

Hydrologic and Climate Assessment

July 20, 2018



Photo: Mike Estadt– Pickaway County Extension

Aaron B. Wilson

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DEPARTMENT OF EXTENSION - CFAES

BYRD POLAR & CLIMATE RESEARCH CENTER

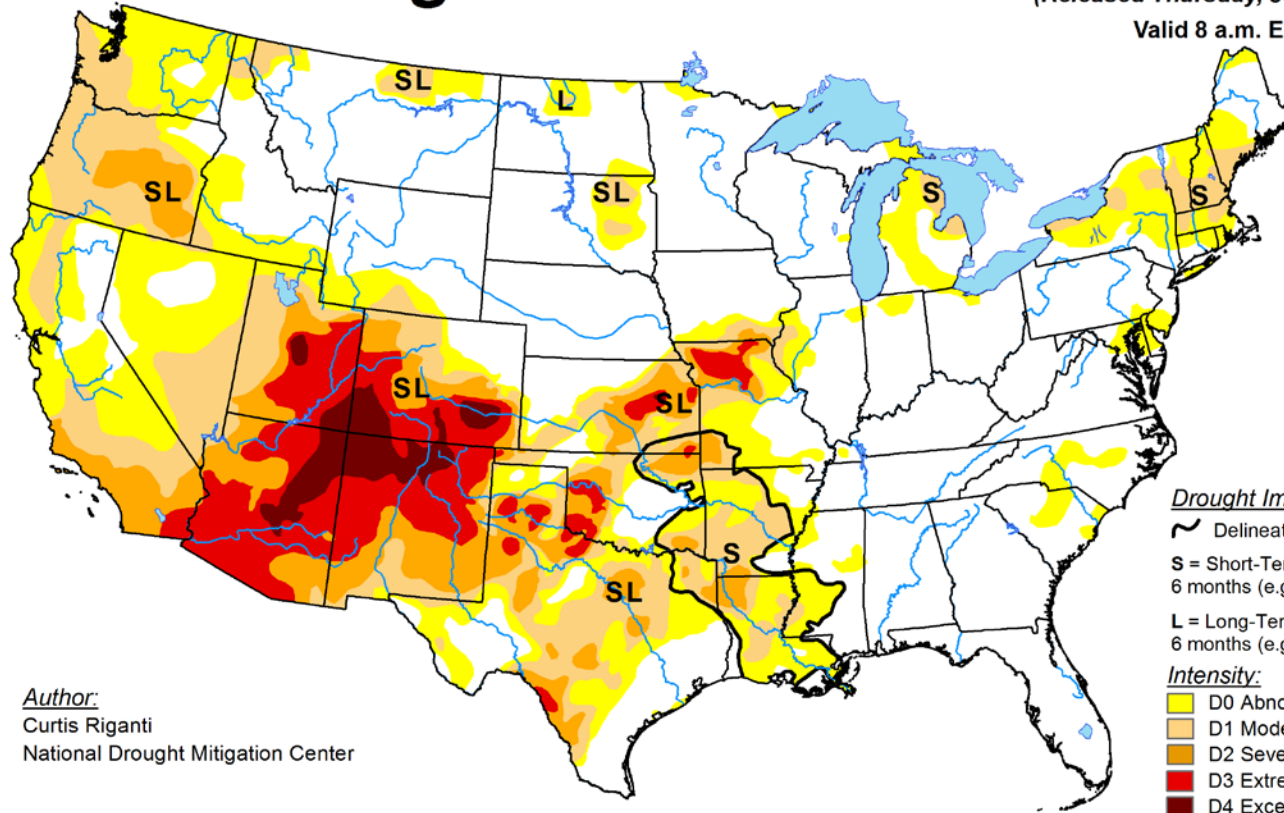
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U.S. Drought Monitor

July 17, 2018
 (Released Thursday, Jul. 19, 2018)
 Valid 8 a.m. EDT



Author:
 Curtis Riganti
 National Drought Mitigation Center

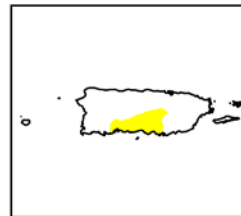
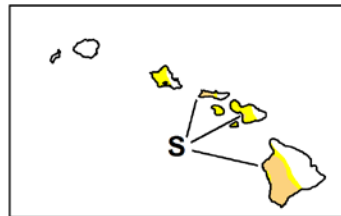
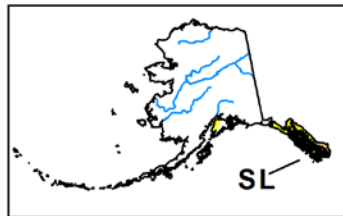
Drought Impact Types:

- ~ 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:

- 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.



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



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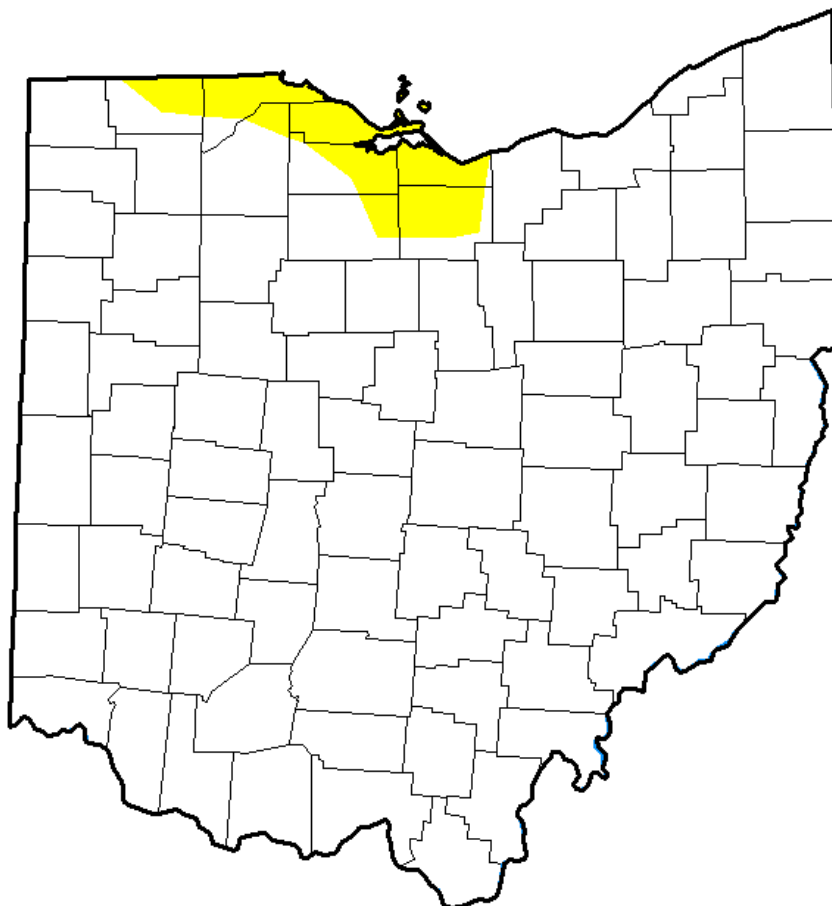
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U.S. Drought Monitor Ohio

