

Hydrologic and Climate Assessment

August 17, 2018



Aaron B. Wilson

STATE CLIMATE OFFICE OF OHIO (SCOO)

DEPARTMENT OF EXTENSION - CFAES

BYRD POLAR & CLIMATE RESEARCH CENTER

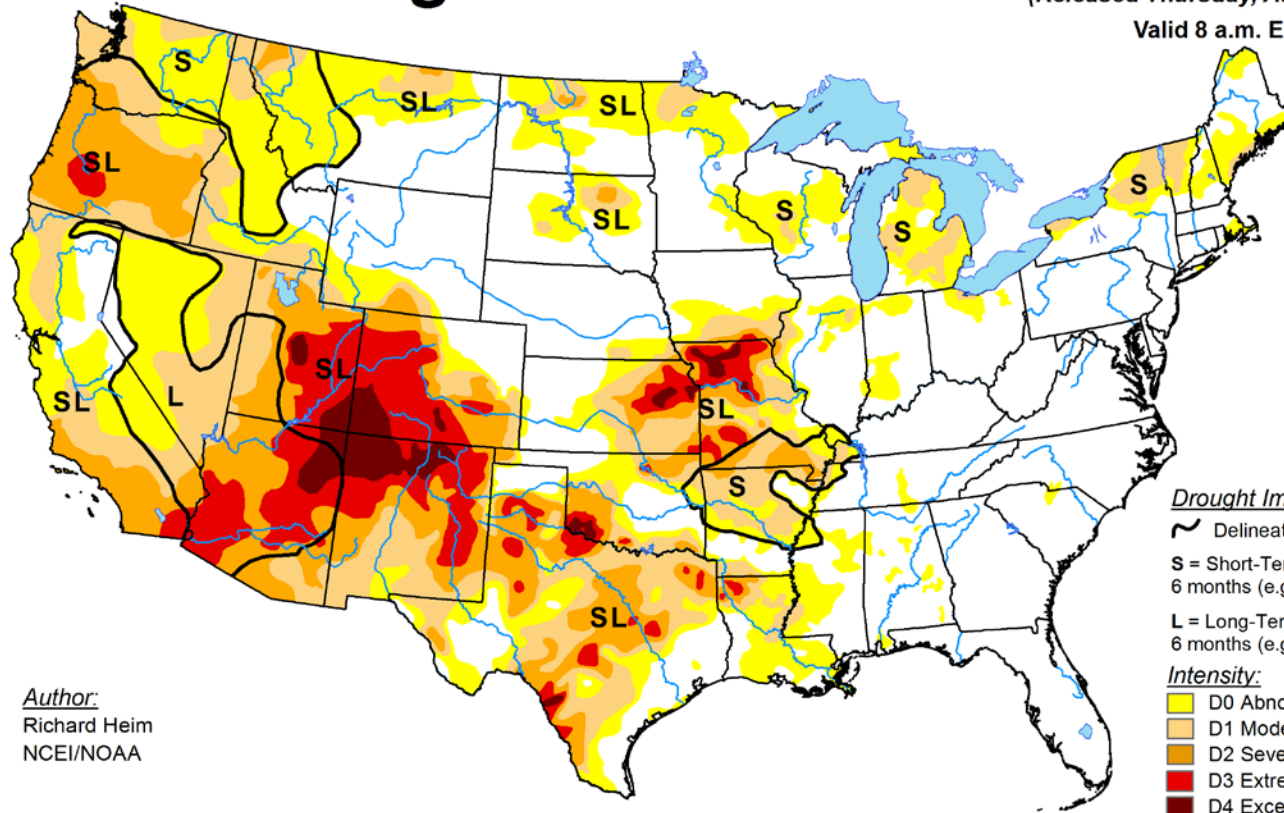
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U.S. Drought Monitor

August 14, 2018
 (Released Thursday, Aug. 16, 2018)
 Valid 8 a.m. EDT



Author:
 Richard Heim
 NCEI/NOAA

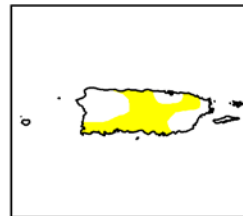
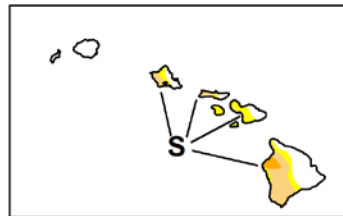
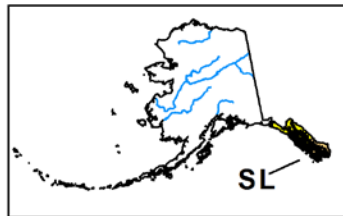
Drought Impact Types:

- ~ 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:

- Yellow: D0 Abnormally Dry
- Light Orange: D1 Moderate Drought
- Orange: D2 Severe Drought
- Red: D3 Extreme Drought
- Dark Red: 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/>

