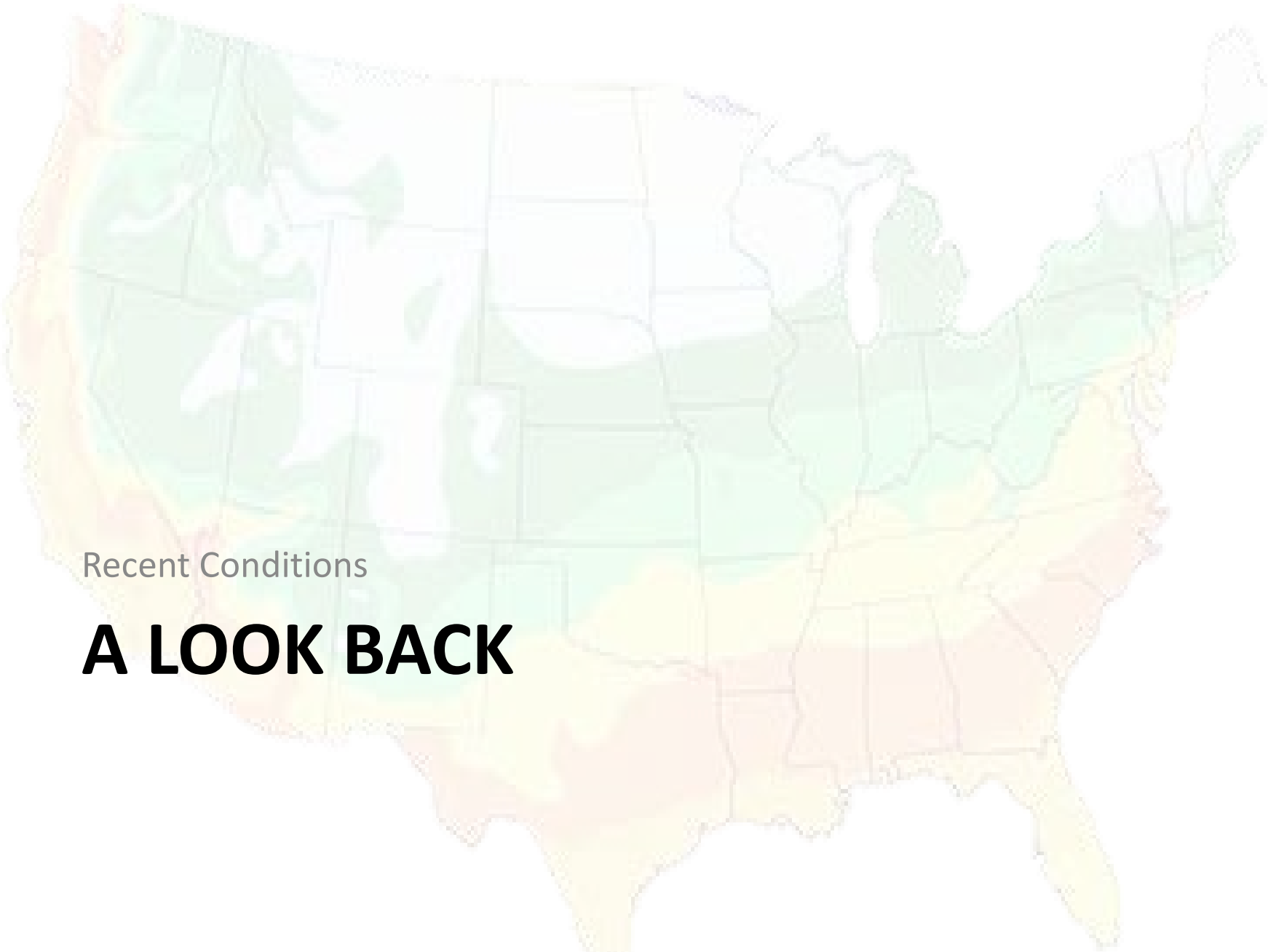
- *http://mrcc.isws.illinois.edu/webinars.htm*
- *http://www.hprcc.unl.edu/webinars.php*
- **Open for questions at the end**

Agenda

- **Recent Conditions**
- **Impacts**
- **Outlooks**
  - **La Niña Watch**
  - **Winter season**



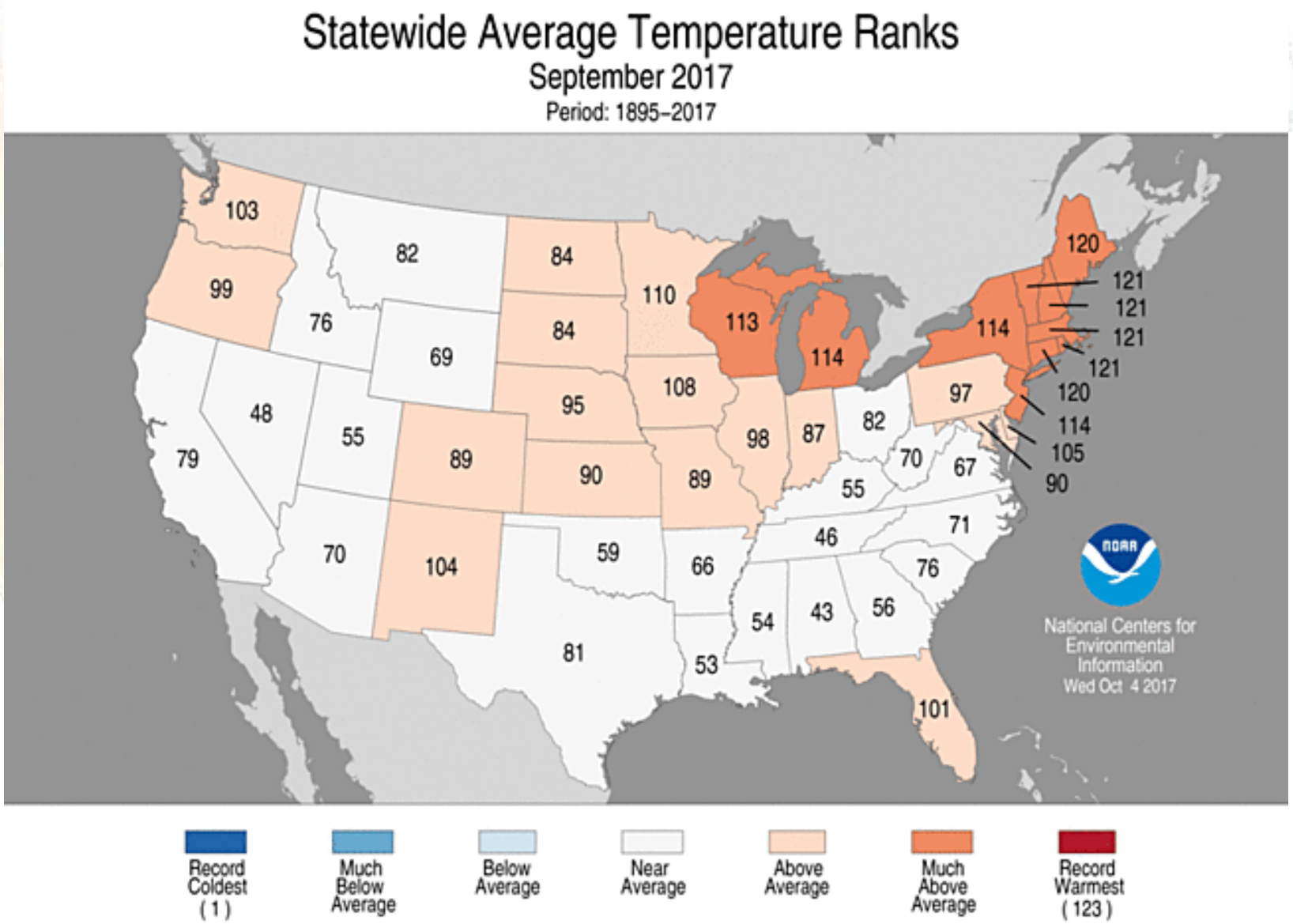
Soybean harvest near Baltic, SD. Photo: Sara Berg



Recent Conditions

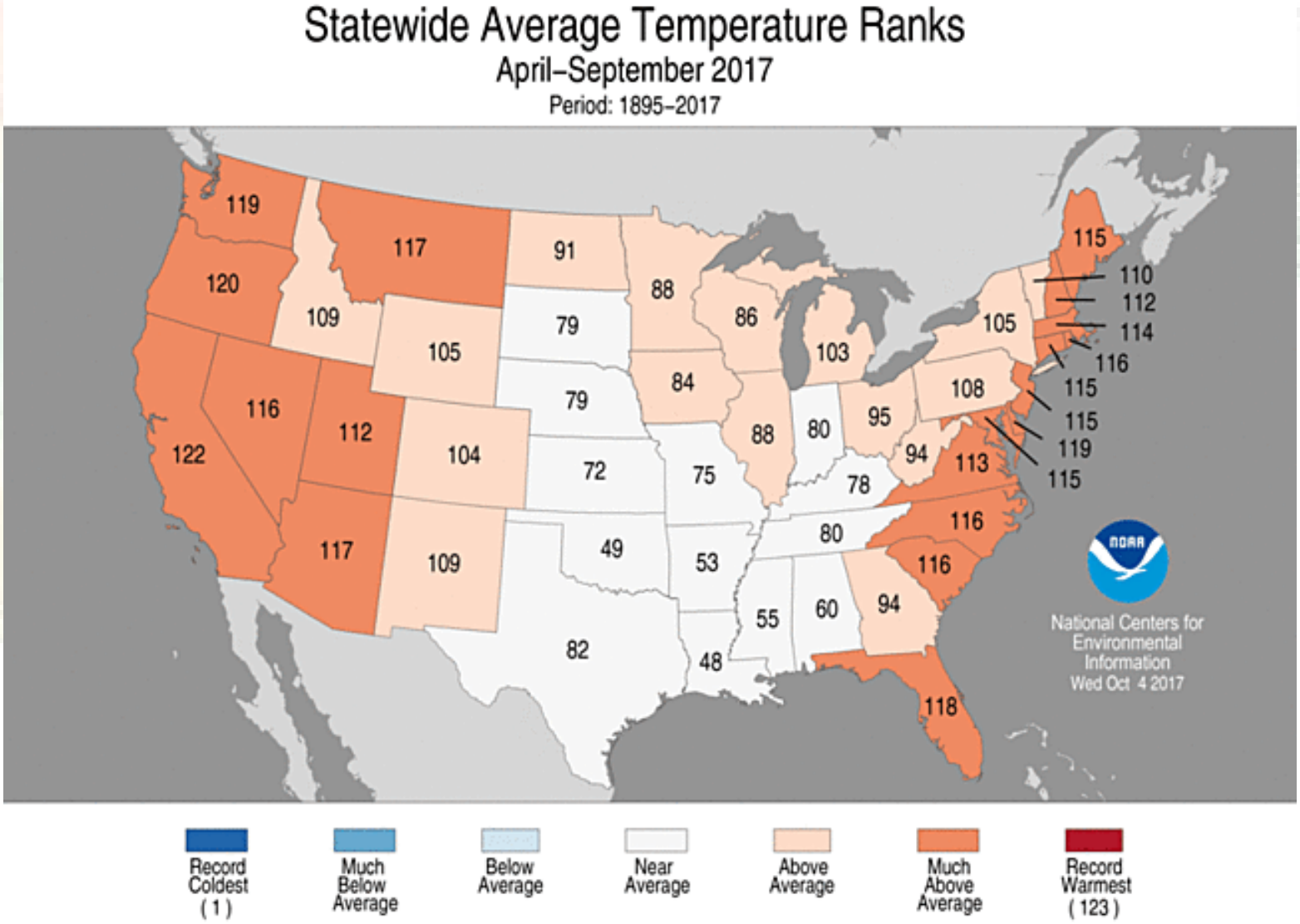
A LOOK BACK

September Temperature Ranks



http://www.ncdc.noaa.gov/temp-and-precip/us-maps/

Growing Season Temperature Ranks



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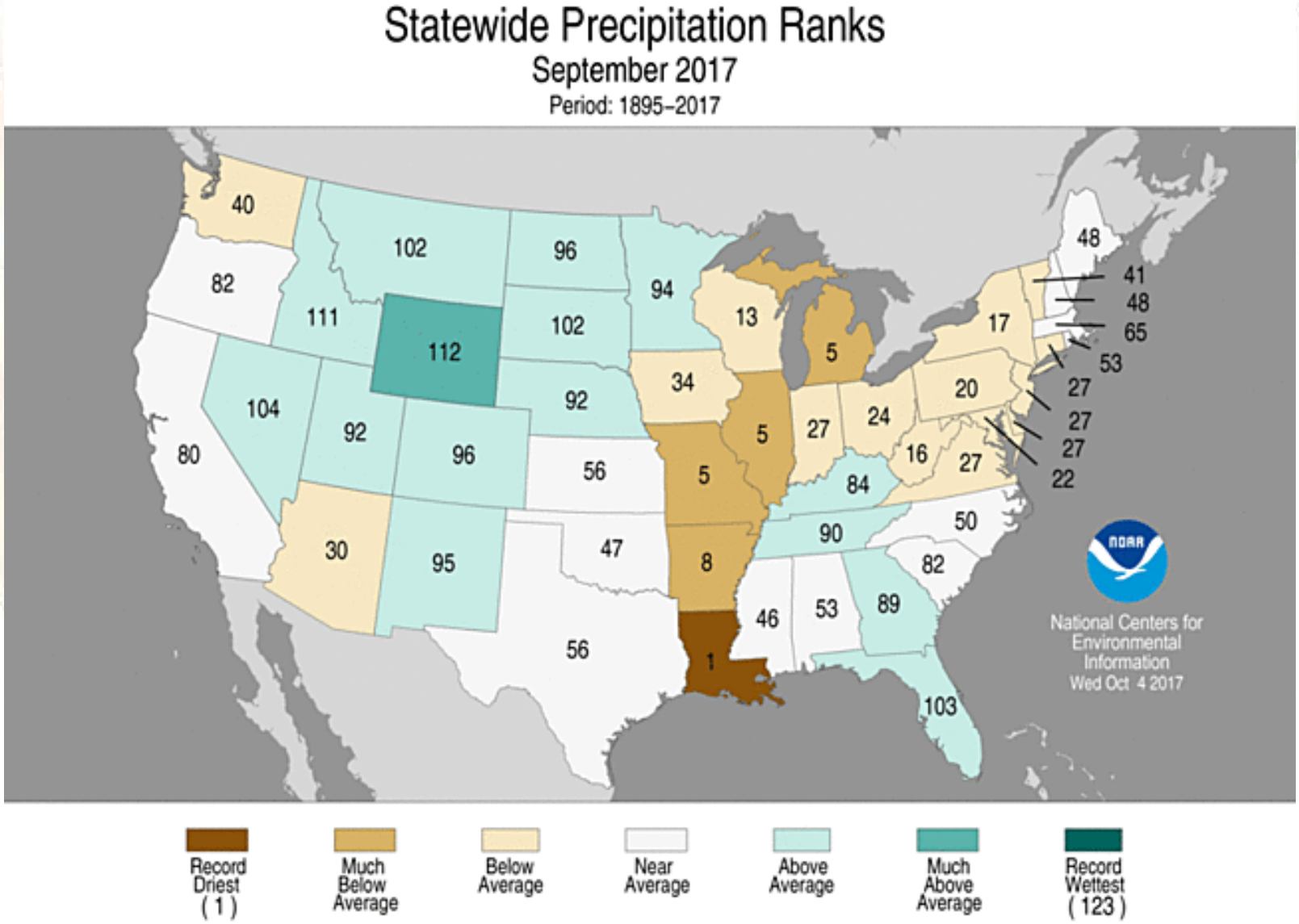
September Precipitation Ranks



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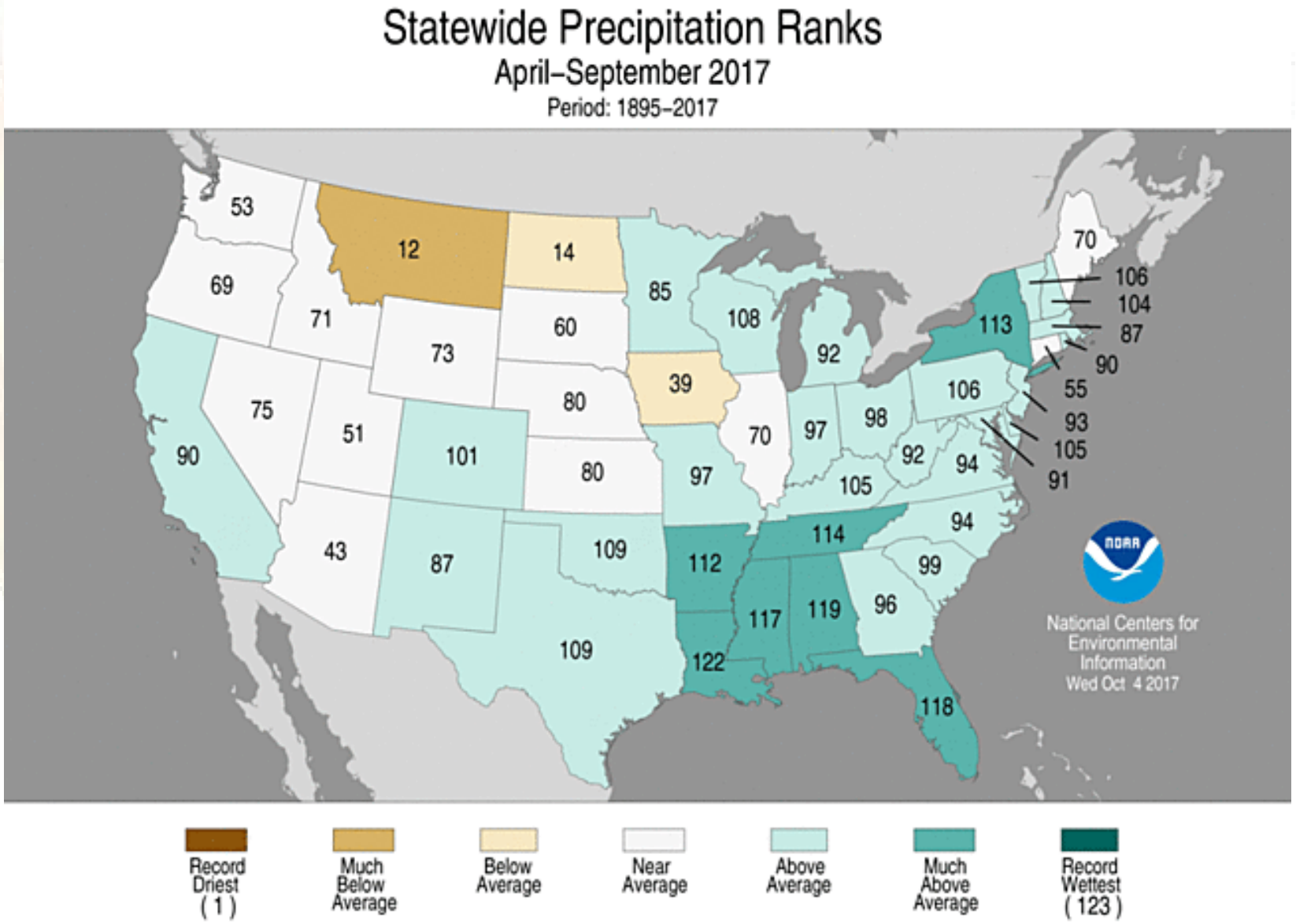
Growing Season Precipitation Ranks



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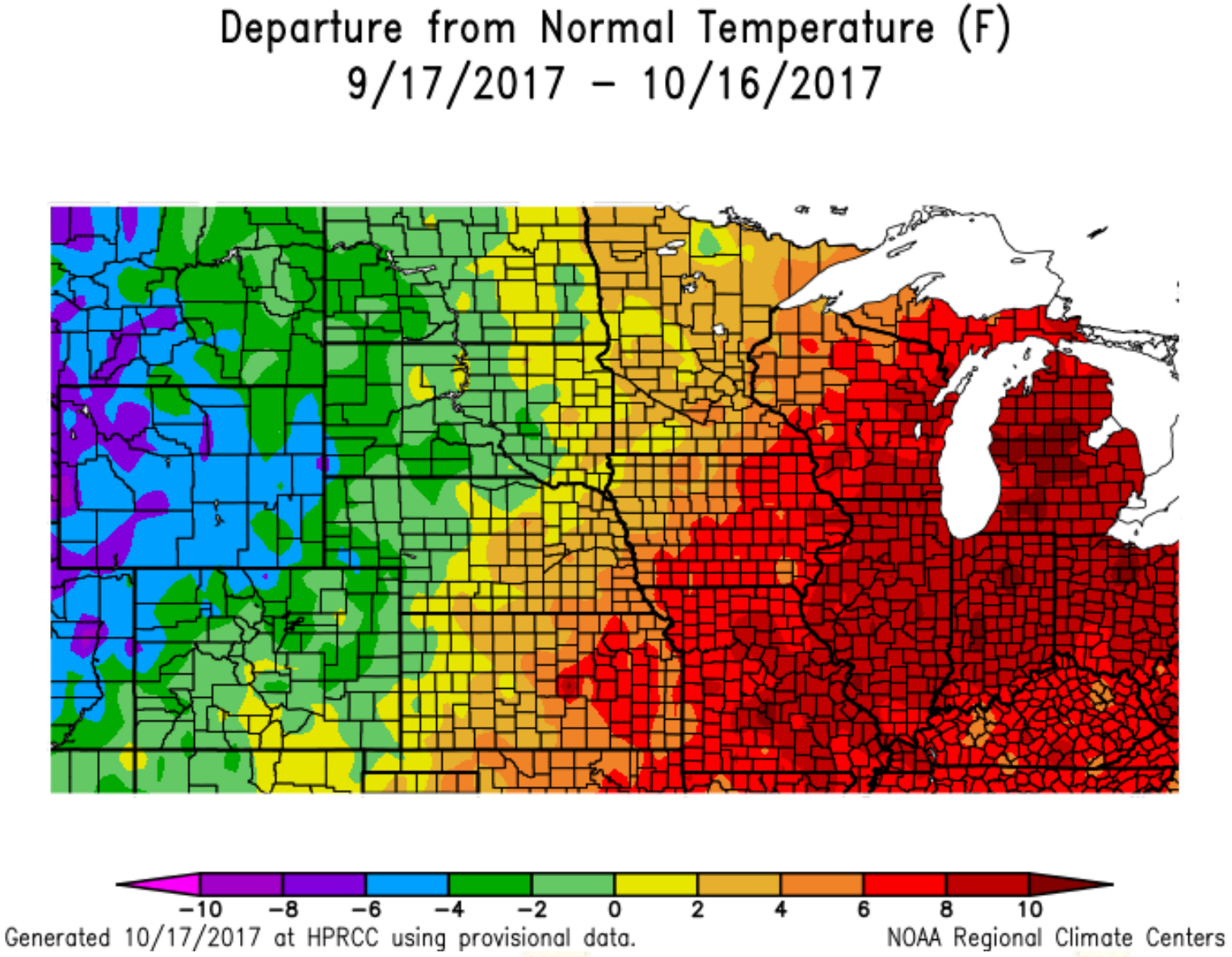
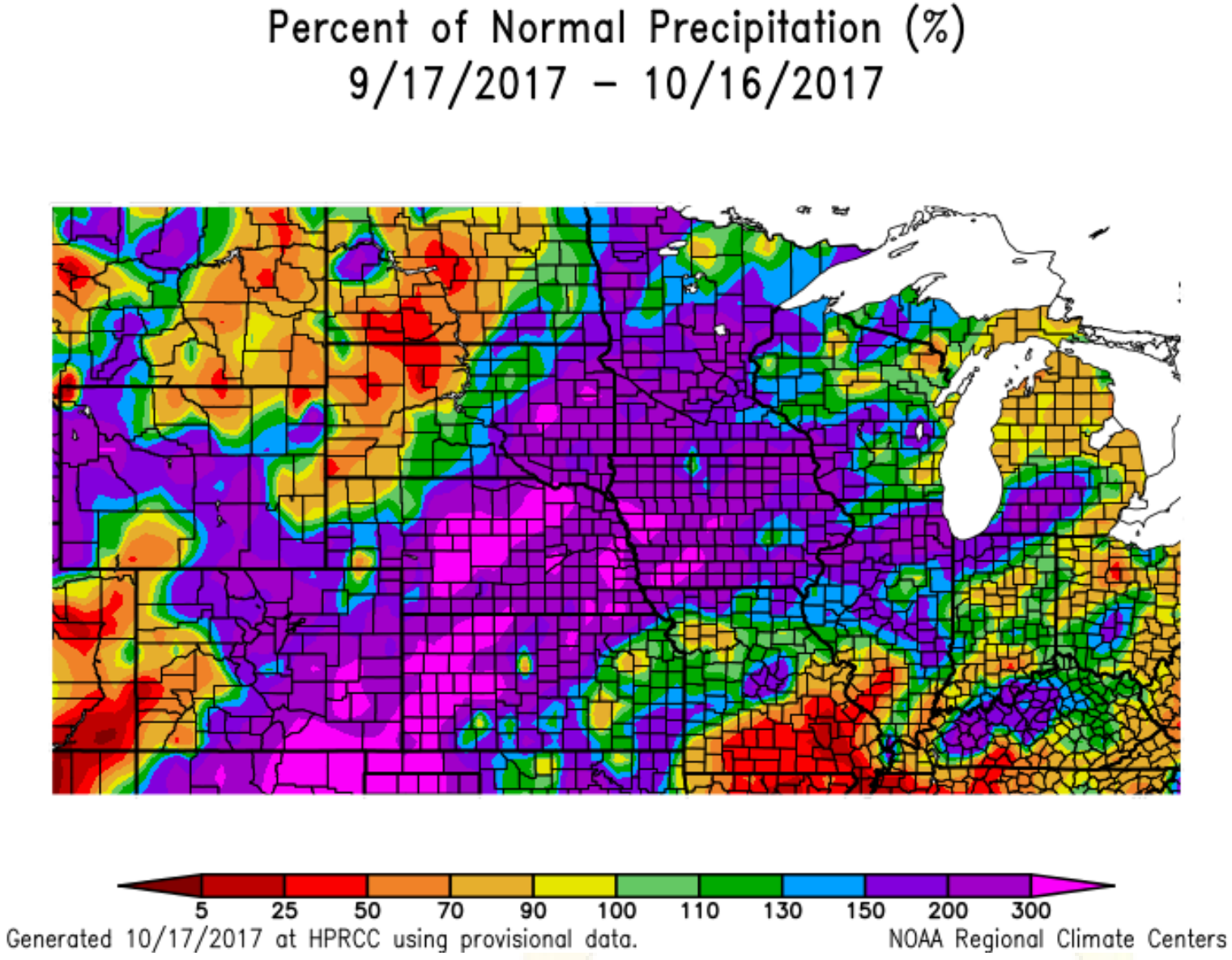
Last 30 Days



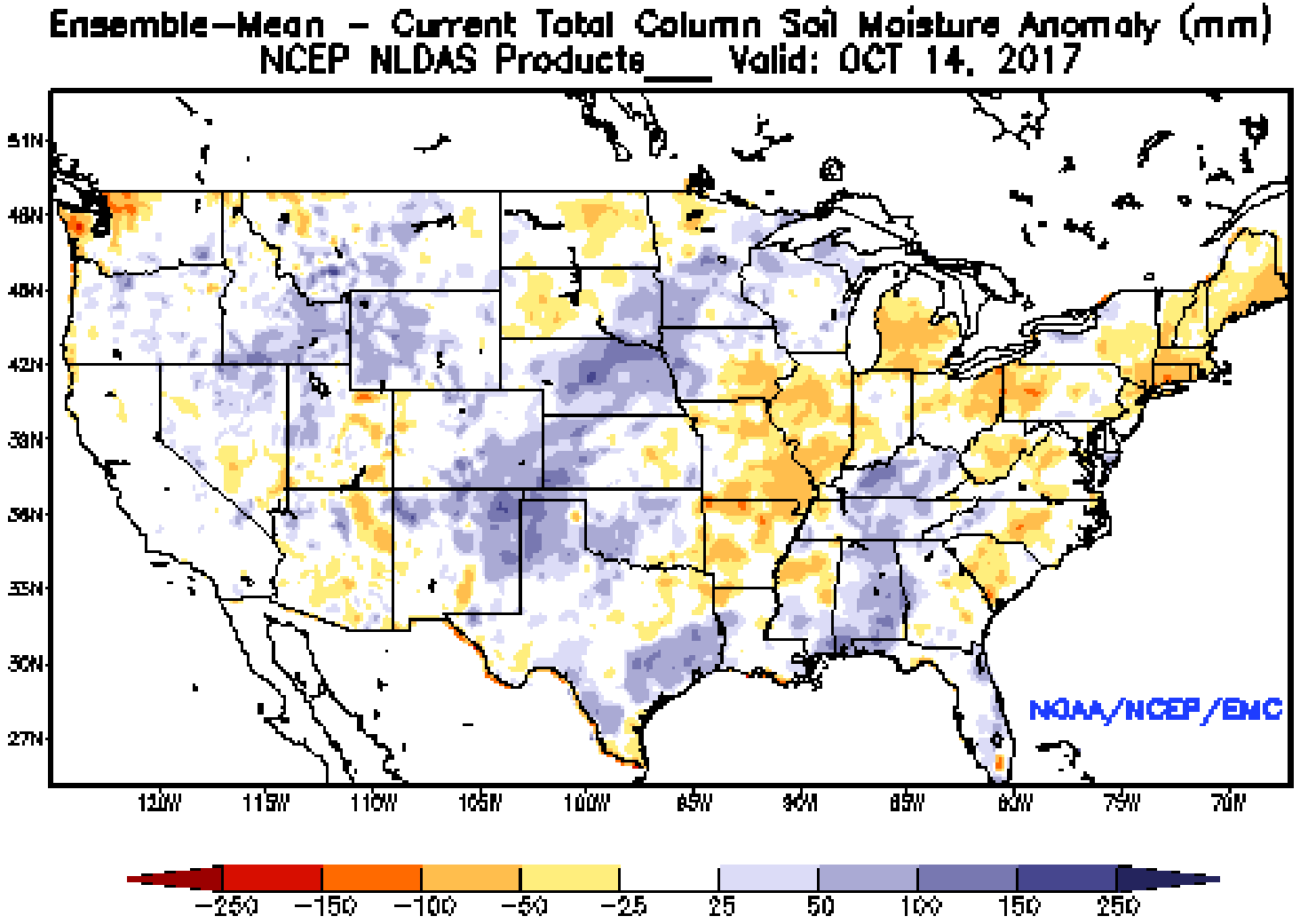
https://hprcc.unl.edu/maps.php?map=ACISClimateMaps

Last 30 Days



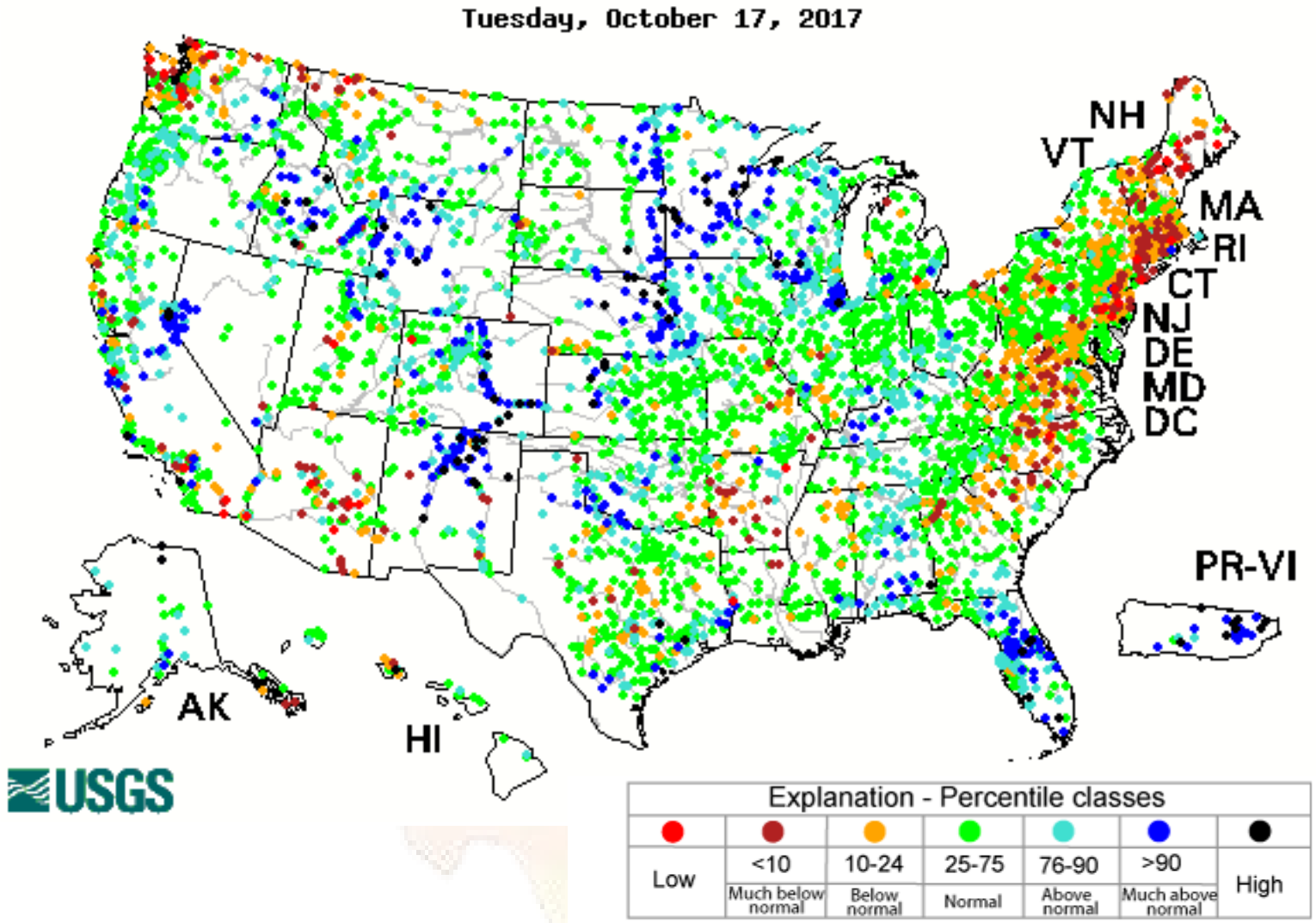
https://hprcc.unl.edu/maps.php?map=ACISClimateMaps