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Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	95.91	4.09	0.00	0.00	0.00	0.00
Last Week <i>07-10-2018</i>	100.00	0.00	0.00	0.00	0.00	0.00
3 Months Ago <i>04-17-2018</i>	100.00	0.00	0.00	0.00	0.00	0.00
Start of Calendar Year <i>01-02-2018</i>	100.00	0.00	0.00	0.00	0.00	0.00
Start of Water Year <i>09-26-2017</i>	71.57	28.43	3.85	0.00	0.00	0.00
One Year Ago <i>07-18-2017</i>	100.00	0.00	0.00	0.00	0.00	0.00

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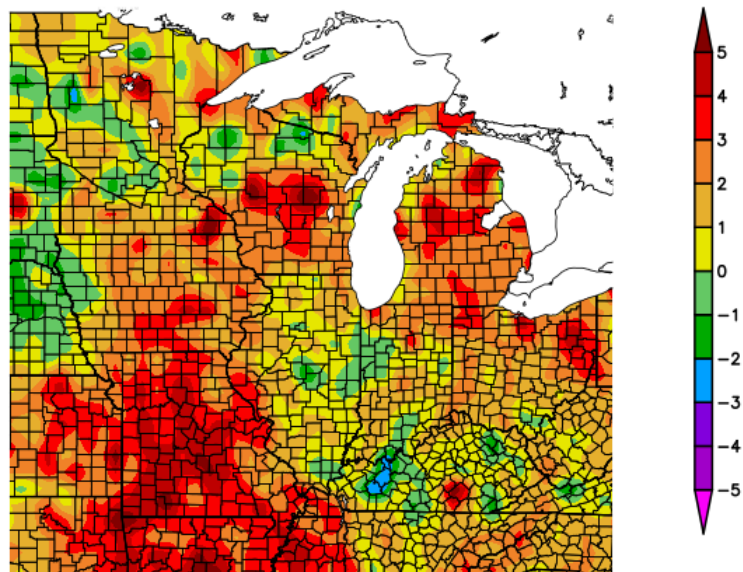


<http://droughtmonitor.unl.edu/>

Temperature Differences Compared to Average (1981-2010)

7-Day

Departure from Normal Temperature (F)
7/13/2018 - 7/19/2018



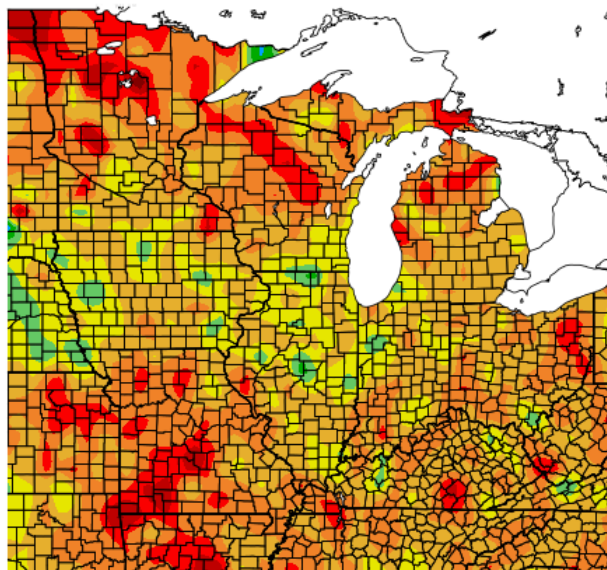
Generated 7/20/2018 at HPRCC using provisional data.

NOAA Regional Climate Centers

Temperature Differences Compared to Average (1981-2010)

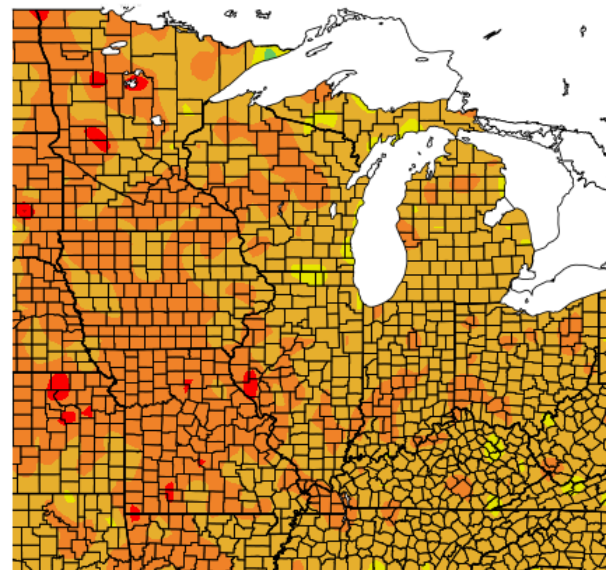
30-Day

Departure from Normal Temperature (F)
6/20/2018 – 7/19/2018



60-Day

Departure from Normal Temperature (F)
5/21/2018 – 7/19/2018



Generated 7/20/2018 at HPRCC using provisional data.

NOAA Regional Climate Centers Generated 7/20/2018 at HPRCC using provisional data.

