

# Hydrologic and Climate Assessment

September 7, 2018



**Aaron B. Wilson**

**STATE CLIMATE OFFICE OF OHIO (SCOO)**

DEPARTMENT OF EXTENSION - CFAES

BYRD POLAR & CLIMATE RESEARCH CENTER

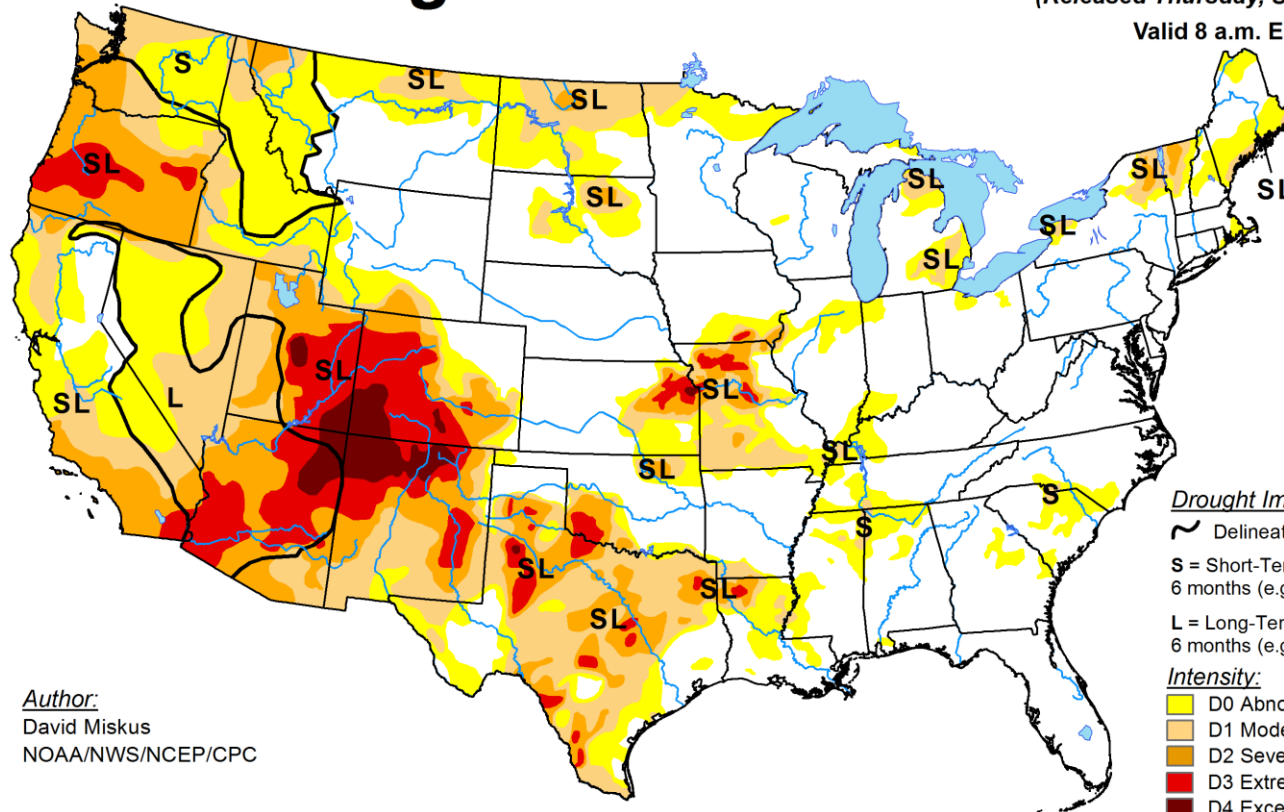
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# U.S. Drought Monitor

September 4, 2018  
 (Released Thursday, Sep. 6, 2018)  
 Valid 8 a.m. EDT



Author:  
 David Miskus  
 NOAA/NWS/NCEP/CPC

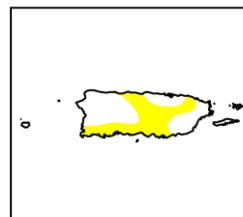
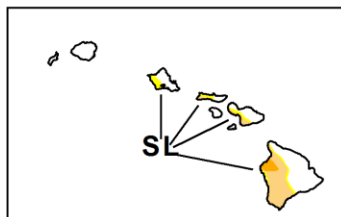
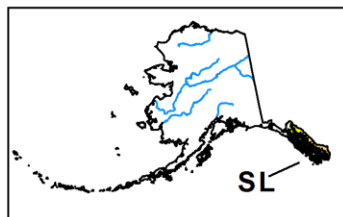
Drought Impact Types:

- ~ 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/>

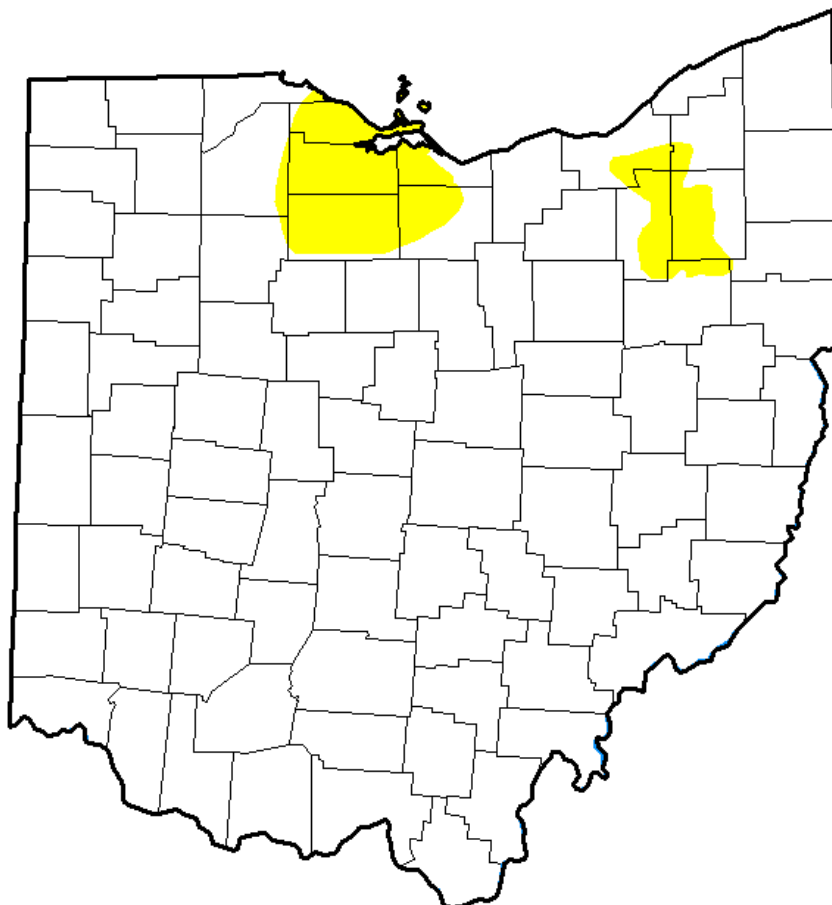


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# U.S. Drought Monitor Ohio

**September 4, 2018**  
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*Drought Conditions (Percent Area)*

|  | None   | D0-D4 | D1-D4 | D2-D4 | D3-D4 | D4   |
|--|--------|-------|-------|-------|-------|------|
| <b>Current</b>                                     | 94.26  | 5.74  | 0.00  | 0.00  | 0.00  | 0.00 |
| <b>Last Week</b><br><i>08-28-2018</i>              | 91.93  | 8.07  | 0.00  | 0.00  | 0.00  | 0.00 |
| <b>3 Months Ago</b><br><i>06-05-2018</i>           | 100.00 | 0.00  | 0.00  | 0.00  | 0.00  | 0.00 |
| <b>Start of Calendar Year</b><br><i>01-02-2018</i> | 100.00 | 0.00  | 0.00  | 0.00  | 0.00  | 0.00 |
| <b>Start of Water Year</b><br><i>09-26-2017</i>    | 71.57  | 28.43 | 3.85  | 0.00  | 0.00  | 0.00 |
| <b>One Year Ago</b><br><i>09-05-2017</i>           | 97.47  | 2.53  | 0.00  | 0.00  | 0.00  | 0.00 |

Intensity:

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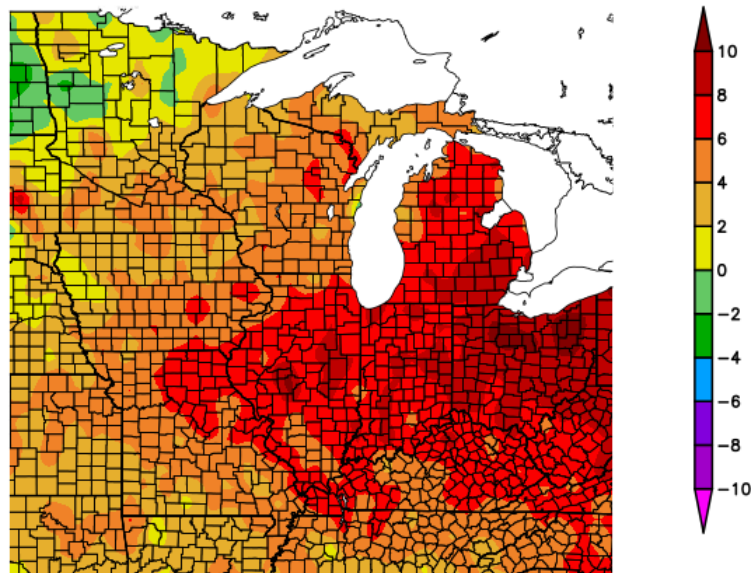


<http://droughtmonitor.unl.edu/>

# Temperature Differences Compared to Average (1981-2010)

7-Day

Departure from Normal Temperature (F)  
8/31/2018 – 9/6/2018



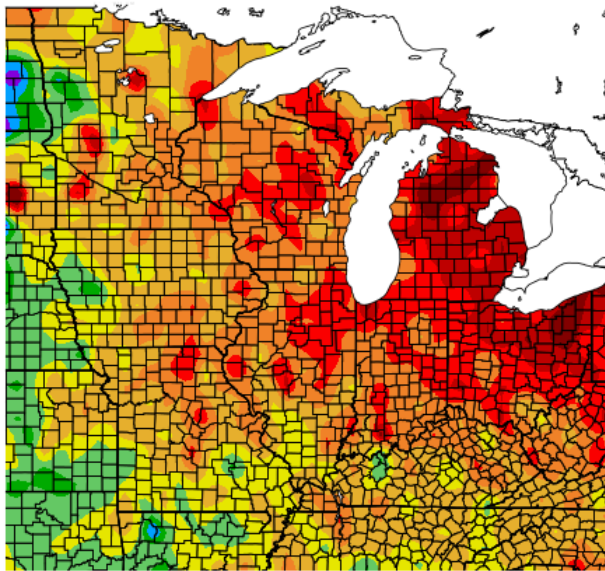
Generated 9/7/2018 at HPRCC using provisional data.