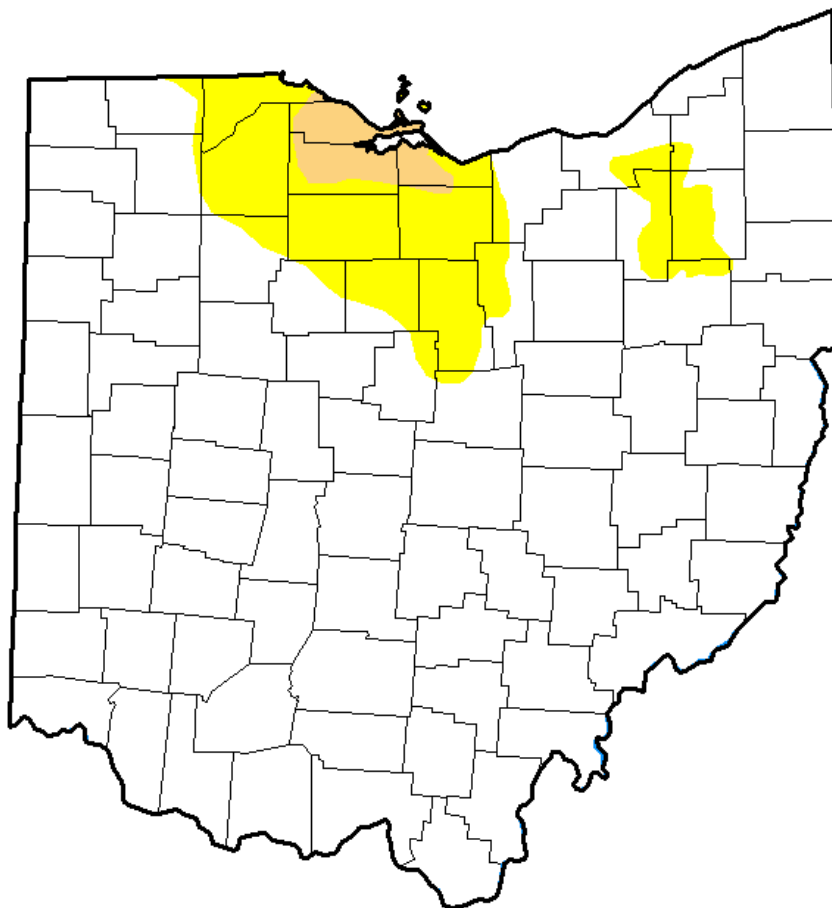


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U.S. Drought Monitor Ohio

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Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	87.73	12.27	1.69	0.00	0.00	0.00
Last Week <i>08-07-2018</i>	86.54	13.46	3.47	0.00	0.00	0.00
3 Months Ago <i>05-15-2018</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>08-15-2017</i>	97.47	2.53	0.00	0.00	0.00	0.00

Intensity:

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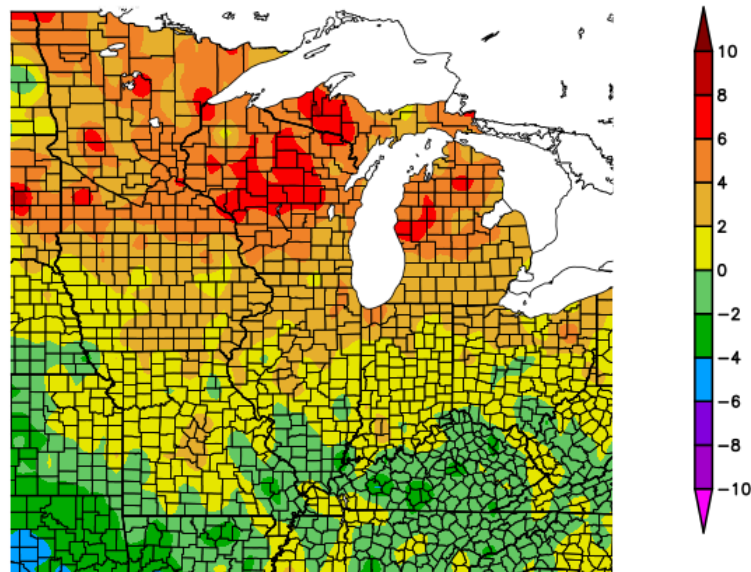


<http://droughtmonitor.unl.edu/>

Temperature Differences Compared to Average (1981-2010)

7-Day

Departure from Normal Temperature (F)
8/10/2018 – 8/16/2018



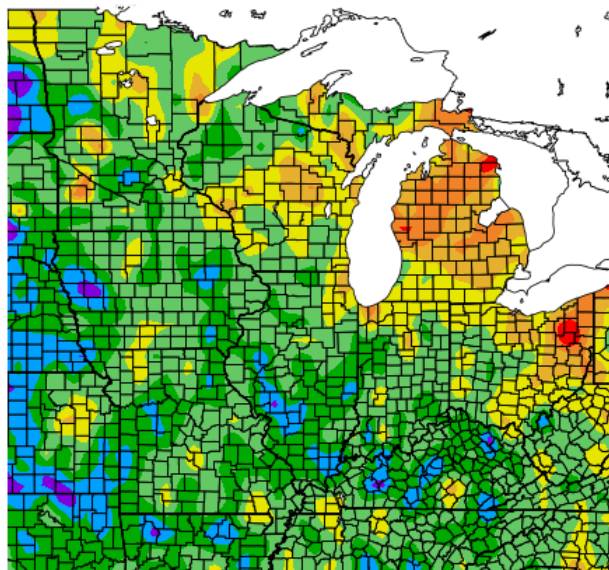
Generated 8/17/2018 at HPRCC using provisional data.

NOAA Regional Climate Centers

Temperature Differences Compared to Average (1981-2010)

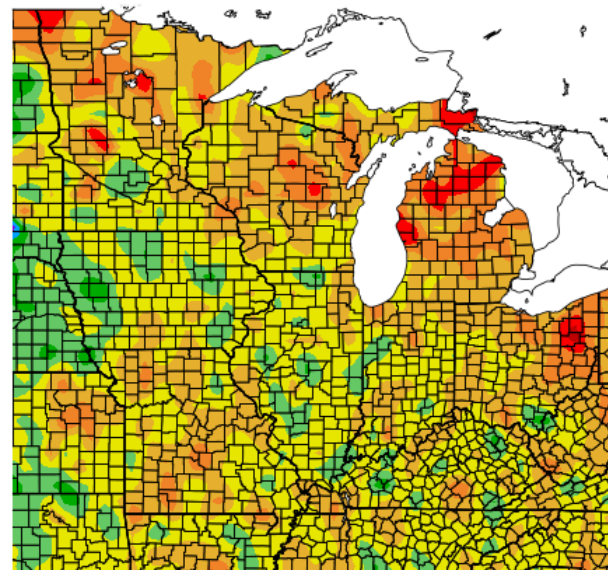
30-Day

Departure from Normal Temperature (F)
7/18/2018 – 8/16/2018



60-Day

Departure from Normal Temperature (F)
6/18/2018 – 8/16/2018



Generated 8/17/2018 at HPRCC using provisional data.

NOAA Regional Climate Centers Generated 8/17/2018 at HPRCC using provisional data.