Modeled Soil Moisture



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

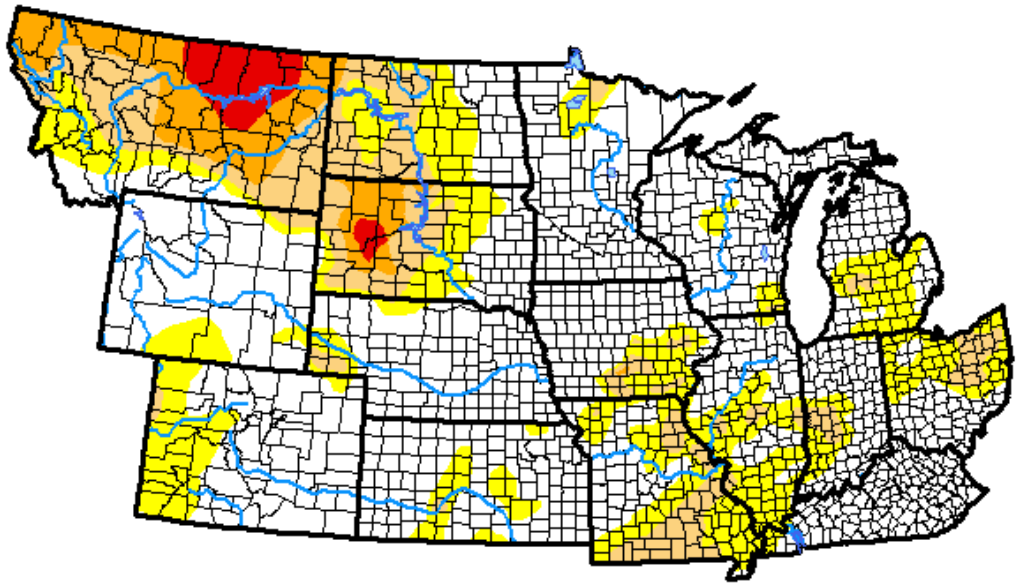
28-Day Average Streamflow



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

U.S. Drought Monitor

NWS Central Region



October 17, 2017

(Released Thursday, Oct. 19, 2017)

Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	60.34	39.66	18.82	7.67	2.14	0.00
Last Week *10-10-2017*	53.58	46.42	22.17	10.40	2.75	0.69
3 Months Ago *07-18-2017*	56.99	43.01	19.77	12.07	6.01	0.58
Start of Calendar Year *01-03-2017*	65.79	34.21	12.04	1.70	0.00	0.00
Start of Water Year *09-26-2017*	50.80	49.20	24.09	12.89	6.13	2.26
One Year Ago *10-18-2016*	77.57	22.43	4.42	0.29	0.00	0.00

Intensity:

- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

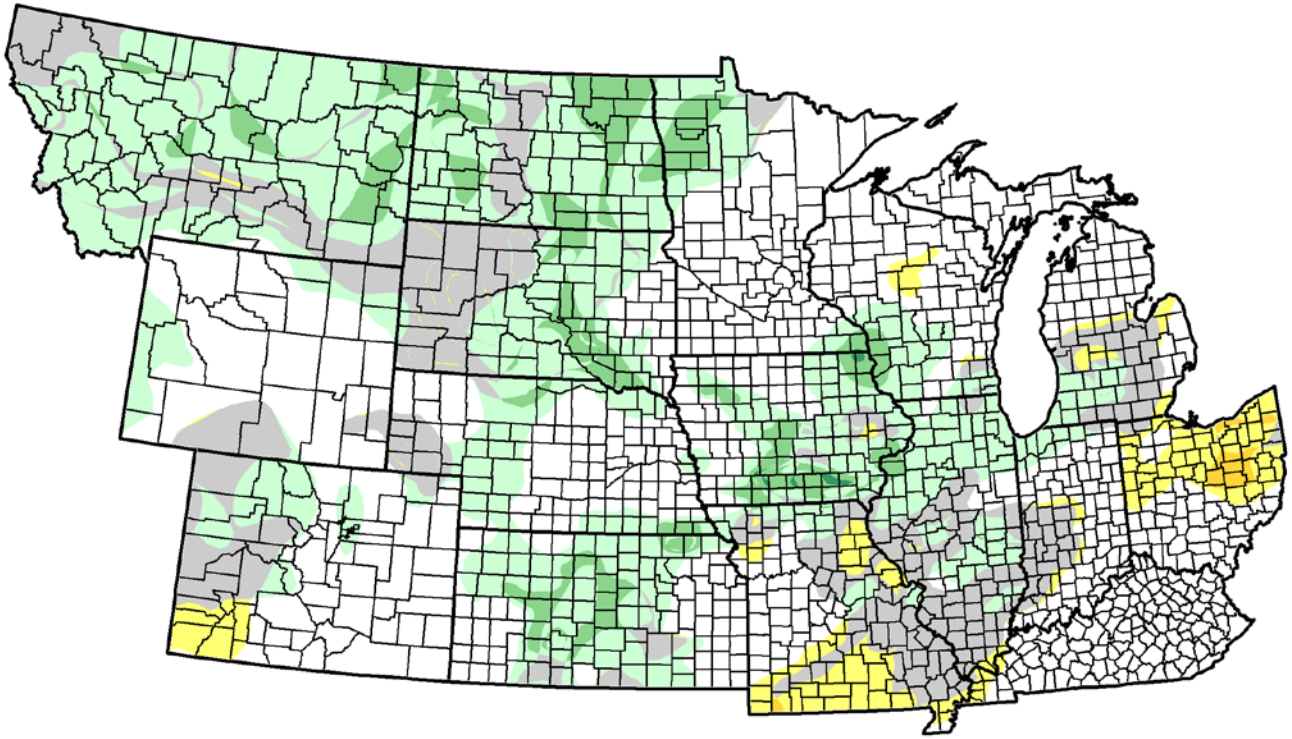
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

Author:
Jessica Blunden
NCEI/NOAA

http://droughtmonitor.unl.edu/

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

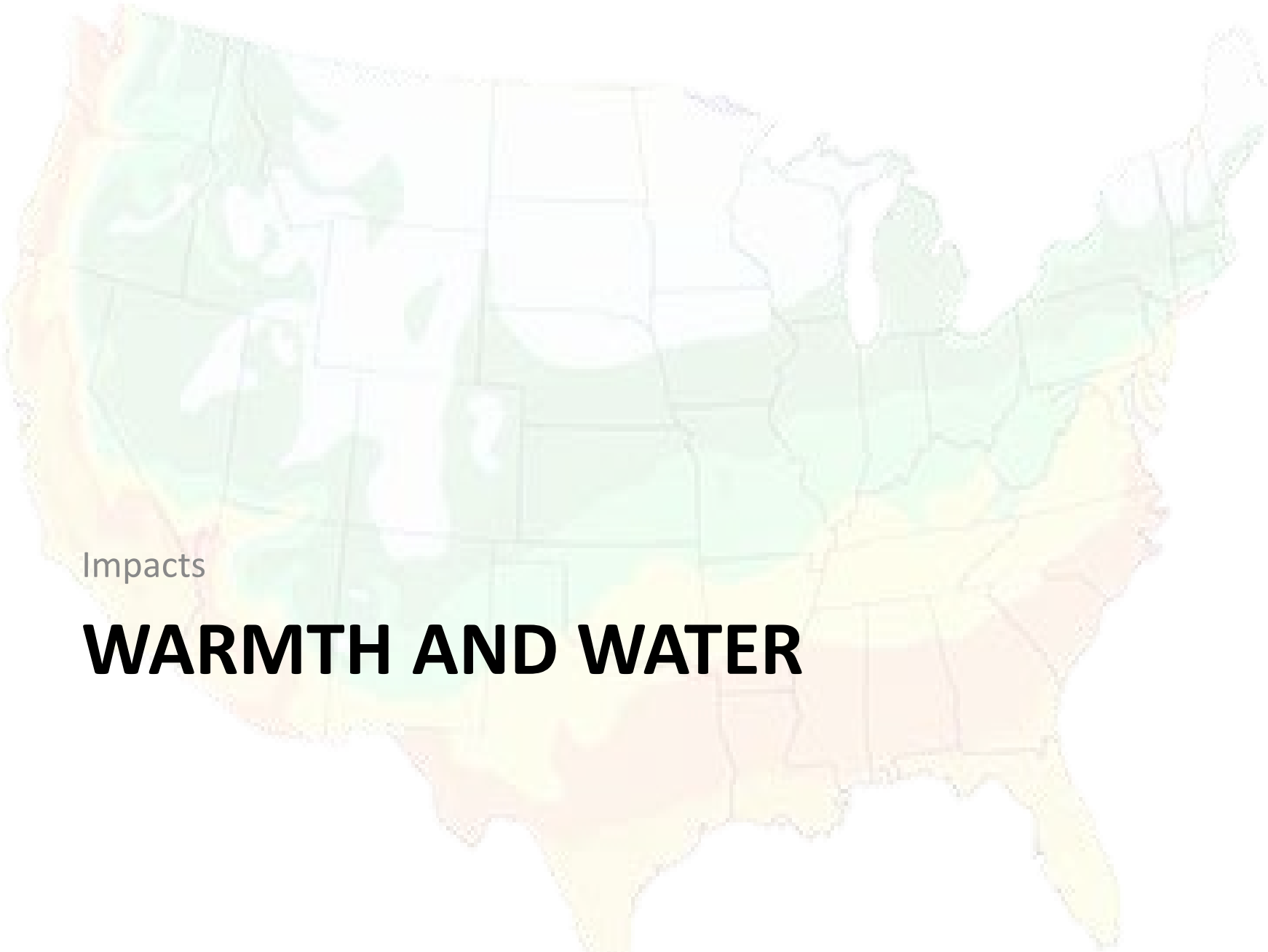
1 Month



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

October 17, 2017
compared to
September 19, 2017

http://droughtmonitor.unl.edu



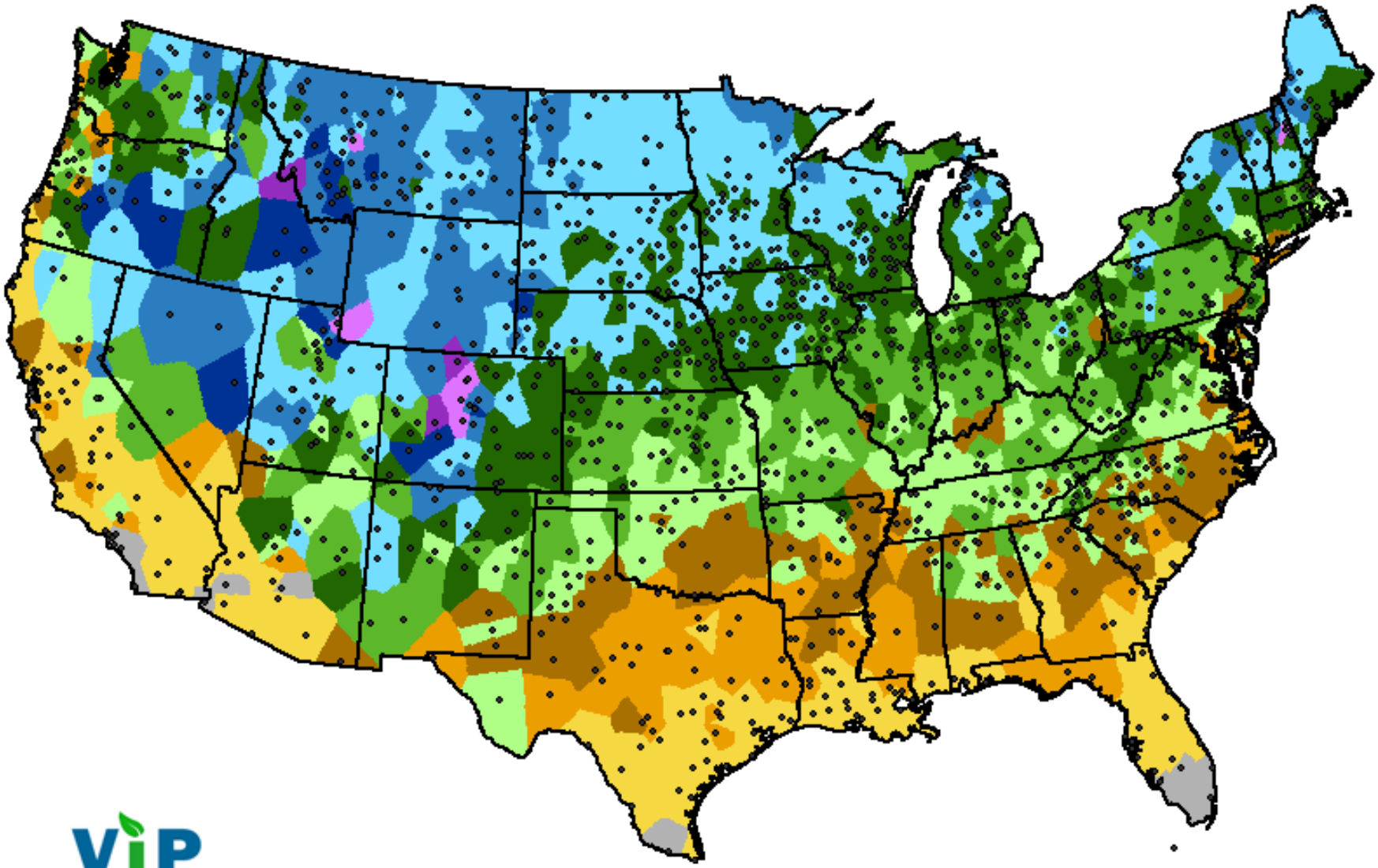
Impacts

WARMTH AND WATER

Climatological Date of Median First 32°F Freeze
For the years from 1980-81 to 2009-10

Median Defined as 50th Percentile

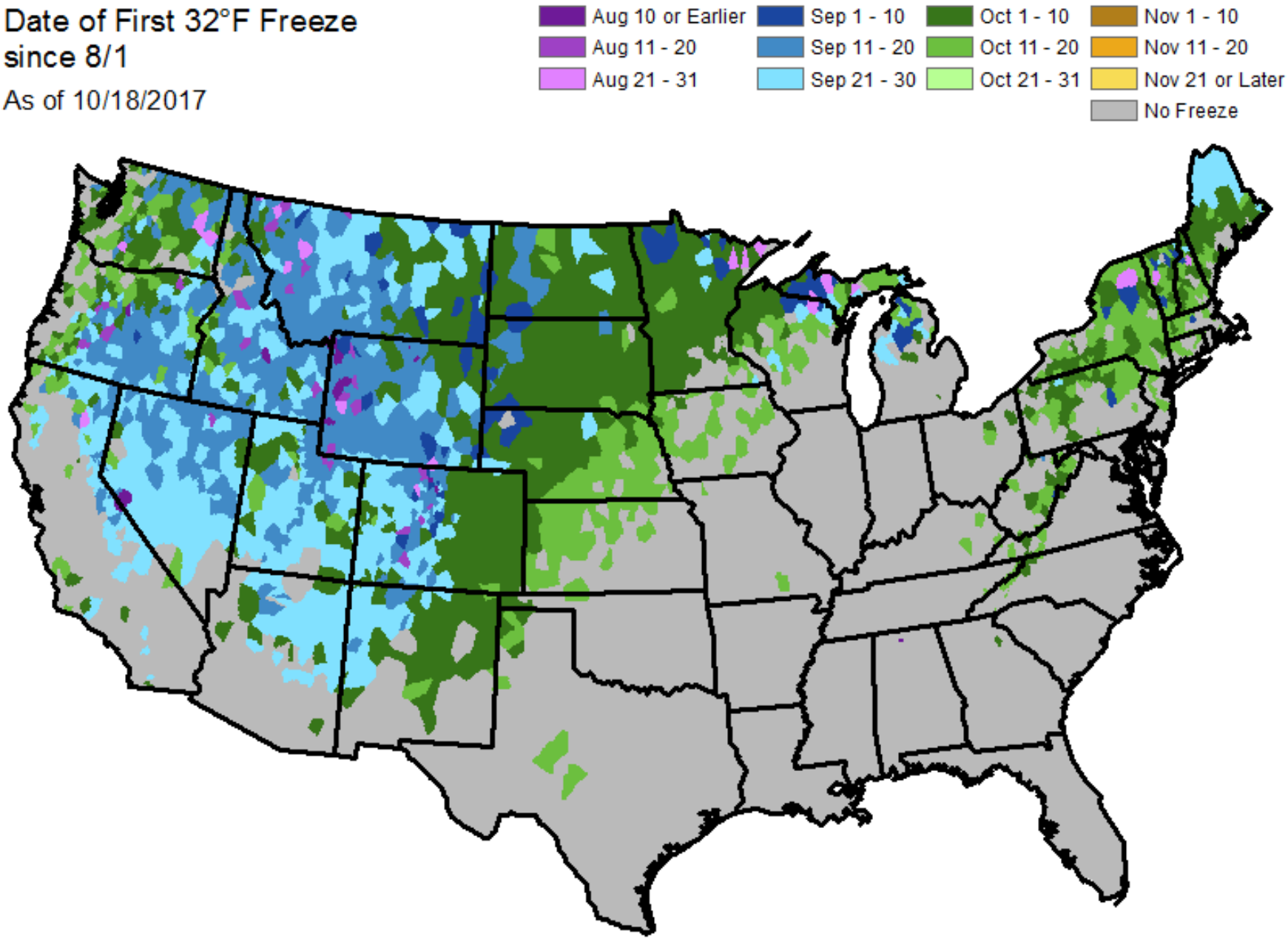
- Aug 10 or Earlier
- Aug 11 - 20
- Aug 21 - 31
- Sep 1 - 10
- Sep 11 - 20
- Sep 21 - 30
- Oct 1 - 10
- Oct 11 - 20
- Oct 21 - 31
- Nov 1 - 10
- Nov 11 - 20
- Nov 21 or Later
- No Recent Frz



MRCC VIP
Vegetation Impact Program

Date of First 32°F Freeze since 8/1

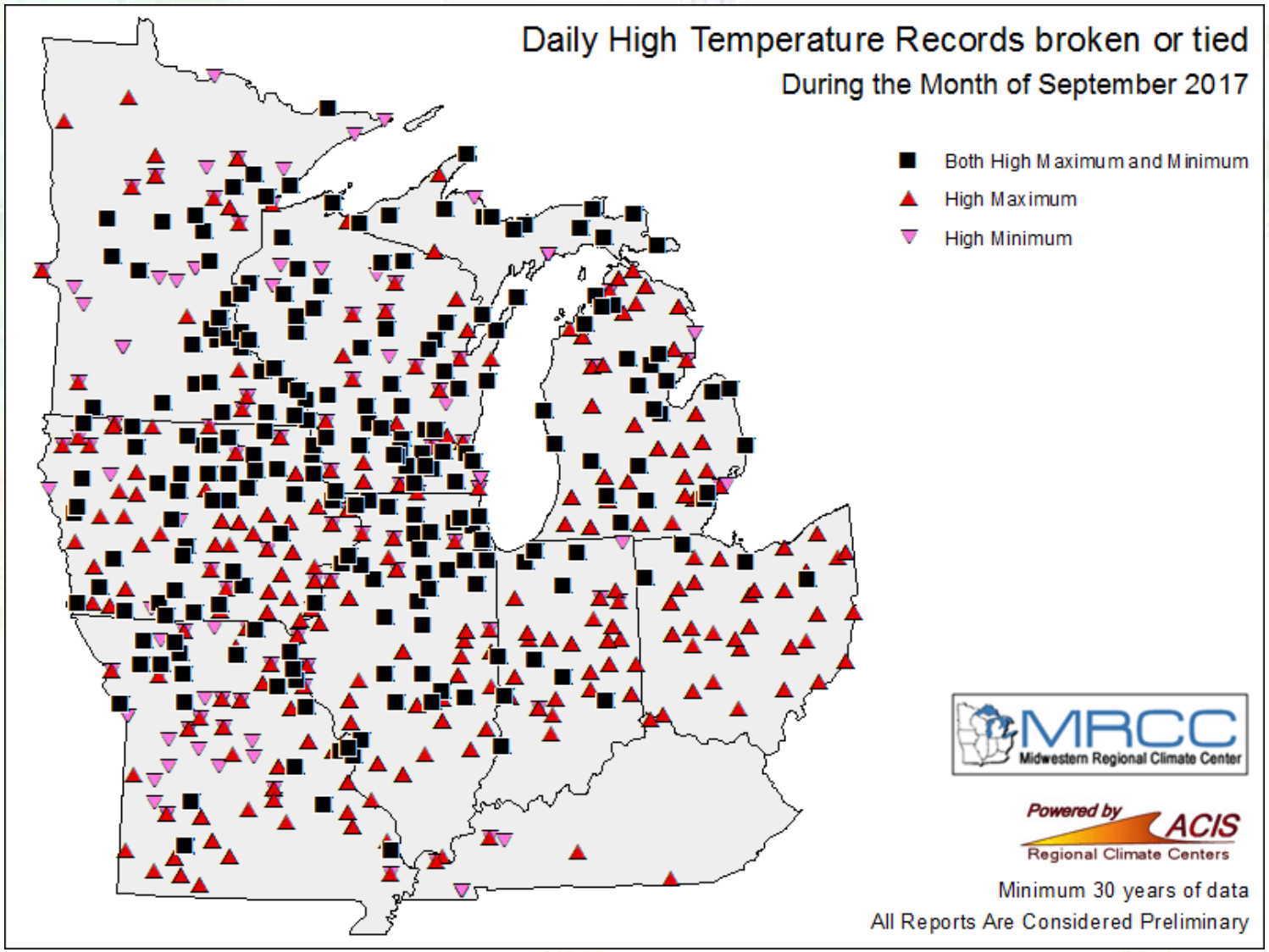
As of 10/18/2017



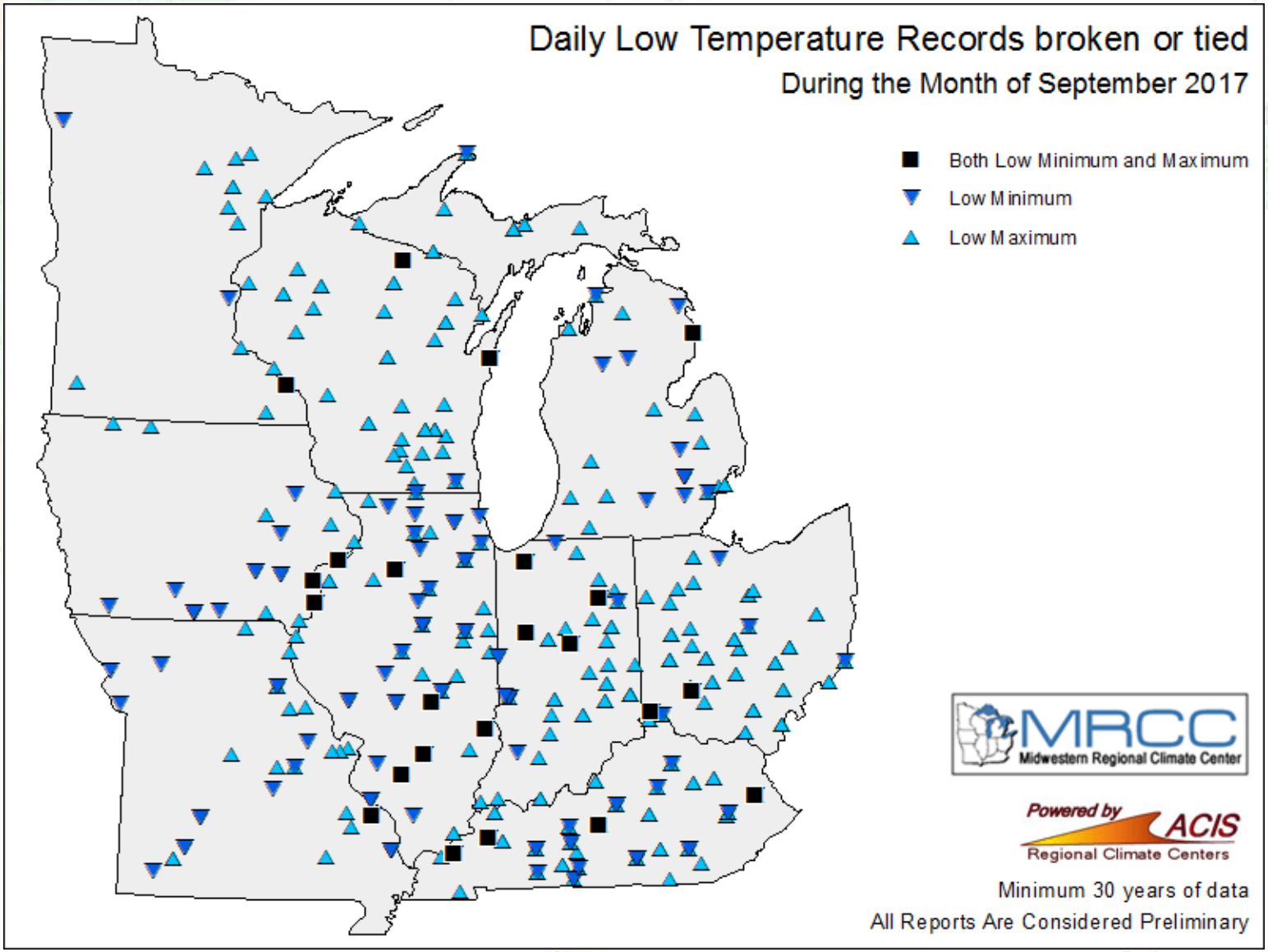
MRCC Experimental Freeze Guidance:
These experimental maps may be utilized as a guide to local and regional freeze conditions but should NOT be used by themselves for decision processes.

MRCC VIP Vegetation Impact Program

Record Warmth in Midwest



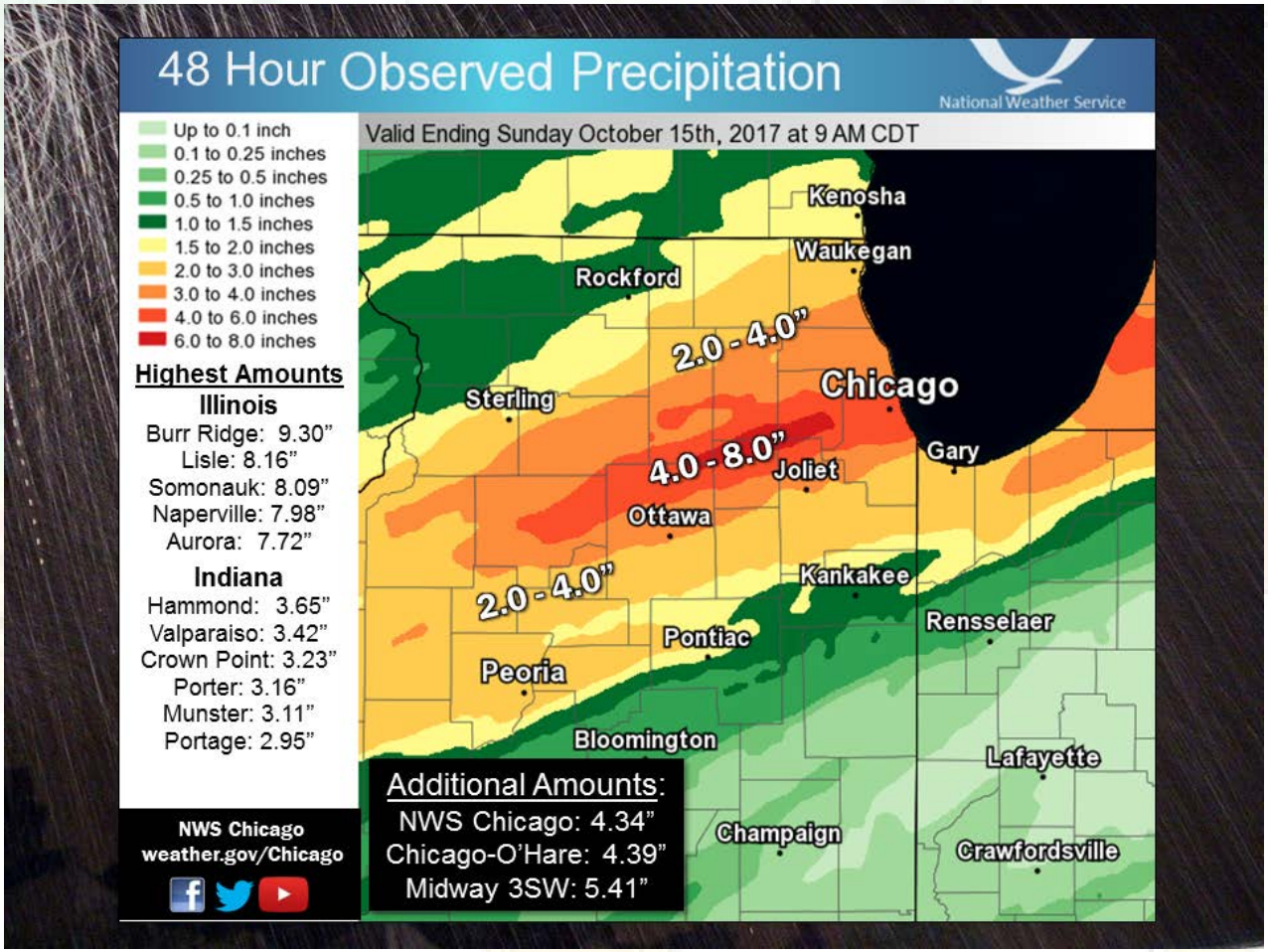
Record Warmth in Midwest



Chicago and Cedar Rapids

- Chicago:
  - Sep 20-26, 7 consecutive days 92-95F high temps.
  - Latest string of 92+ days on record, previous was Sep 16-19, 1955.
  - 2nd time on record (July 27-Aug 4, 1988).
- Cedar Rapids
  - Latest occurrence of the year's warmest 5-day stretch on record
  - Highs in the 90s for much of this period

October 14-15 Extreme Rainfall

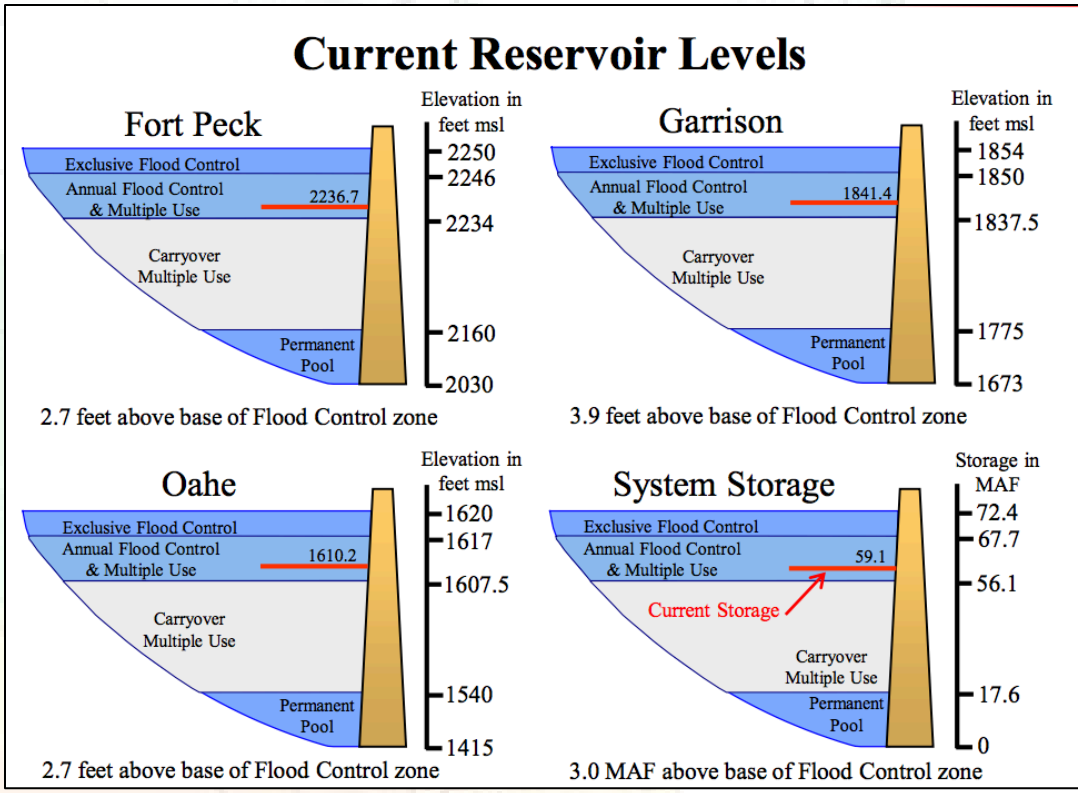


http://www.weather.gov/lot/14Oct2017_rainfall

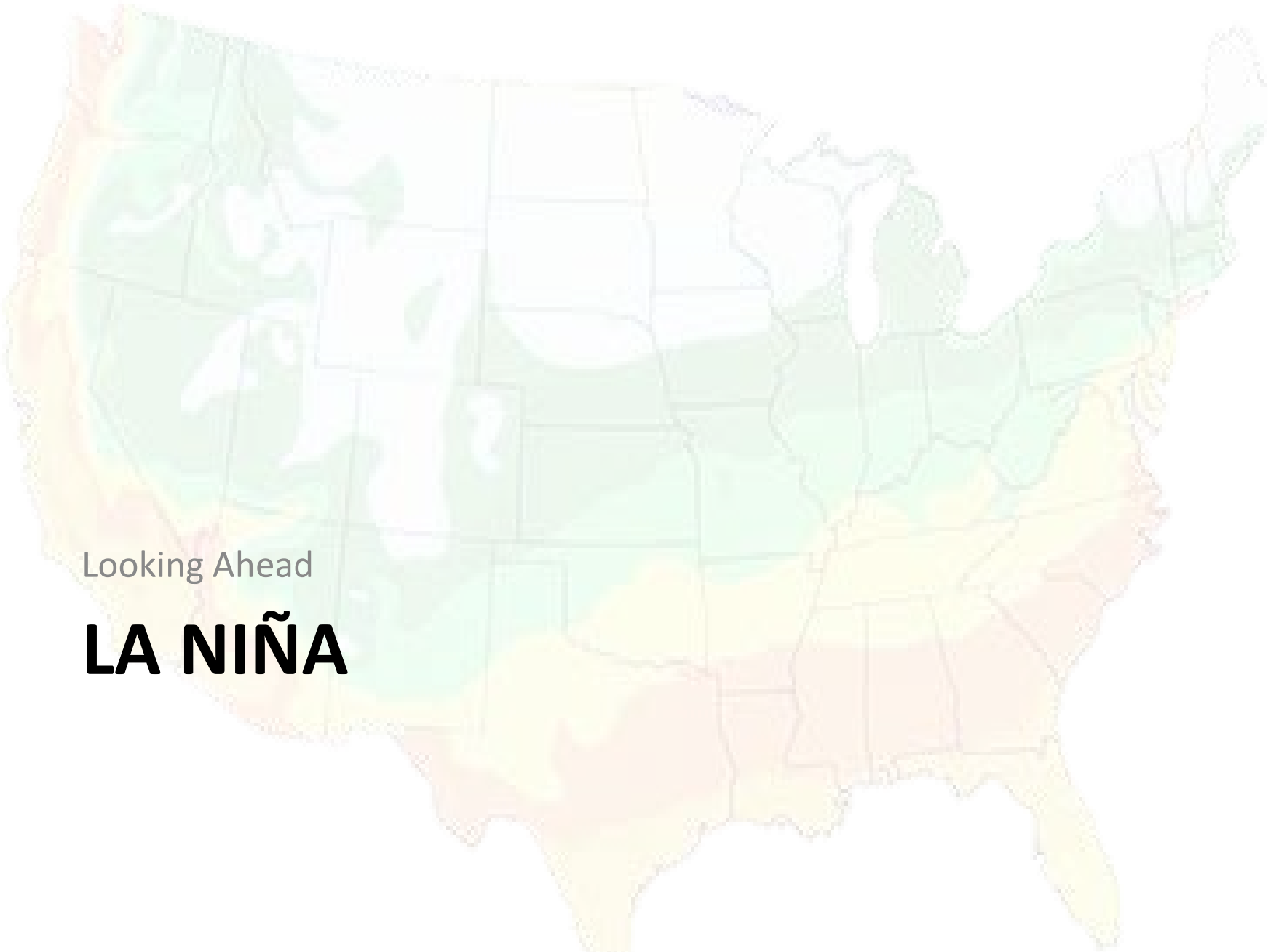
Missouri River

Missouri Mainstem Reservoir Status (as of 10/10/17):

- System storage is 59.1 million acre-feet (MAF), 3.0 MAF above the base of the Annual Flood Control and Multiple Use Zone.
- Gavins Point and Fort Randall releases were reduced to lessen downstream flooding. Releases will be increased to previous levels as downstream flows recede.