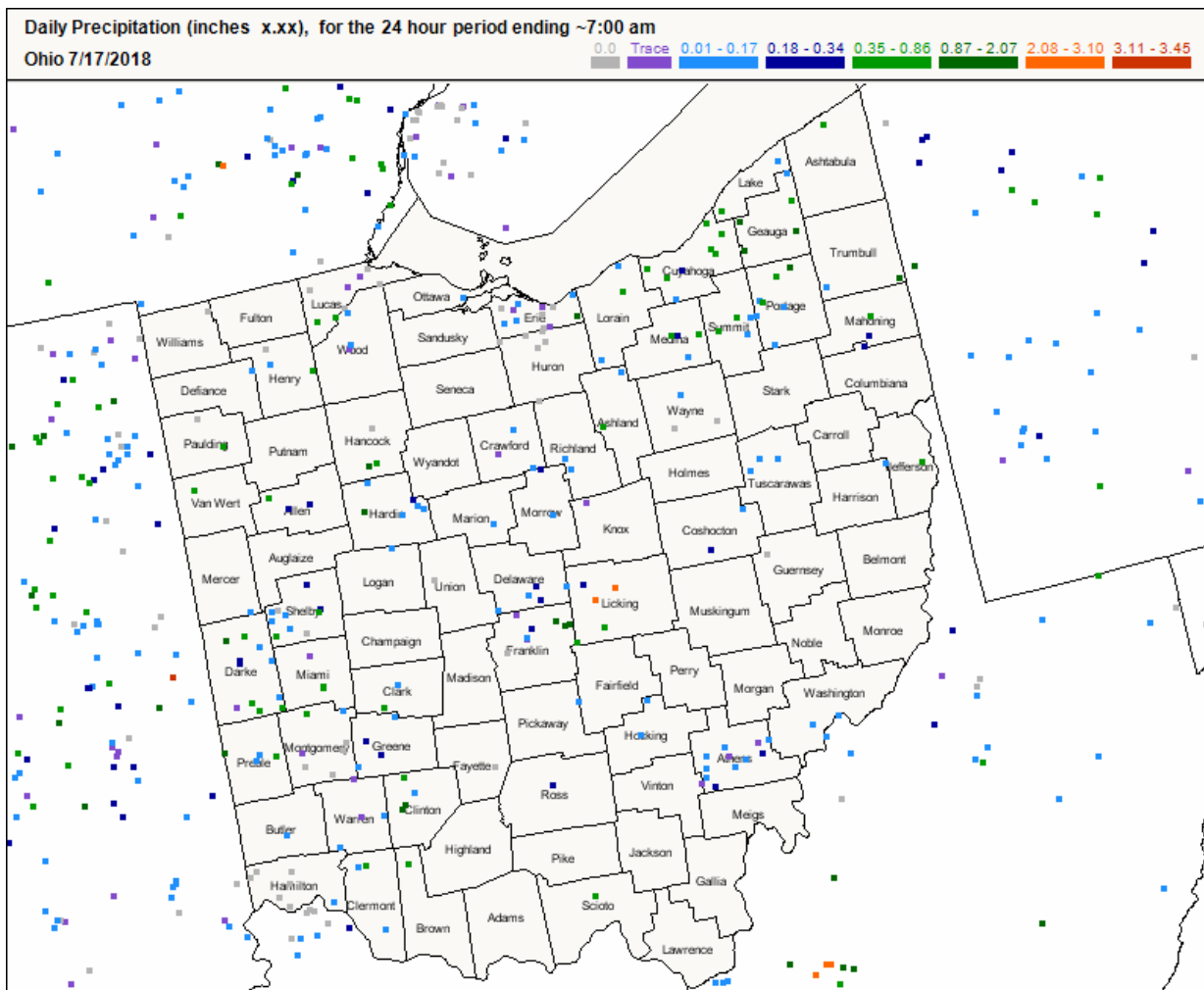
NOAA Regional Climate Centers



CoCoRaHS Observed Precipitation:

<http://cocorahs.com/>

July 17



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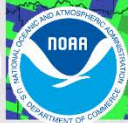
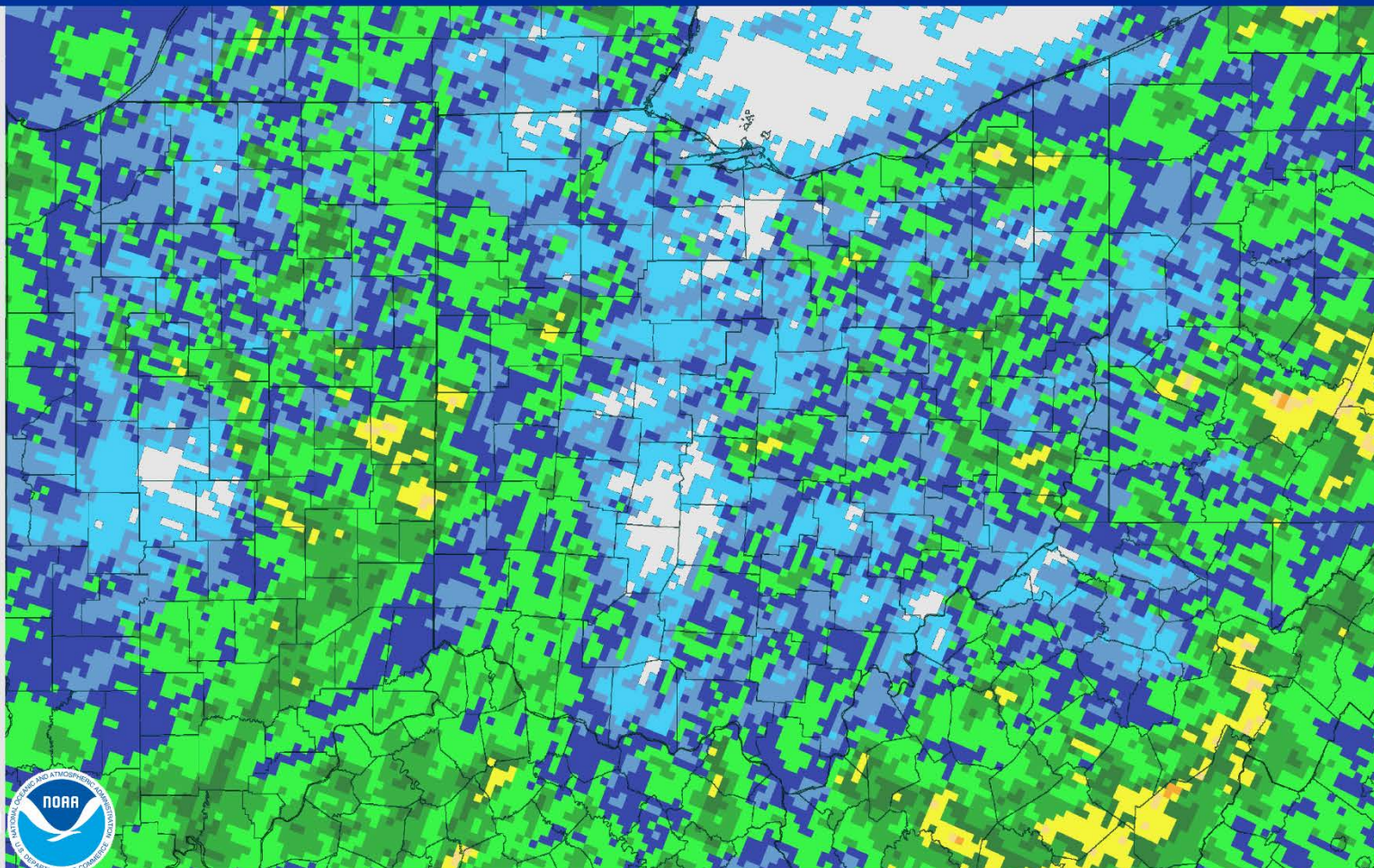
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Previous 7-Day Precipitation: Total