NOAA Regional Climate Centers

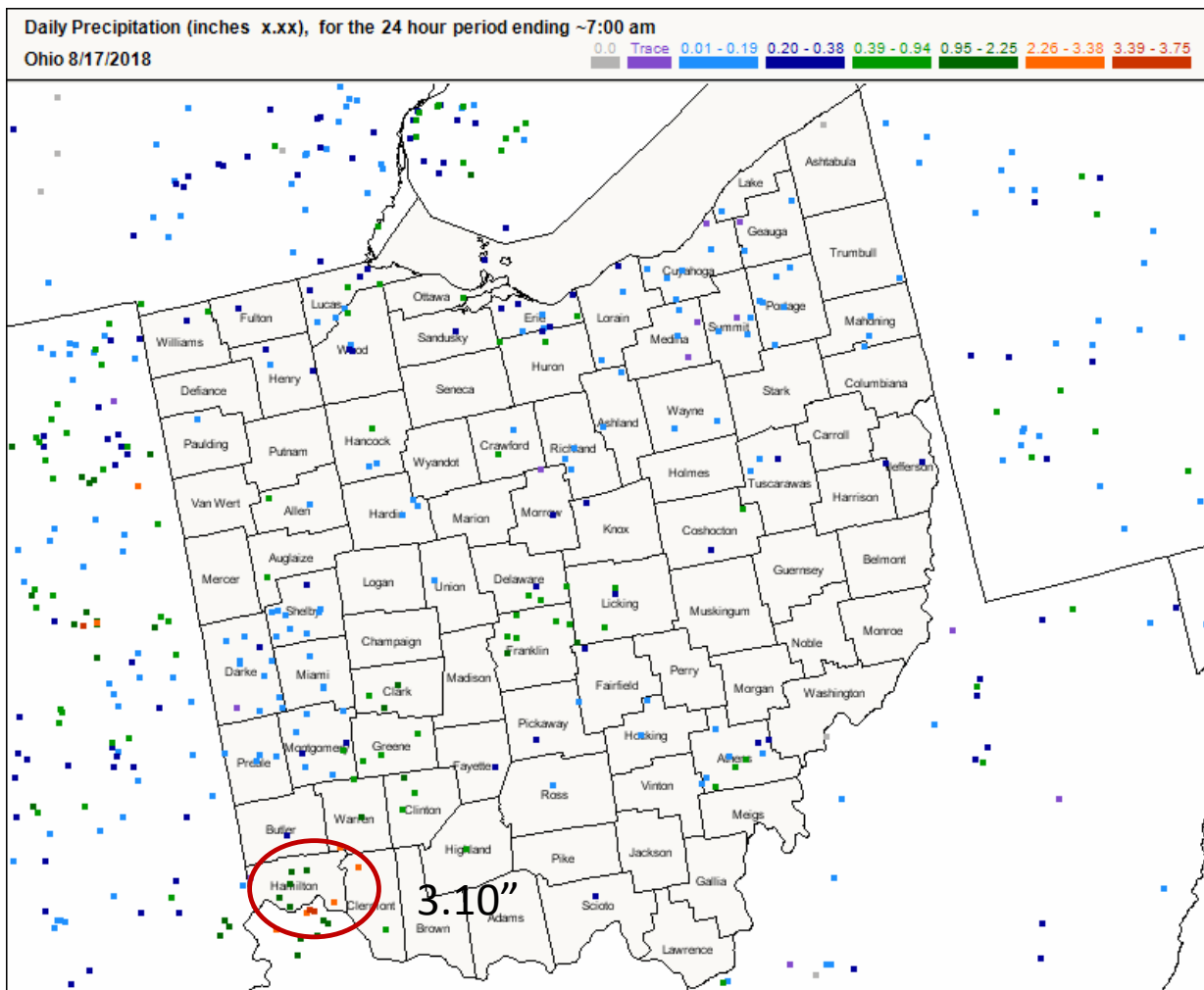


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CoCoRaHS Observed Precipitation:

<http://cocorahs.com/>

August 17



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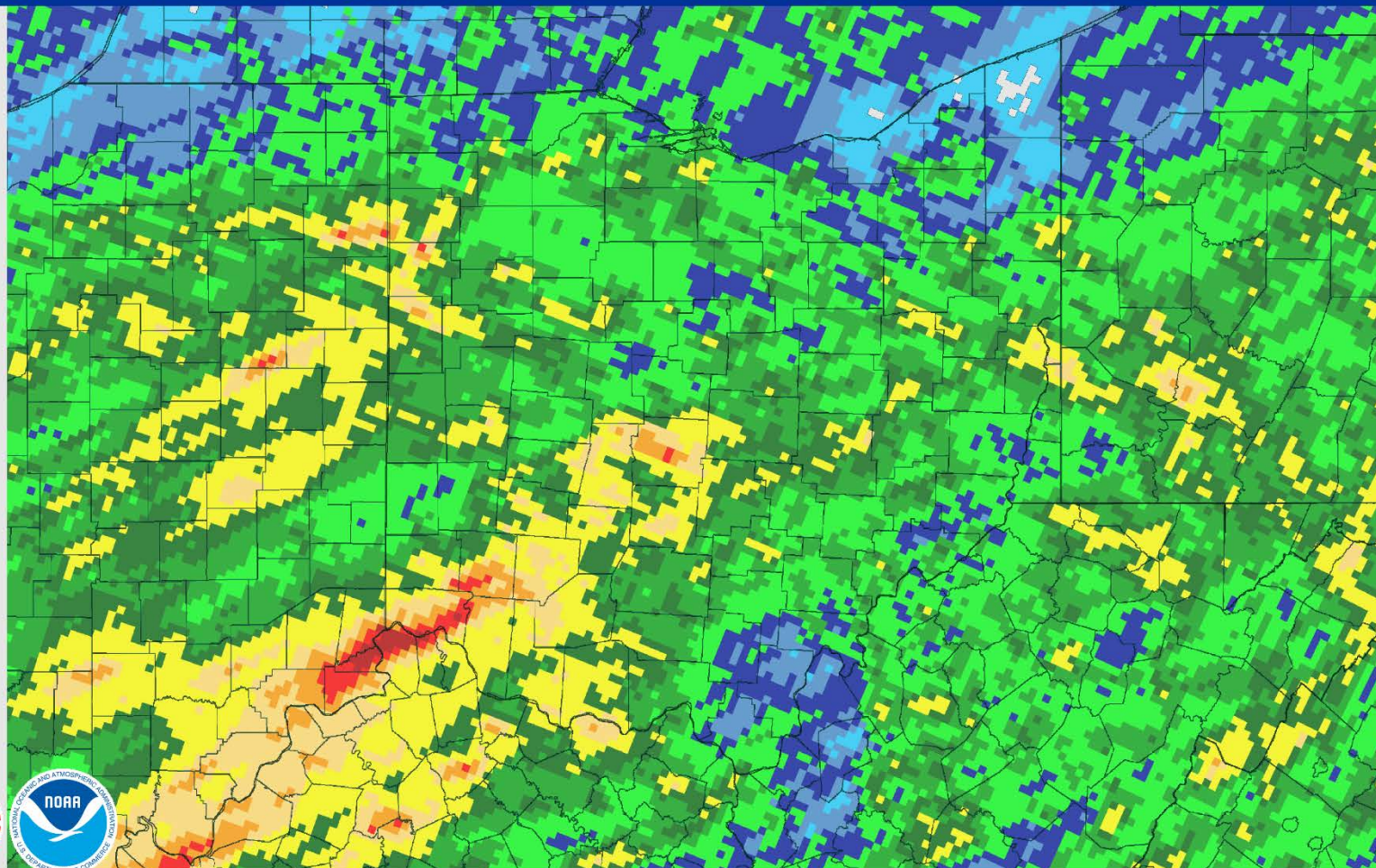
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Previous 7-Day Precipitation: Total