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



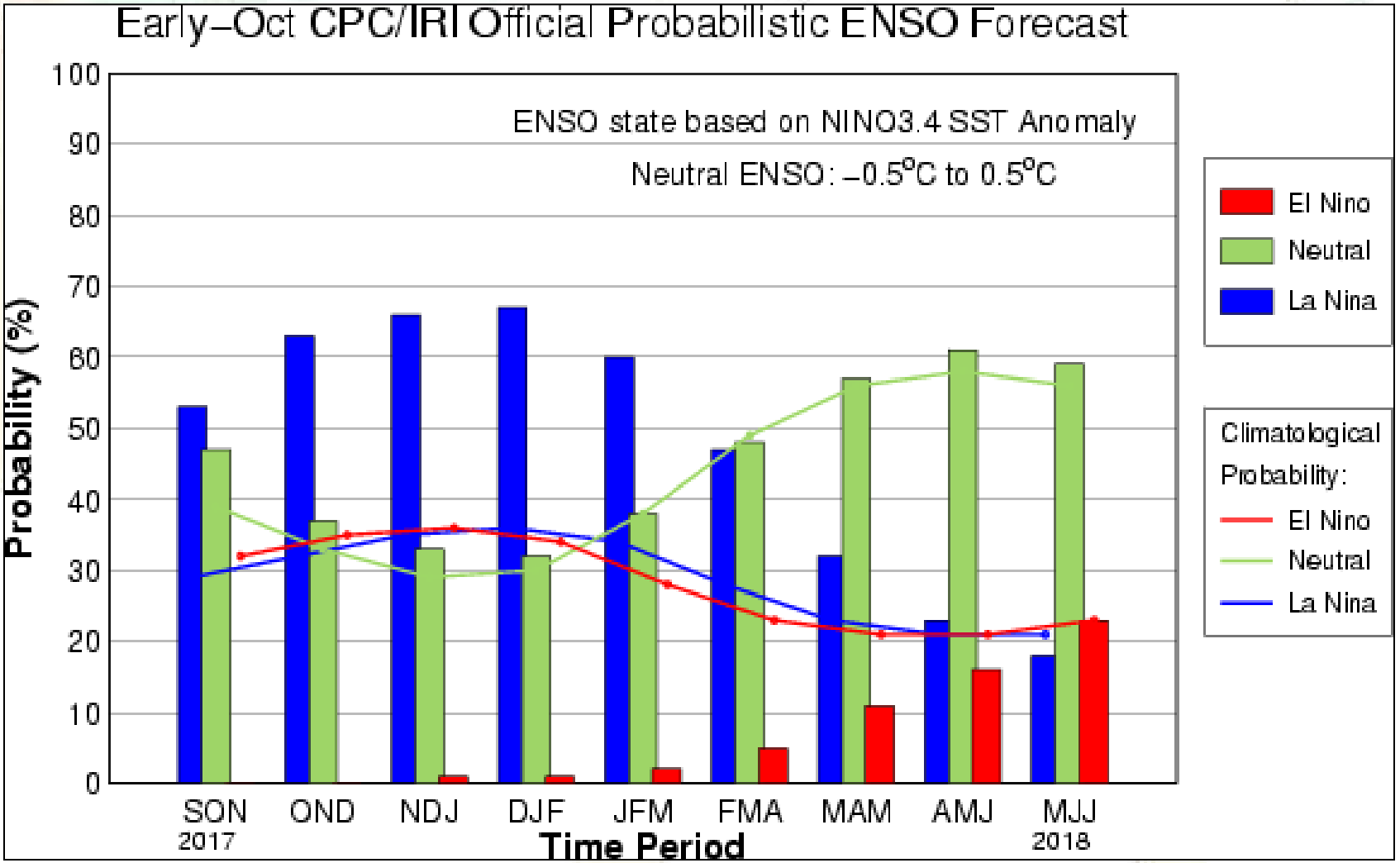
Looking Ahead

LA NIÑA

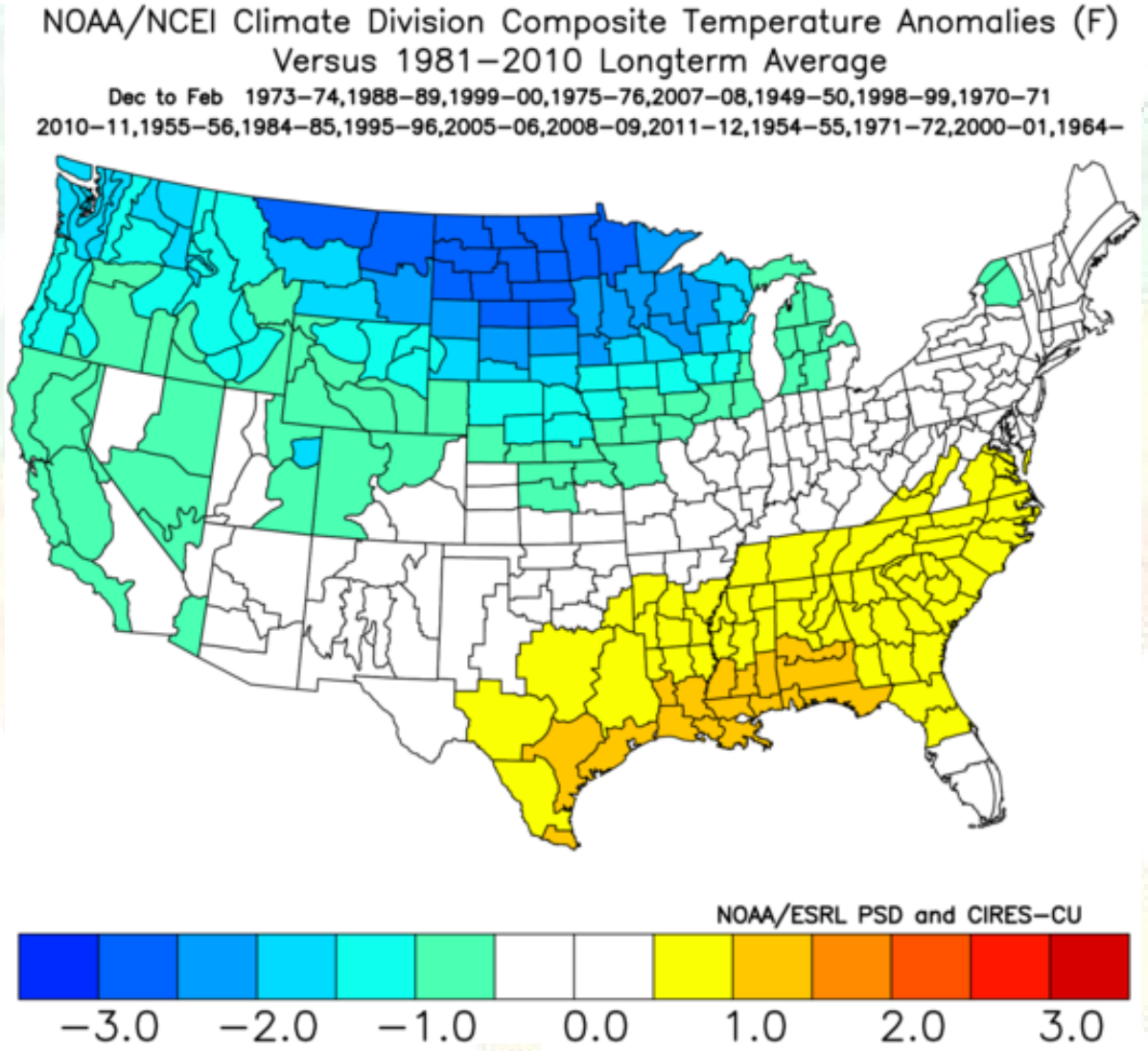
La Niña Winter?

- 55-65% likely development between November – February
- Has often meant colder in the northern states, and wetter in the Ohio River basin
- Recent La Niña events have shown a lot of variability

La Niña Probabilities



Temperature anomalies during La Niña Episodes
21 Events, 1949-2012



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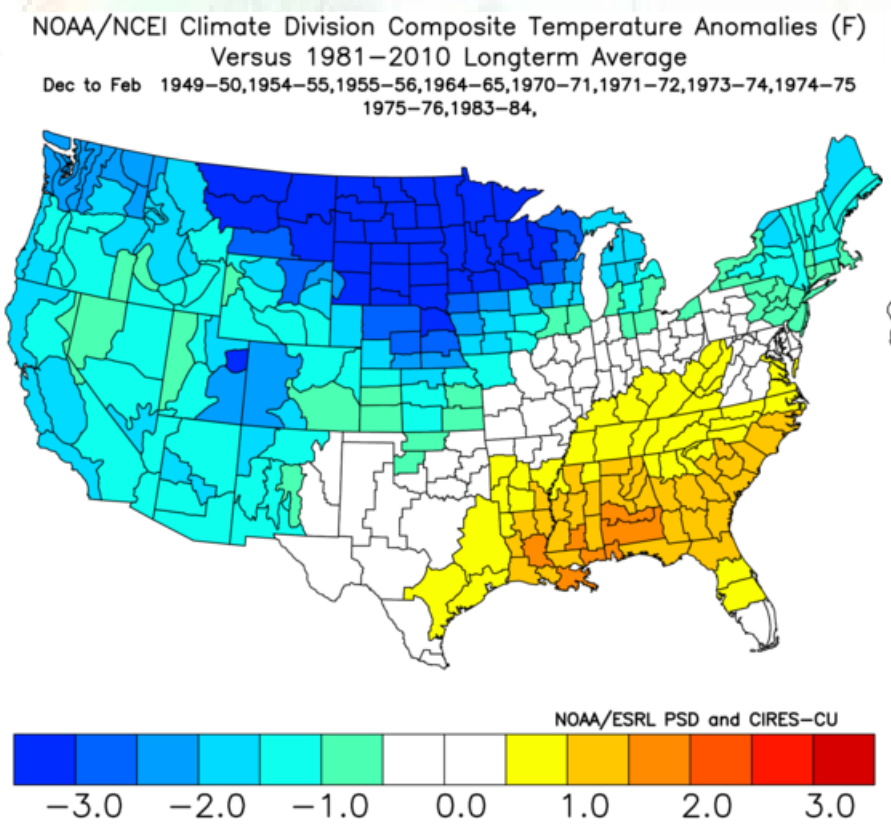
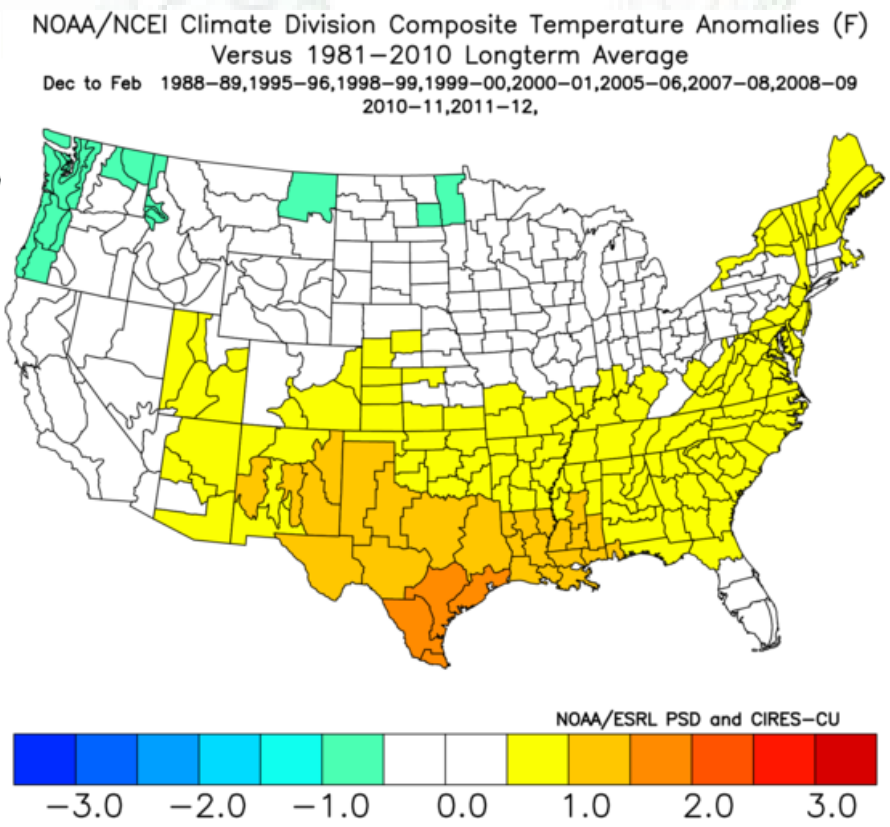
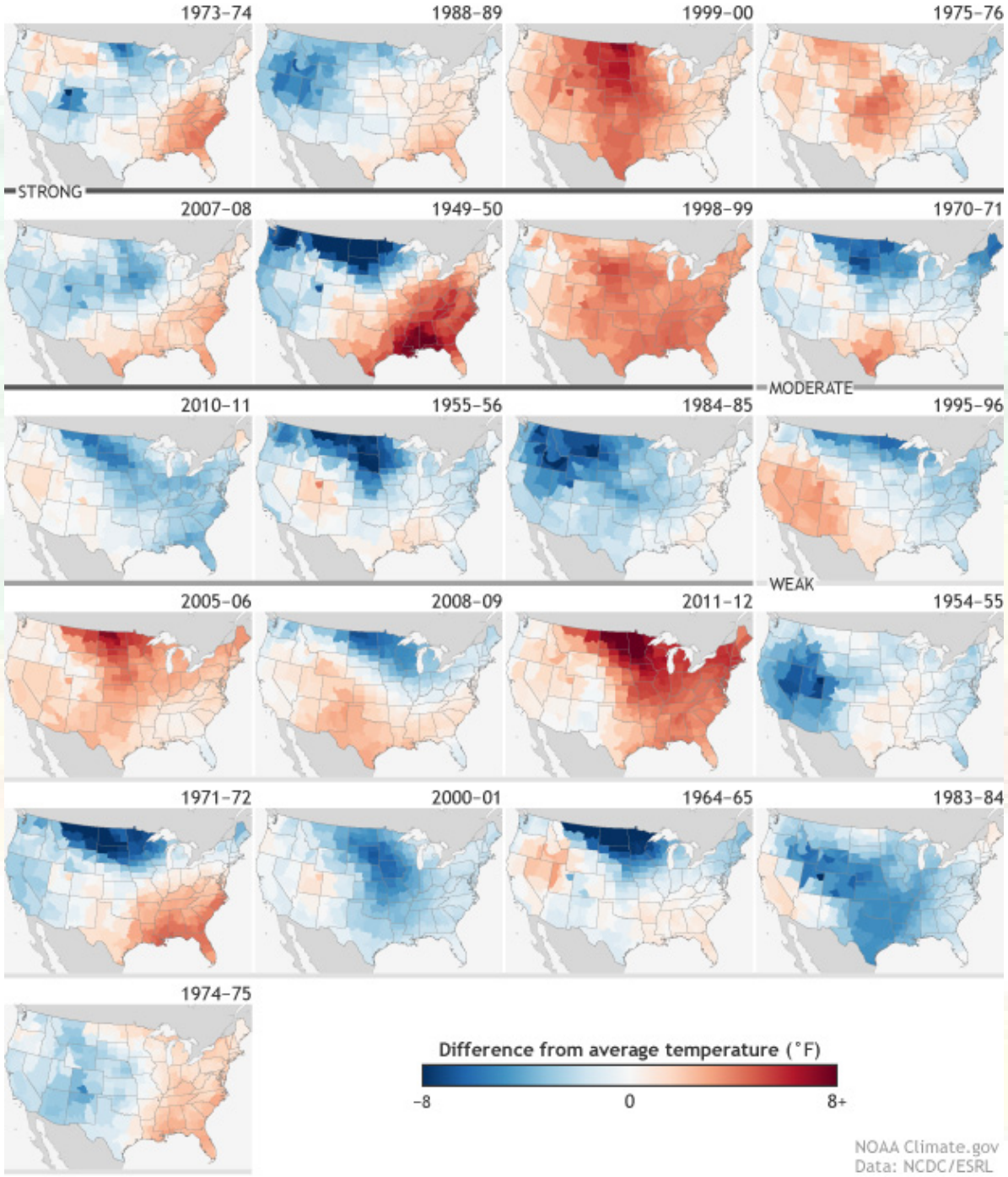


Episodes prior to 1985

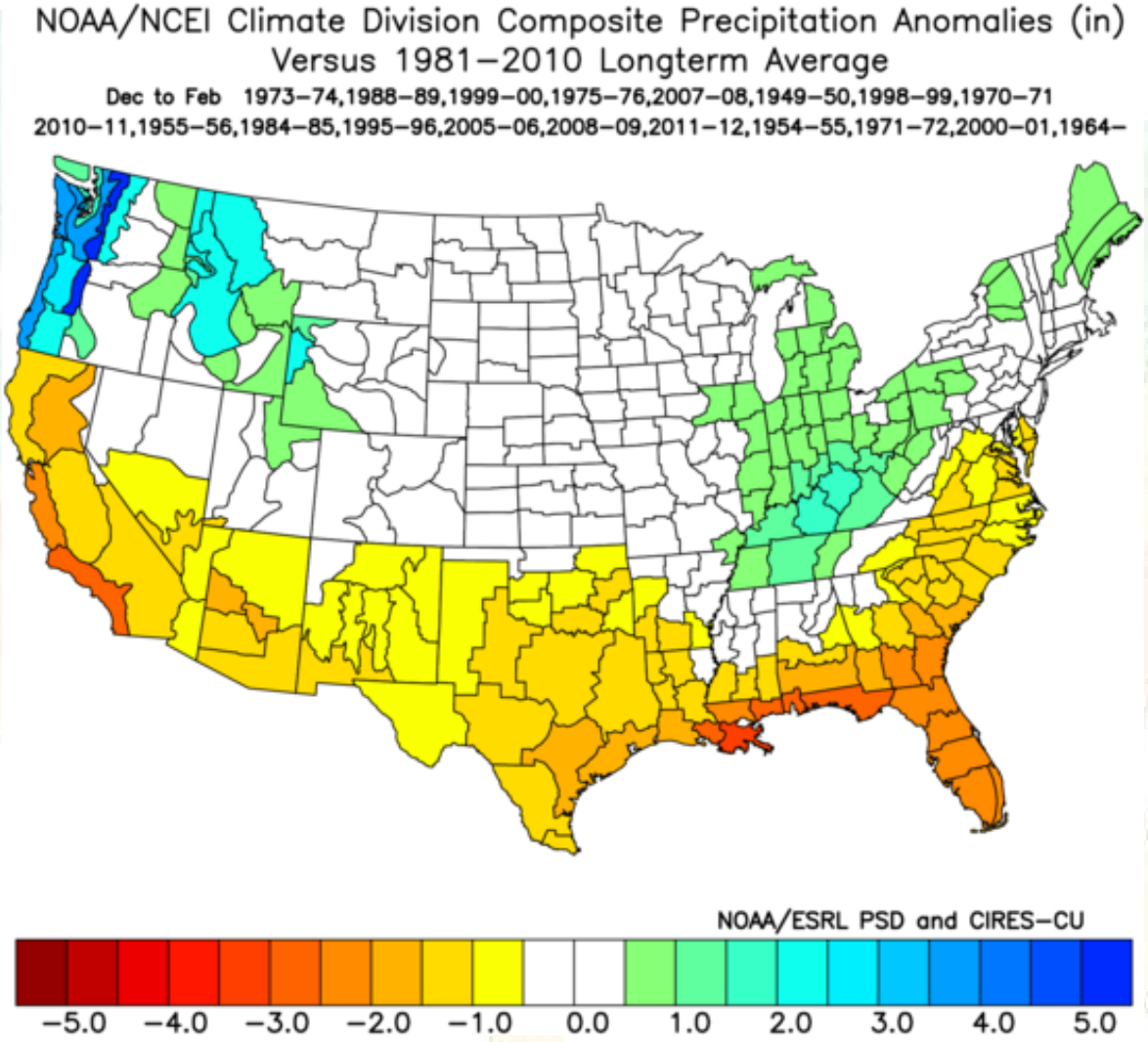


Episodes after 1985

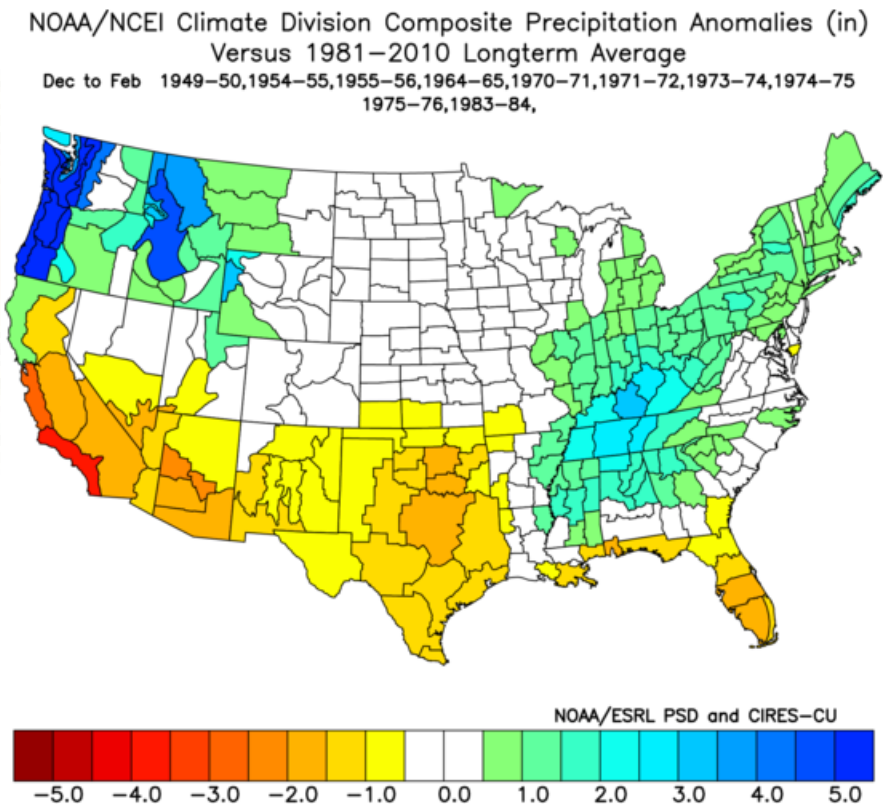
Winter (December-February) temperature during strong, moderate, and weak La Niñas since 1950



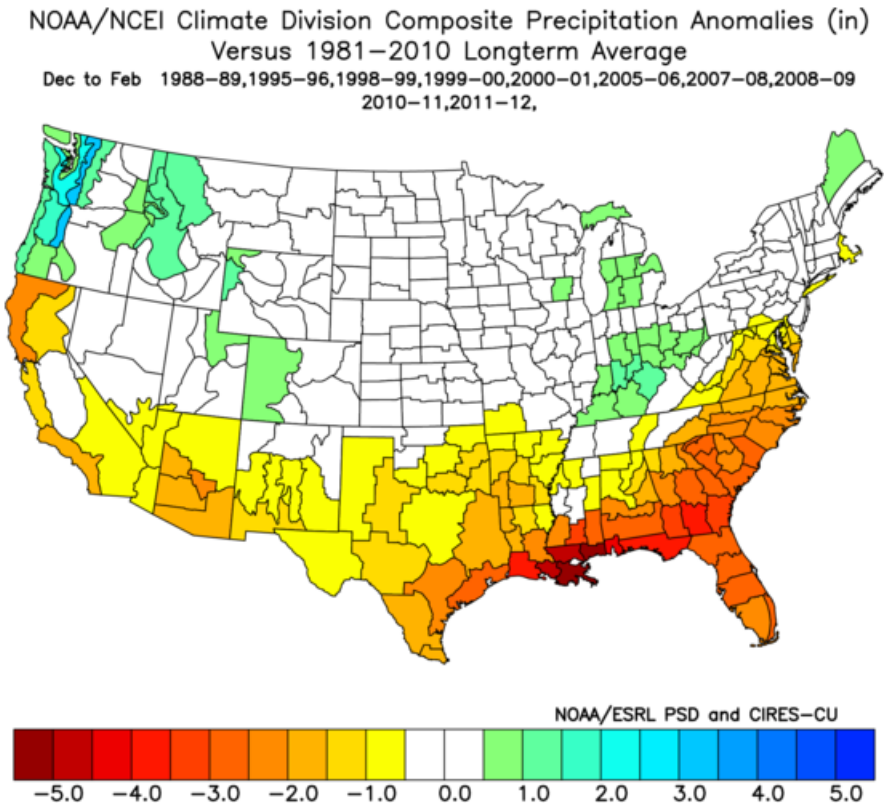
Precipitation anomalies during La Niña Episodes
21 Events, 1949-2012



Precipitation anomalies during La Niña Episodes

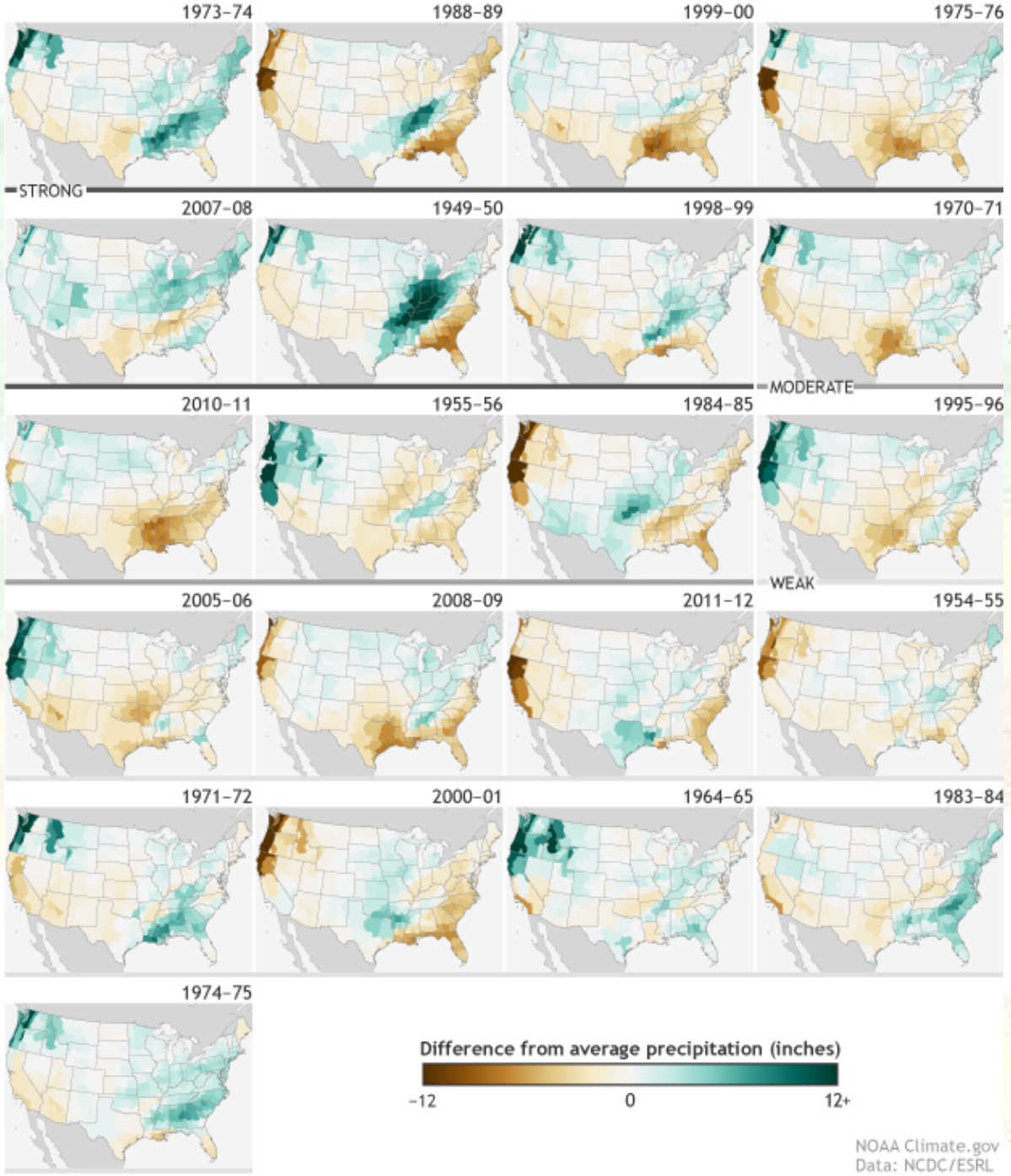


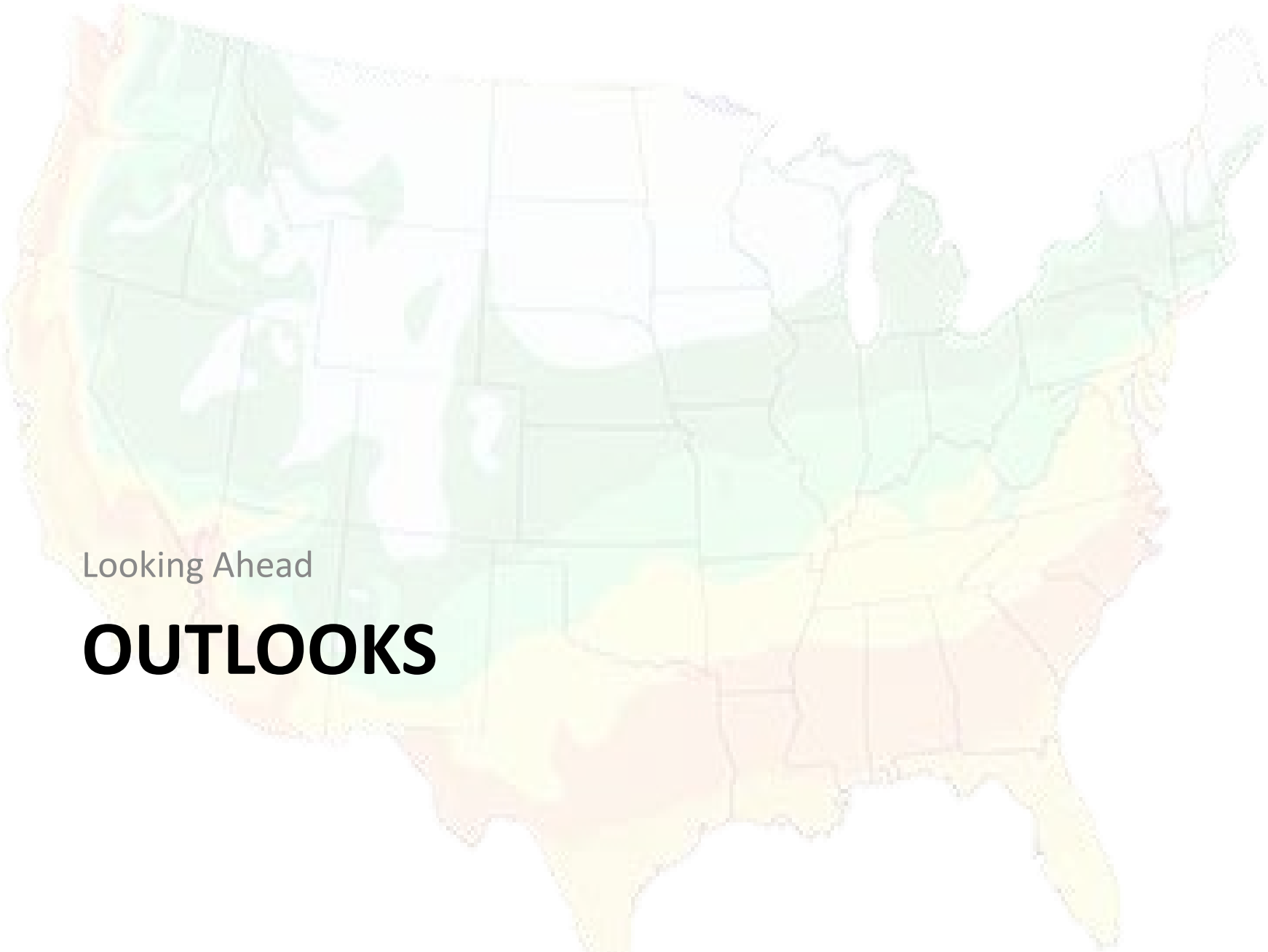
Episodes prior to 1985



Episodes after 1985

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





Looking Ahead

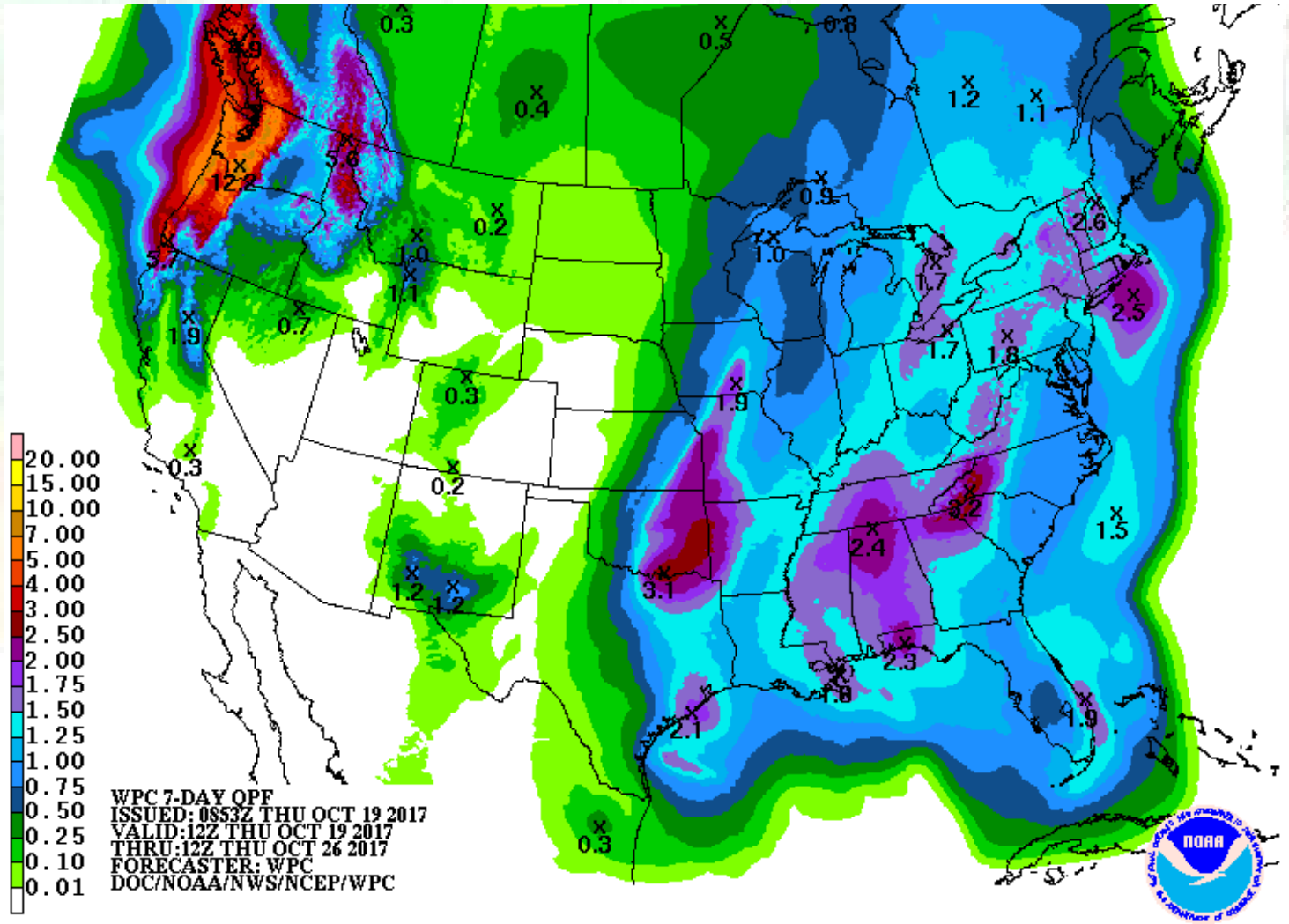
OUTLOOKS

Climate Outlooks

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

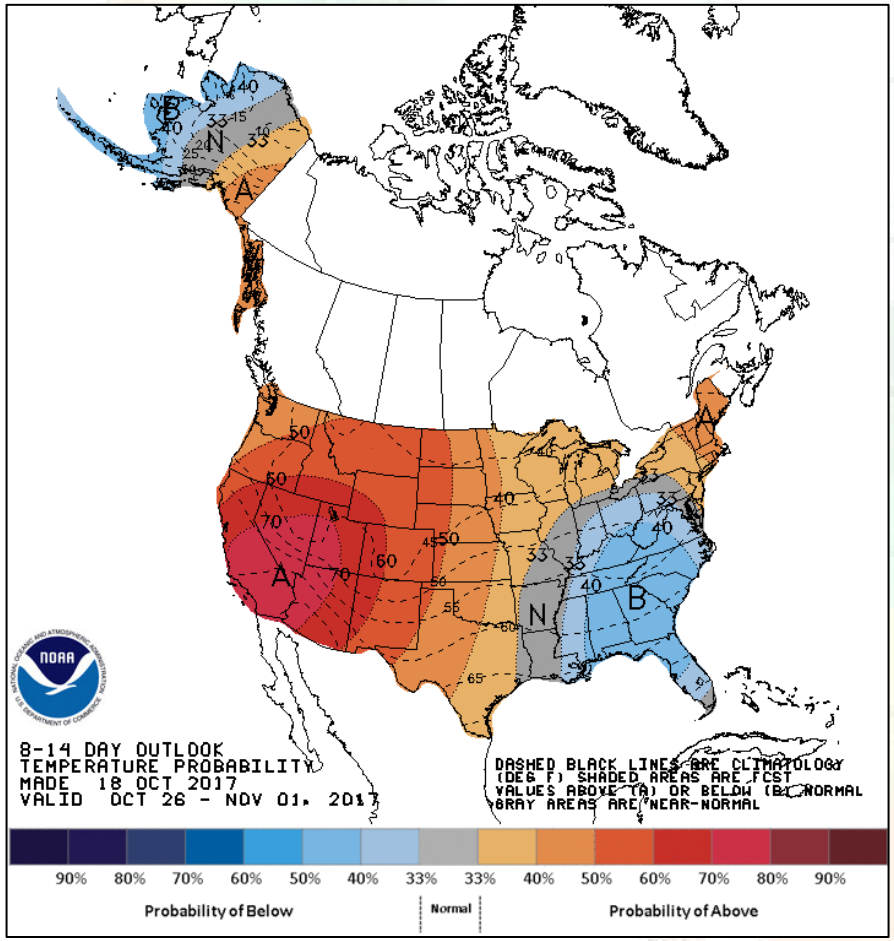
7-day Quantitative Precipitation Forecast