NOAA Regional Climate Centers

# Temperature Differences Compared to Average (1981-2010)

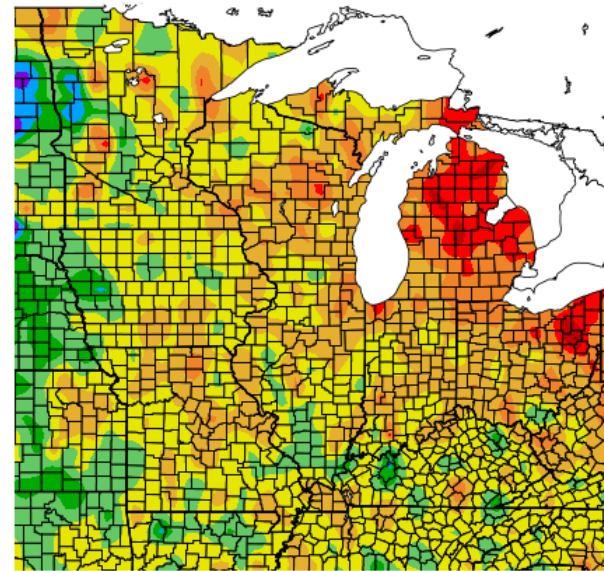
## 30-Day

Departure from Normal Temperature (F)  
8/8/2018 – 9/6/2018



## 60-Day

Departure from Normal Temperature (F)  
7/9/2018 – 9/6/2018



Generated 9/7/2018 at HPRCC using provisional data.

NOAA Regional Climate Centers Generated 9/7/2018 at HPRCC using provisional data.

NOAA Regional Climate Centers

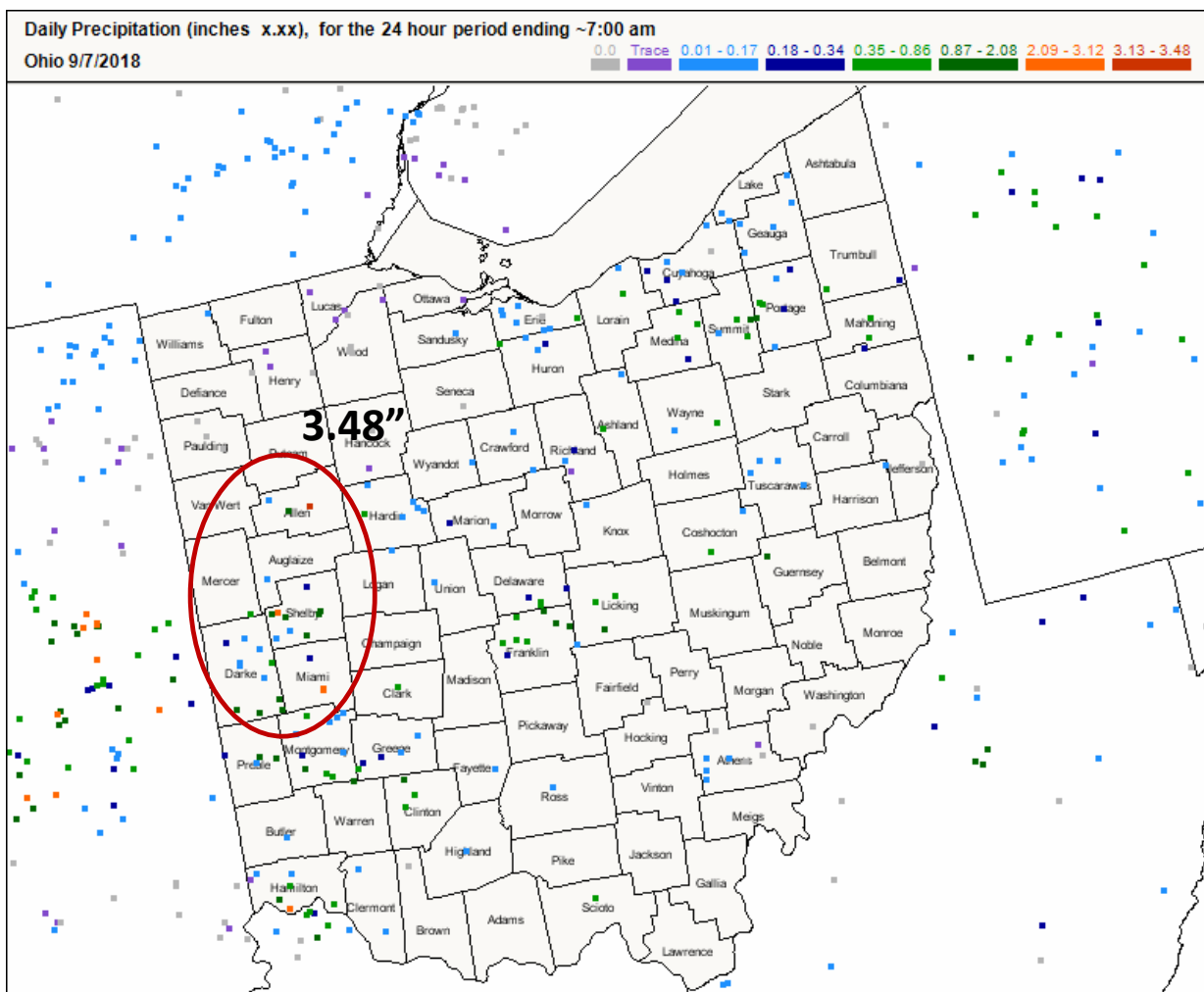


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# CoCoRaHS Observed Precipitation:

<http://cocorahs.com/>

## September 7



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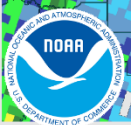
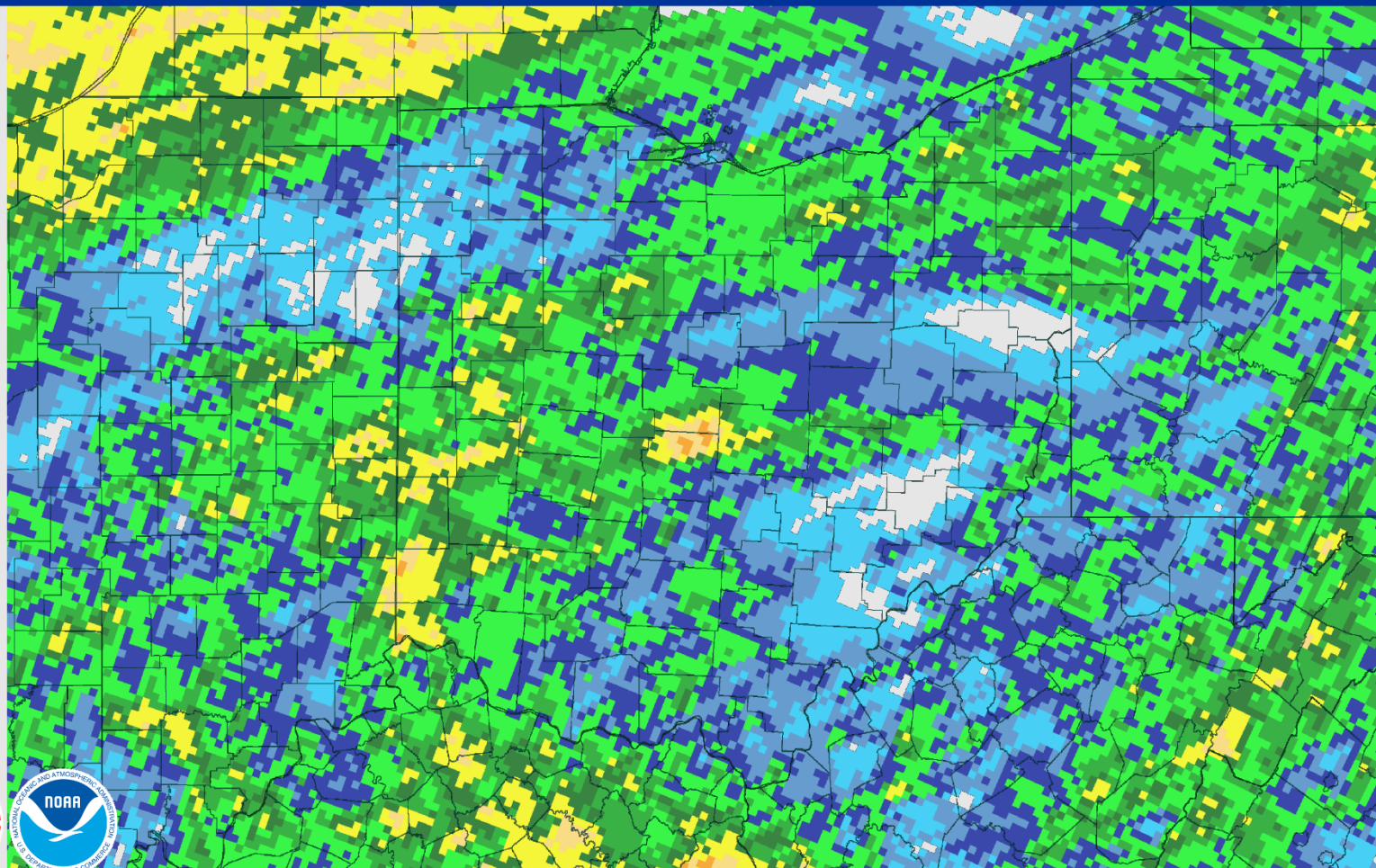
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# Previous 7-Day Precipitation: Total