August 17, 2018 7-Day Observed Precipitation

Created on: August 17, 2018 - 17:36 UTC

Valid on: August 17, 2018 12:00 UTC



Inches



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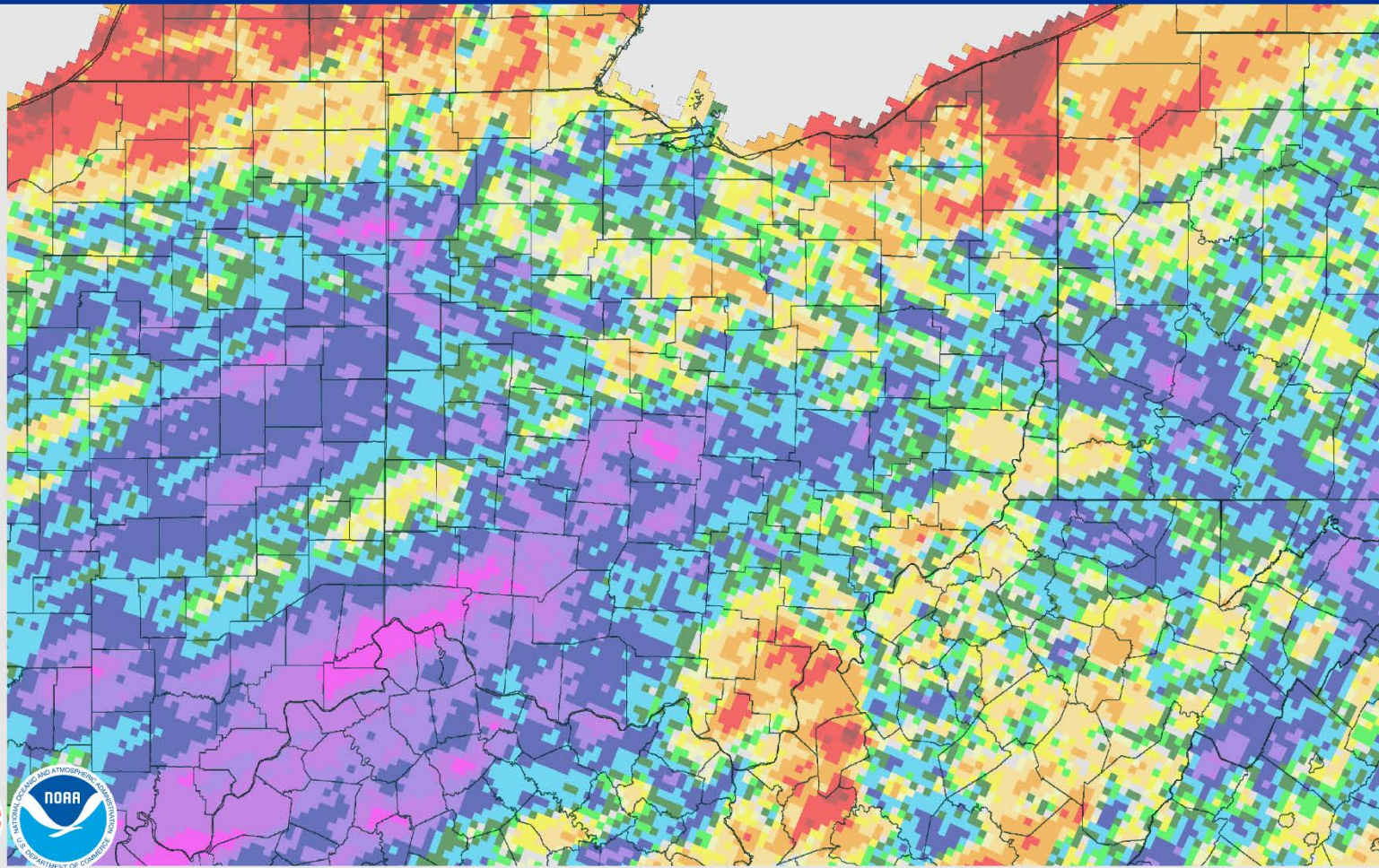
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Previous 7-Day Precipitation: Percent of Normal

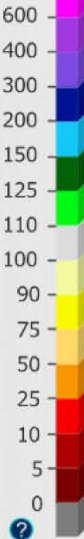
August 17, 2018 7-Day Percent Precipitation

Created on: August 17, 2018 - 17:35 UTC

Valid on: August 17, 2018 12:00 UTC



Percent



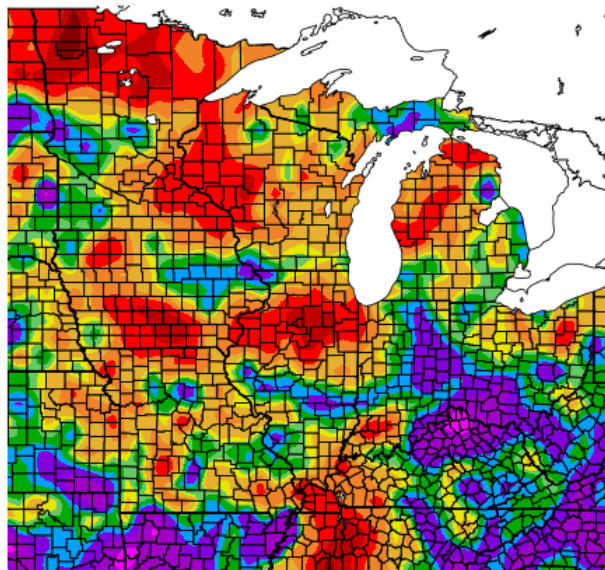
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Precipitation Differences Compared to Average (1981-2010)