Valid: Thu 19 Oct – Thu 26 Oct

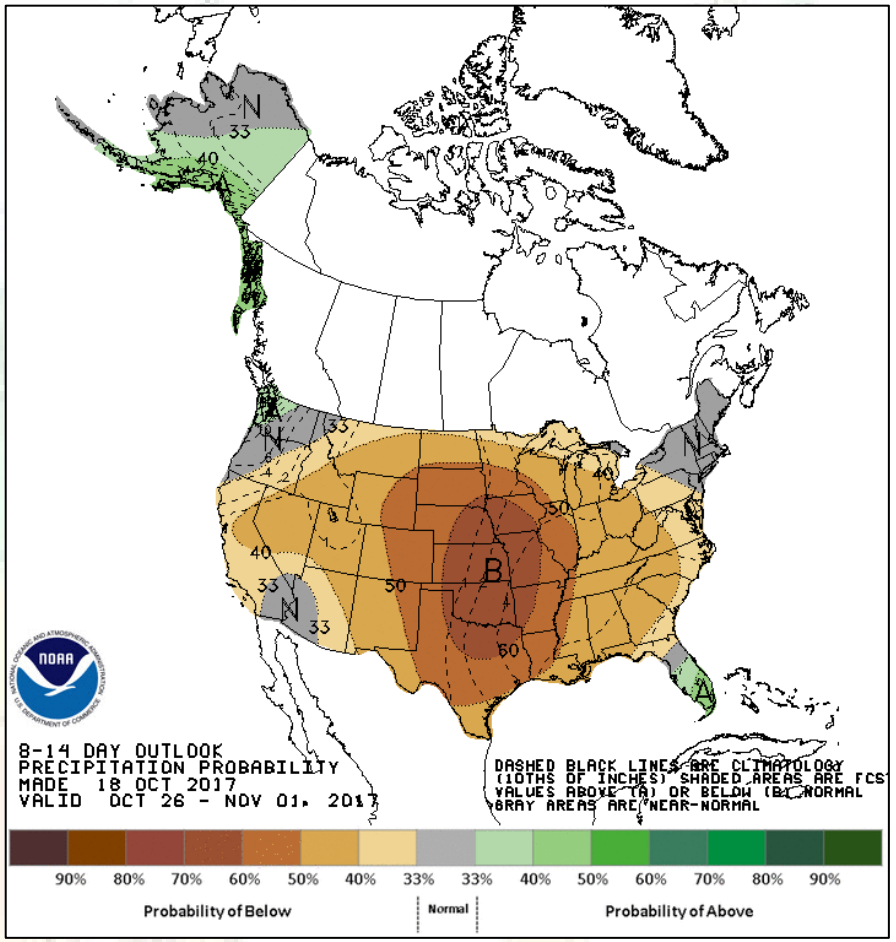


http://www.wpc.ncep.noaa.gov/qpf/day1-7.shtml

Temperature and Precipitation Probabilities for 26 Oct-1 Nov 2017



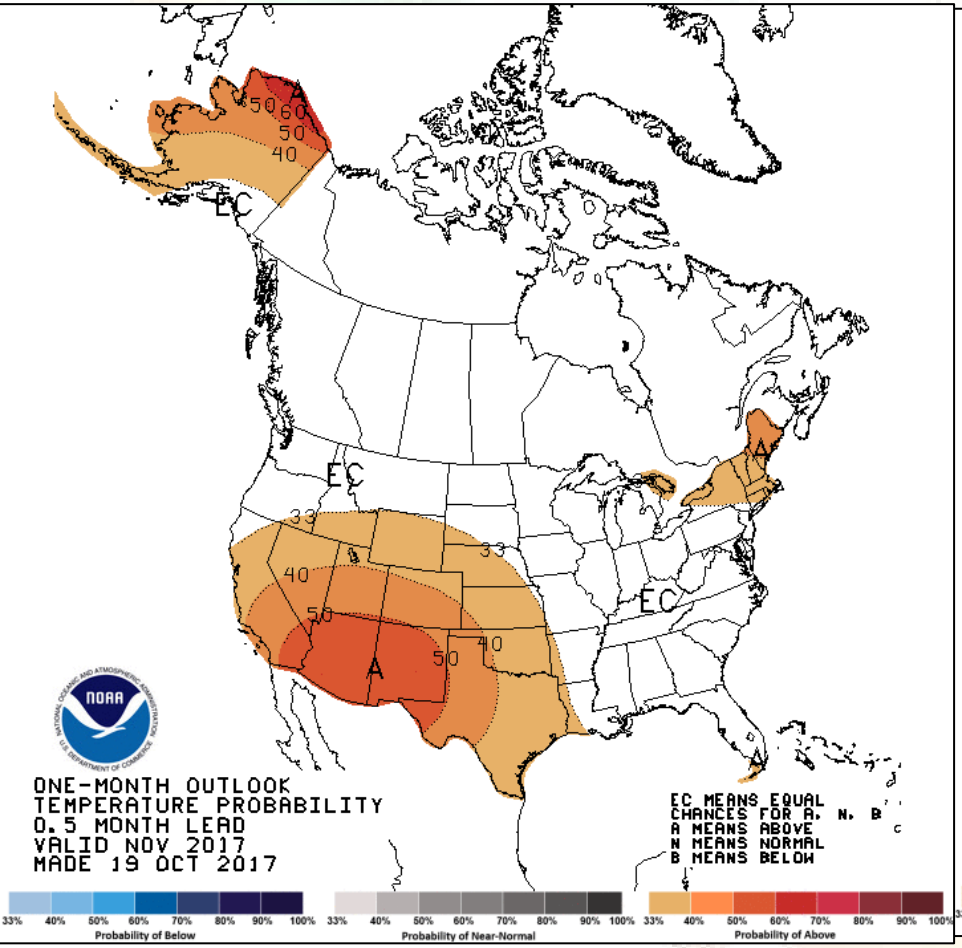
Temperature



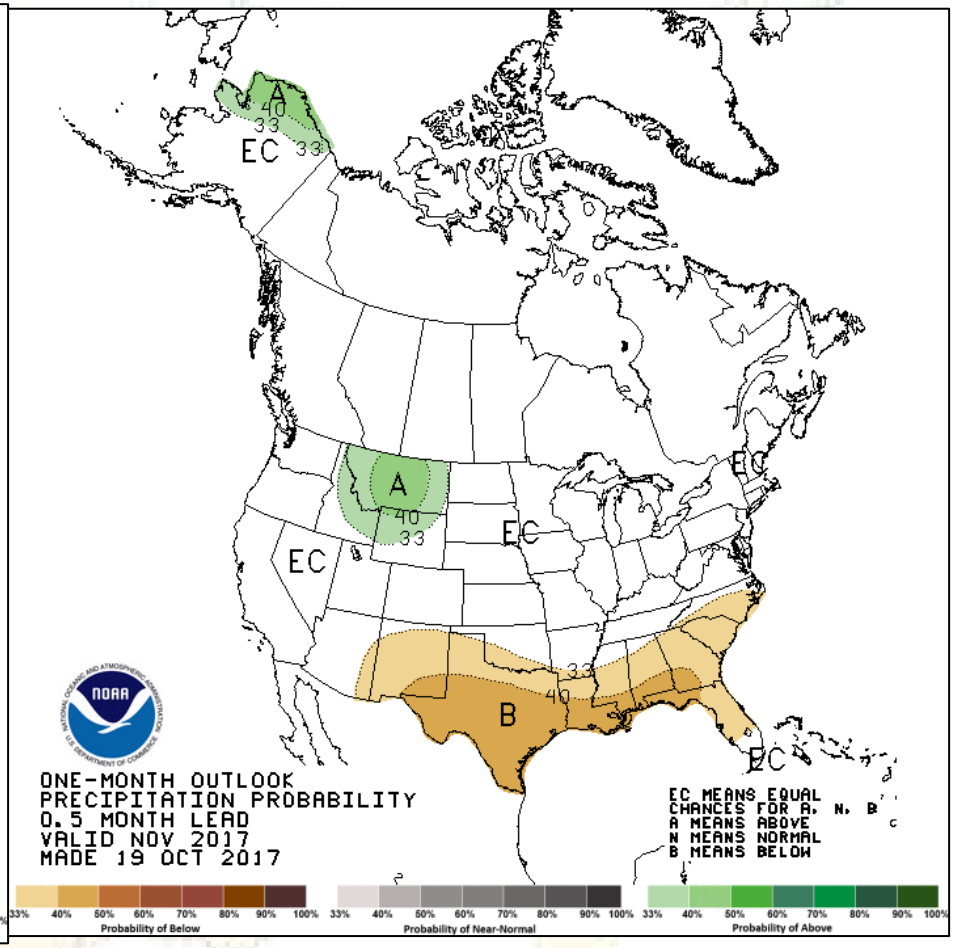
Precipitation

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

November Temperature and Precipitation Outlooks



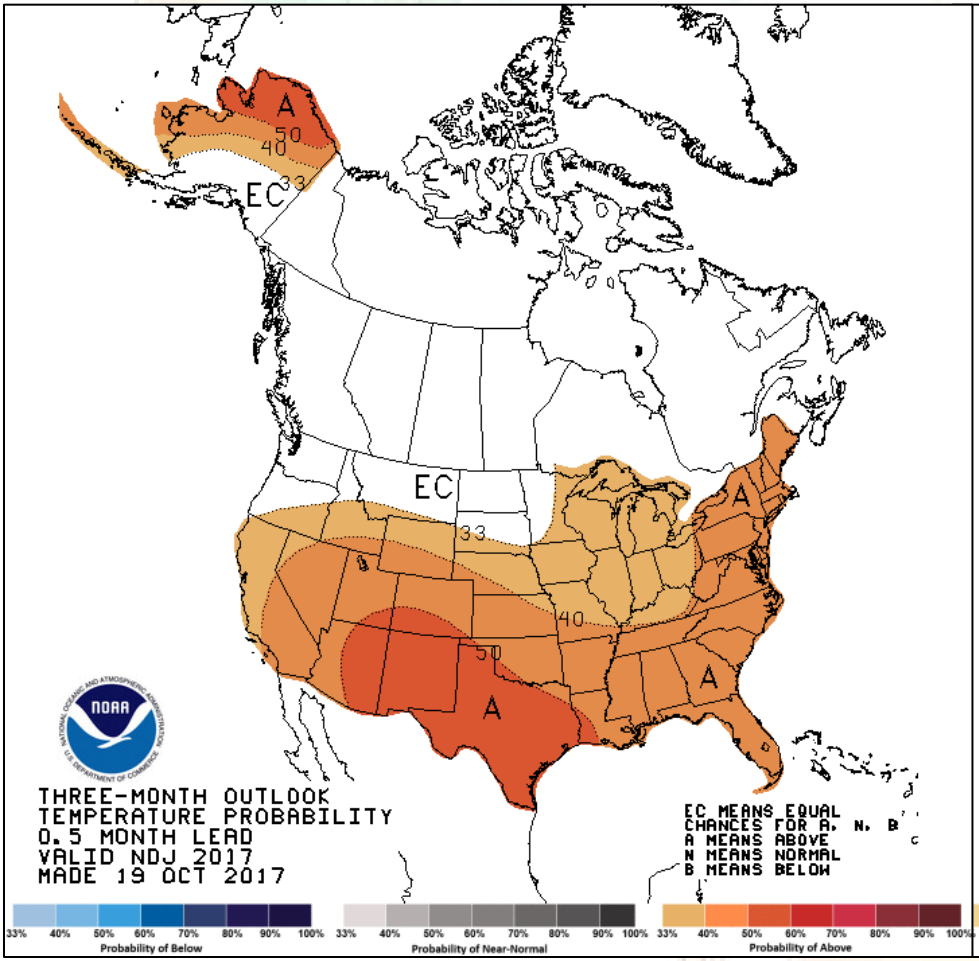
Temperature



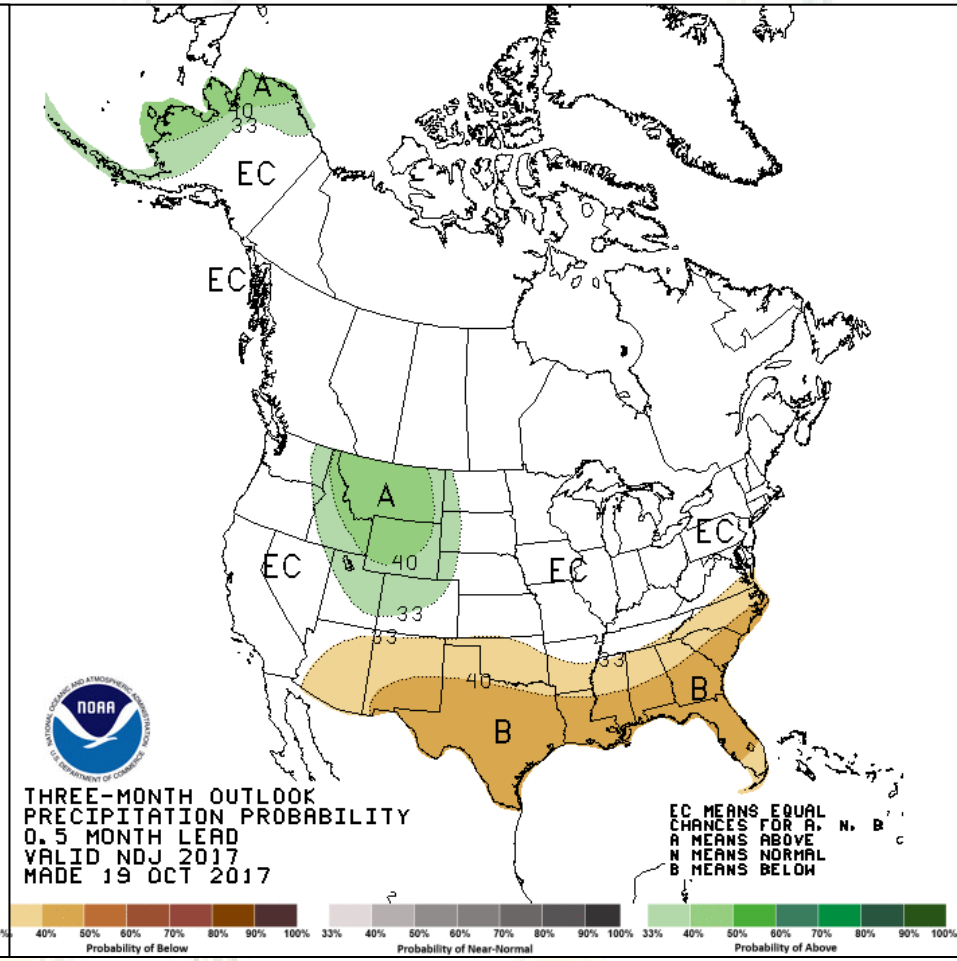
Precipitation

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

3 Month Temperature and Precipitation Outlooks, Nov-Jan



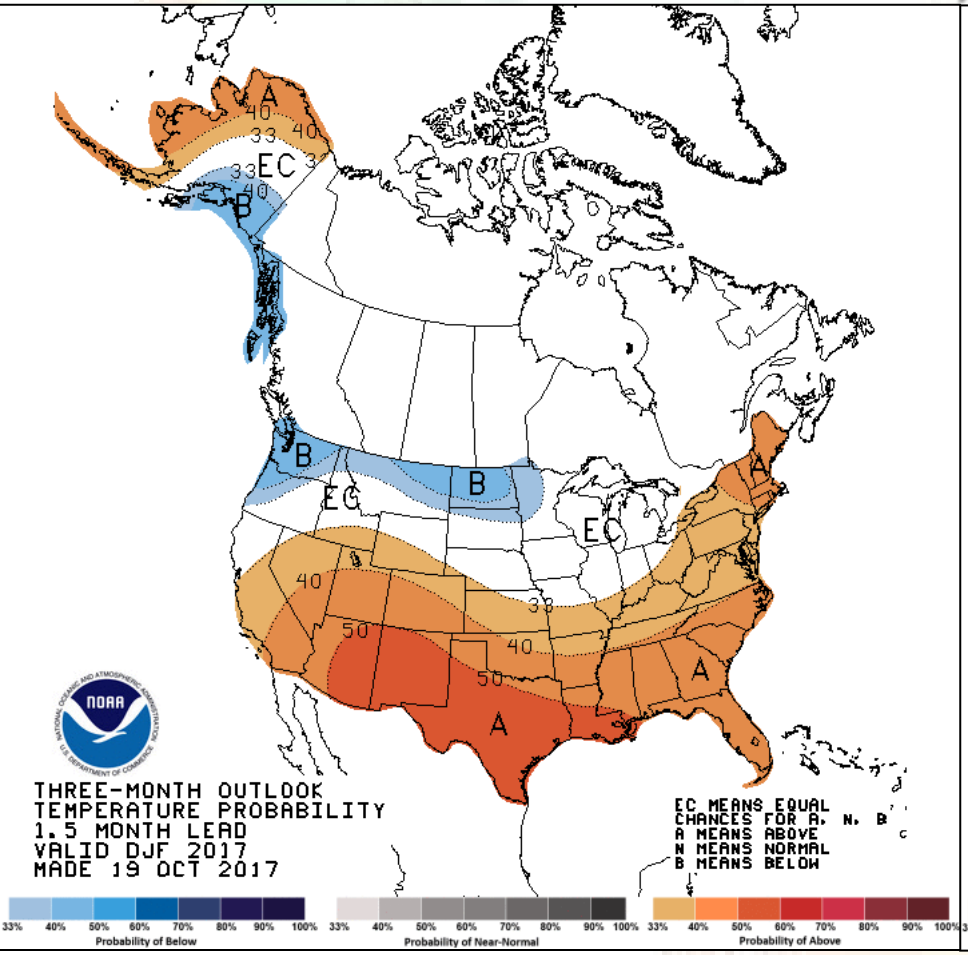
Temperature



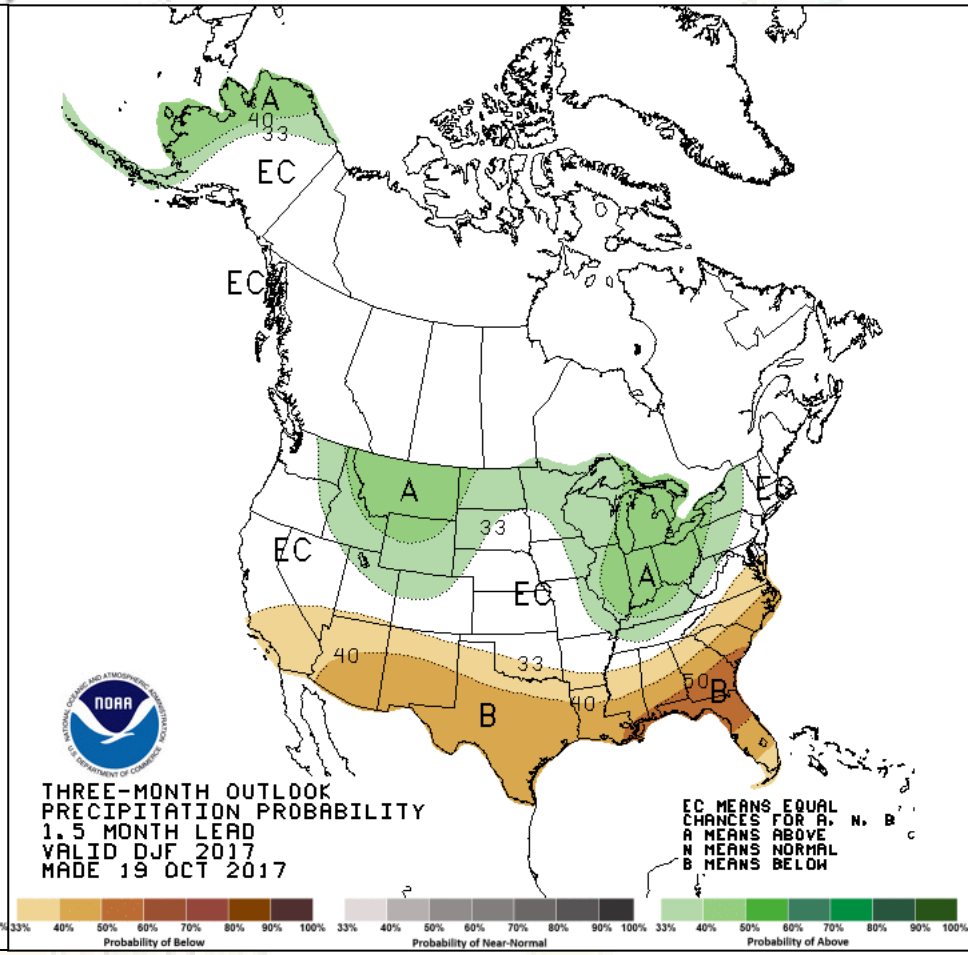
Precipitation

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

3 Month Temperature and Precipitation Outlooks, Dec-Feb



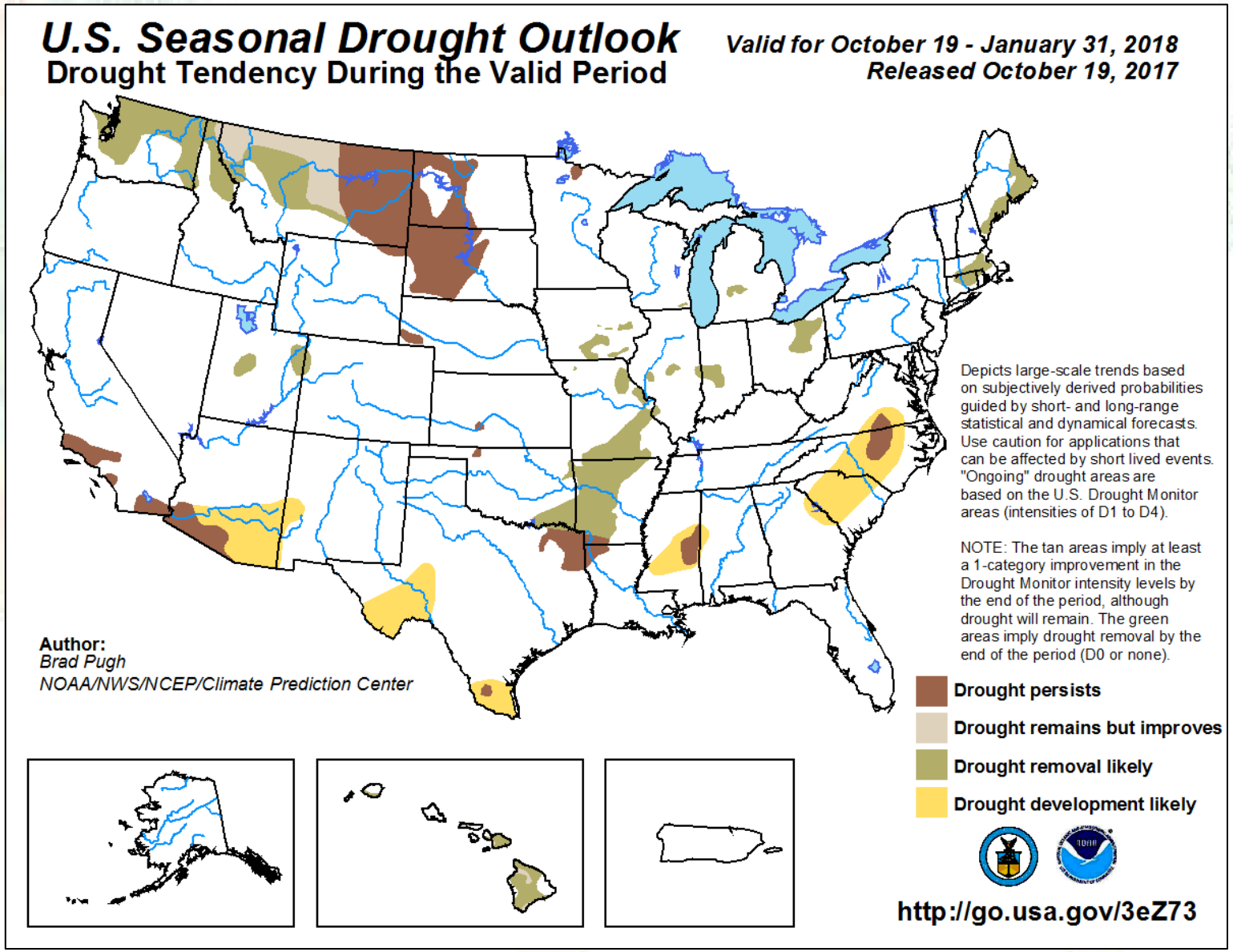
Temperature



Precipitation

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

Seasonal Drought Outlook



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

Summary - Conditions

* Cool in the west, warm in the east
* Dry in west and south, very wet through center of the region
* Frost (32F minimum temperature) is later than average.
* Rivers were dry in late September, but recent rains have increased flows for barge traffic
* Water supply in Missouri River is near normal.

Summary - Outlooks

- La Niña Watch –
  - Historically this has often meant colder in the north and wetter in the Gt Lakes/Ohio basin. But recent events have not shown this consistently
- November:
  - Wetter conditions favored in Montana
  - Warmer conditions favored in southwest
- Winter:
  - Transition towards colder in northern states and wetter over Great Lakes and Ohio basin

Further Information - Partners

- **Today's and Past Recorded Presentations:**
- http://mrcc.isws.illinois.edu/webinars.htm
  http://www.hprcc.unl.edu
- NOAA's National Climatic Data Center: www.ncdc.noaa.gov
  - Monthly climate reports (U.S. & Global): www.ncdc.noaa.gov/sotc/
- 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

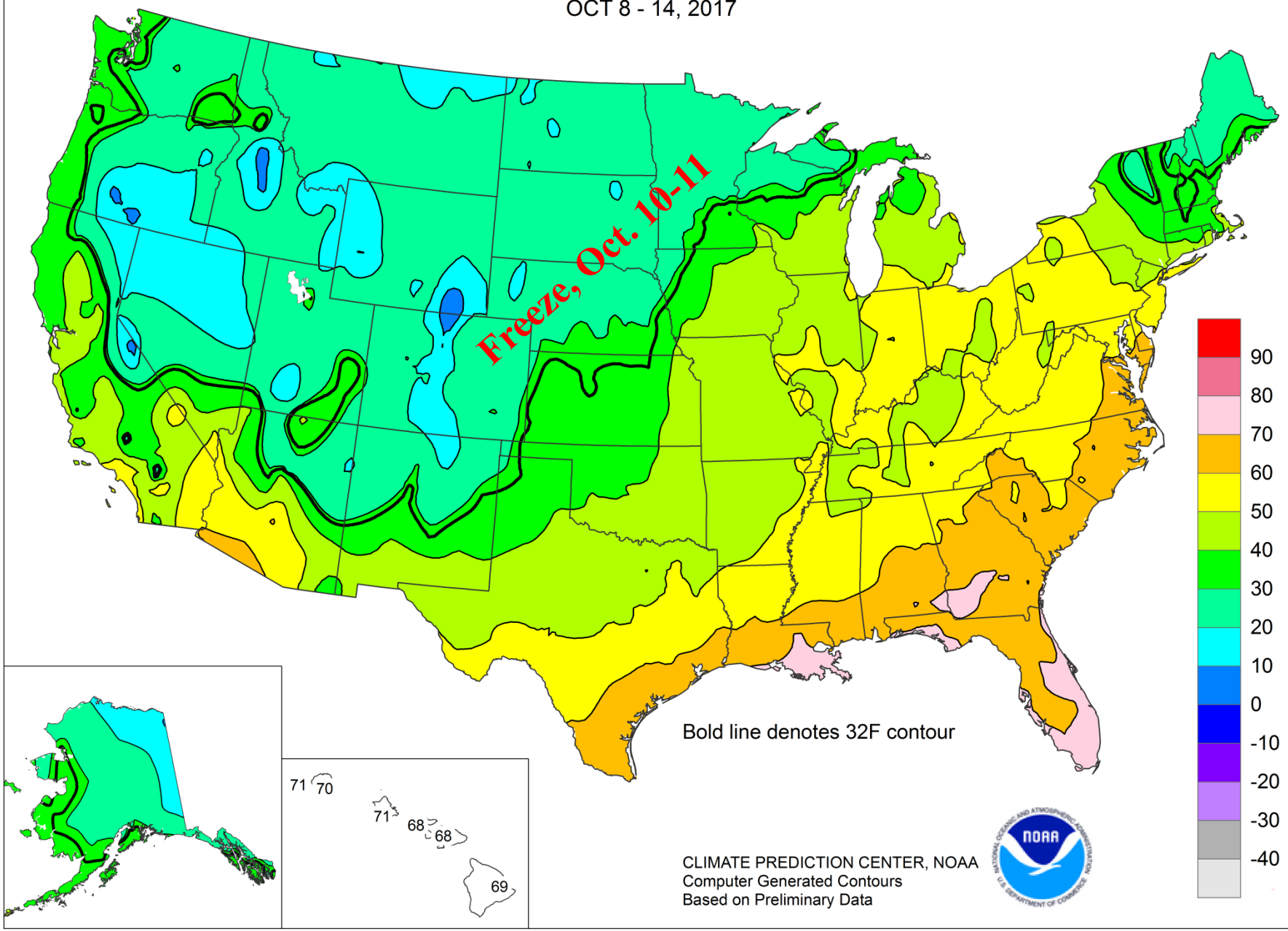
  - **Weather:**
  - crhroc@noaa.gov

North-Central U.S. Agricultural Update, Oct. 19, 2017

Winter Wheat in St. Joseph Co., IN, June 27, 2016. Photo by B. Rippey, USDA.