September 07, 2018 7-Day Observed Precipitation

Created on: September 07, 2018 - 19:42 UTC

Valid on: September 07, 2018 12:00 UTC



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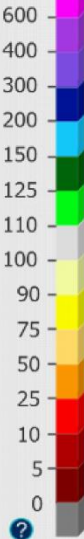
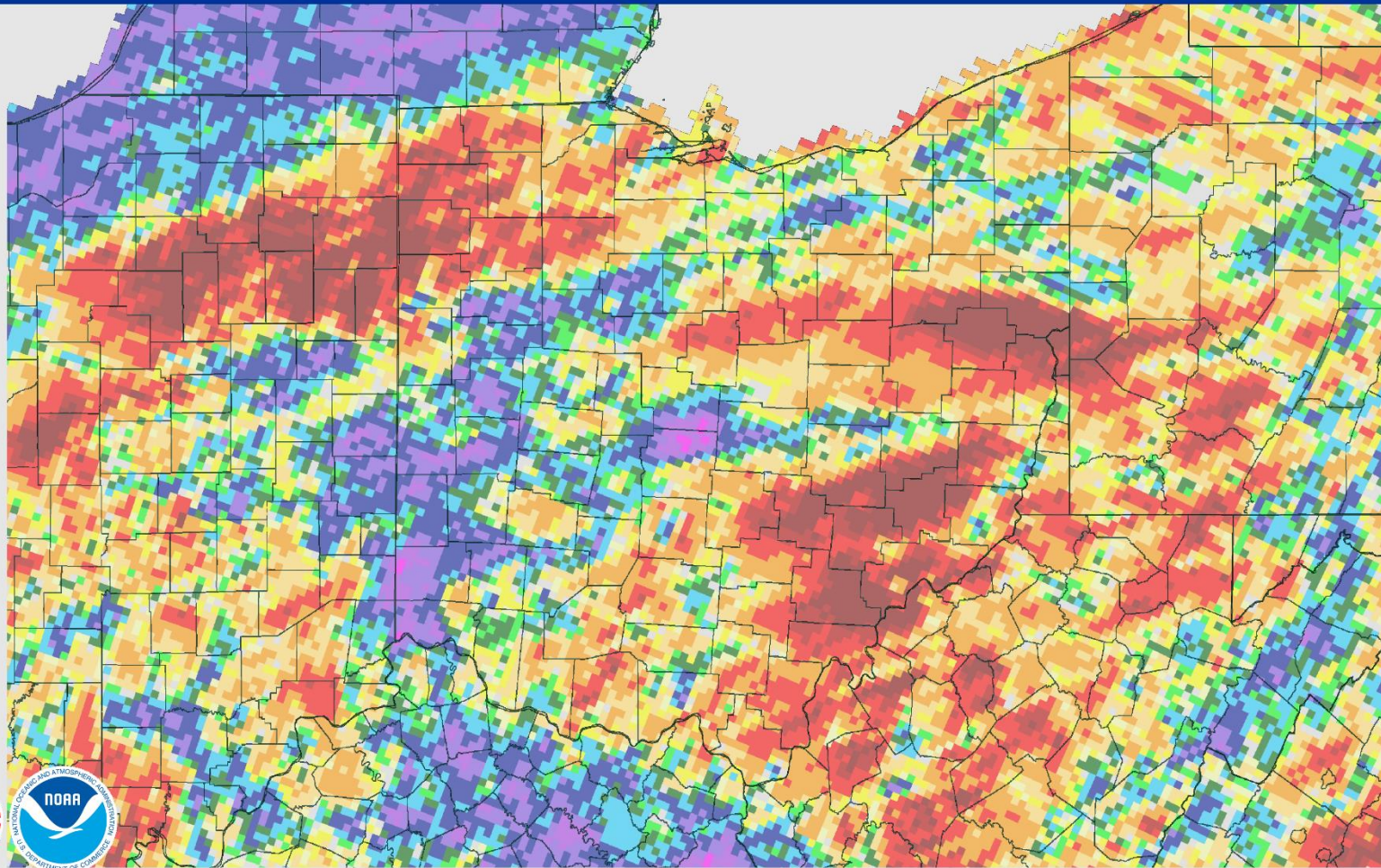
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# Previous 7-Day Precipitation: Percent of Normal

September 07, 2018 7-Day Percent Precipitation

Created on: September 07, 2018 - 19:42 UTC

Valid on: September 07, 2018 12:00 UTC



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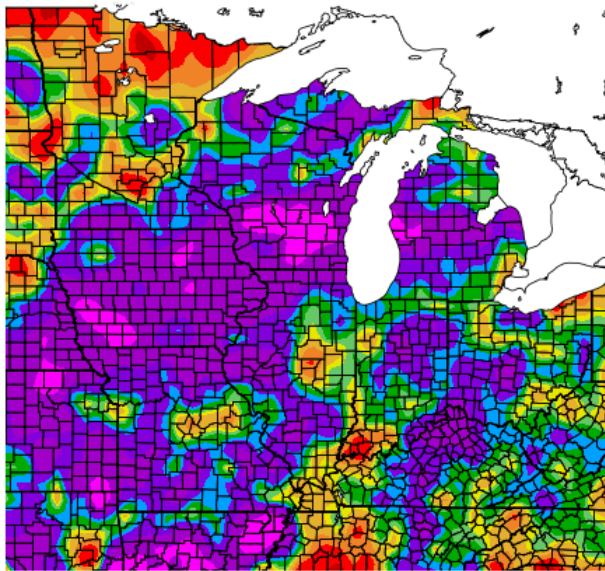
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# Precipitation Differences Compared to Average (1981-2010)

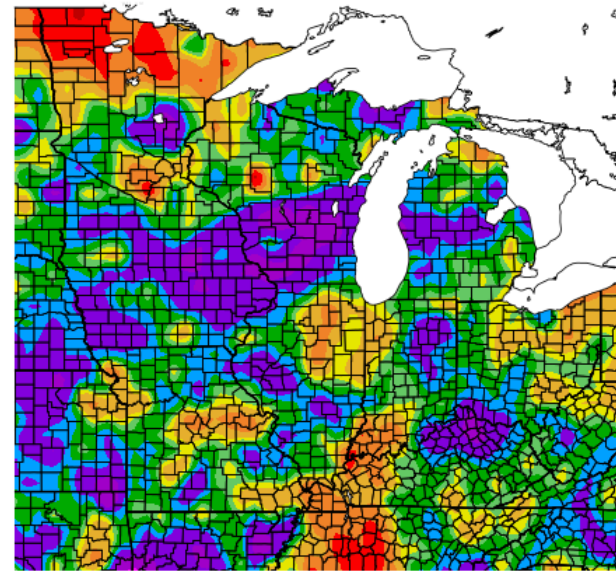
## 30-Day

Percent of Normal Precipitation (%)  
8/8/2018 – 9/6/2018



## 60-Day

Percent of Normal Precipitation (%)  
7/9/2018 – 9/6/2018



Generated 9/7/2018 at HPRCC using provisional data.

NOAA Regional Climate Centers Generated 9/7/2018 at HPRCC using provisional data.