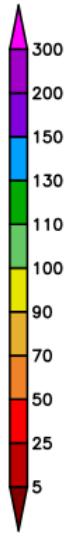
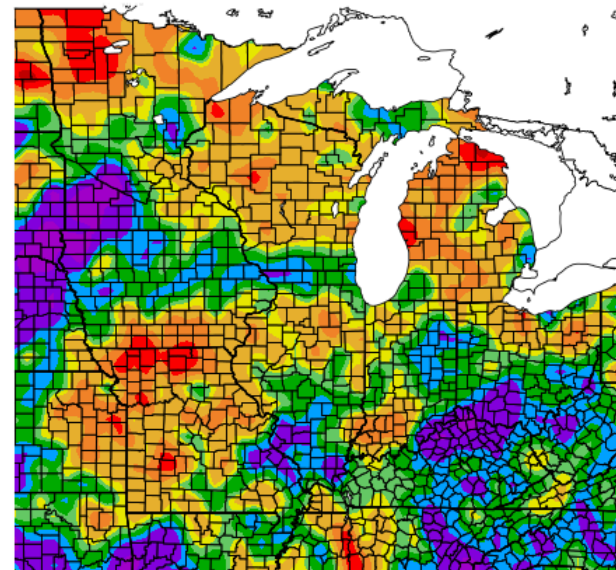
30-Day

Percent of Normal Precipitation (%)
7/18/2018 – 8/16/2018



60-Day

Percent of Normal Precipitation (%)
6/18/2018 – 8/16/2018



Generated 8/17/2018 at HPRCC using provisional data.

NOAA Regional Climate Centers Generated 8/17/2018 at HPRCC using provisional data.

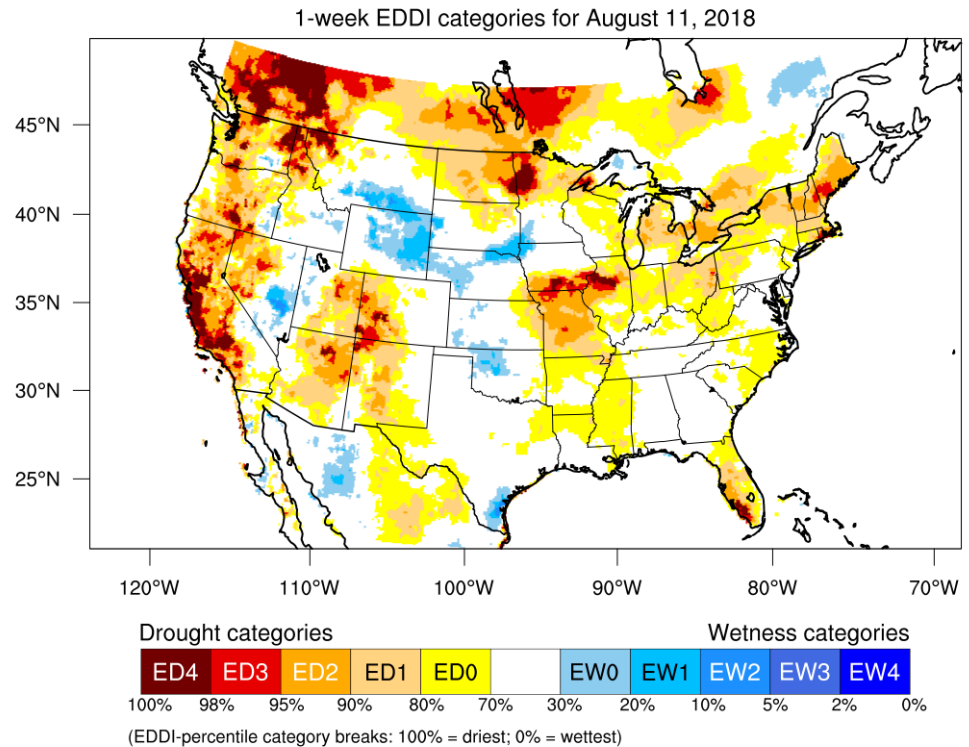
NOAA Regional Climate Centers



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.

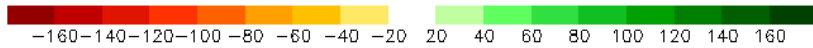
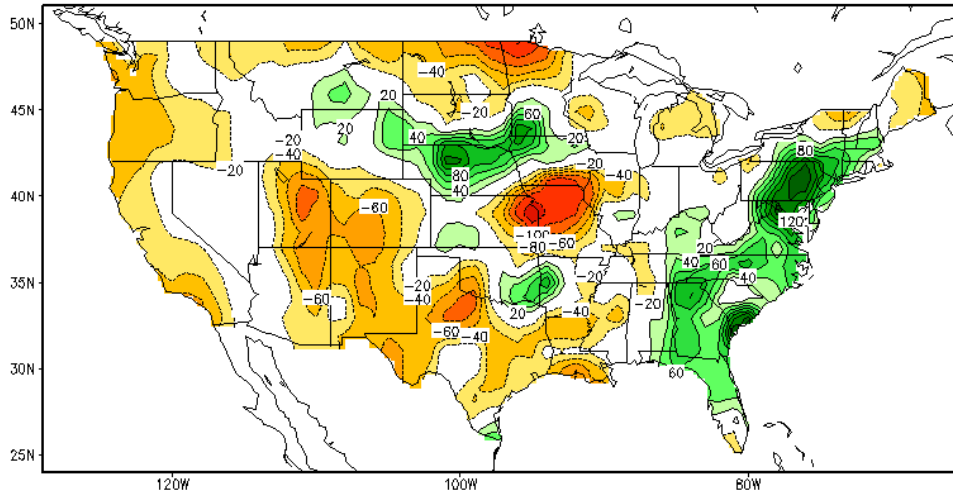
Image provided by the NOAA/ESRL Physical Sciences Division, Boulder, Colorado, from their web site at: <https://www.esrl.noaa.gov/psd/>.