Extreme Minimum Temperature (°F)

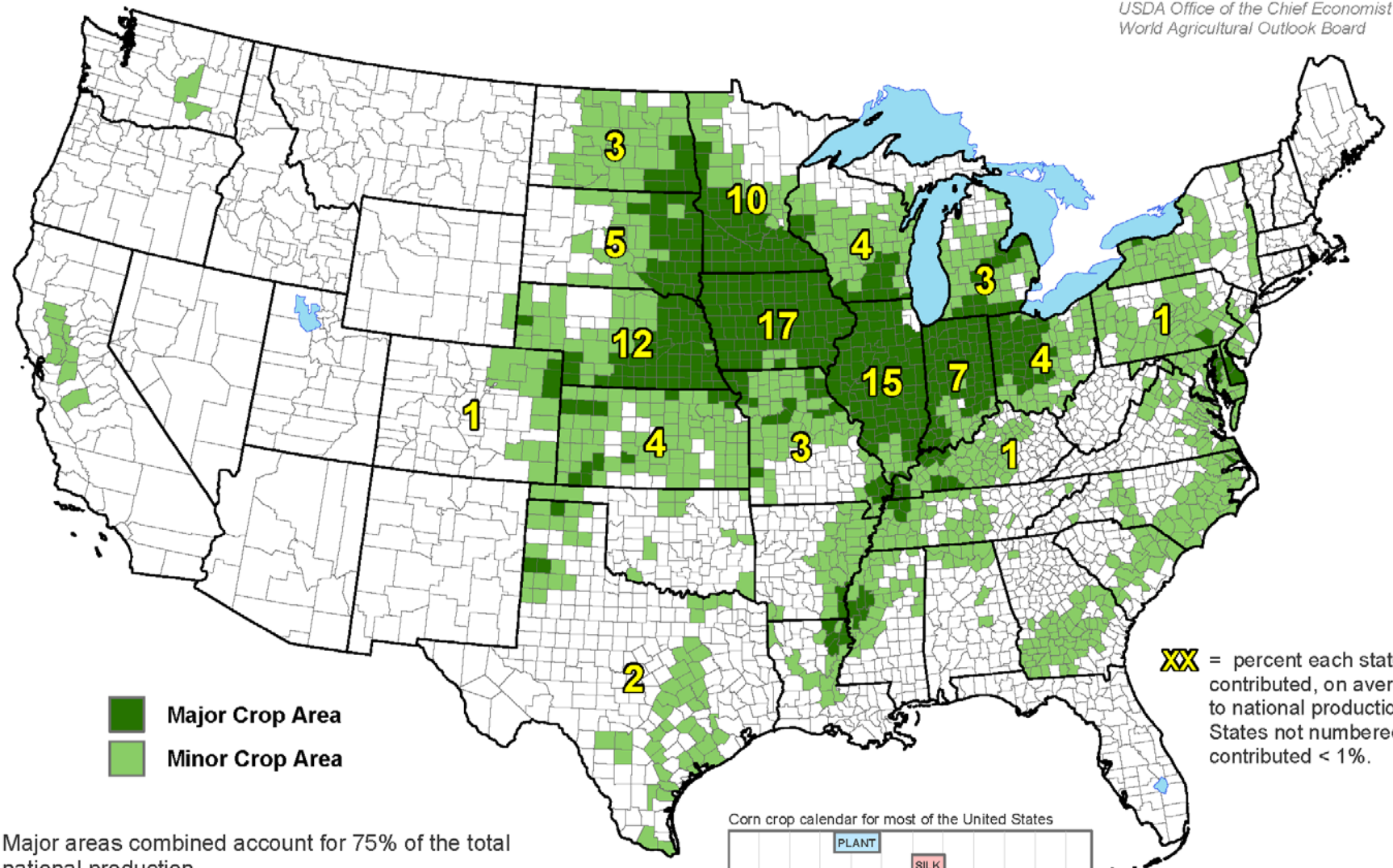
OCT 8 - 14, 2017



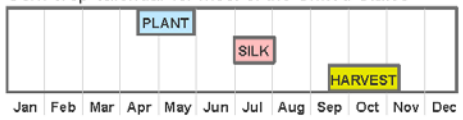
United States: Corn

United States Department of Agriculture

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



Corn crop calendar for most of the United States

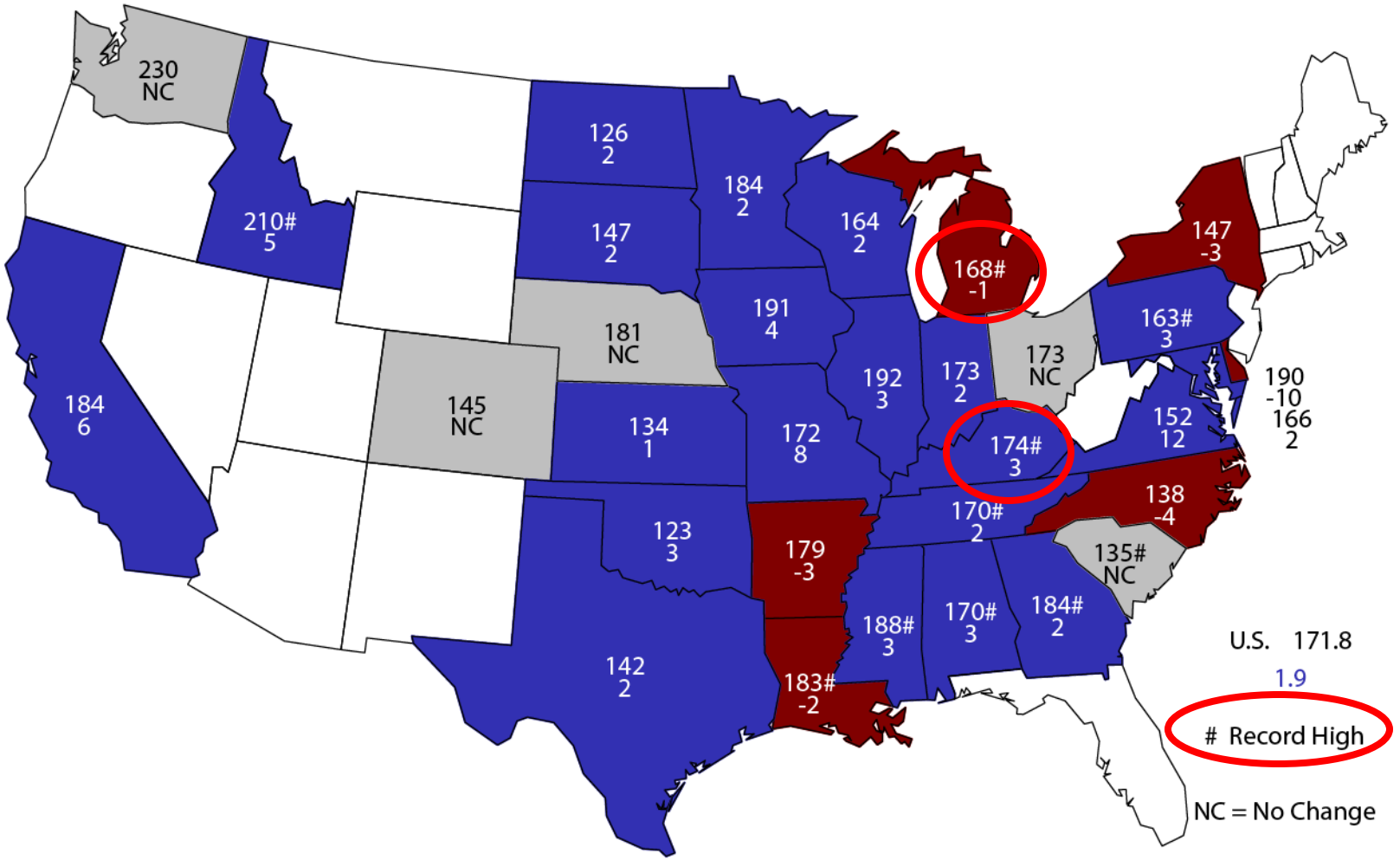


The crop calendar was developed using NASS crop progress data from 2010-2014. This calendar illustrates, on average, the dates when national progress advanced from 10 to 90 percent.

- Major areas combined account for 75% of the total national production.
- Major and minor areas combined account for 99% of the total national production.
- Major and minor areas and state production percentages are derived from NASS survey data from 2010 to 2014.

October 1, 2017 Corn Yield

Bushels and Change From Previous Forecast

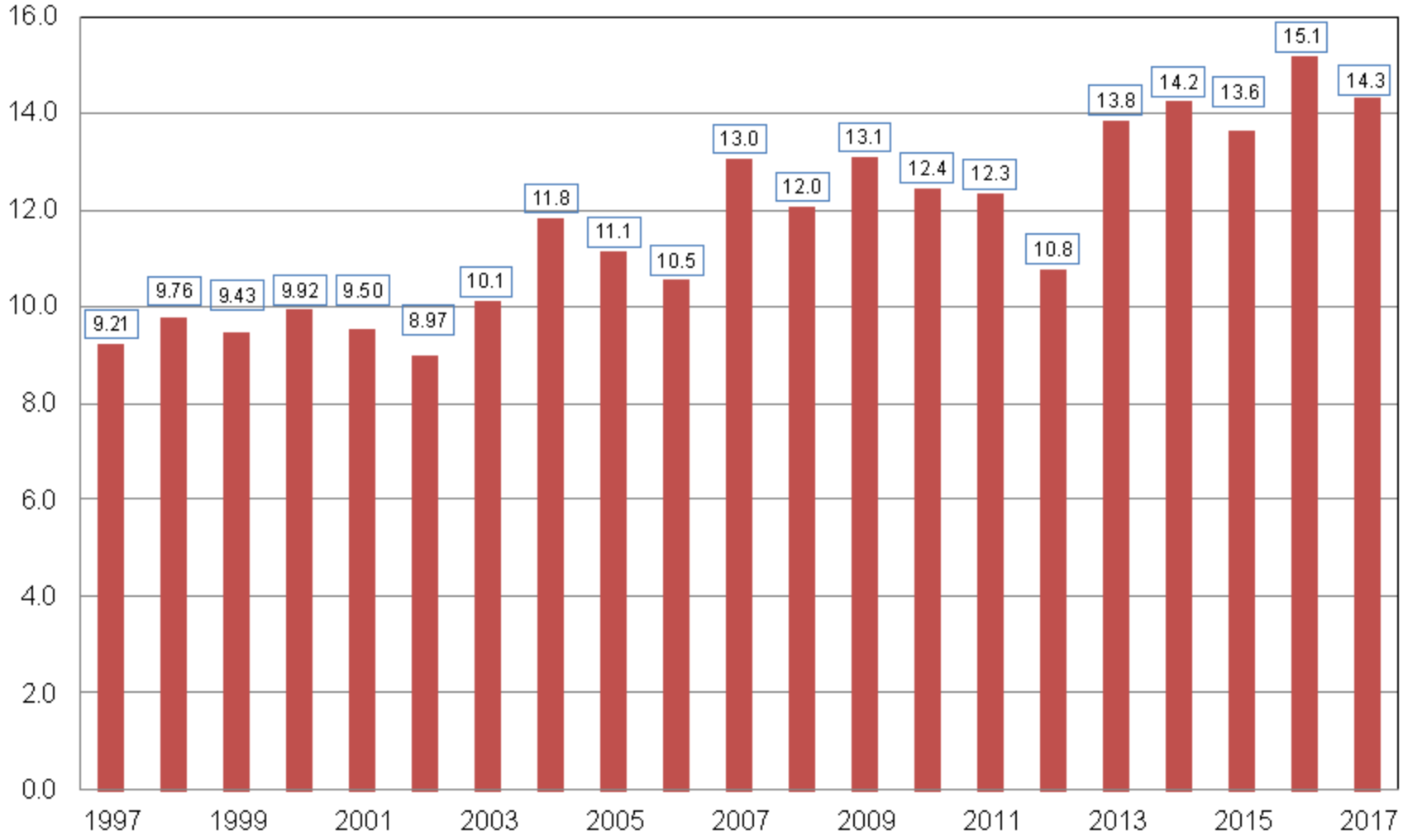


USDA-NASS
10-12-17

Corn for Grain Production

United States

Billion Bushels



USDA-NASS
10-12-17

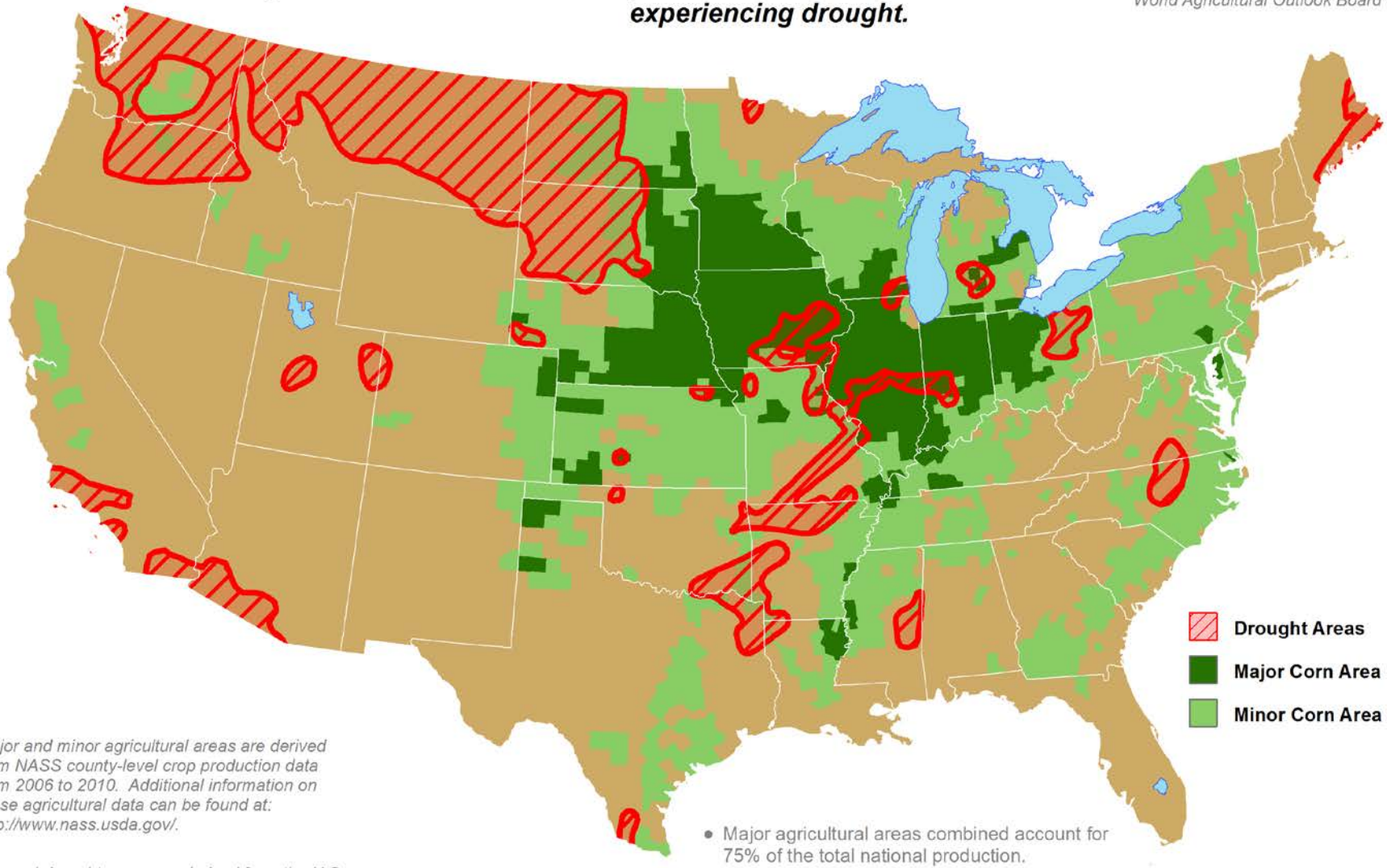
U.S. Corn Areas Experiencing Drought

United States Department of Agriculture

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

Reflects October 10, 2017 U.S. Drought Monitor data

Approximately 9% of corn production is within an area experiencing drought.

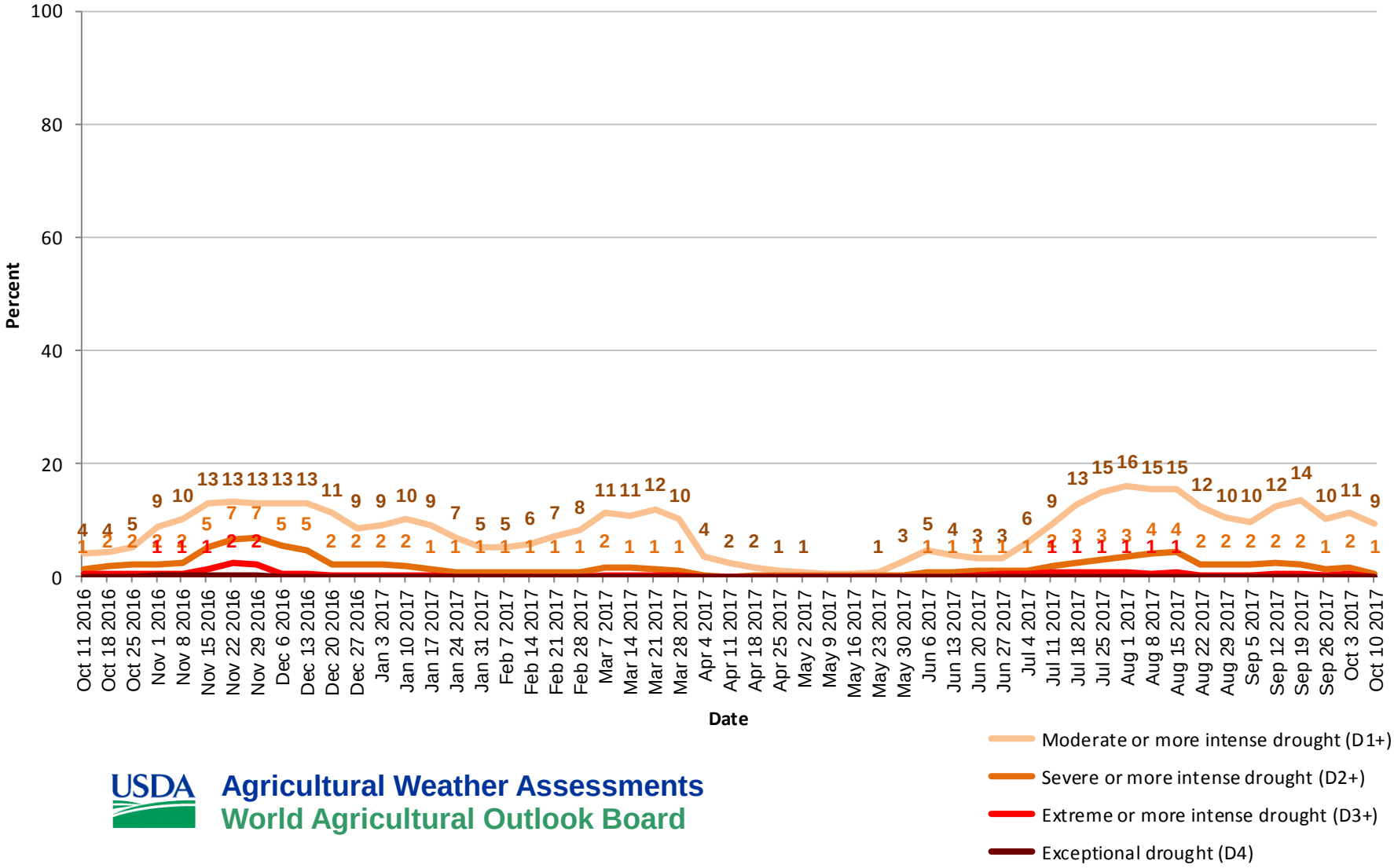


Major and minor agricultural areas are derived from NASS county-level crop production data from 2006 to 2010. Additional information on these agricultural data can be found at: http://www.nass.usda.gov/.

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/.

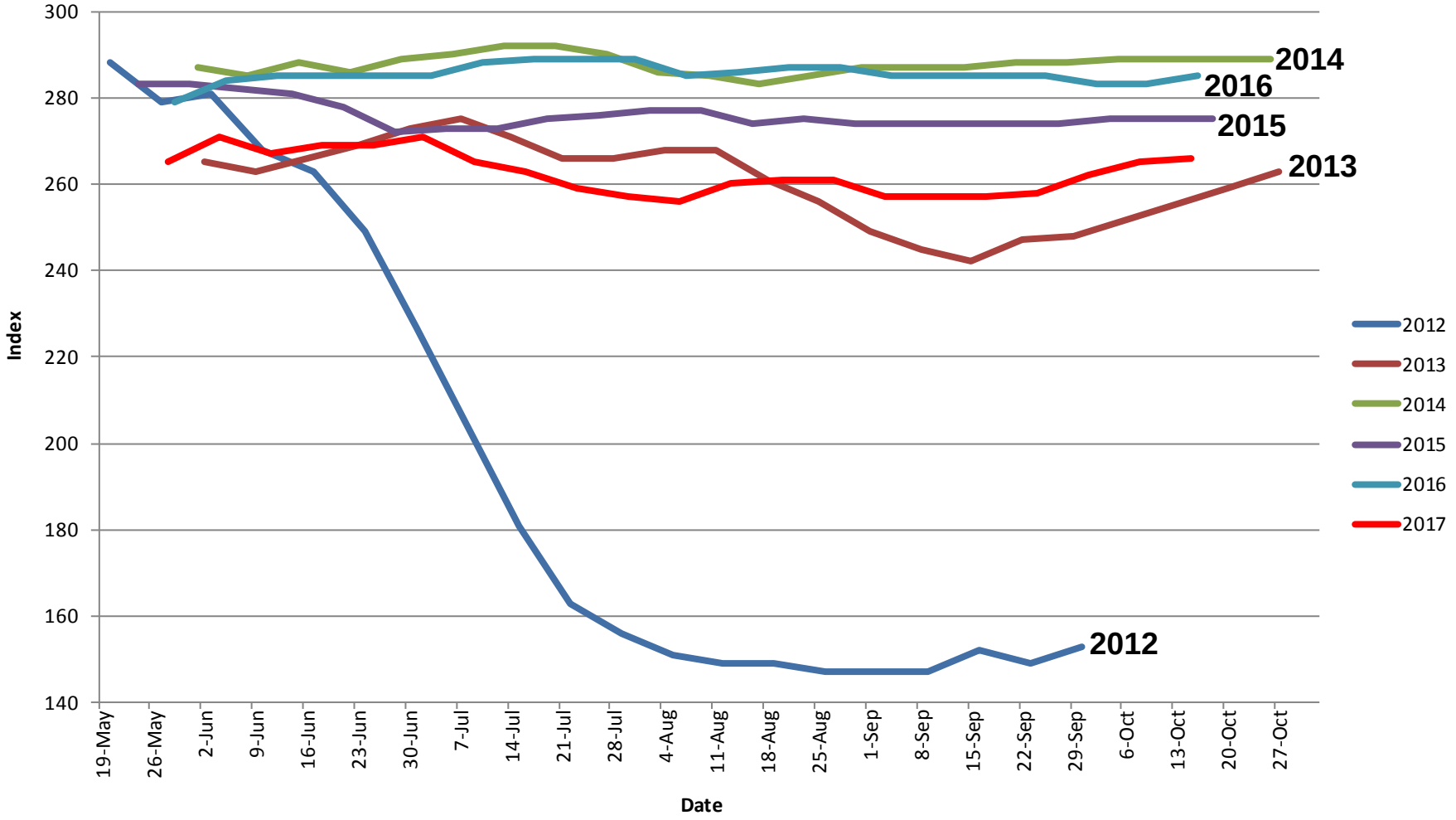
- Major agricultural areas combined account for 75% of the total national production.
- Major and minor agricultural areas combined account for 99% of the total national production.

United States Corn Areas Located in Drought



USDA Agricultural Weather Assessments
World Agricultural Outlook Board

U.S. CORN Condition Index

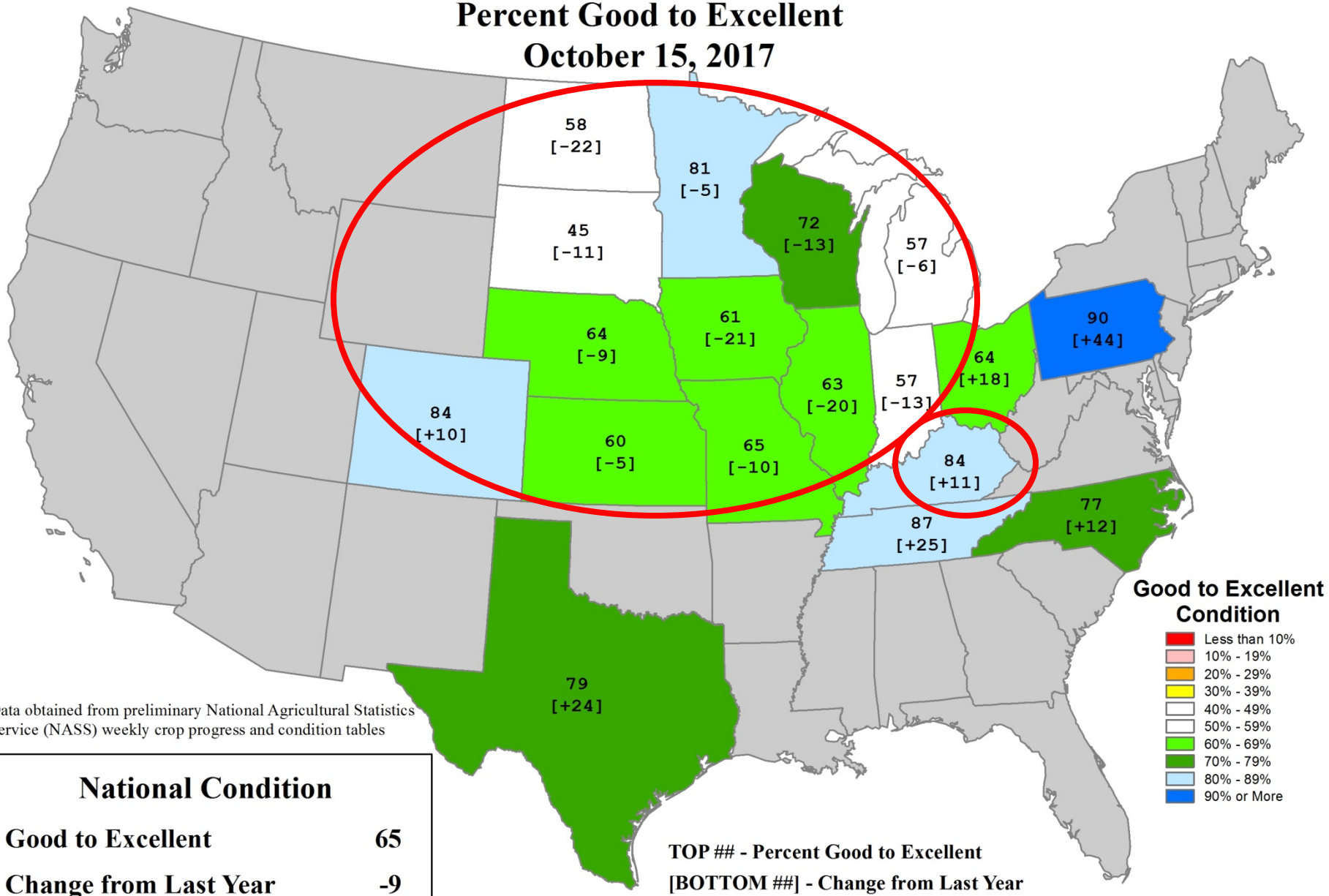


Based on NASS crop progress data.

Index Weighting: Excellent = 4; Good = 3; Fair = 2; Poor = 1; Very Poor = 0

U.S. Corn Conditions

Percent Good to Excellent
October 15, 2017



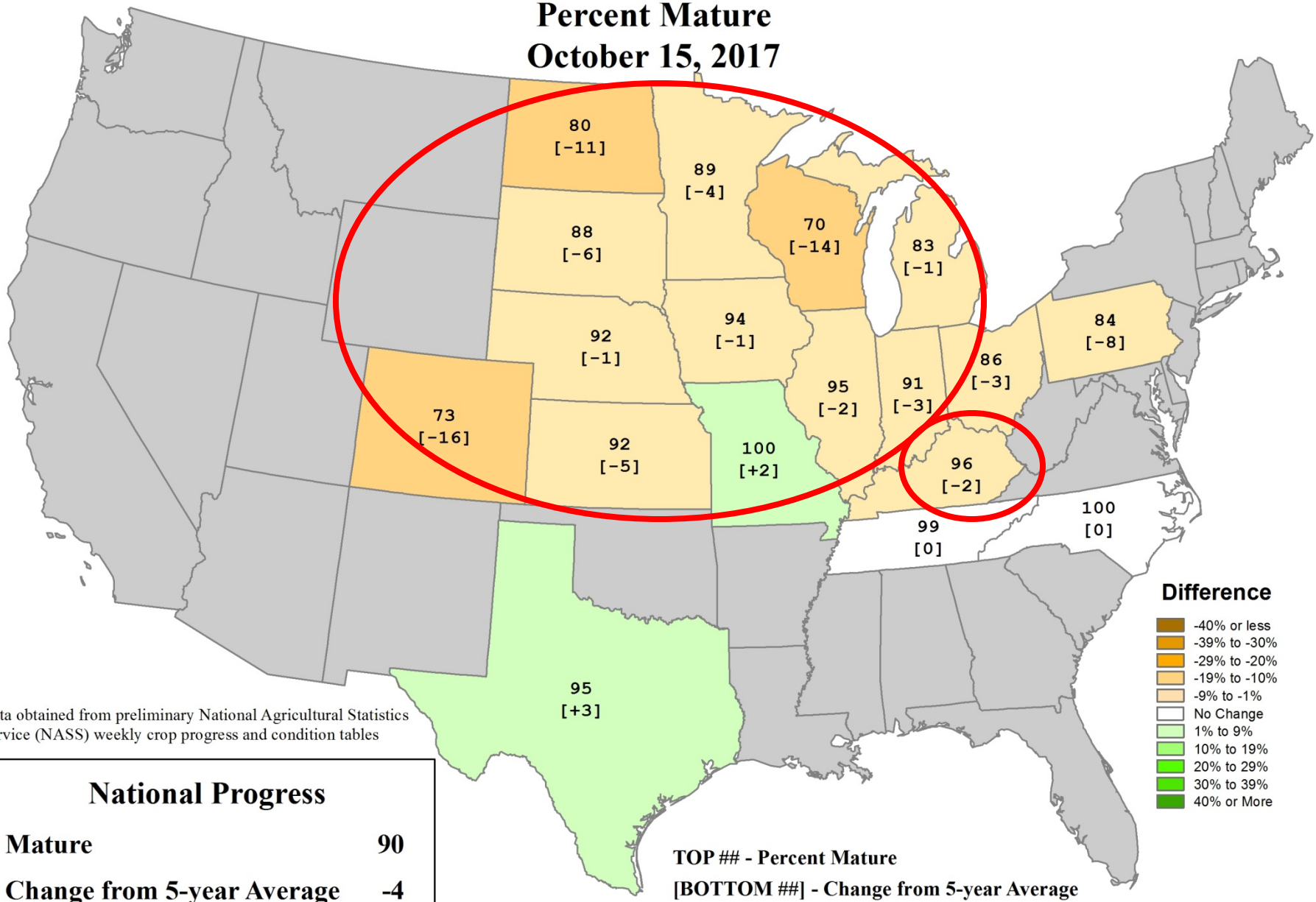
Data obtained from preliminary National Agricultural Statistics Service (NASS) weekly crop progress and condition tables

National Condition	
Good to Excellent	65
Change from Last Year	-9

USDA Agricultural Weather Assessments
World Agricultural Outlook Board

U.S. Corn Progress

Percent Mature
October 15, 2017



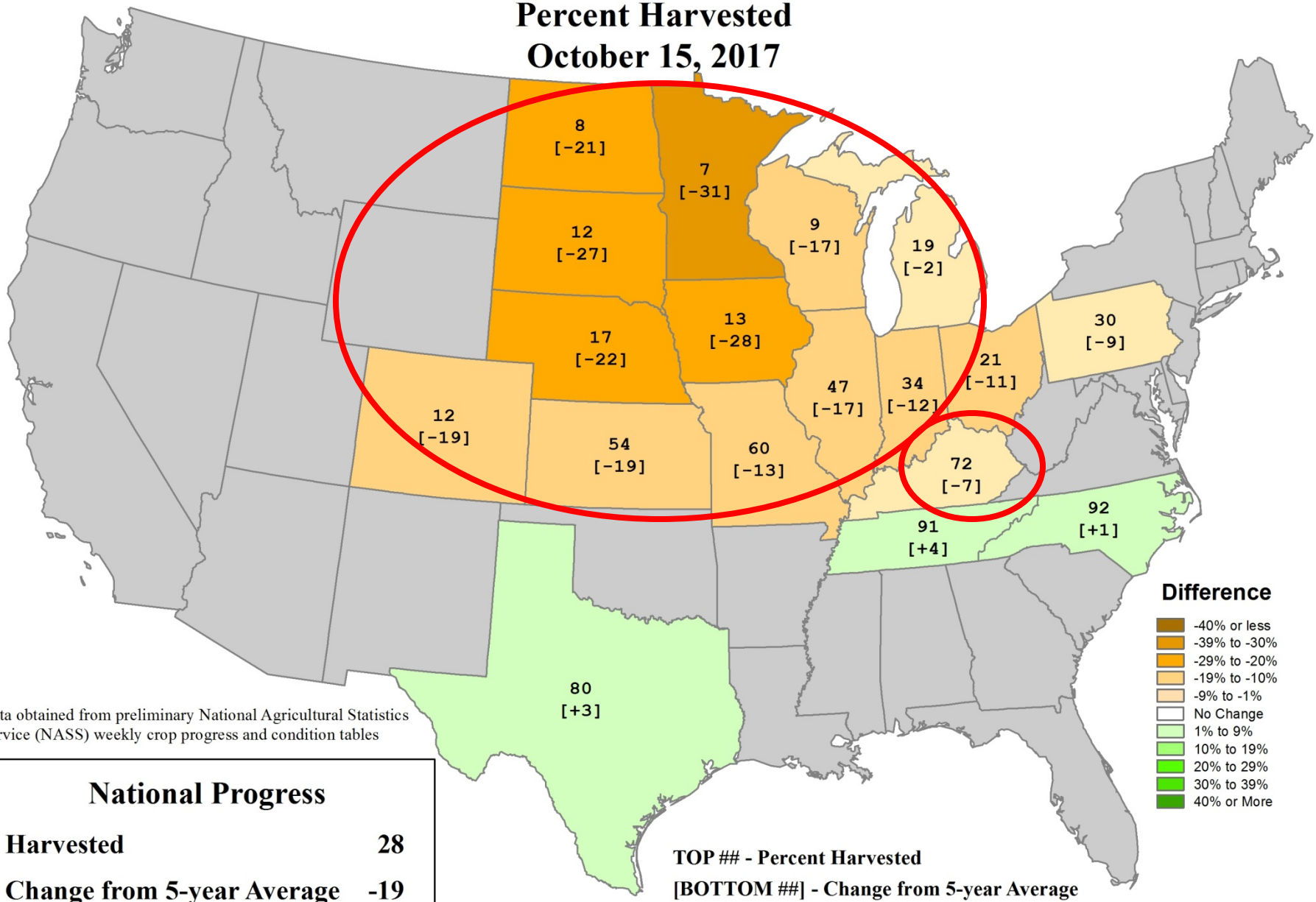
Data obtained from preliminary National Agricultural Statistics Service (NASS) weekly crop progress and condition tables

National Progress	
Mature	90
Change from 5-year Average	-4

USDA Agricultural Weather Assessments
World Agricultural Outlook Board

U.S. Corn Progress

Percent Harvested
October 15, 2017



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

National Progress	
Harvested	28
Change from 5-year Average	-19

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

USDA Agricultural Weather Assessments
World Agricultural Outlook Board

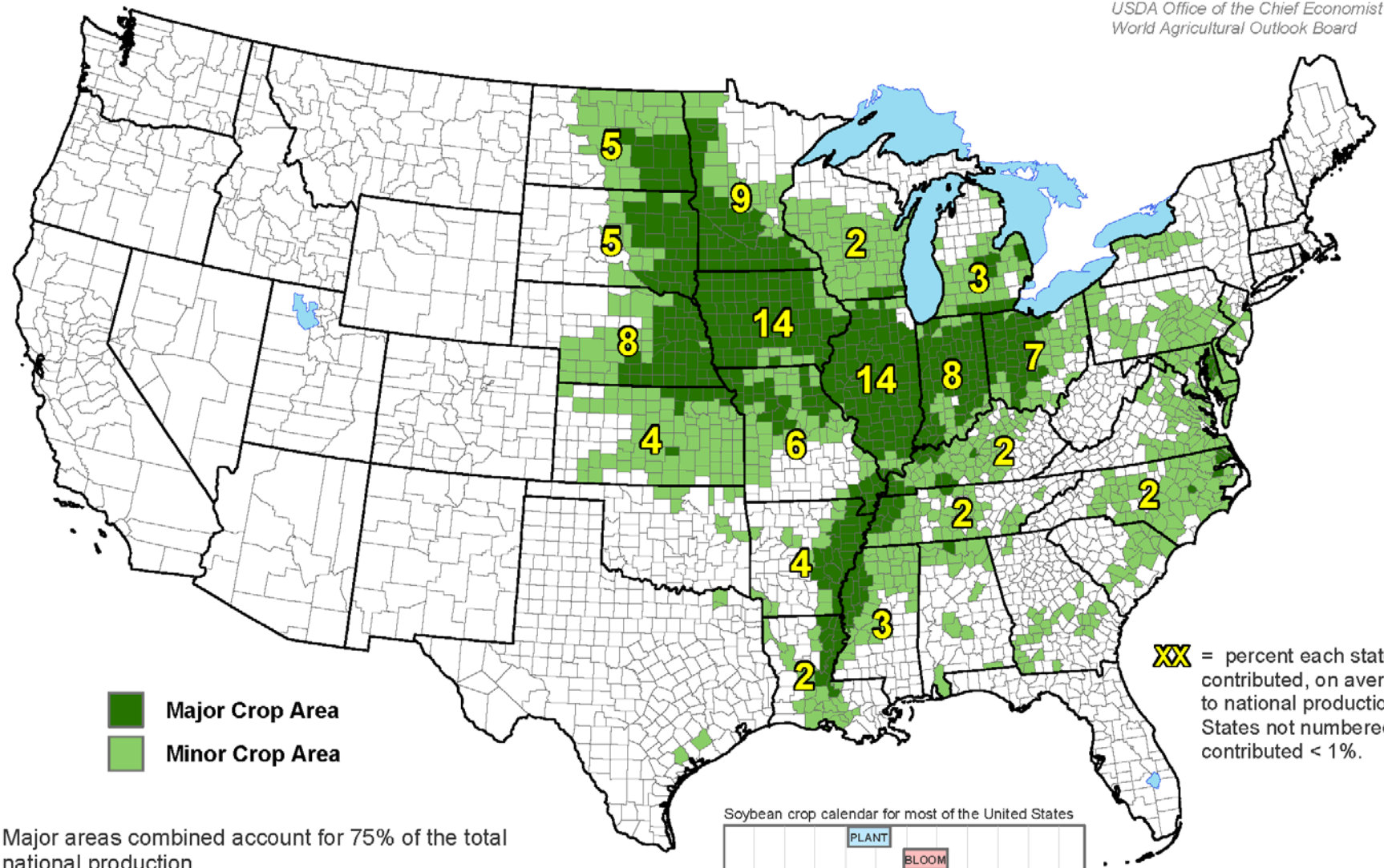
St. Joseph Co., IN, June 27, 2016
Photo by Brad Rippey, USDA

- It was an imperfect year for corn, especially in the upper Midwest (drought) and the eastern Corn Belt (late planting, erratic rainfall).
- October 1 estimates, if realized, indicate record-high corn production in Kentucky and Michigan.
- If October 1 estimates are realized, 2017 will feature the second-highest U.S. corn yield (171.8 bushels/acre) and production (14.3 billion bushels) on record.
- Drought affected 0 to 16% of the U.S. corn production area during the 2017 growing season.
- Currently, 65% of the U.S. corn crop is rated good to excellent.