July 20, 2018 7-Day Observed Precipitation

Created on: July 20, 2018 - 18:52 UTC

Valid on: July 20, 2018 12:00 UTC



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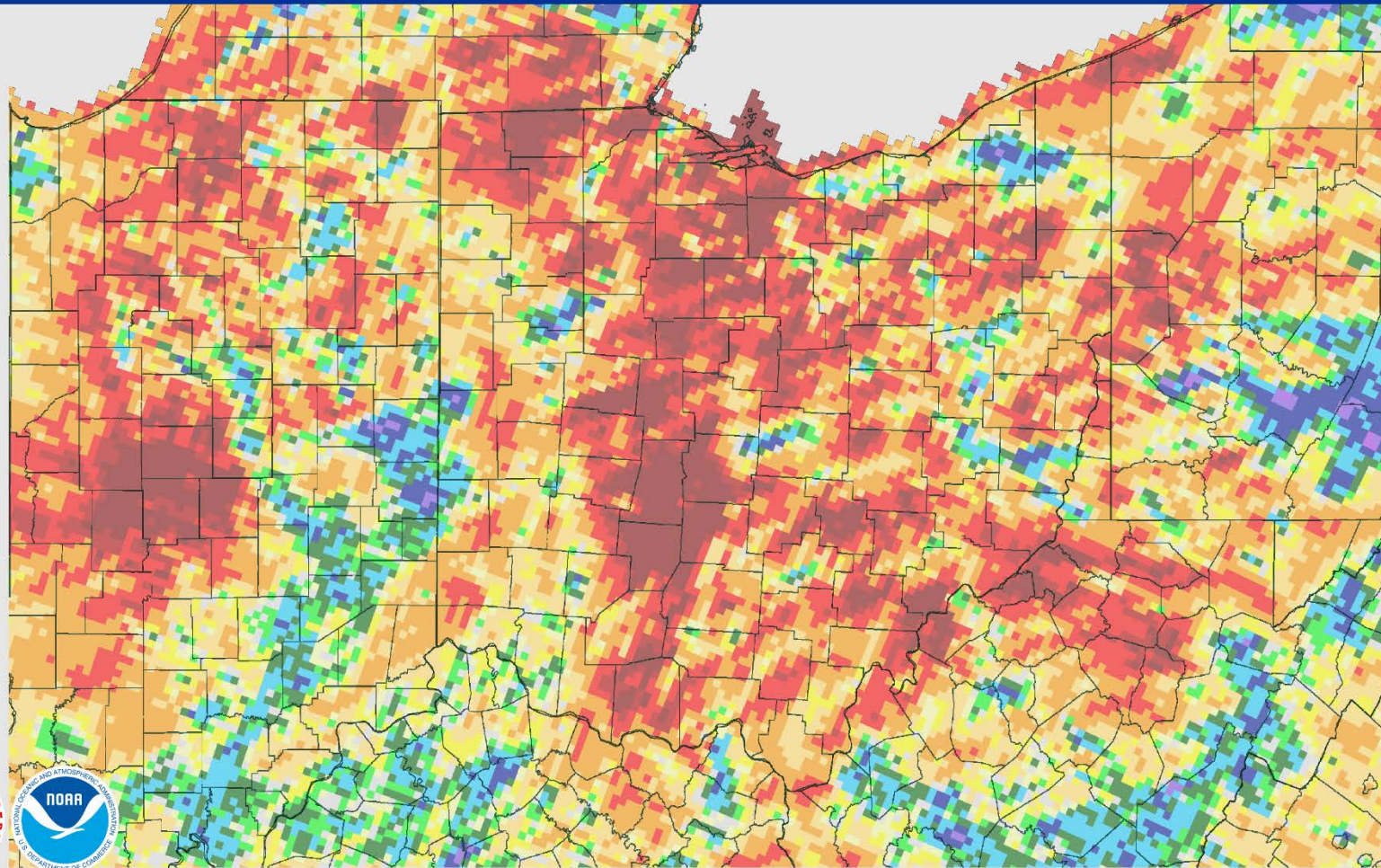
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Previous 7-Day Precipitation: Percent of Normal

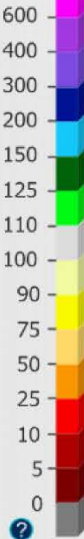
July 20, 2018 7-Day Percent Precipitation

Created on: July 20, 2018 - 18:52 UTC

Valid on: July 20, 2018 12:00 UTC



Percent



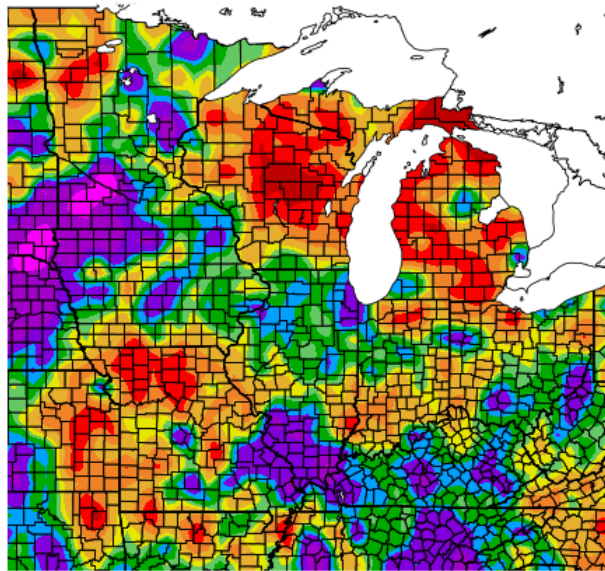
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Precipitation Differences Compared to Average (1981-2010)

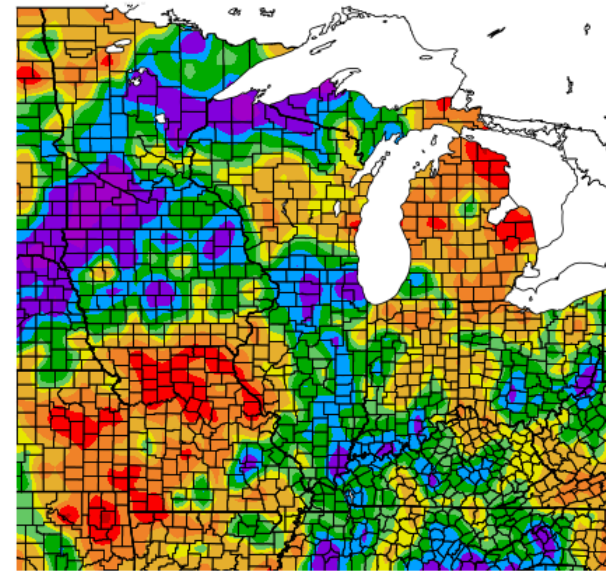
30-Day

Percent of Normal Precipitation (%)
6/20/2018 – 7/19/2018



60-Day

Percent of Normal Precipitation (%)
5/21/2018 – 7/19/2018



Generated 7/20/2018 at HPRCC using provisional data.

NOAA Regional Climate Centers Generated 7/20/2018 at HPRCC using provisional data.