NOAA Regional Climate Centers

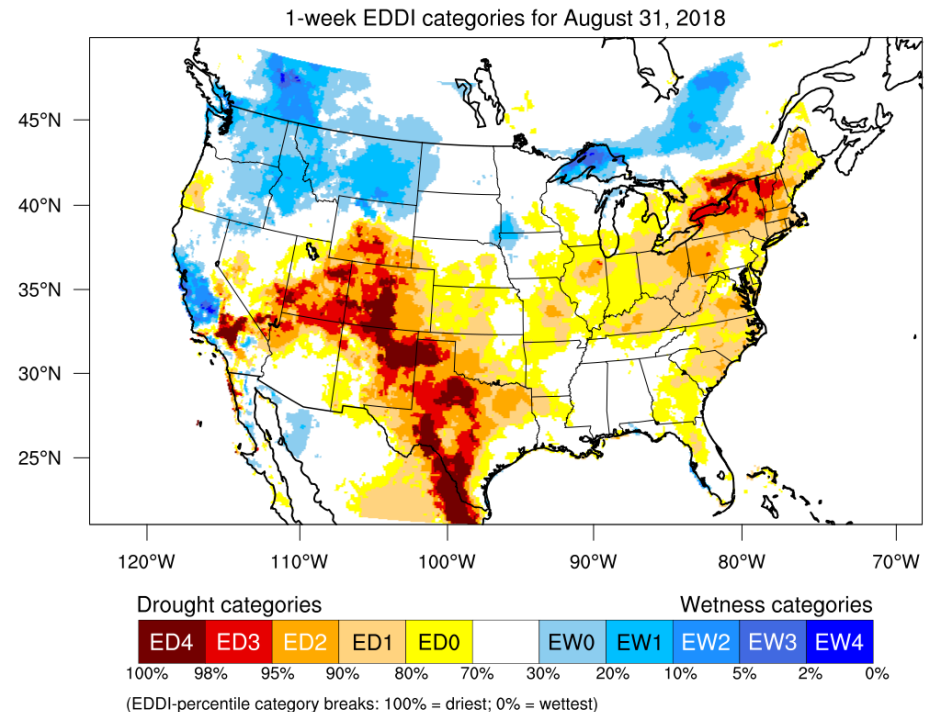


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# Evaporative Demand Drought Index

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.

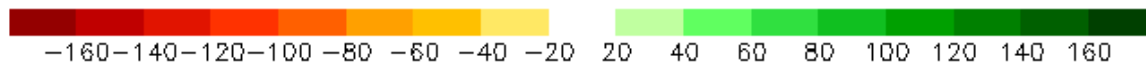
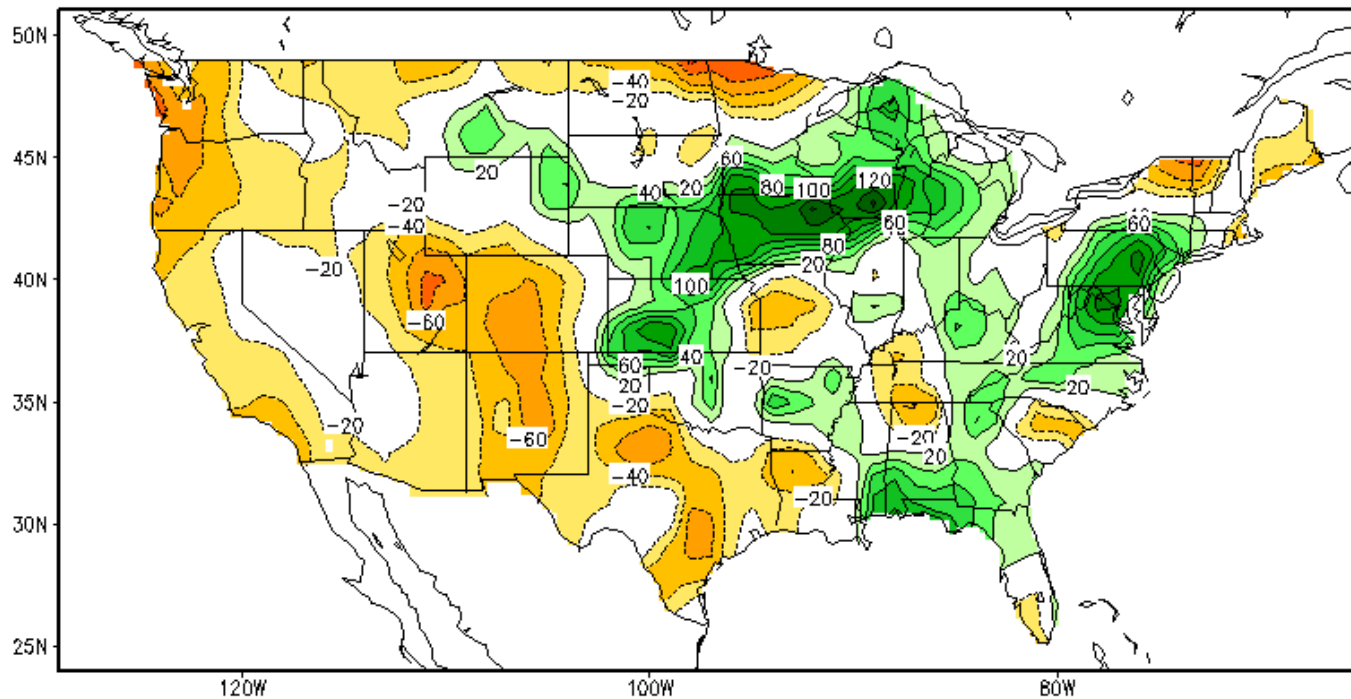
Image provided by the NOAA/ESRL Physical Sciences Division, Boulder, Colorado, from their web site at: <https://www.esrl.noaa.gov/psd/>.