United States: Soybeans

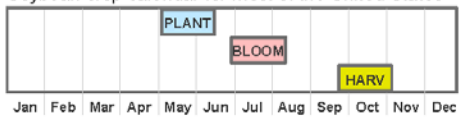
United States Department of Agriculture

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



- Major areas combined account for 75% of the total national production.
- Major and minor areas combined account for 99% of the total national production.
- Major and minor areas and state production percentages are derived from NASS survey data from 2010 to 2014.

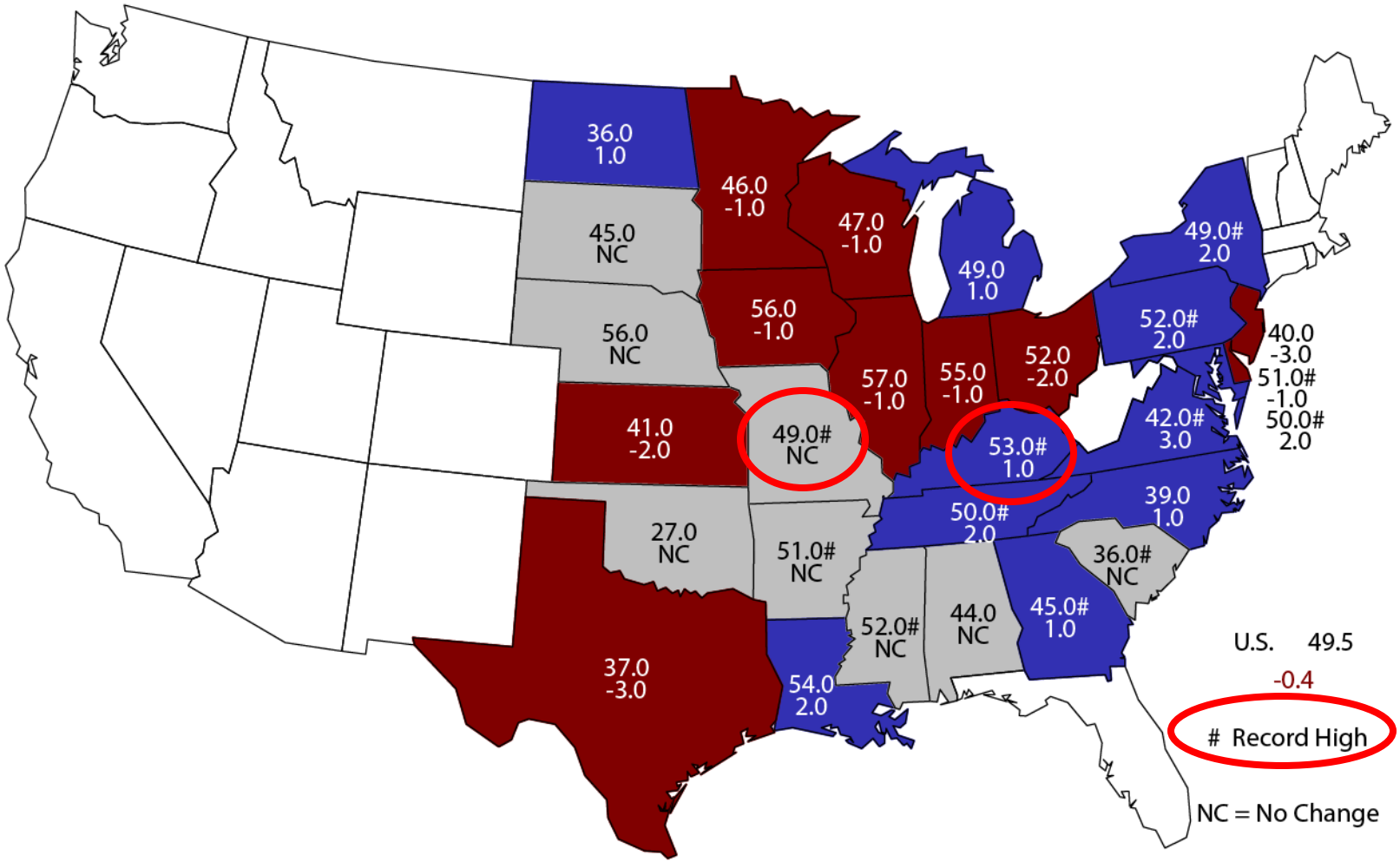
Soybean crop calendar for most of the United States



The crop calendar was developed using NASS crop progress data from 2010-2014. This calendar illustrates, on average, the dates when national progress advanced from 10 to 90 percent.

October 1, 2017 Soybean Yield

Bushels and Change From Previous Month

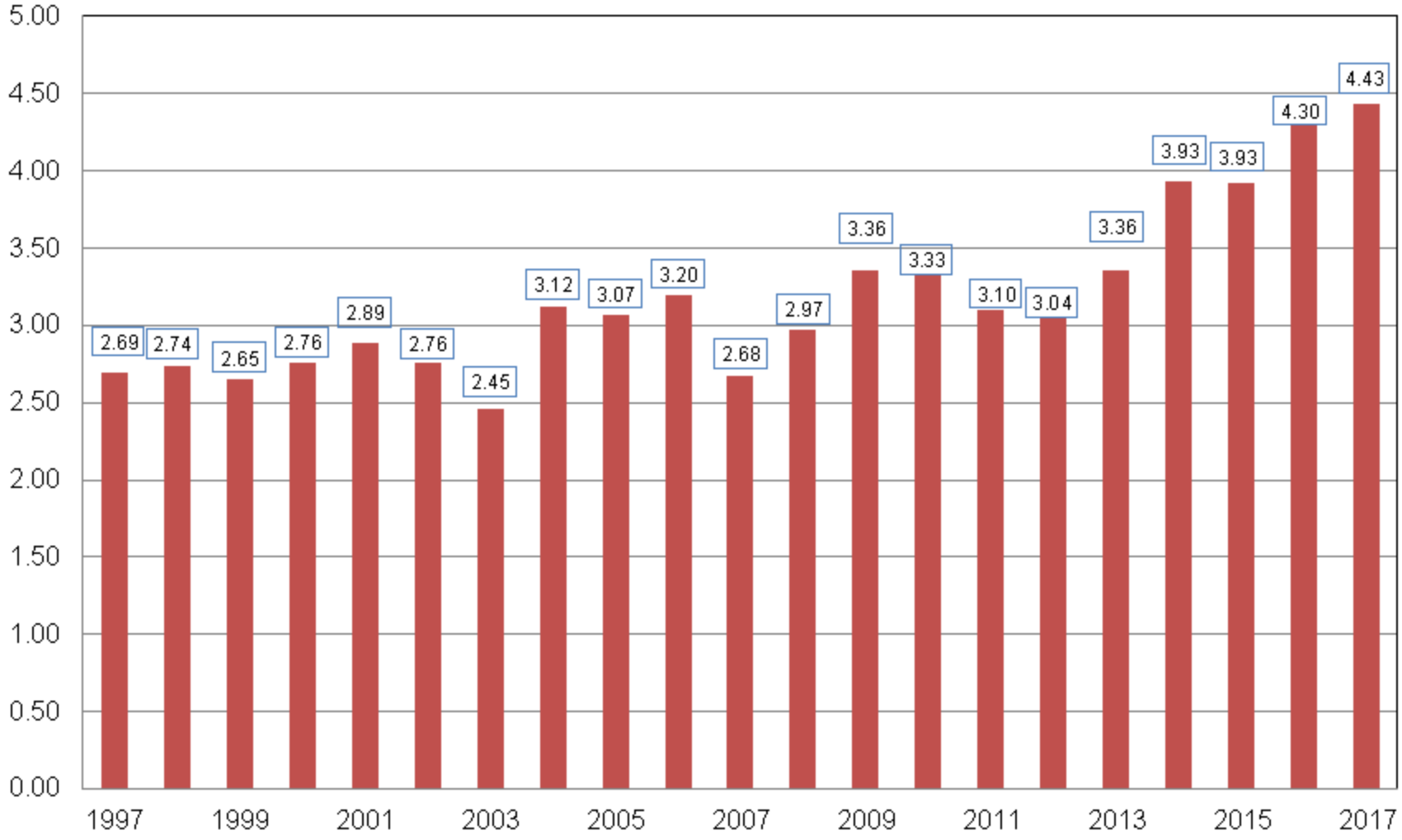


USDA-NASS
10-12-17

Soybean Production

United States

Billion Bushels



USDA-NASS
10-12-17

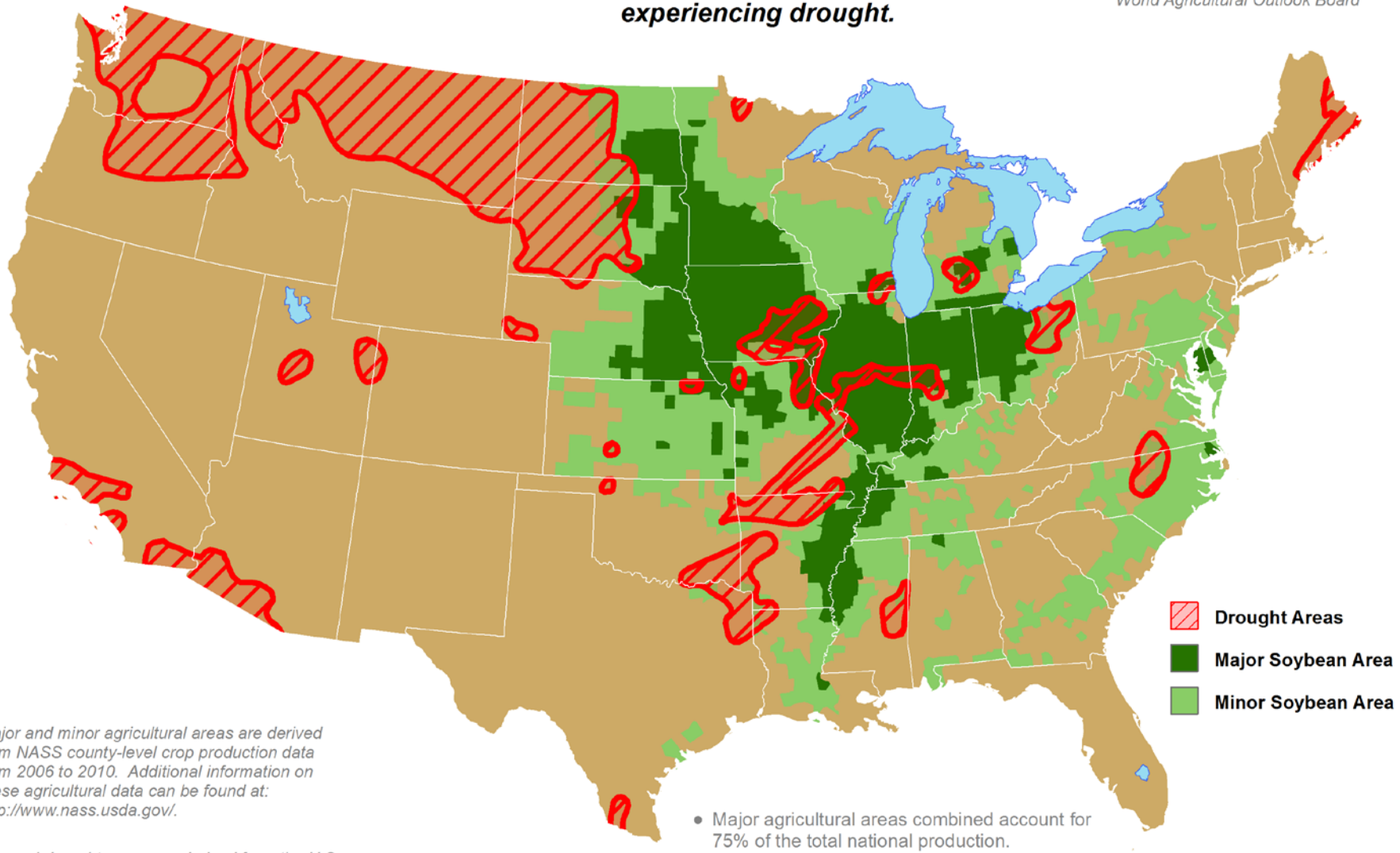
U.S. Soybean Areas Experiencing Drought

USDA United States Department of Agriculture

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

Reflects October 10, 2017 U.S. Drought Monitor data

Approximately 9% of soybean 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/.

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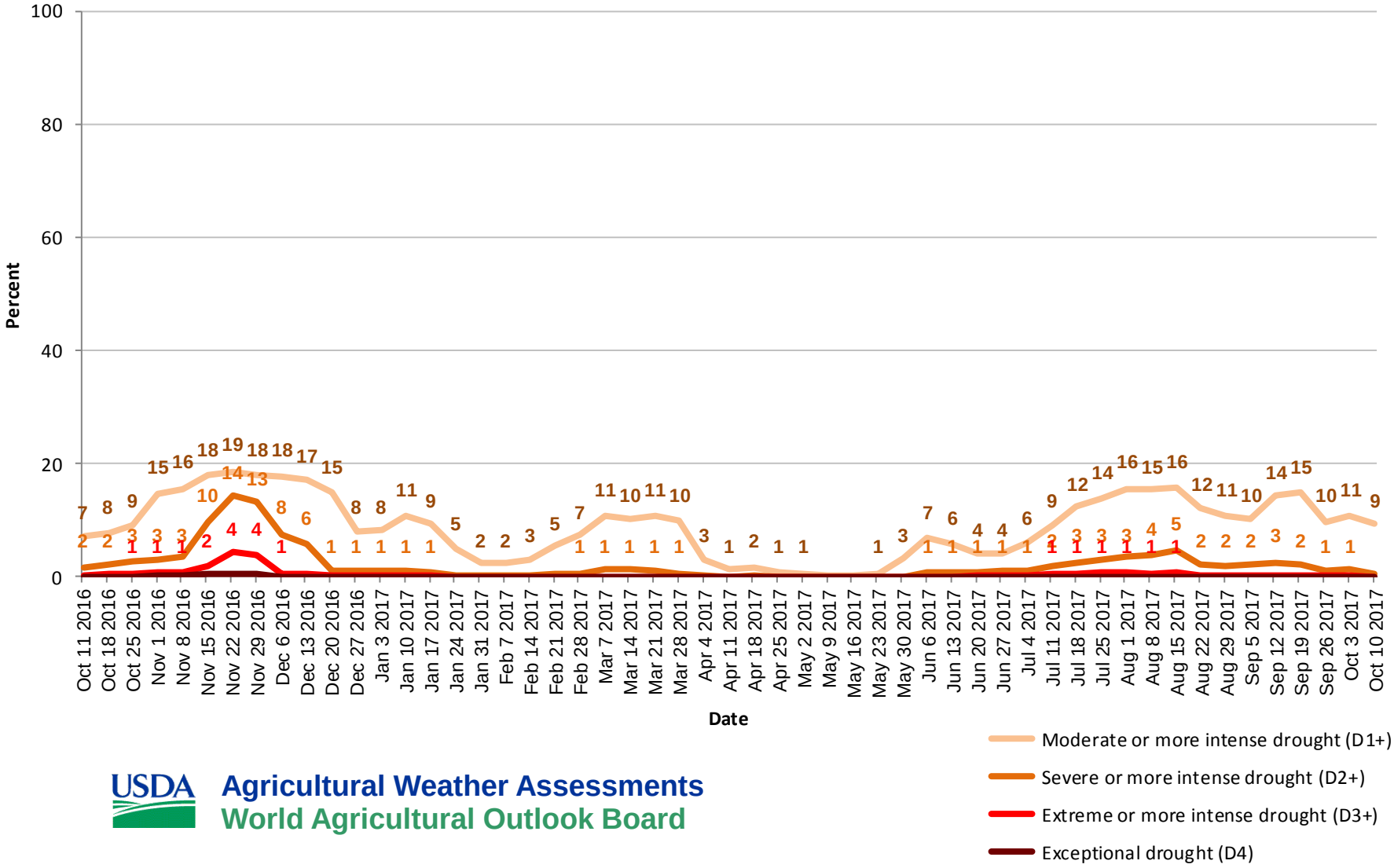
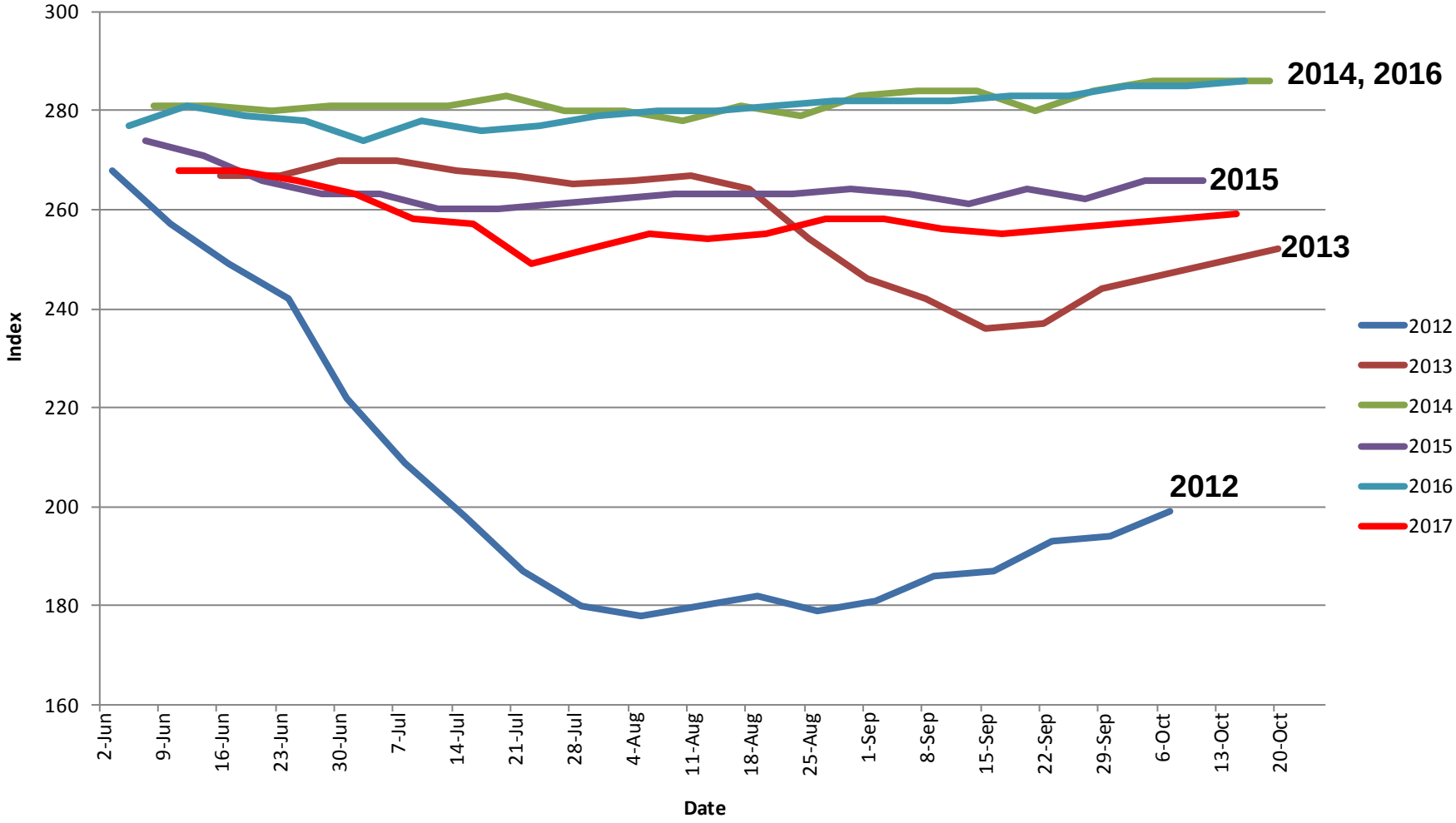
- Major and minor agricultural areas combined account for 99% of the total national production.

United States Soybean Areas Located in Drought



USDA Agricultural Weather Assessments
World Agricultural Outlook Board

U.S. SOYBEAN Condition Index

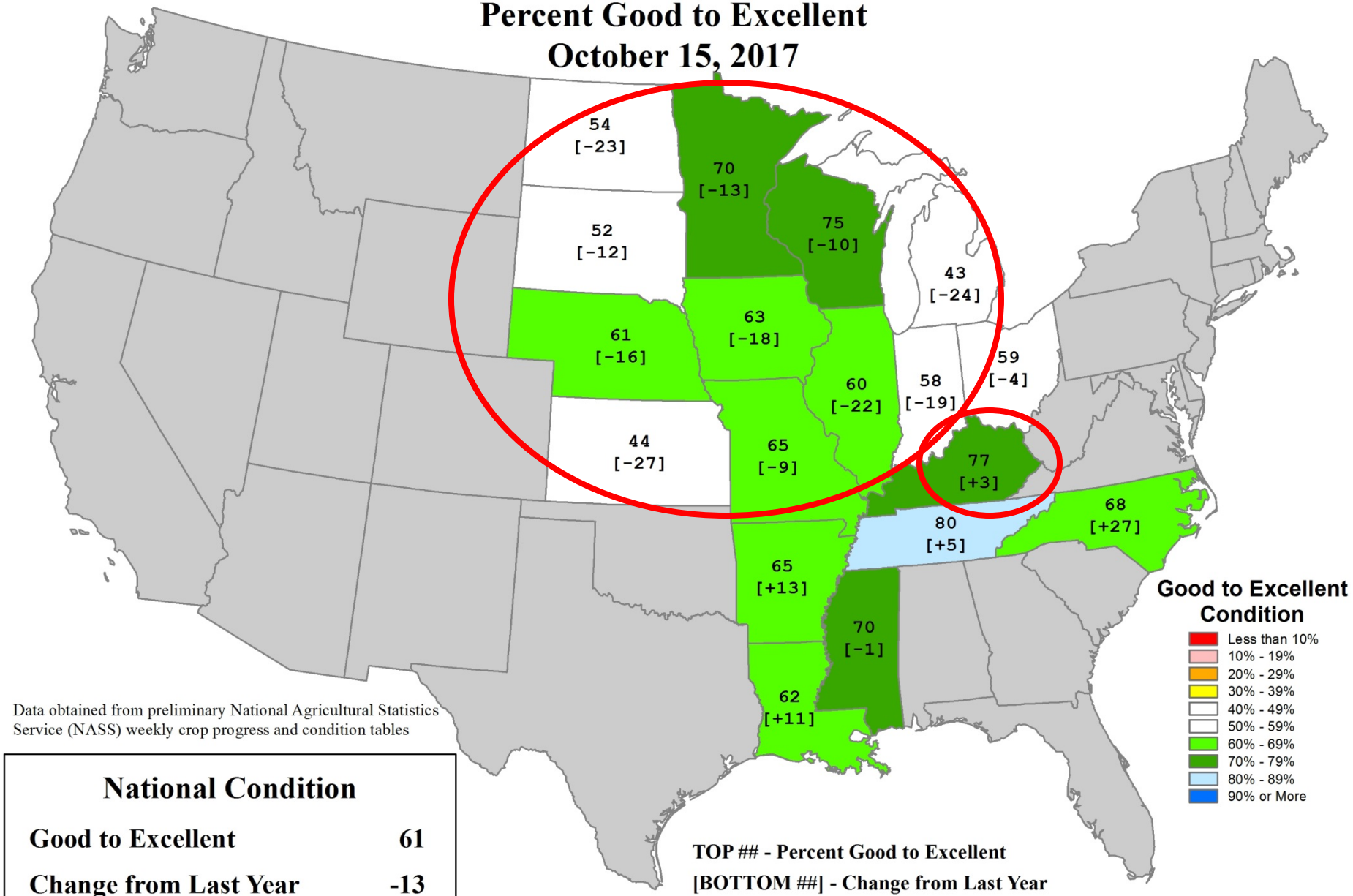


Based on NASS crop progress data.

Index Weighting: Excellent = 4; Good = 3; Fair = 2; Poor = 1; Very Poor = 0

U.S. Soybean Conditions

Percent Good to Excellent
October 15, 2017



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

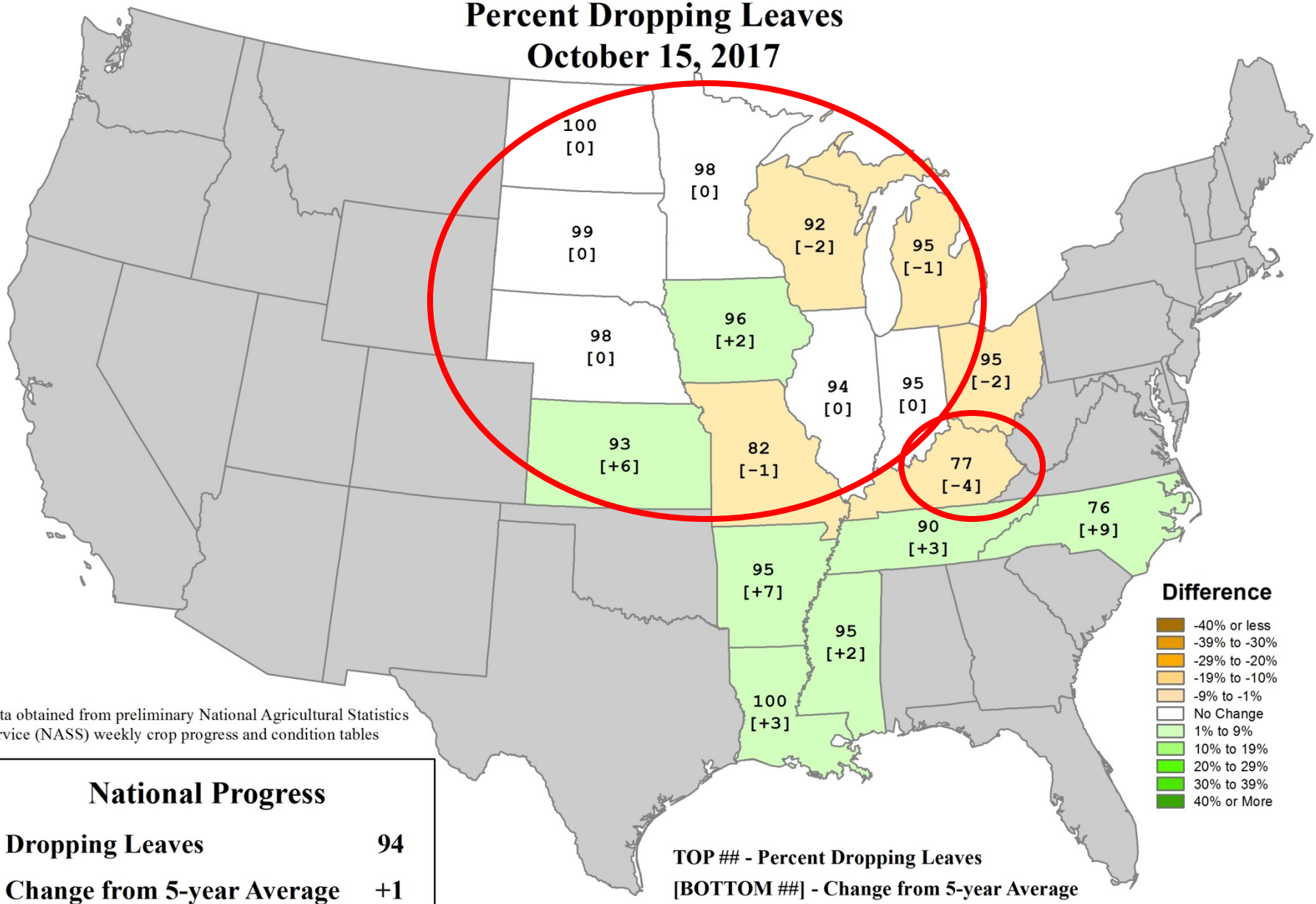
National Condition	
Good to Excellent	61
Change from Last Year	-13

TOP ## - Percent Good to Excellent
[BOTTOM ##] - Change from Last Year

USDA Agricultural Weather Assessments
World Agricultural Outlook Board

U.S. Soybeans Progress

Percent Dropping Leaves
October 15, 2017



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

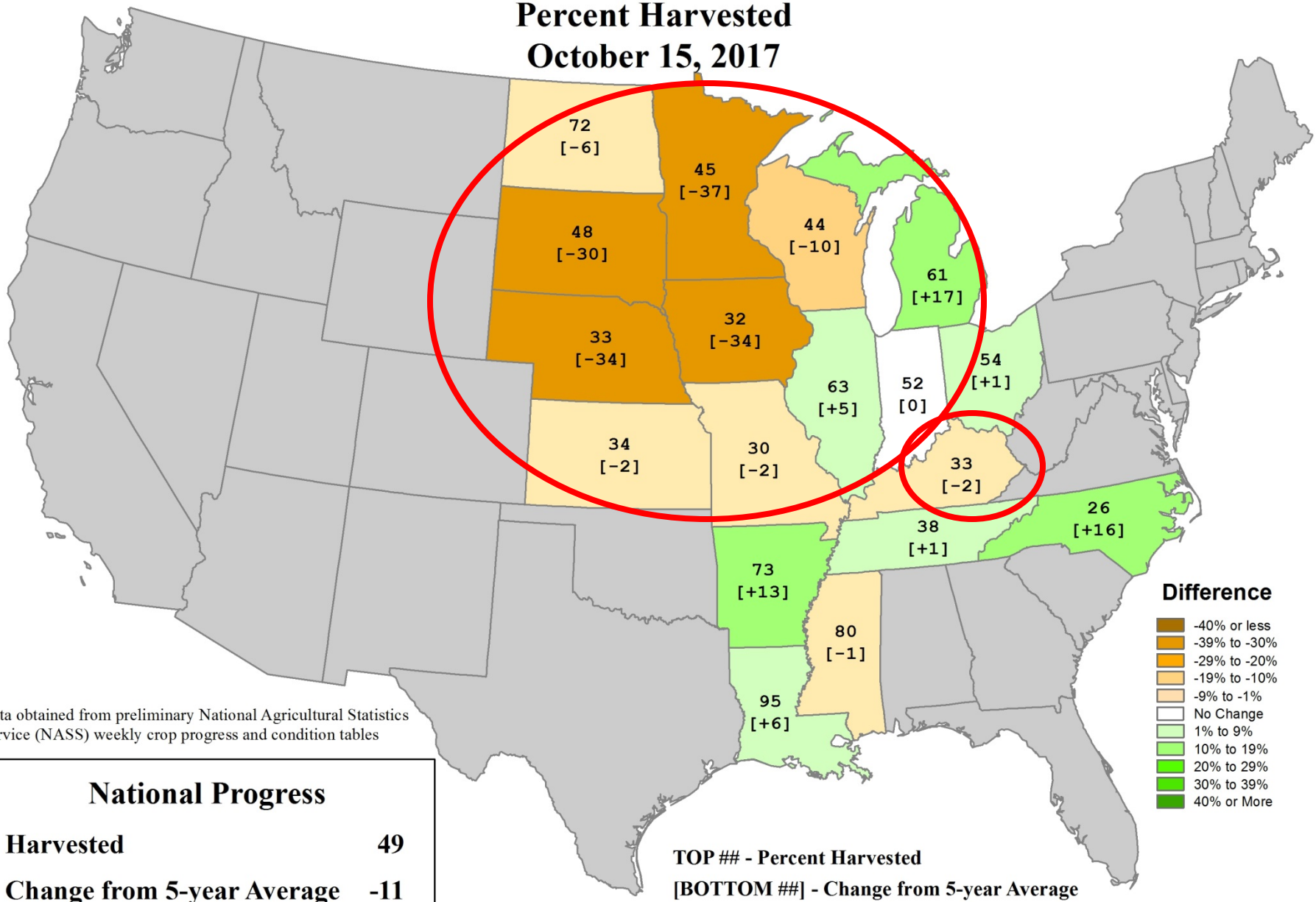
National Progress	
Dropping Leaves	94
Change from 5-year Average	+1

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

USDA Agricultural Weather Assessments
World Agricultural Outlook Board

U.S. Soybeans Progress

Percent Harvested
October 15, 2017



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

National Progress	
Harvested	49
Change from 5-year Average	-11

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

USDA Agricultural Weather Assessments
World Agricultural Outlook Board

South Dakota soybeans, Oct. 2017.
Photo courtesy of Laura Edwards.