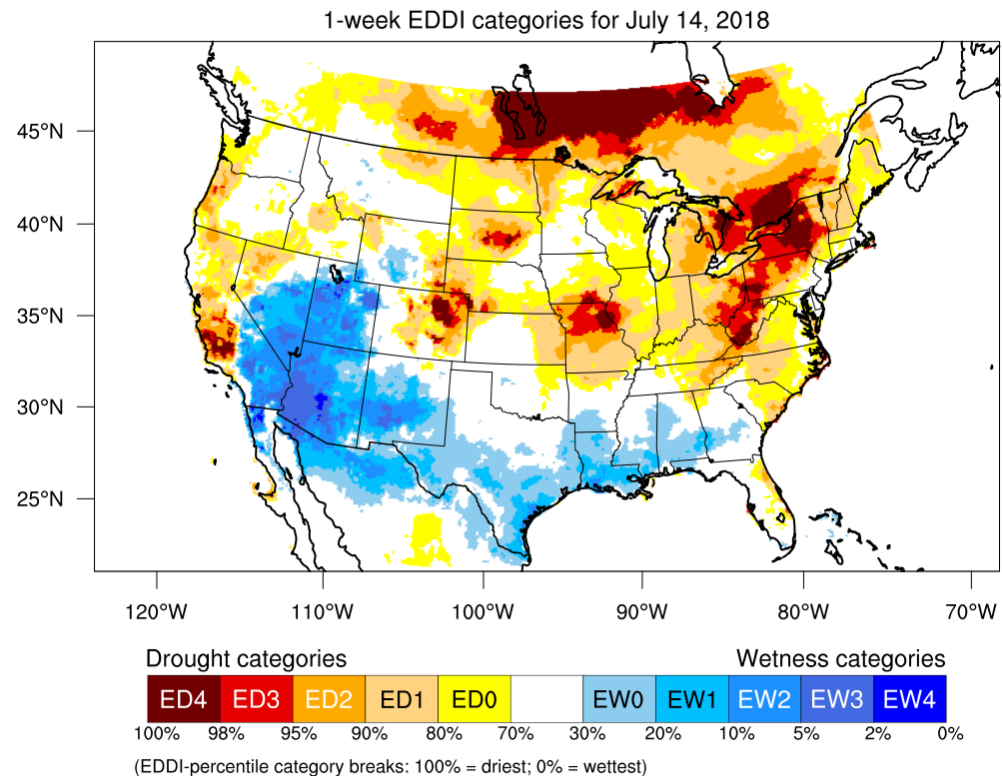
NOAA Regional Climate Centers



Evaporative Demand Drought Index

EDDI can offer early warning of agricultural drought, hydrologic drought, and fire-weather risk by providing near-real-time information on the emergence or persistence of anomalous evaporative demand in a region. A particular strength of EDDI is in capturing the precursor signals of water stress at weekly to monthly timescales, which makes EDDI a strong tool for preparedness for both flash droughts and ongoing droughts.

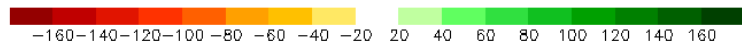
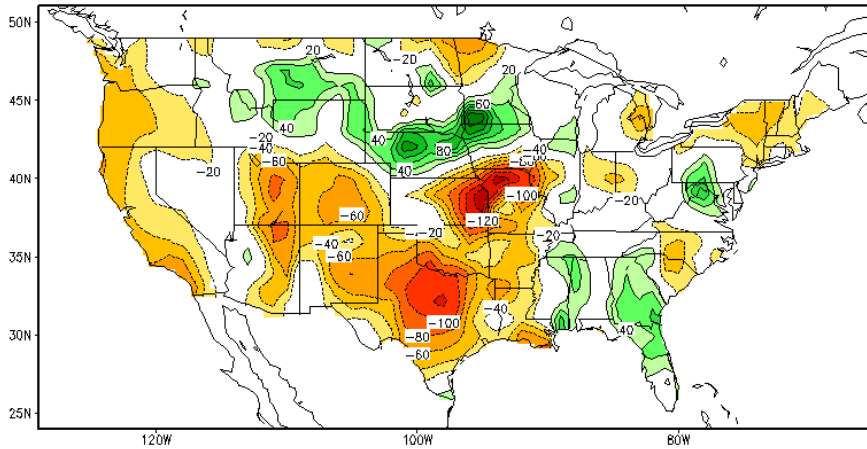
Image provided by the NOAA/ESRL Physical Sciences Division, Boulder, Colorado, from their web site at: <https://www.esrl.noaa.gov/psd/>.



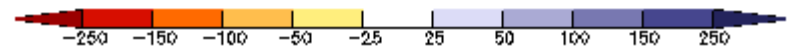
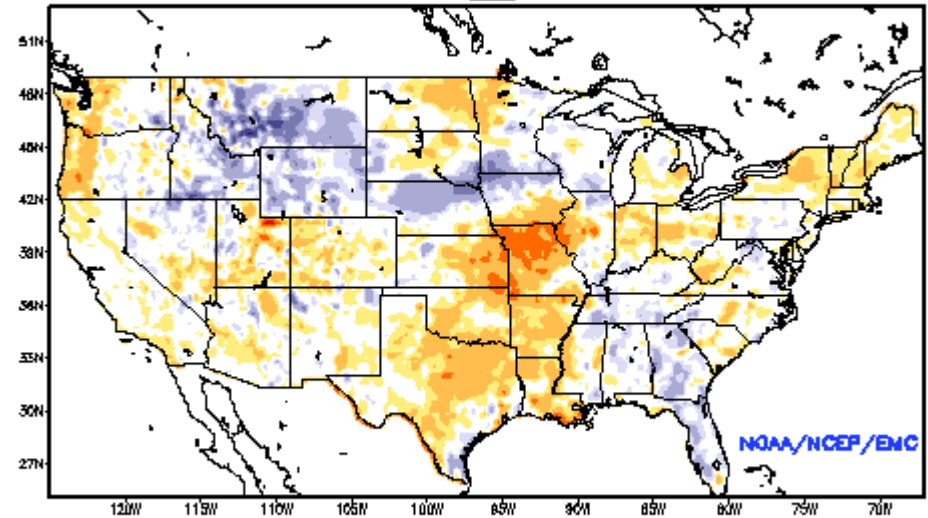
Generated by NOAA/ESRL/Physical Sciences Division

Soil Moisture

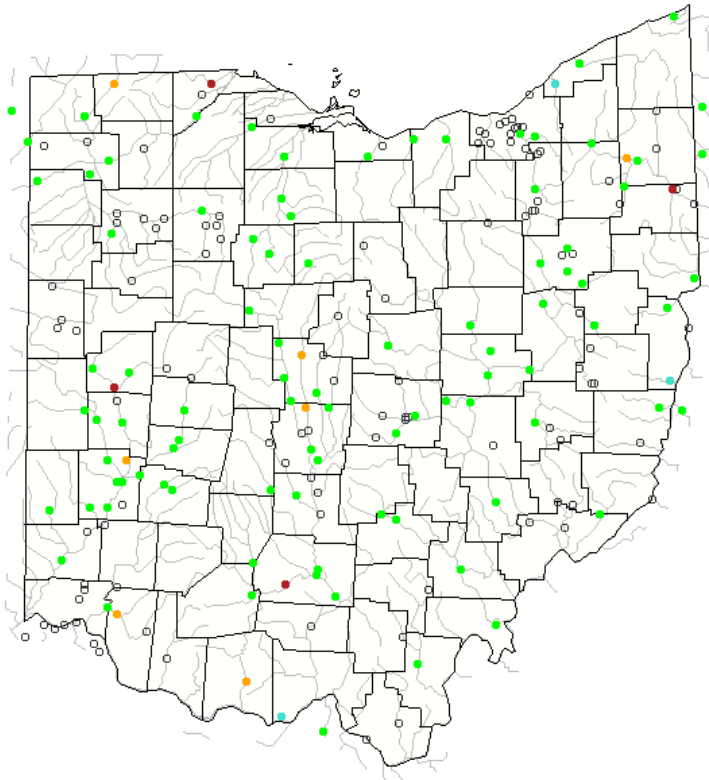
Calculated Soil Moisture Anomaly (mm)
JUL 19, 2018