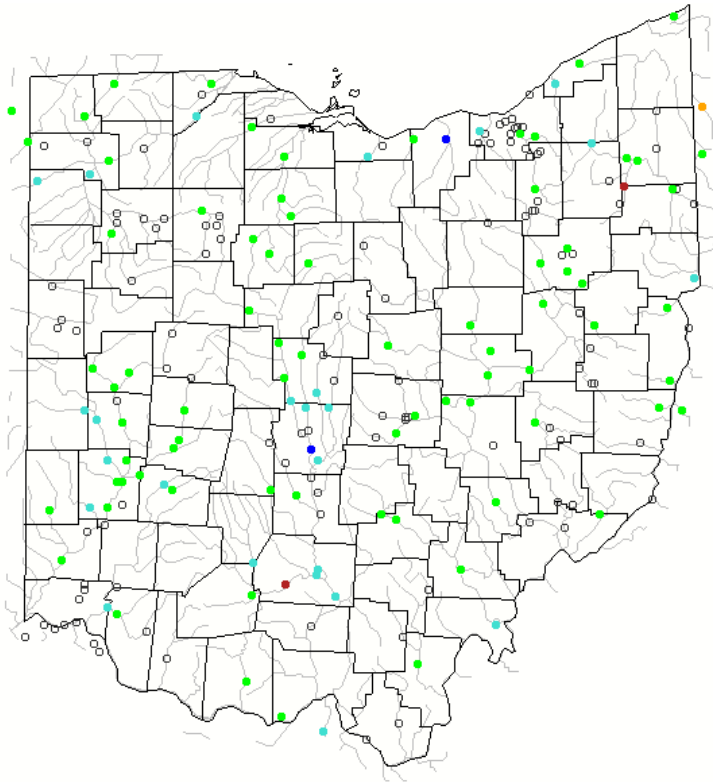
Generated by NOAA/ESRL/Physical Sciences Division