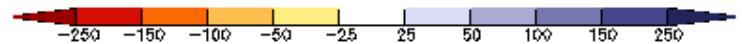
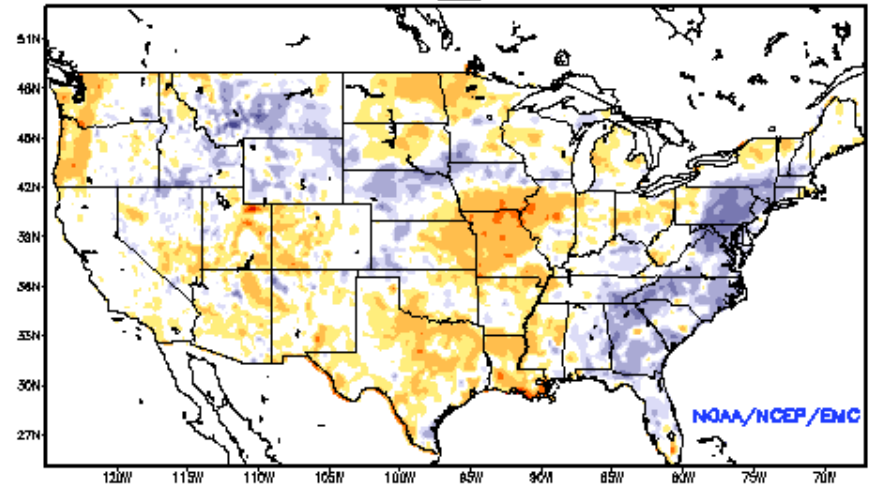
Generated by NOAA/ESRL/Physical Sciences Division

Soil Moisture

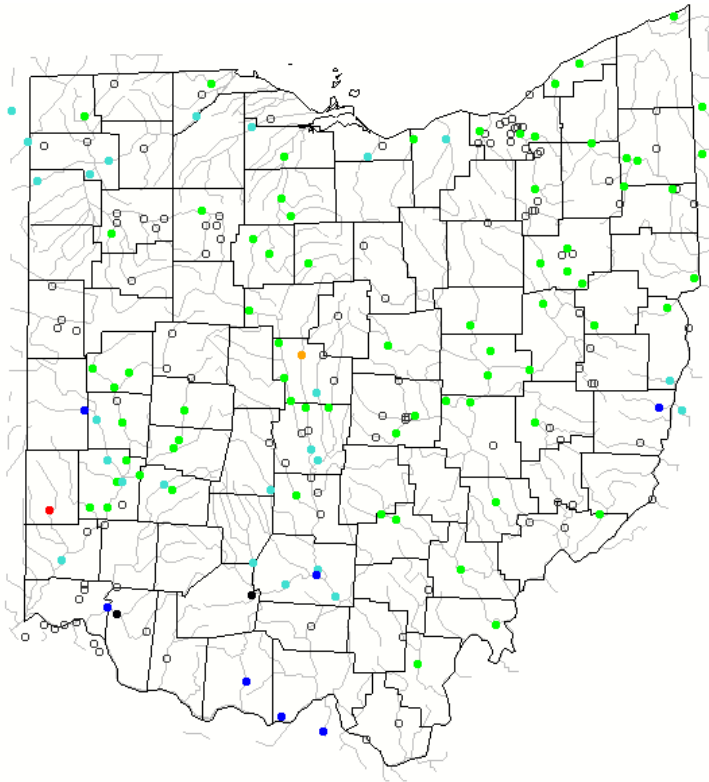
Calculated Soil Moisture Anomaly (mm)
AUG 16, 2018



Ensemble-Mean - Current Total Column Soil Moisture Anomaly (mm)
NCEP NLDAS Products Valid: AUG 12, 2018