Ensemble-Mean - Current Total Column Soil Moisture Anomaly (mm)
NCEP NLDAS Products Valid: JUL 16, 2018



7-DAY



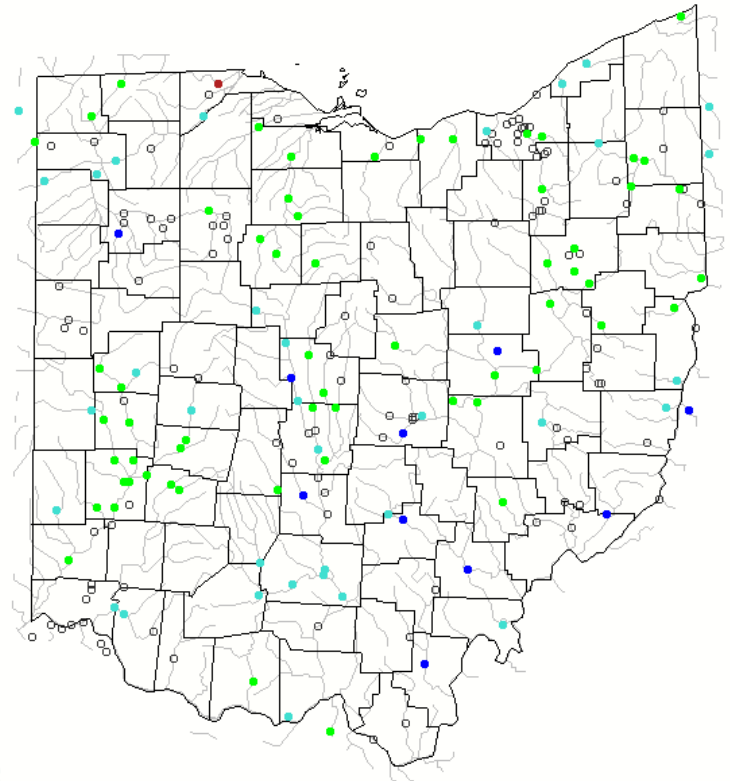
Explanation - Percentile classes

Low	<10	10-24	25-75	76-90	>90	High	Not-ranked
	Much below normal	Below normal	Normal	Above normal	Much above normal		