- It was also an imperfect year for soybeans, but better in states bordering the MS River.
- October 1 estimates, if realized, indicate record-high soybean production in two Central Region States (KY and MO).
- If October 1 estimates are realized, 2017 will feature record-high U.S. soybean production (4.43 billion bushels).
- Drought affected 0 to 16% of the U.S. soybean production area during the 2017 growing season.
- Currently, 61% of the U.S. soybean crop is rated good to excellent.

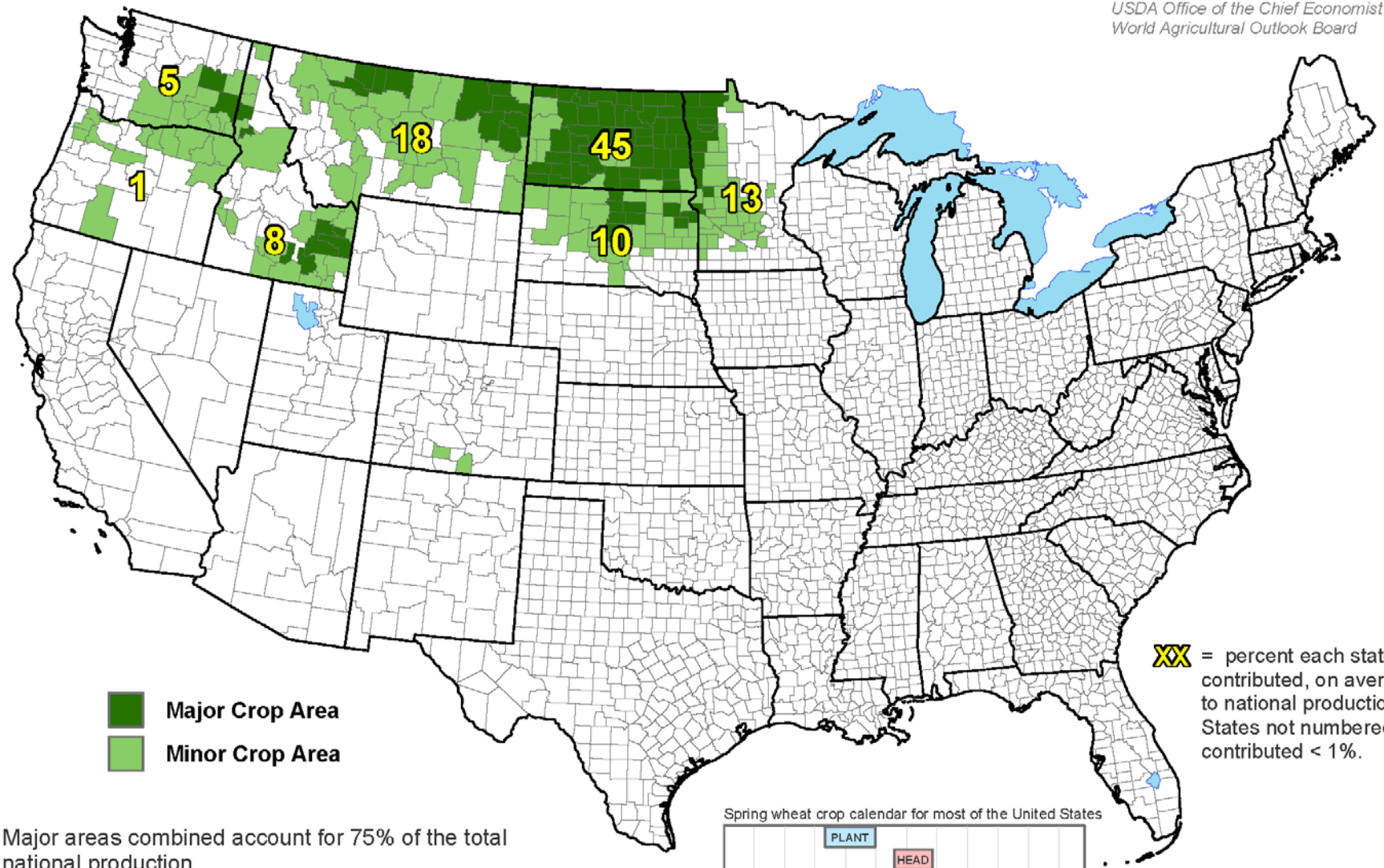
Other Current Agricultural Highlights

- **Spring wheat harvest wrapped up early, following the growing region's worst drought since 1988. Production is down 25% from last year; harvested area is down 7%.**
- **Sunflower production is down 32% from last year; early harvest activities have been delayed. Harvested area is down 12%.**
- **Winter wheat is emerging across the Plains and lower Midwest. Emergence in Kansas, in particular, has been delayed by rain-induced planting disruptions.**
- **The sugarbeet harvest is well underway. The production estimate is down more than 3% from last year.**
- **Sorghum production is down 24% from last year, with harvested acres down 18% and yield down 7%.**
- **Rangeland and pastures across the northern High Plains were severely stressed by drought. Some recovery has begun with autumn rainfall, but significant new grass growth may not be fully realized until spring 2018 or beyond.**

United States: Spring Wheat

United States Department of Agriculture

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



- Major areas combined account for 75% of the total national production.
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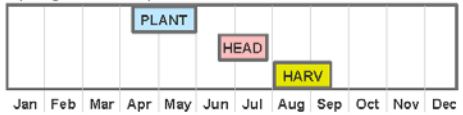
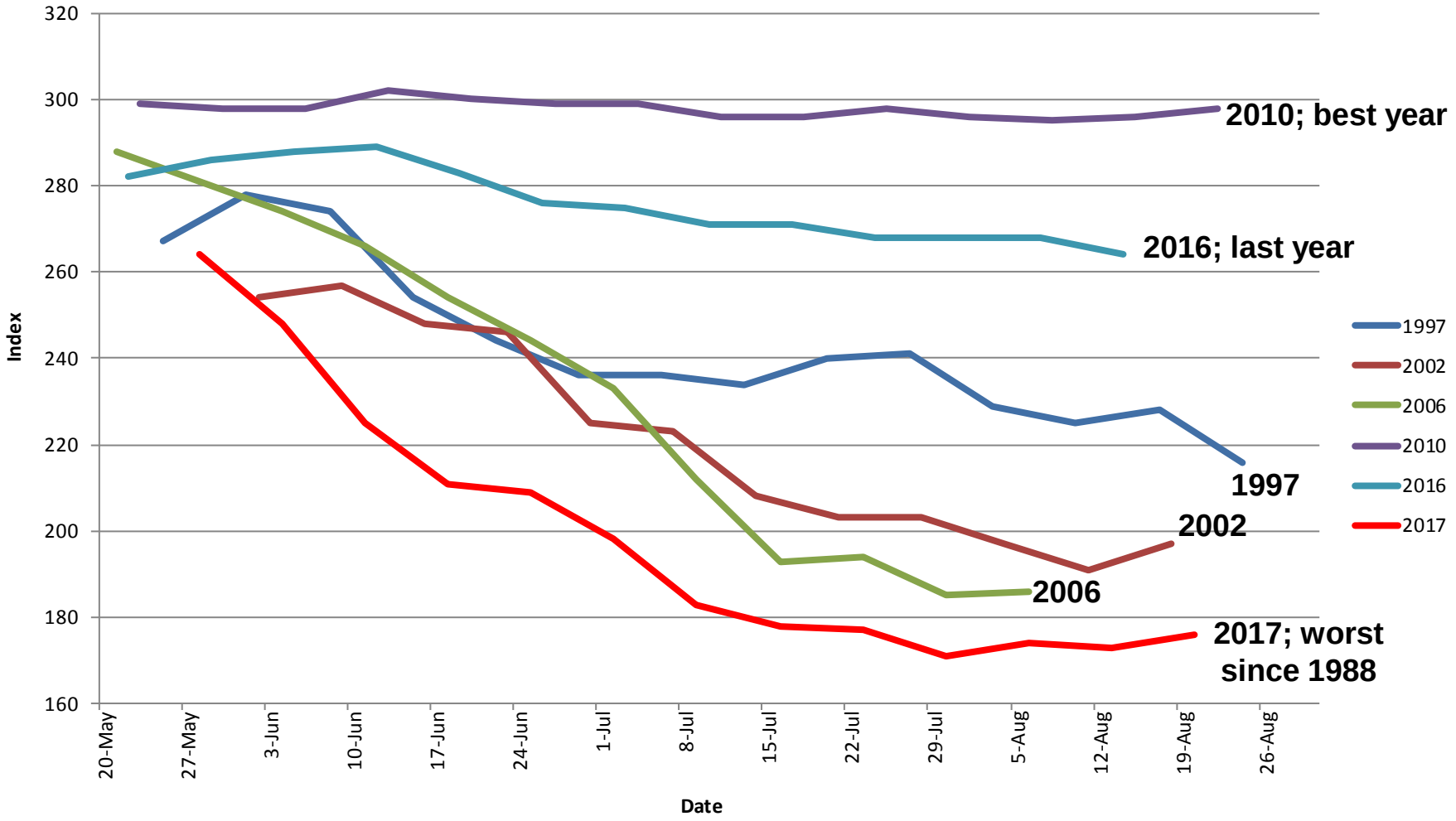
- Major and minor areas and state production percentages are derived from NASS survey data from 2010 to 2014.

Spring wheat crop calendar for most of the United States



The crop calendar was developed using NASS crop progress data from 2010-2014. This calendar illustrates, on average, the dates when national progress advanced from 10 to 90 percent.

U.S. SPRING WHEAT Condition Index



Based on NASS crop progress data.

Index Weighting: Excellent = 4; Good = 3; Fair = 2; Poor = 1; Very Poor = 0

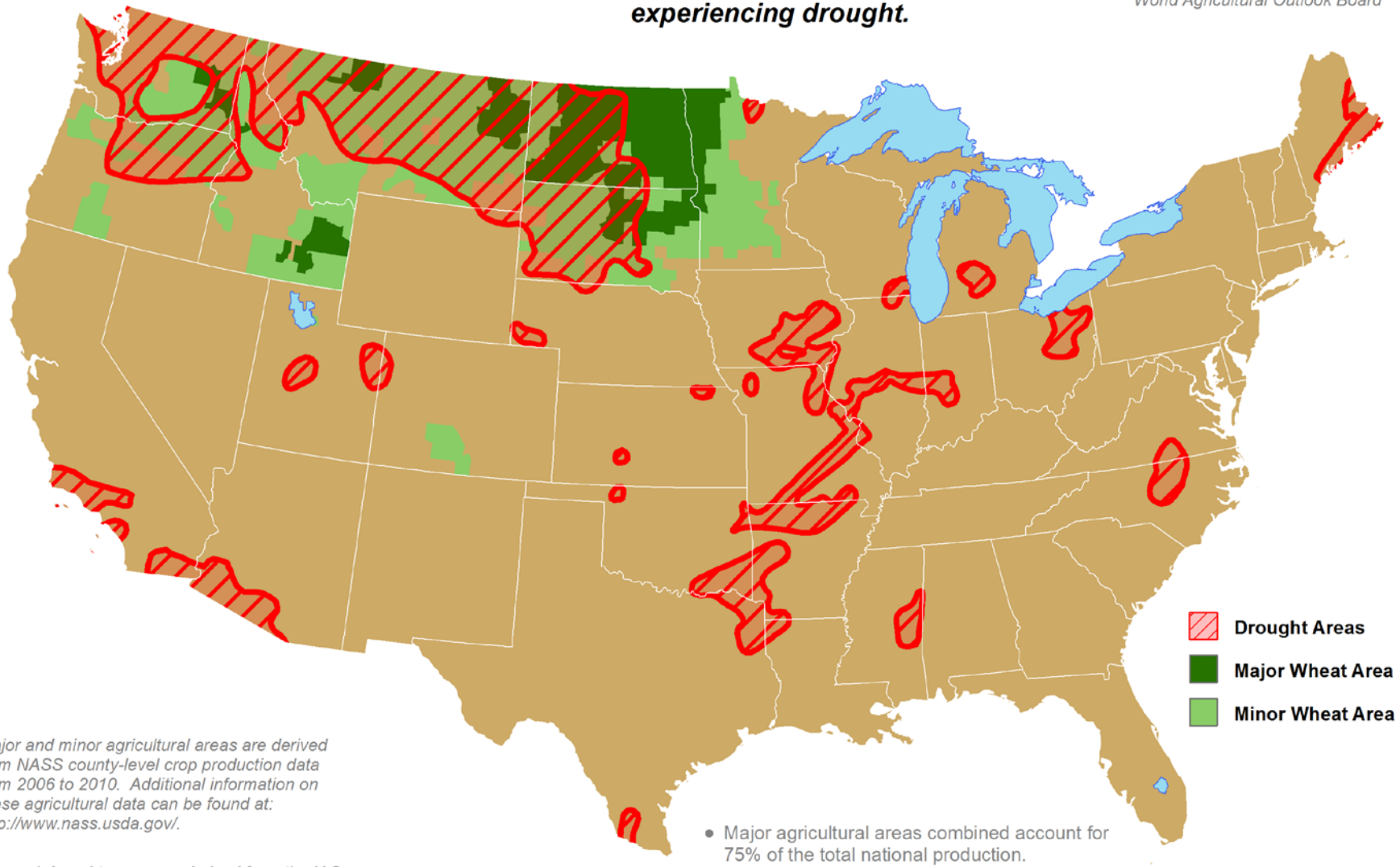
U.S. Spring Wheat Areas Experiencing Drought

United States Department of Agriculture

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

Reflects October 10, 2017 U.S. Drought Monitor data

Approximately 51% of spring 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/.

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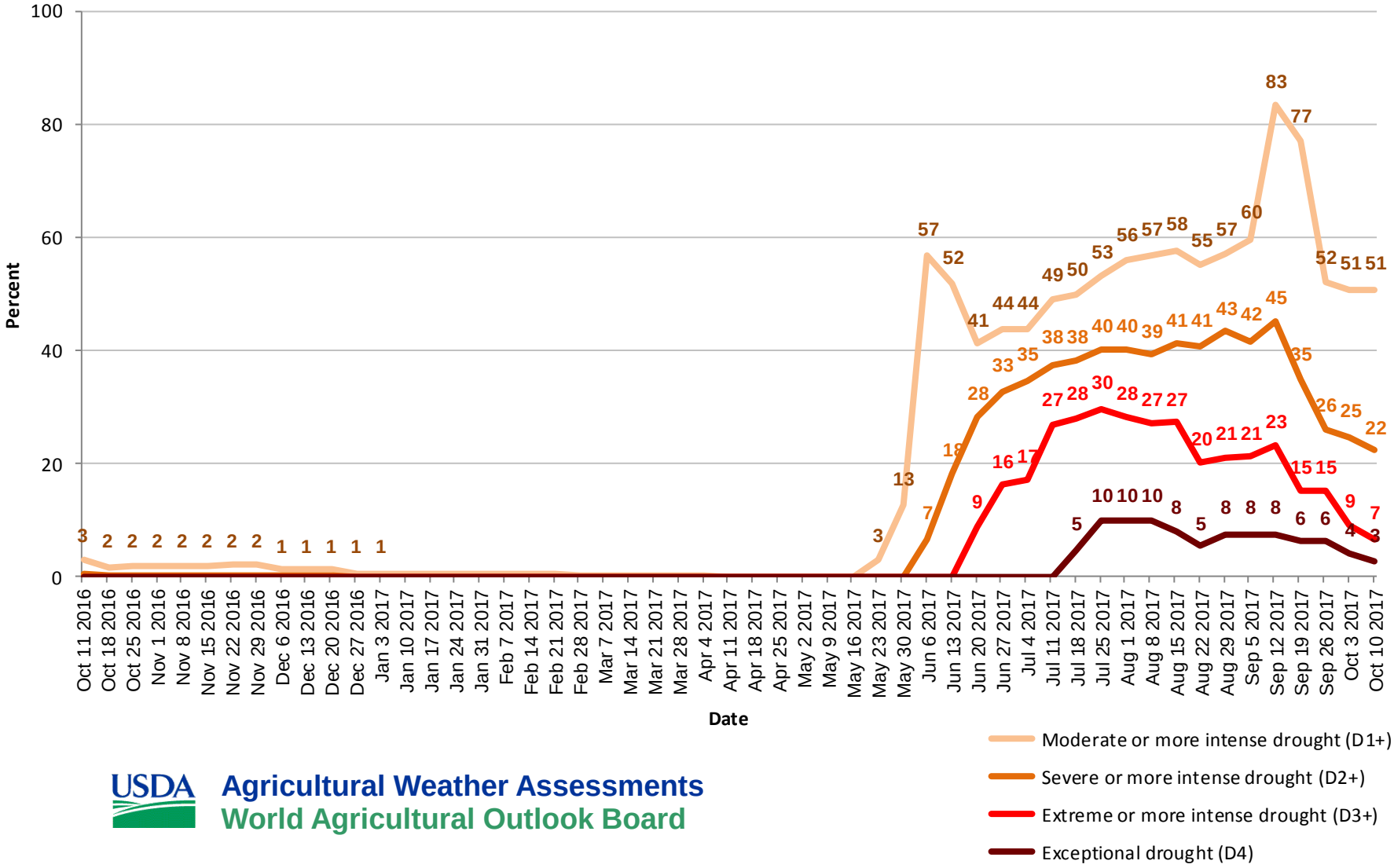
- Major and minor agricultural areas combined account for 99% of the total national production.

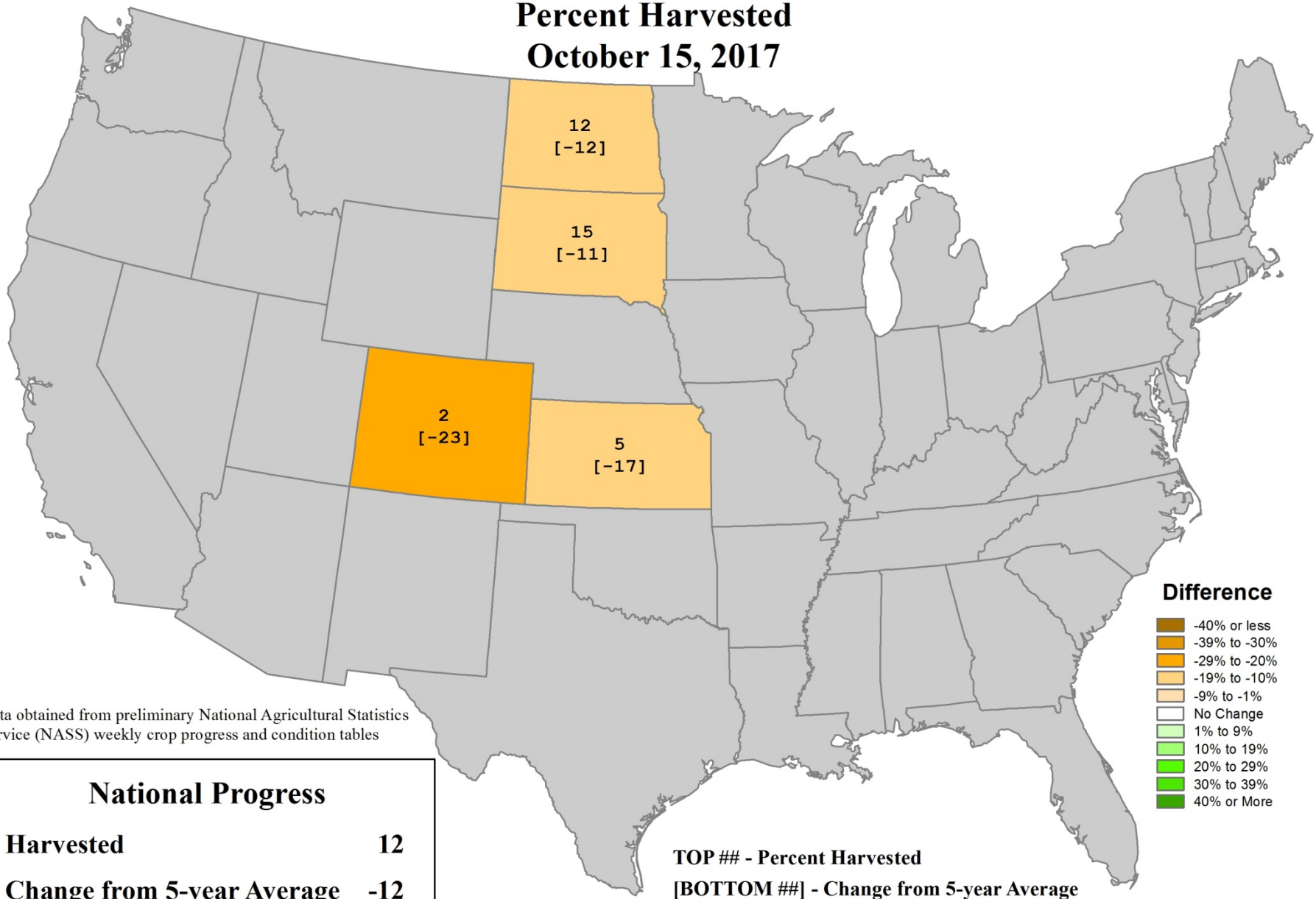
United States Spring Wheat Areas Located in Drought



USDA **Agricultural Weather Assessments**
World Agricultural Outlook Board

U.S. Sunflowers Progress

Percent Harvested
October 15, 2017



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

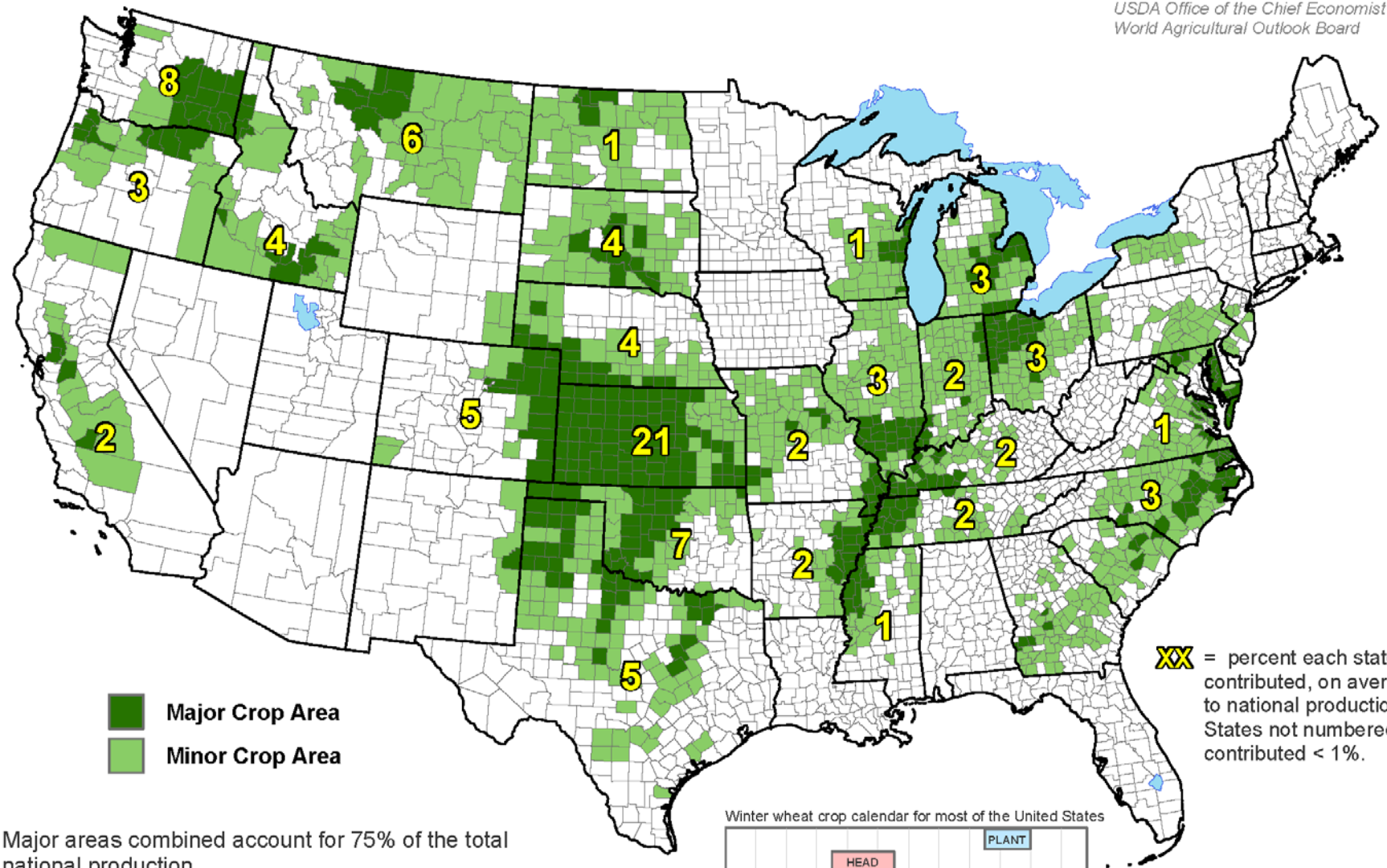
National Progress	
Harvested	12
Change from 5-year Average	-12

USDA Agricultural Weather Assessments
World Agricultural Outlook Board

United States: Winter Wheat

United States Department of Agriculture

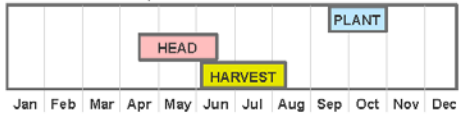
This product was prepared by the USDA Office of the Chief Economist World Agricultural Outlook Board



XX = percent each state contributed, on average, to national production. States not numbered contributed < 1%.

- Major areas combined account for 75% of the total national production.
- Major and minor areas combined account for 99% of the total national production.
- Major and minor areas and state production percentages are derived from NASS survey data from 2010 to 2014.

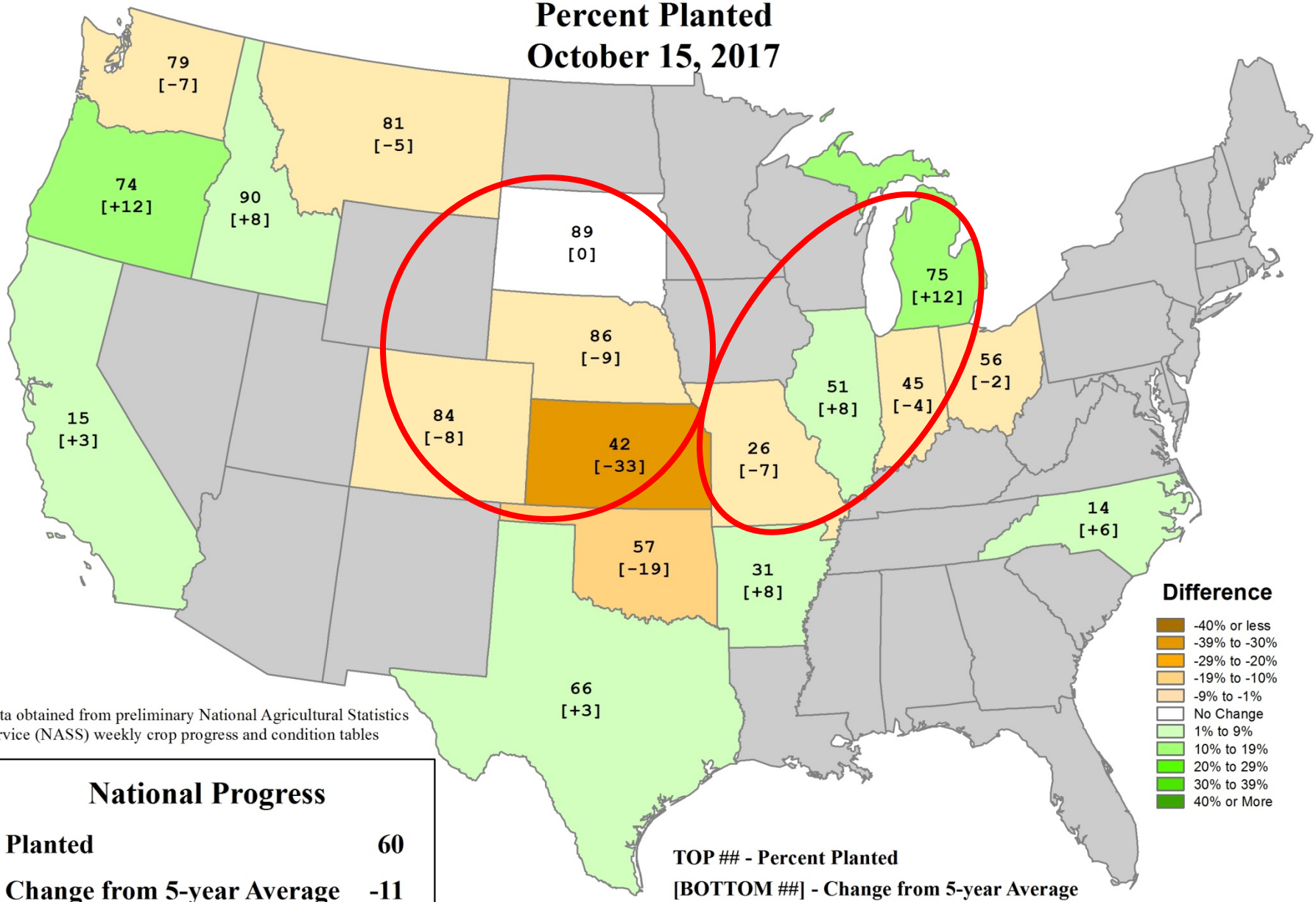
Winter wheat crop calendar for most of the United States



The crop calendar was developed using NASS crop progress data from 2010-2014. This calendar illustrates, on average, the dates when national progress advanced from 10 to 90 percent.