7-DAY



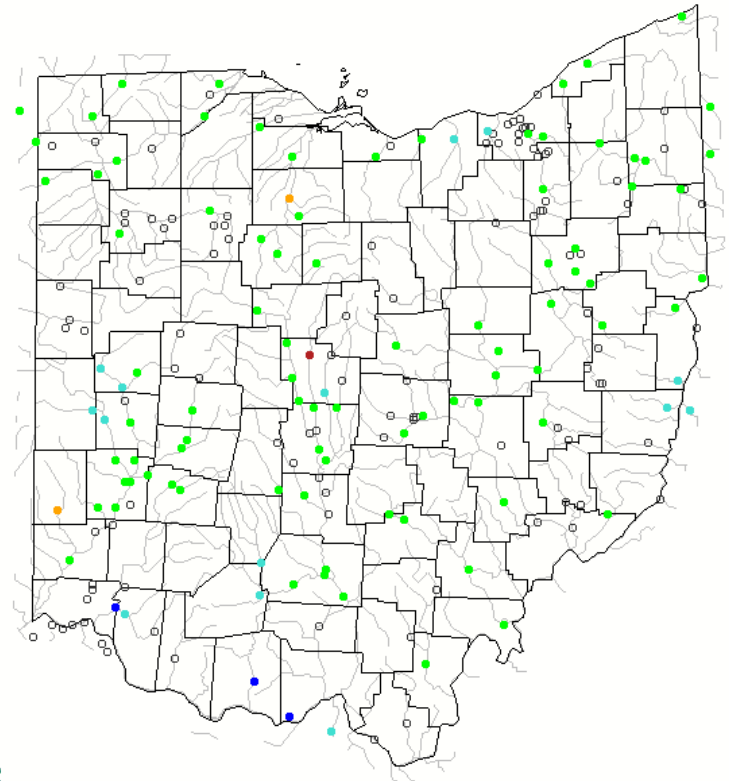
Explanation - Percentile classes

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

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

USGS Streamflow

28-DAY



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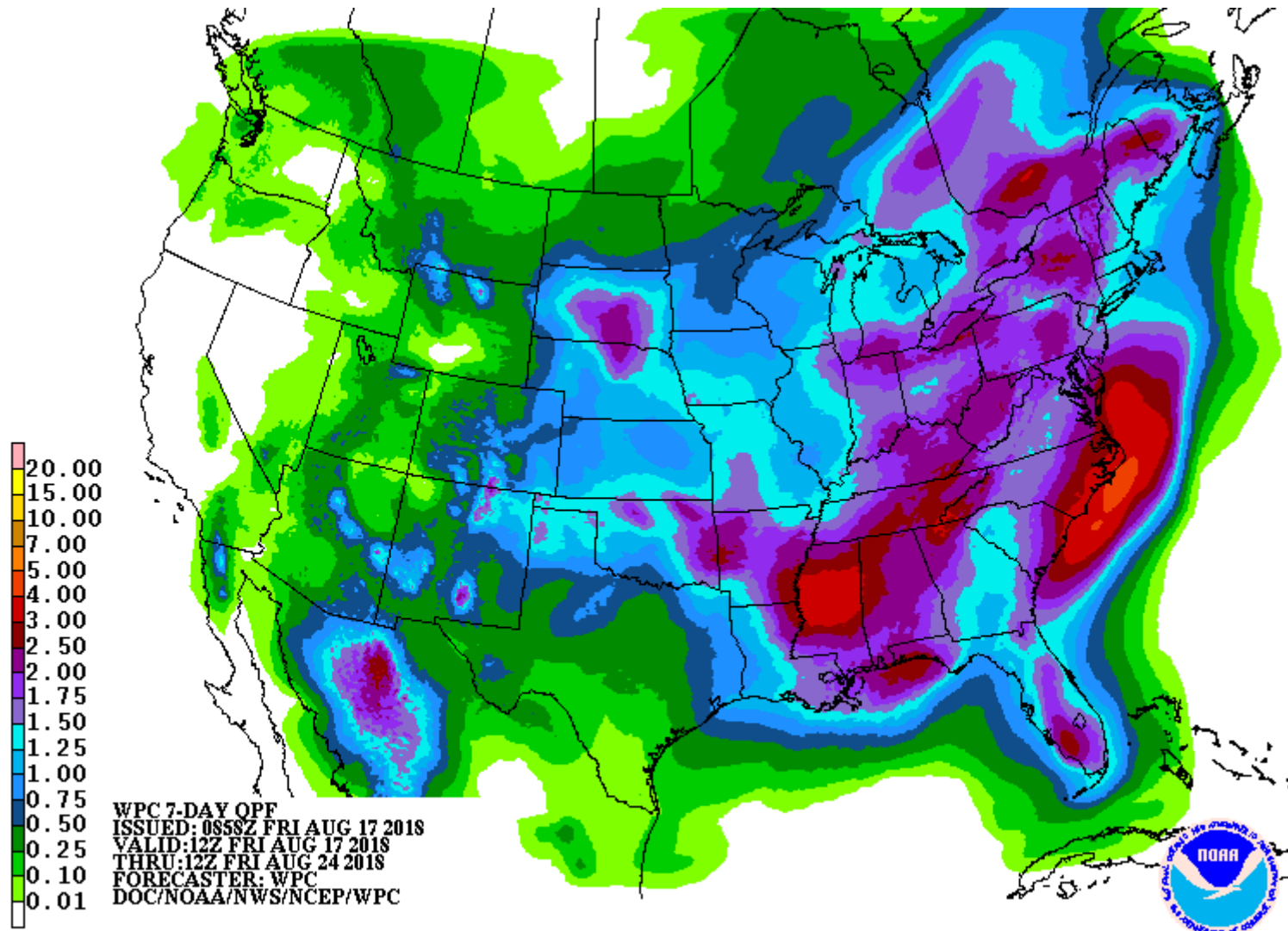
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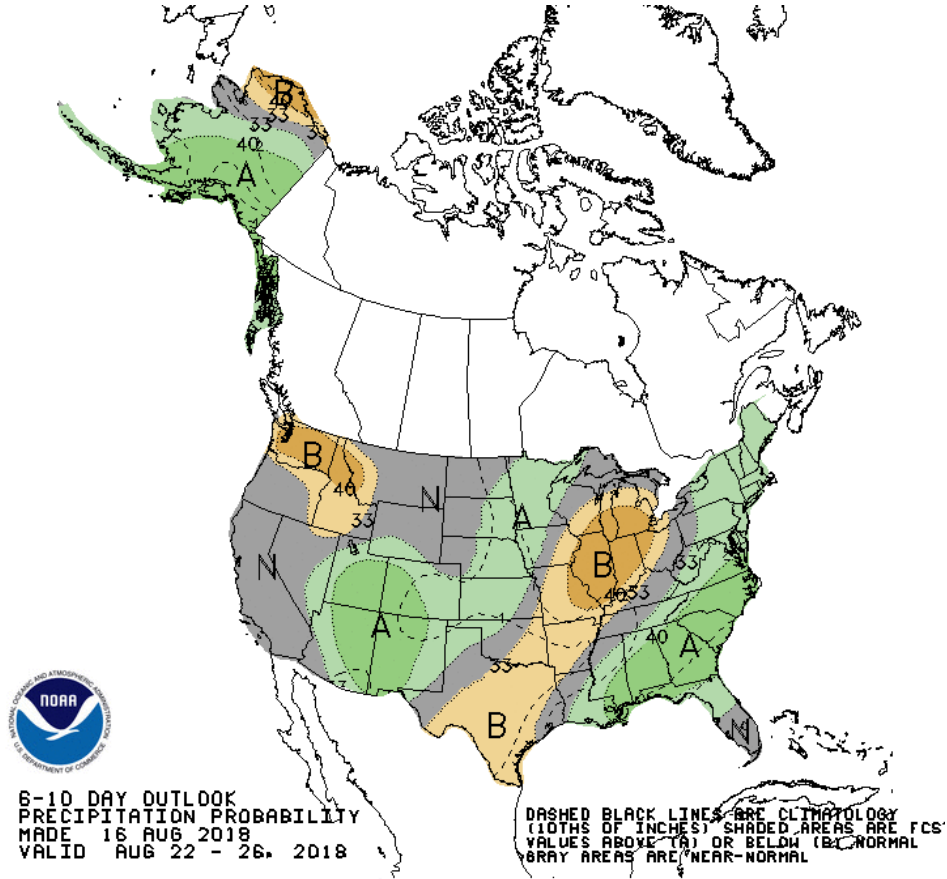
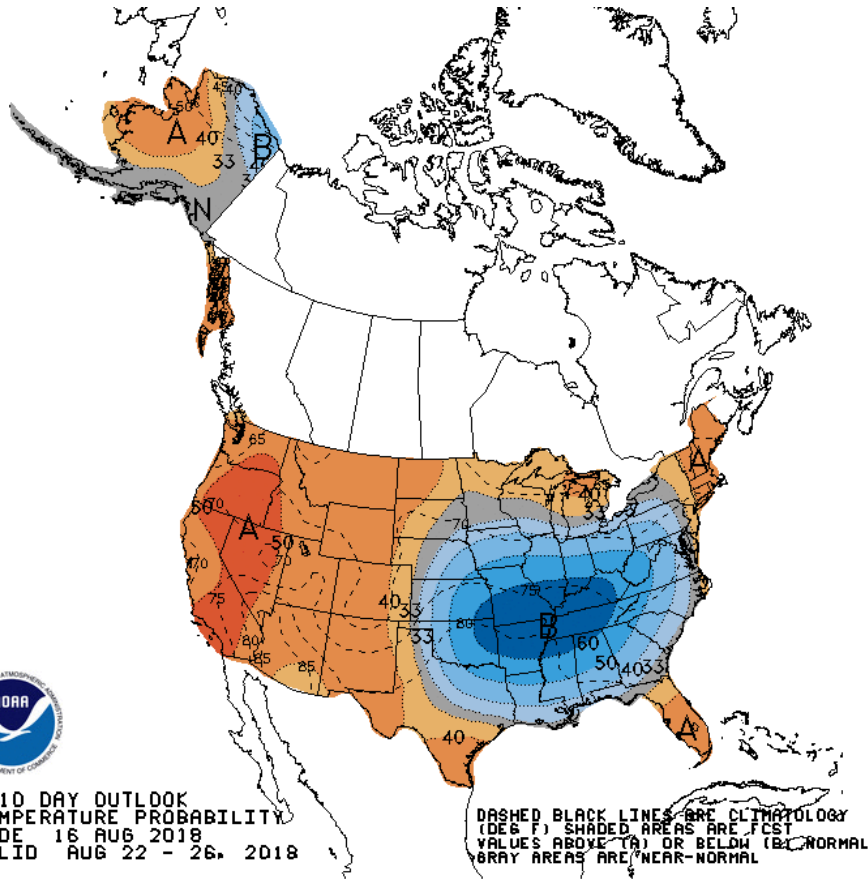
Weather for the Week Ahead