Average streamflow compared to historical streamflow for the day of the year

USGS Streamflow

28-DAY



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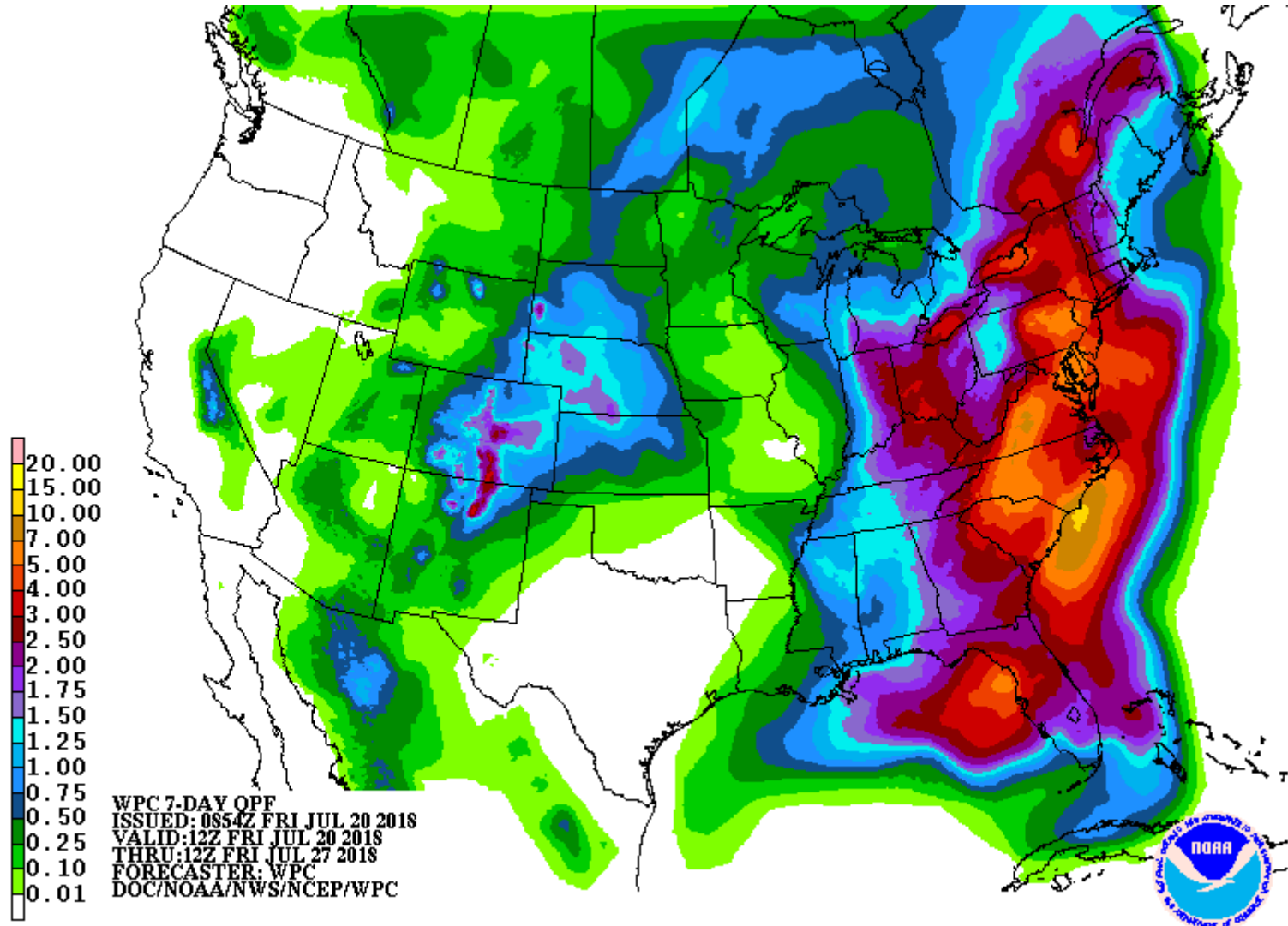
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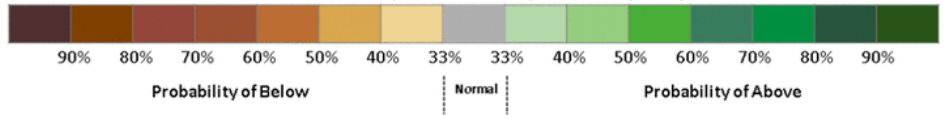
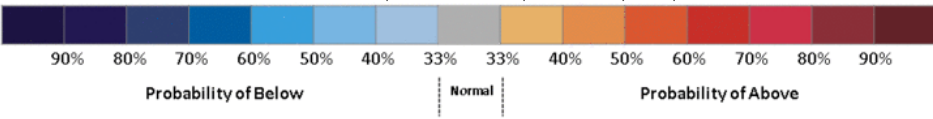
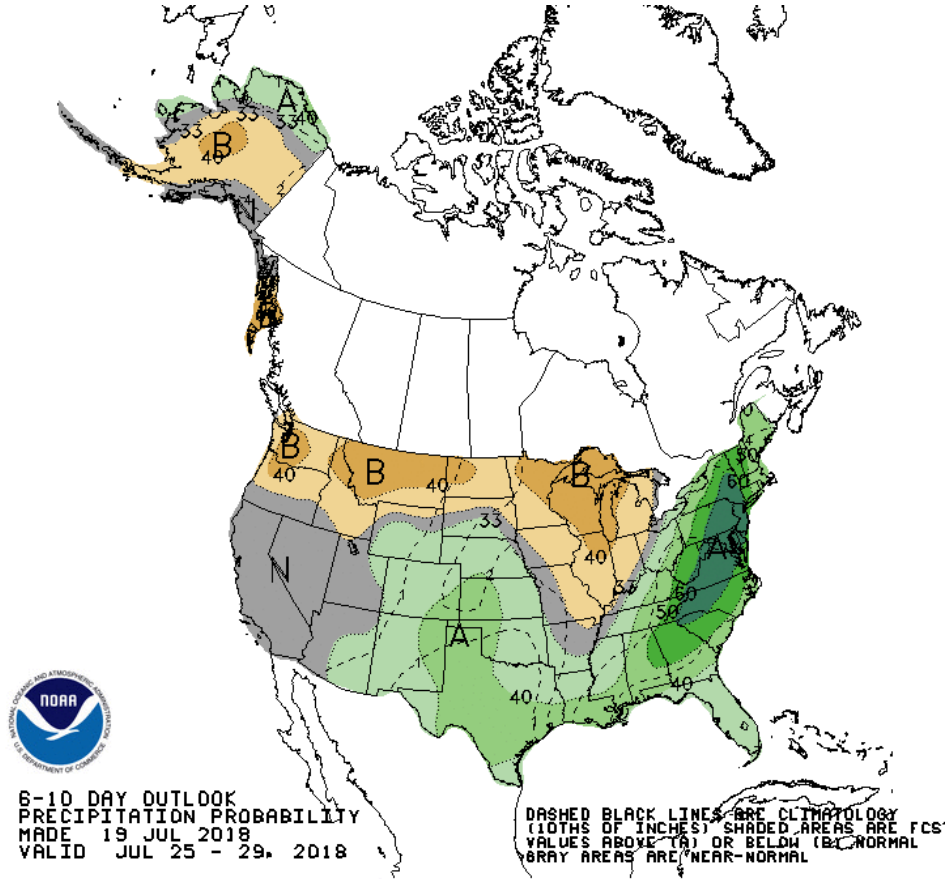
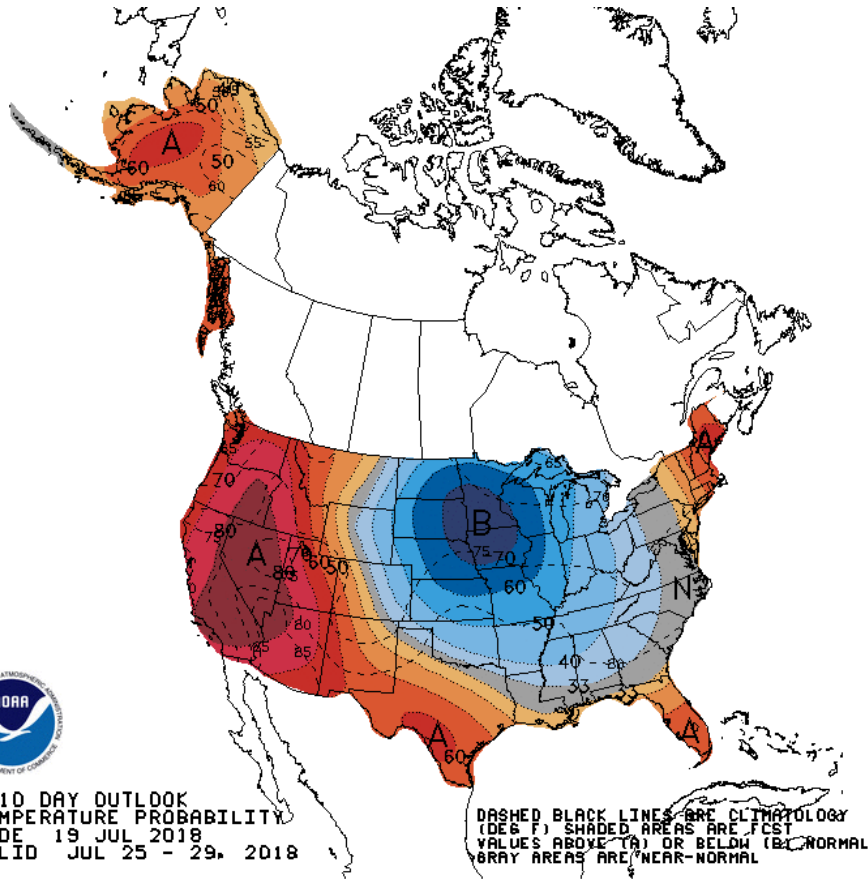
Weather for the Week Ahead