U.S. Winter Wheat Progress

Percent Planted
October 15, 2017



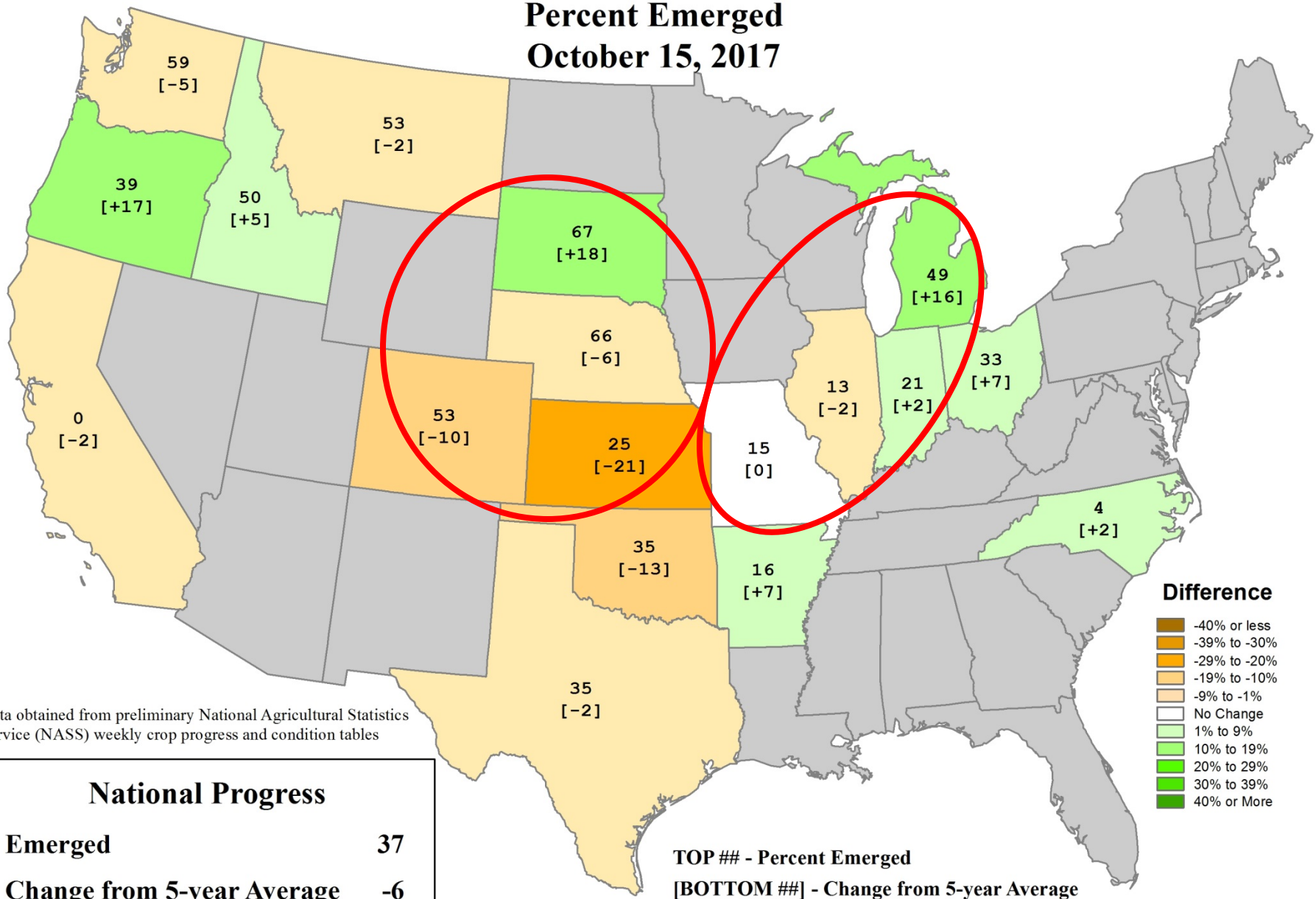
Data obtained from preliminary National Agricultural Statistics Service (NASS) weekly crop progress and condition tables

National Progress	
Planted	60
Change from 5-year Average	-11

USDA Agricultural Weather Assessments
World Agricultural Outlook Board

U.S. Winter Wheat Progress

Percent Emerged
October 15, 2017



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

National Progress	
Emerged	37
Change from 5-year Average	-6

TOP ## - Percent Emerged

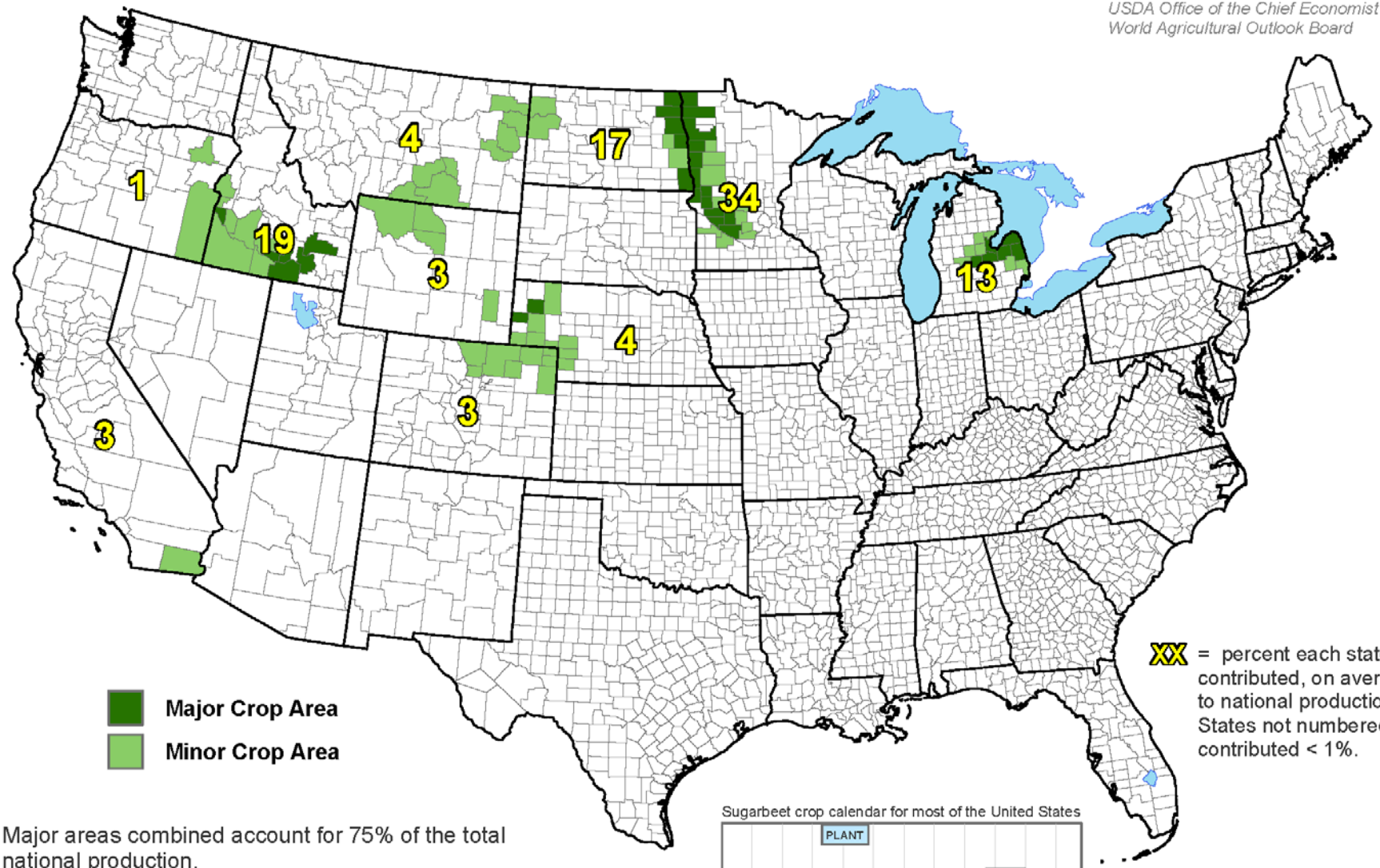
[BOTTOM ##] - Change from 5-year Average

USDA Agricultural Weather Assessments
World Agricultural Outlook Board

United States: Sugarbeets

United States Department of Agriculture

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



- Major areas combined account for 75% of the total national production.
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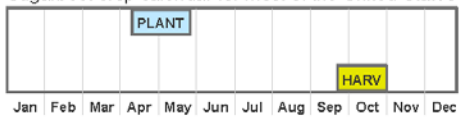
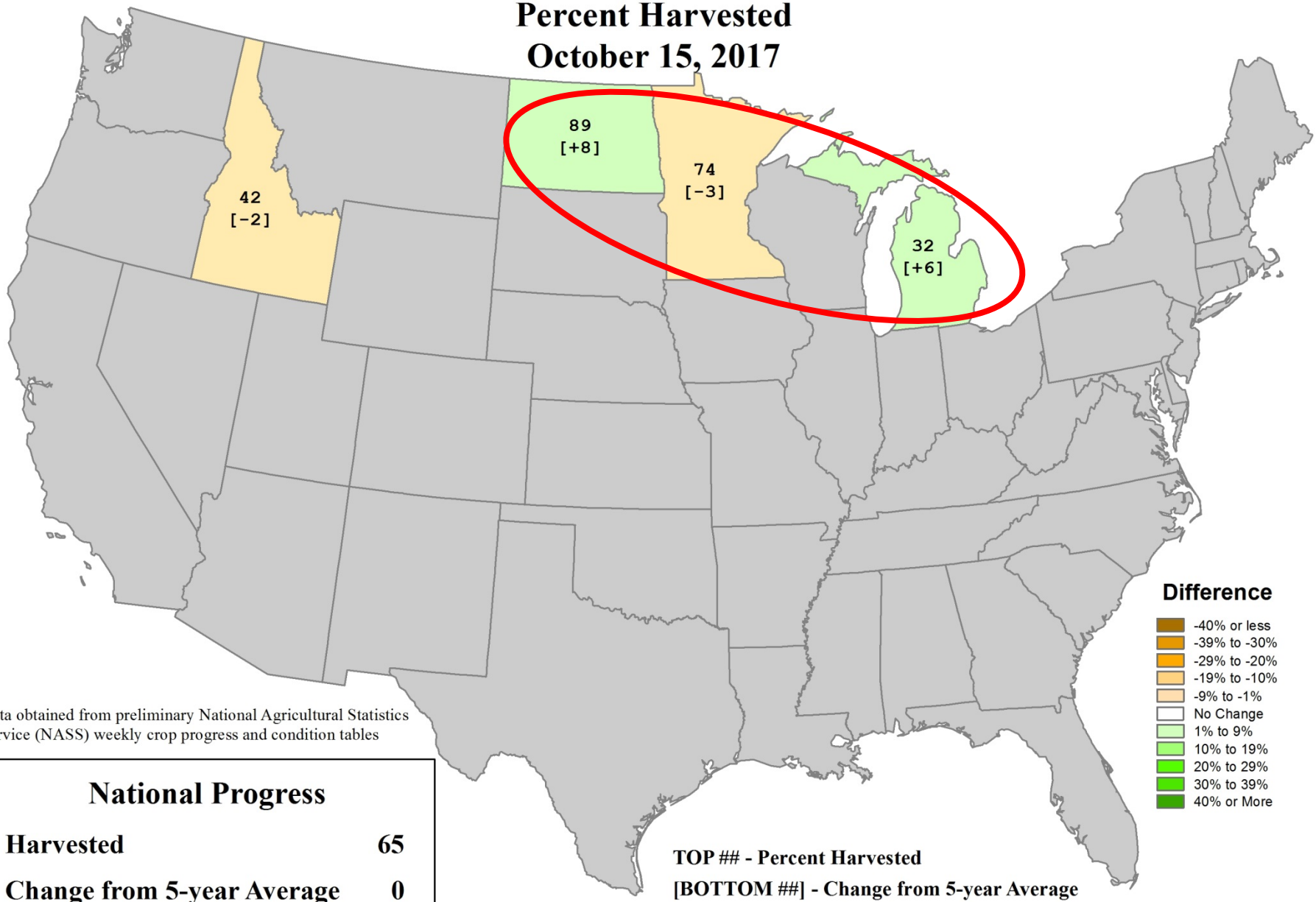
Sugarbeet crop calendar for most of the United States



The crop calendar was developed using NASS crop progress data from 2010-2014. This calendar illustrates, on average, the dates when national progress advanced from 10 to 90 percent.

U.S. Sugarbeets Progress

Percent Harvested
October 15, 2017



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

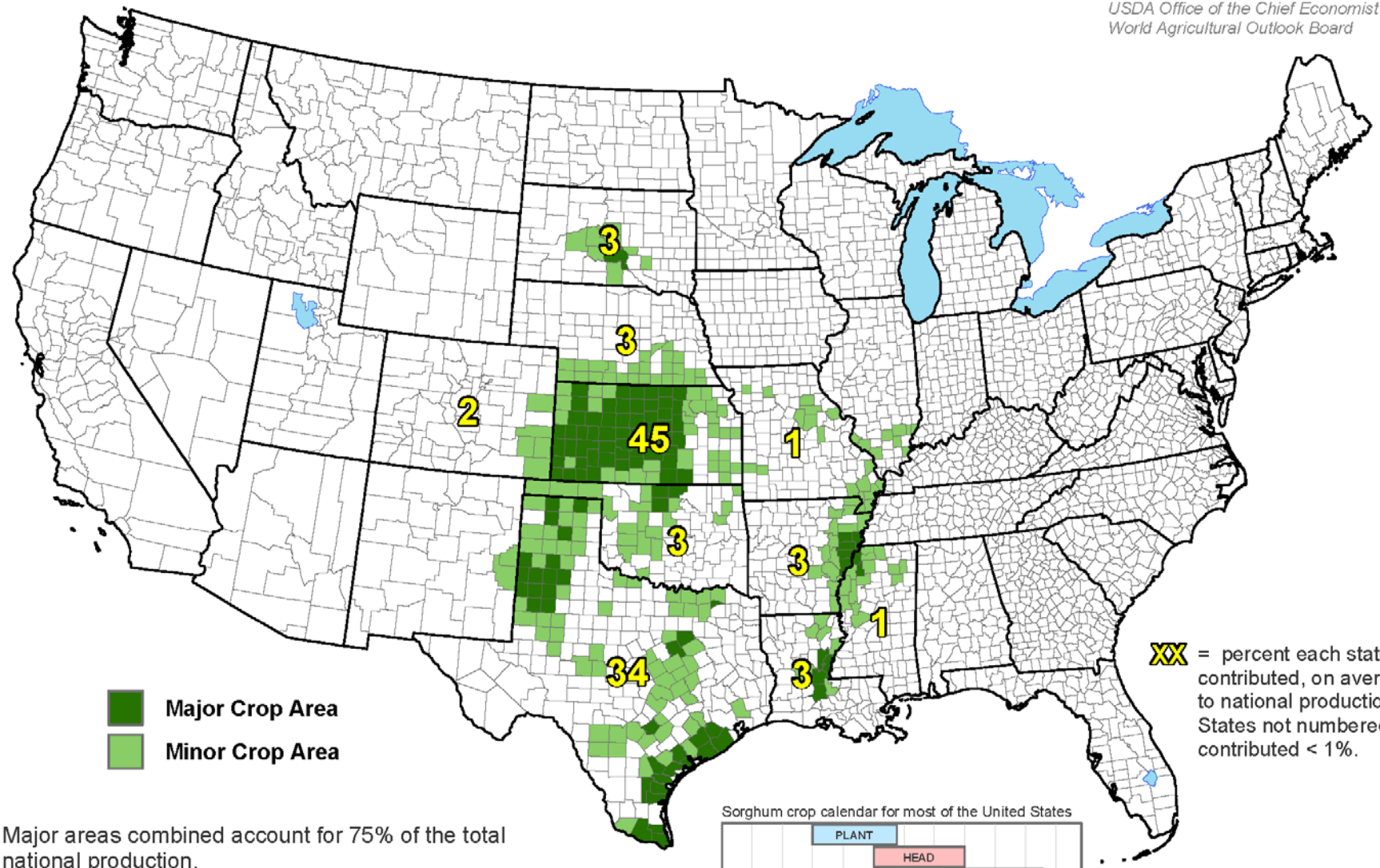
National Progress	
Harvested	65
Change from 5-year Average	0

USDA Agricultural Weather Assessments
World Agricultural Outlook Board

United States: Sorghum

USDA United States Department of Agriculture

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



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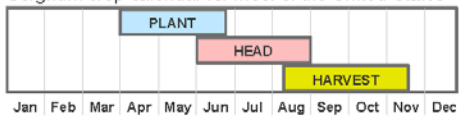
Sorghum crop calendar for most of the United States



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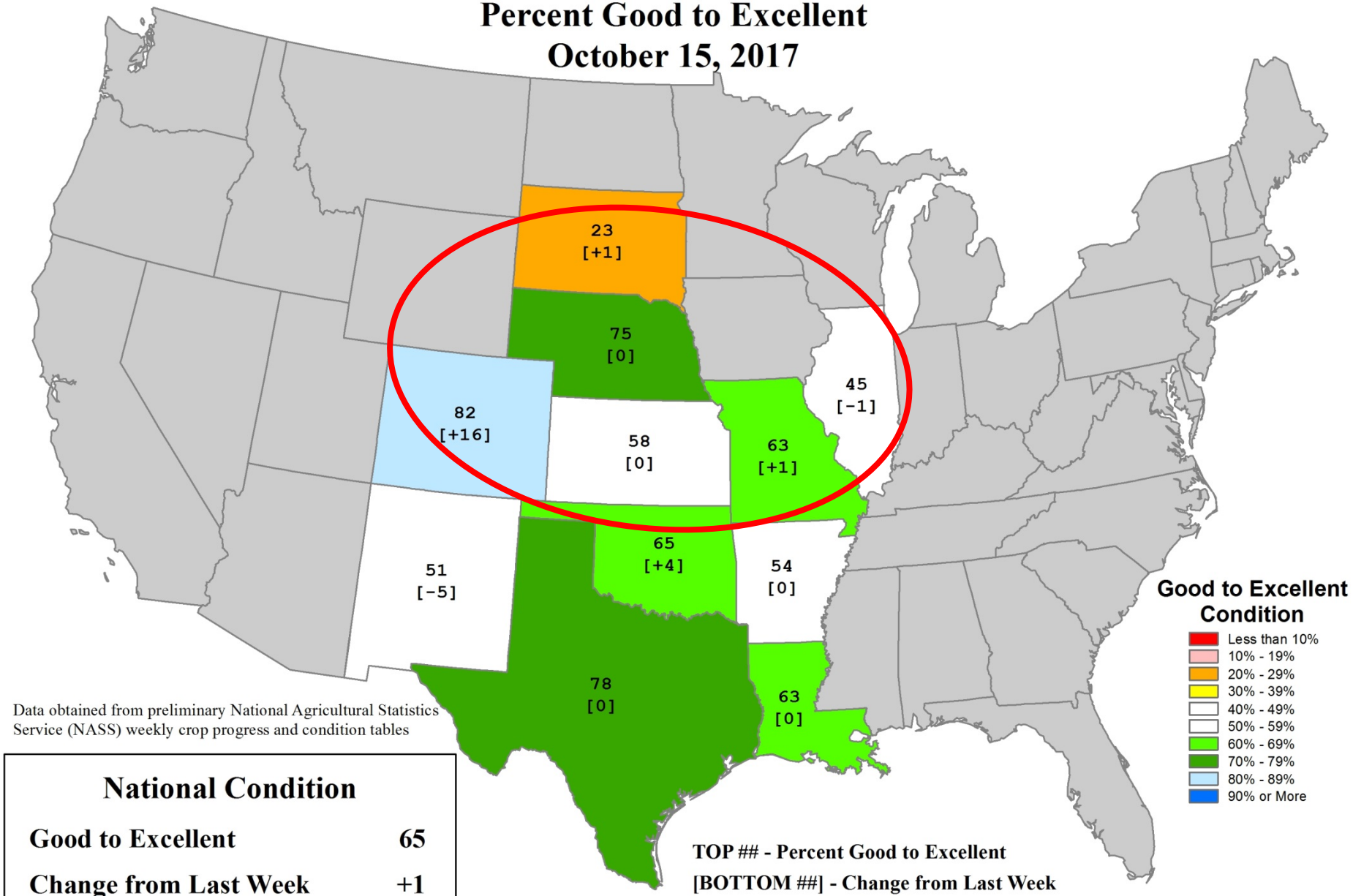
U.S. Sorghum Conditions

Percent Good to Excellent
October 15, 2017



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

National Condition	
Good to Excellent	65
Change from Last Week	+1

TOP ## - Percent Good to Excellent
[BOTTOM ##] - Change from Last Week

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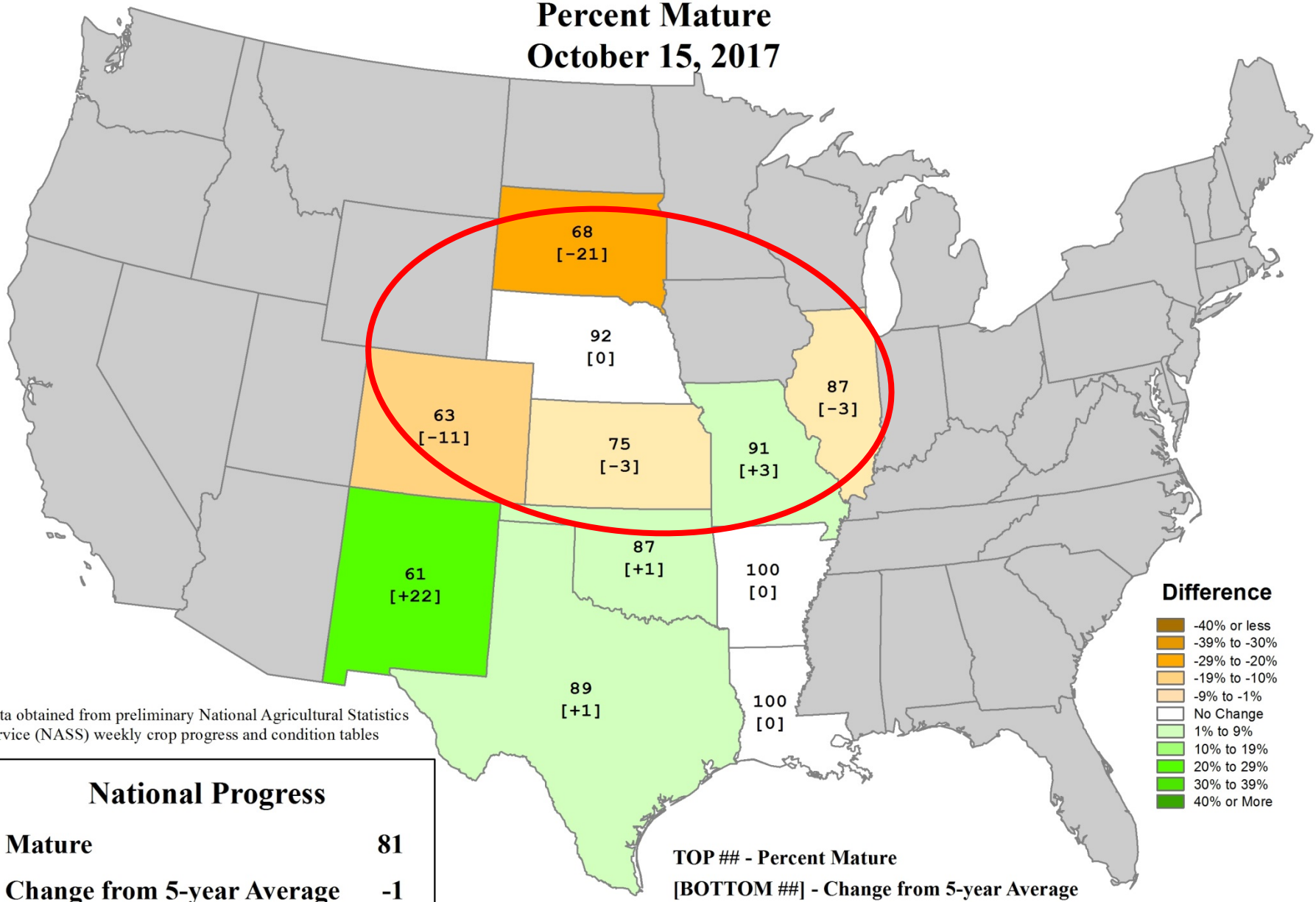
U.S. Sorghum Progress

Percent Mature
October 15, 2017



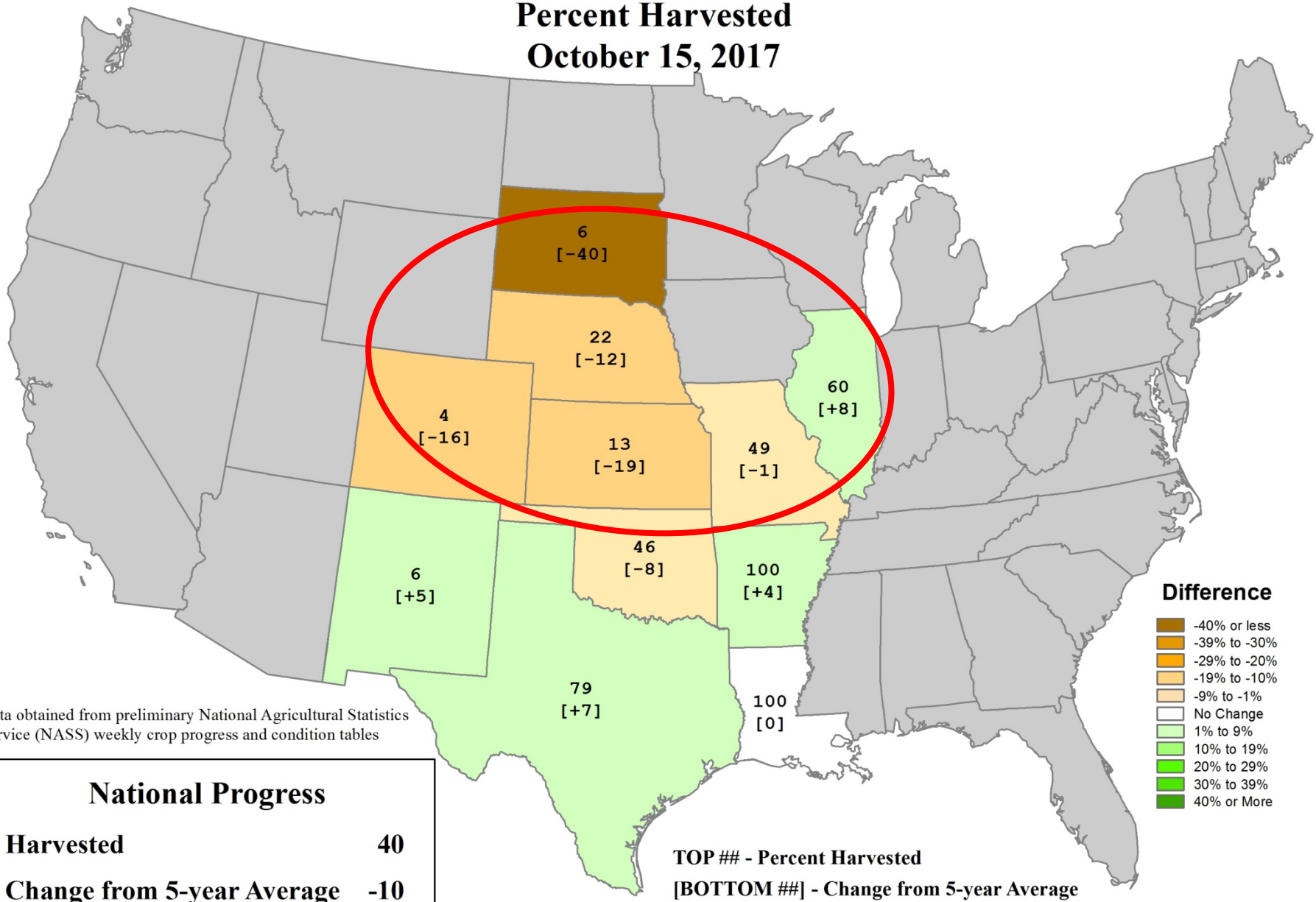
Data obtained from preliminary National Agricultural Statistics Service (NASS) weekly crop progress and condition tables

National Progress	
Mature	81
Change from 5-year Average	-1

USDA Agricultural Weather Assessments
World Agricultural Outlook Board

U.S. Sorghum Progress

Percent Harvested
October 15, 2017



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

National Progress	
Harvested	40
Change from 5-year Average	-10

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

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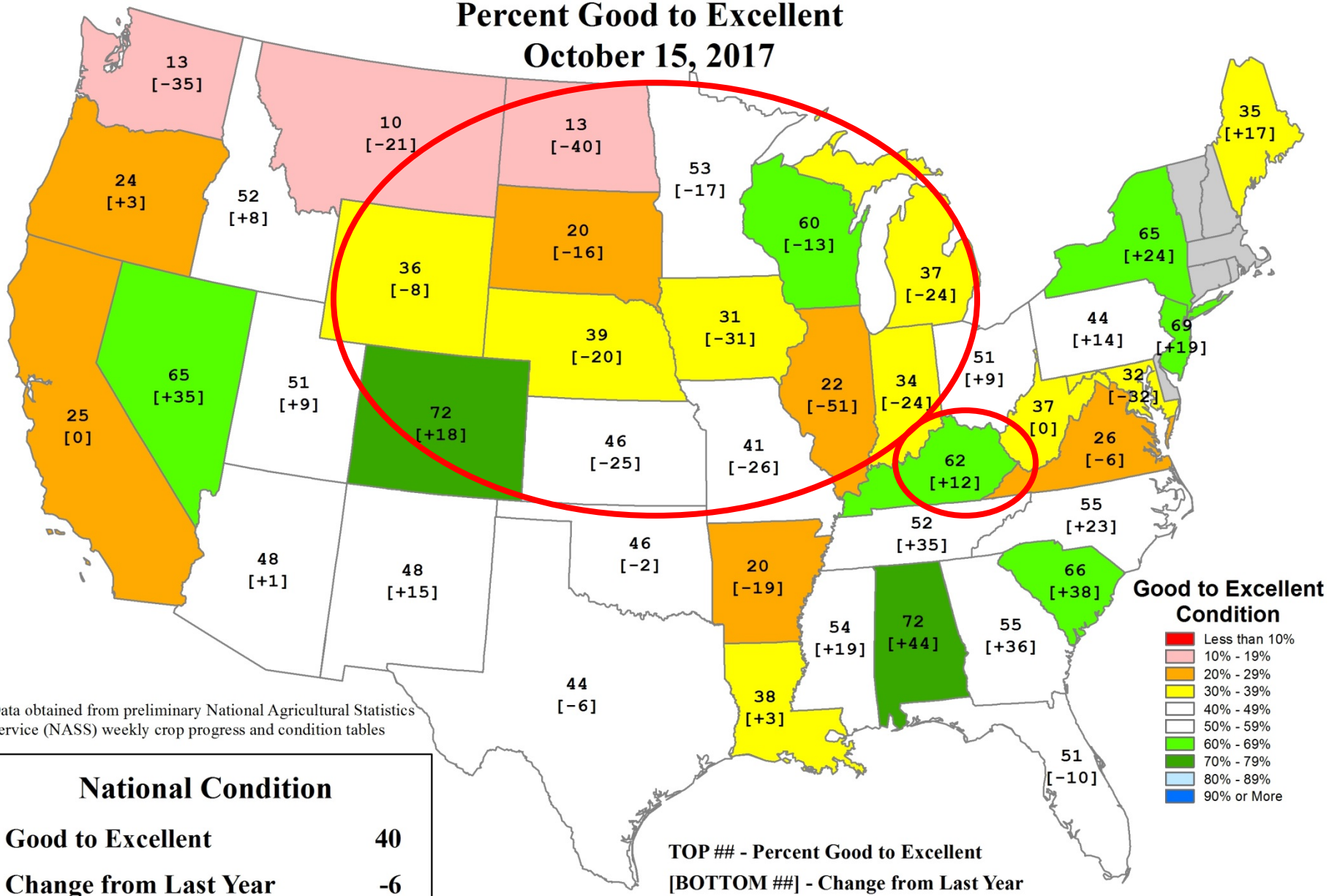
U.S. Pasture and Range Conditions

Percent Good to Excellent
October 15, 2017



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

National Condition	
Good to Excellent	40
Change from Last Year	-6

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Berrien County, MI, June 29, 2016
Photo by Brad Rippey, USDA

Cherry Production

ISSN: 1948-9072

Released June 9, 2017, by the National Agricultural Statistics Service (NASS), Agricultural Statistics Board, United States Department of Agriculture (USDA).

Tart Cherry Production Down 23 Percent

United States tart cherry production is forecast at 238 million pounds, down 23 percent from the 2016 production.

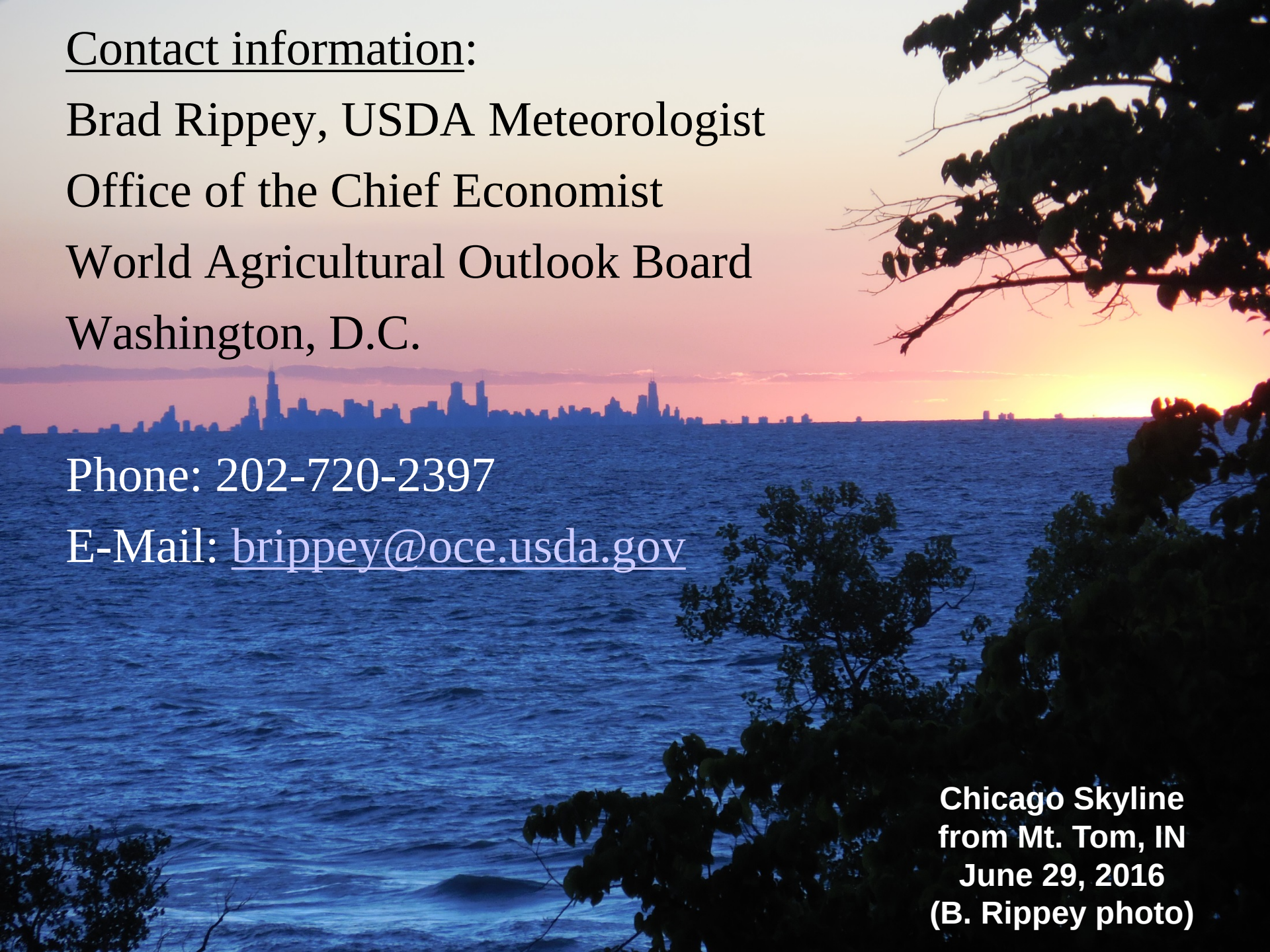
In Michigan, the largest producing State, growers are still assessing damage from an early May freeze event but expect an average crop.

Utah growers reported a less than average crop this year. Some growers reporting low production cited freeze and frost at bloom. In Wisconsin, the season has been wet and cool, which may have hurt pollination. There was a frost in early May but it appears to have only caused modest damage.

Tart Cherry Production – States and United States: 2015, 2016, and Forecasted 2017

State	Total production		
	2015	2016	2017
	(million pounds)	(million pounds)	(million pounds)
Michigan	158.0	222.7	164.5
New York	10.5	8.0	9.0
Oregon [1]	1.5	(NA)	(NA)
Pennsylvania [1]	7.5	(NA)	(NA)
Utah	40.7	43.0	29.0
Washington	25.0	24.4	25.3
Wisconsin	9.3	11.0	10.4
United States	252.5	309.1	238.2

(NA) Not available.
[1] Estimates discontinued in 2016.



Contact information:

Brad Rippey, USDA Meteorologist

Office of the Chief Economist

World Agricultural Outlook Board

Washington, D.C.

Phone: 202-720-2397

E-Mail: brippey@oce.usda.gov

Chicago Skyline
from Mt. Tom, IN
June 29, 2016
(B. Rippey photo)