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6-10 Day Outlook



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

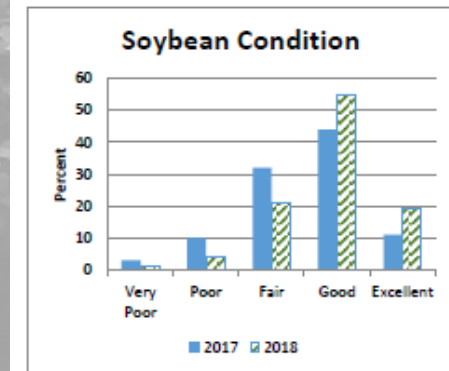
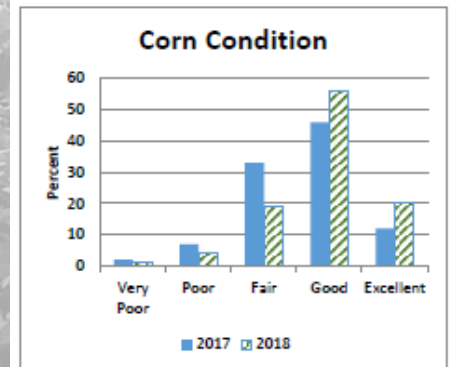
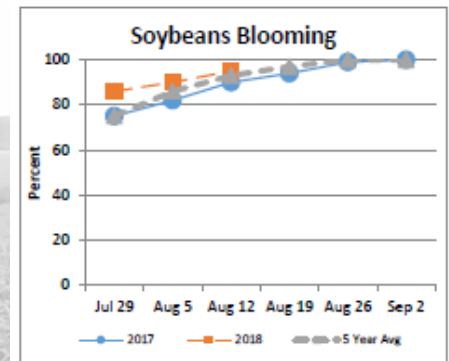


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Ag Highlights

- 4.3 days suitable for work
- Corn and soybean development ahead of schedule
- Improved pastures lowered stress on livestock



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



<https://climate.osu.edu>

Photo: Kat Bledsoe Instagram-@katscanx

Drought Monitor: Some drought removal in parts of NW; Status quo elsewhere

30-Day and 60-Day: Warmest in the NE where it is drier; Precipitation heaviest in South

The week ahead: Showery/Stormy Friday and Saturday then again Monday-Tuesday: 1-2" of rainfall this week with slightly cooler than normal temperatures



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Field Application Resource Monitor FARM

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FARM Field Application Resource Monitor **BETA**

Sign In Statewide Condition Map

FARM is a *real-time and historical climate information tool for fertilizer and manure application.*

View as a Guest

Create User Profile


Returning User

Welcome to the **Field Application Resource Monitor (FARM)**. Water quality is important to all Ohioans and we all impact our watersheds. In recent years, Ohio farmers have taken significant positive steps toward limiting the negative impacts on water quality that come from the loss of sediment and nutrients. **FARM** allows users to define their locations of interest and receive 12- and 24-hour precipitation forecasts to aid in the application of fertilizer, manure, and/or pesticides. **FARM** also utilizes a database of historical forecasts allowing users to search previous dates. Users can choose to create accounts with multiple fields, explore statewide conditions in quick-view, and will soon be able to sign-up for text alerts coming in spring 2018.

This project is made possible through a Connect and Collaborate Grant, a program supporting innovative and scholarly engagement programs that leverage academic excellence of The Ohio State University in mutually beneficial ways with external partners.

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FARM Field Application Resource Monitor **BETA**


Sign In Statewide Condition Map

FARM Dashboard [+ Add New Field](#) **1 Field**

Displaying conditions for: Now • Fri Aug 17, 2018 at 1:53 PM EDT

View Historical Date: [Submit](#) [Current Forecast](#)

Unnamed Field



[Fertilizer](#)
[Manure](#)

<p>50% chance of 0.22" of rain in 12 hours 50% chance of 0.36" of rain in 24 hours</p>	<p>Fri Rain</p> <p>79° / 66° 65%</p>	<p>Sat Chance of T-Storms</p> <p>79° / 60° 35%</p>	<p>Sun Few Clouds</p> <p>81° / -- 5%</p>
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[+ Add New Field](#)

<https://farm.bpcrc.osu.edu>