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6-10 Day Outlook



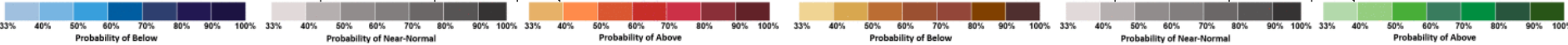
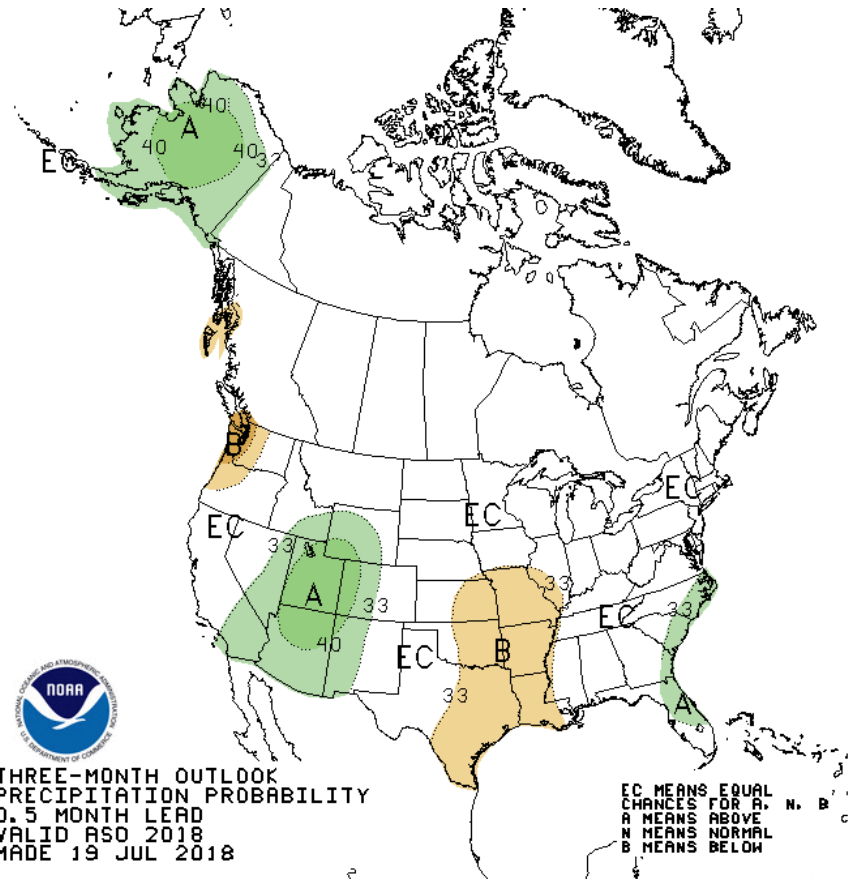
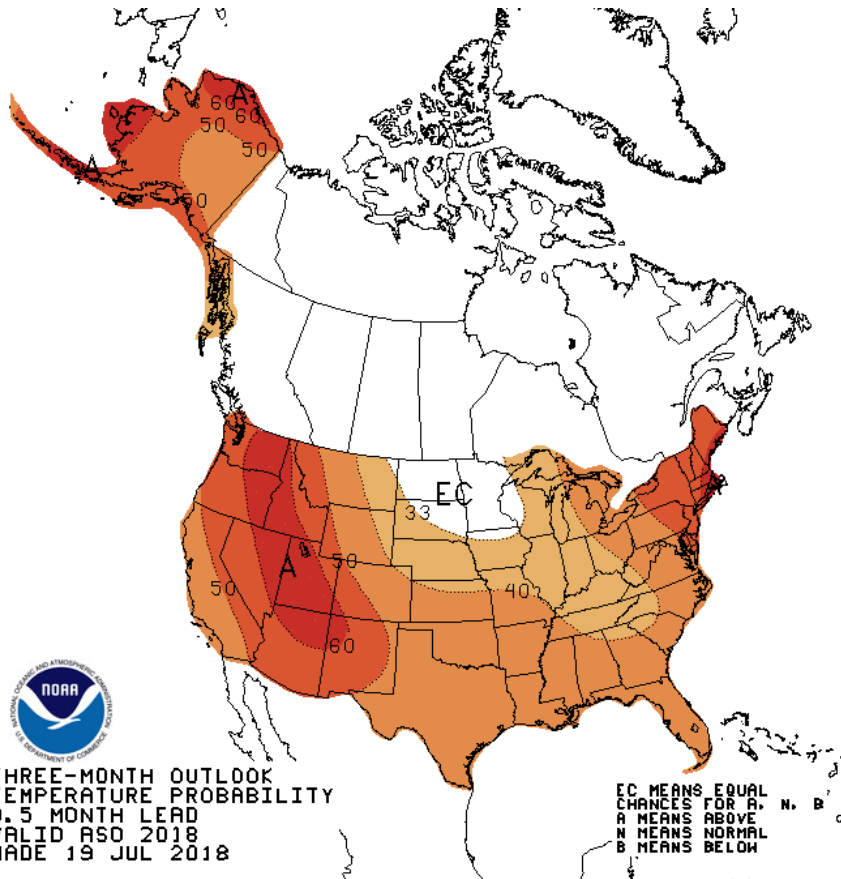
Highs: Low to mid 80s; Lows: Low to mid 60s; Precip: 0.75-1"



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Aug-Oct Outlook



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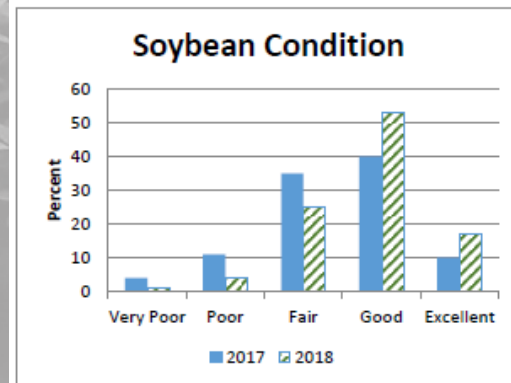
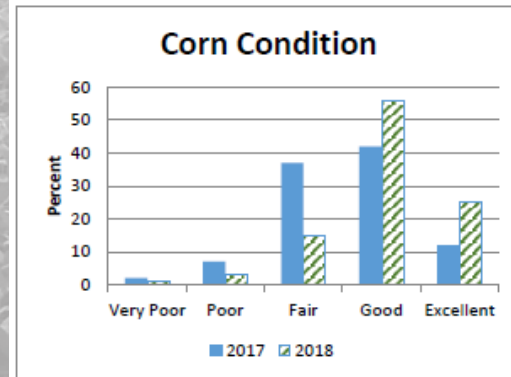
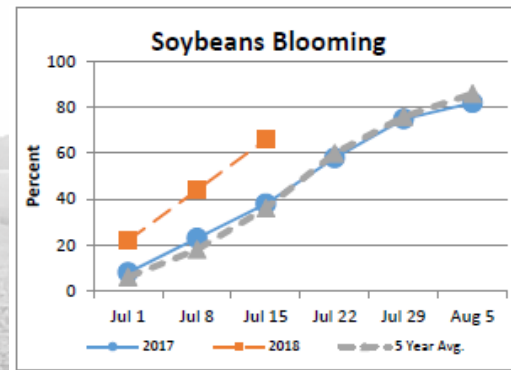
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Ag Highlights

- 6.6 days suitable for work
- Lot of wheat harvest and straw baling
- Pastures showing stress due to heat and lack of rainfall



NASS: Cheryl Turner –

https://www.nass.usda.gov/Statistics_by_State/Ohio/Publications/Crop_Progress_&_Condition/2017/cw3017oh.pdf



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Summary of Conditions



Photo: Bill Knapke

Drought Monitor: Abnormally dry conditions (D0) across northern counties

30-Day and 60-Day: Above average temperatures; drying conditions across much of the state

The week ahead: Weekend rainfall into early next week; average to below average temps



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