# Soil Moisture

Calculated Soil Moisture Anomaly (mm)  
SEP 06, 2018



7-DAY



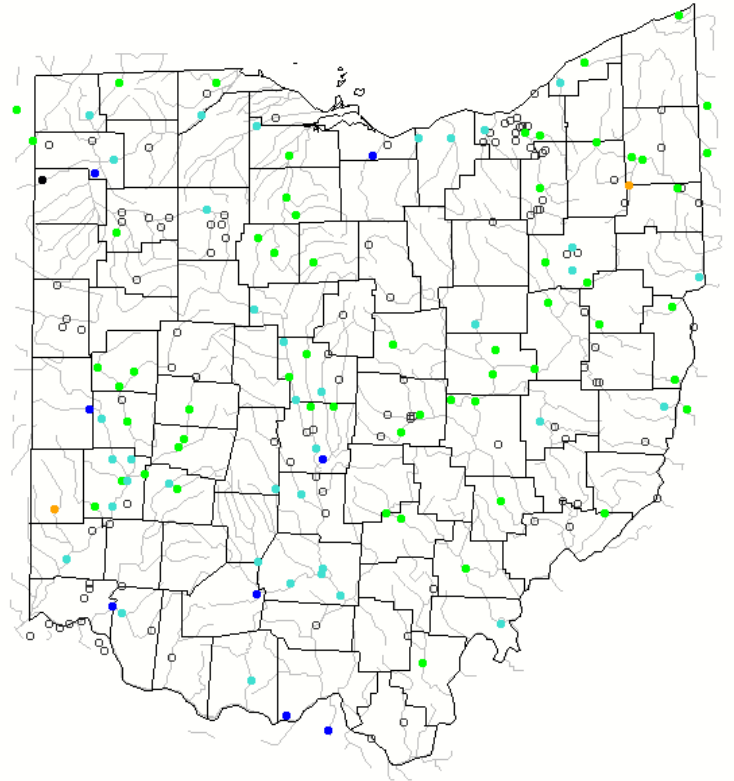
Explanation - Percentile classes

|     |                          |                       |                 |                       |                          |      |            |
|-----|--------------------------|-----------------------|-----------------|-----------------------|--------------------------|------|------------|
|     |                          |                       |                 |                       |                          |      |            |
| Low | <10<br>Much below normal | 10-24<br>Below normal | 25-75<br>Normal | 76-90<br>Above normal | >90<br>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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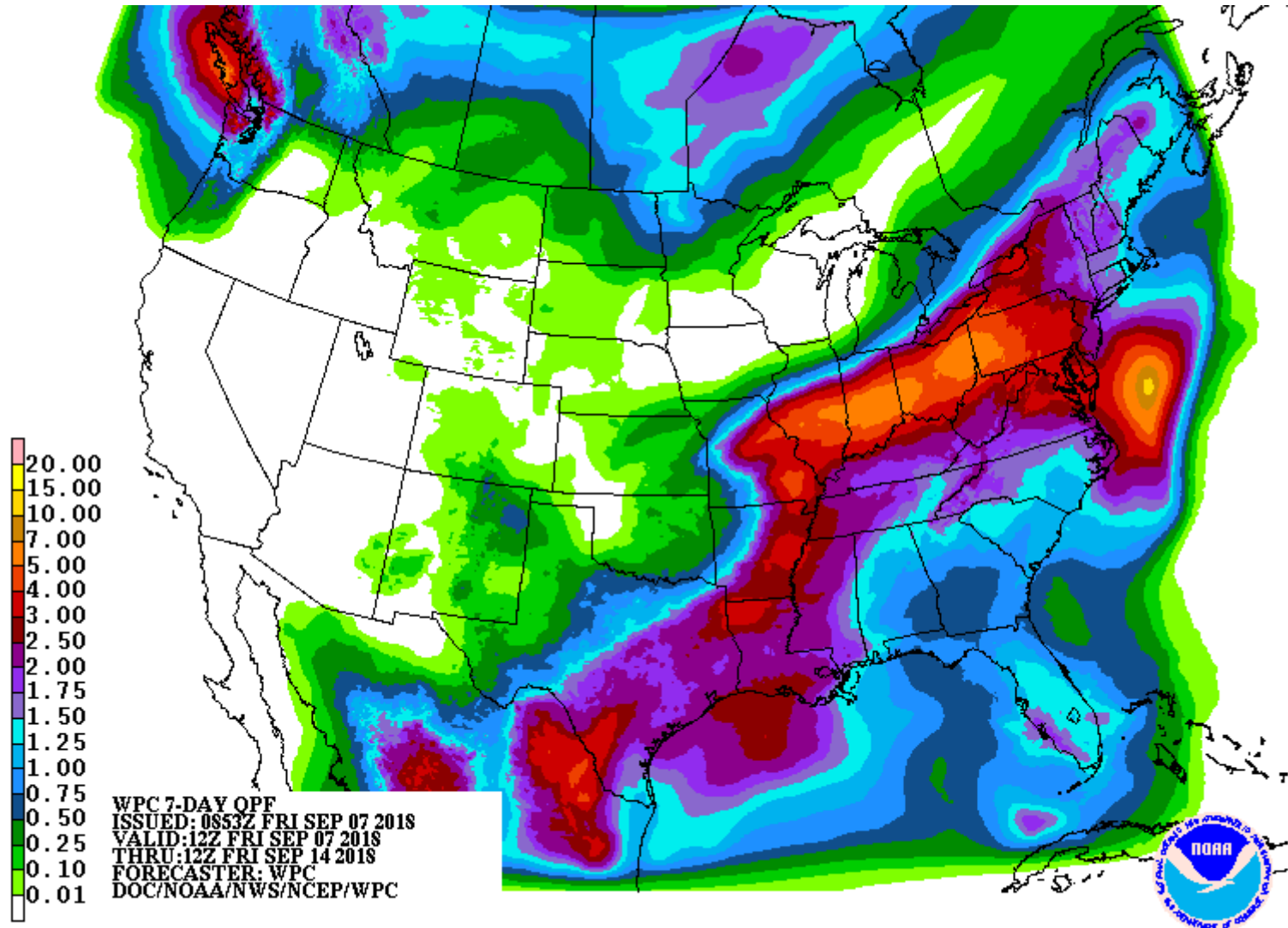
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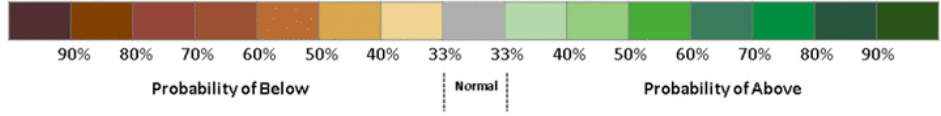
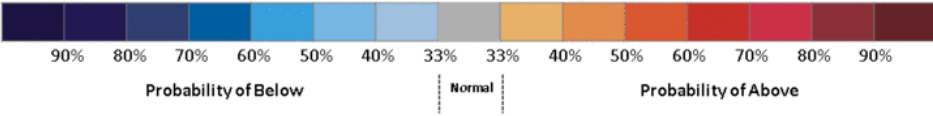
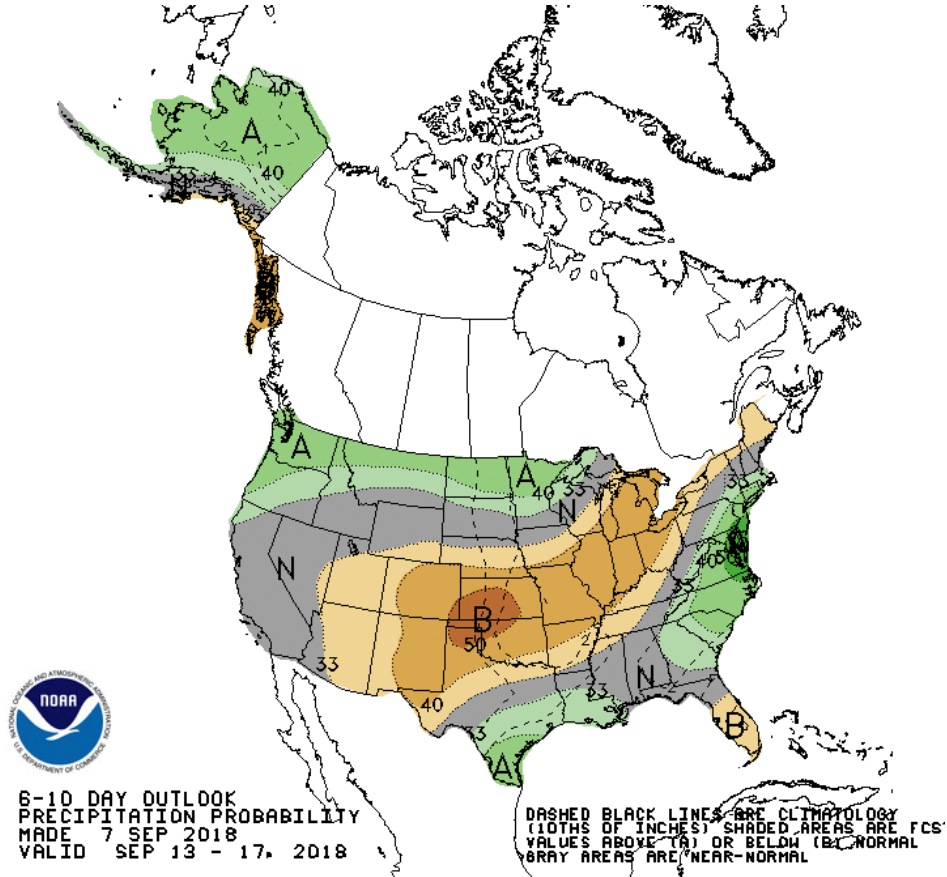
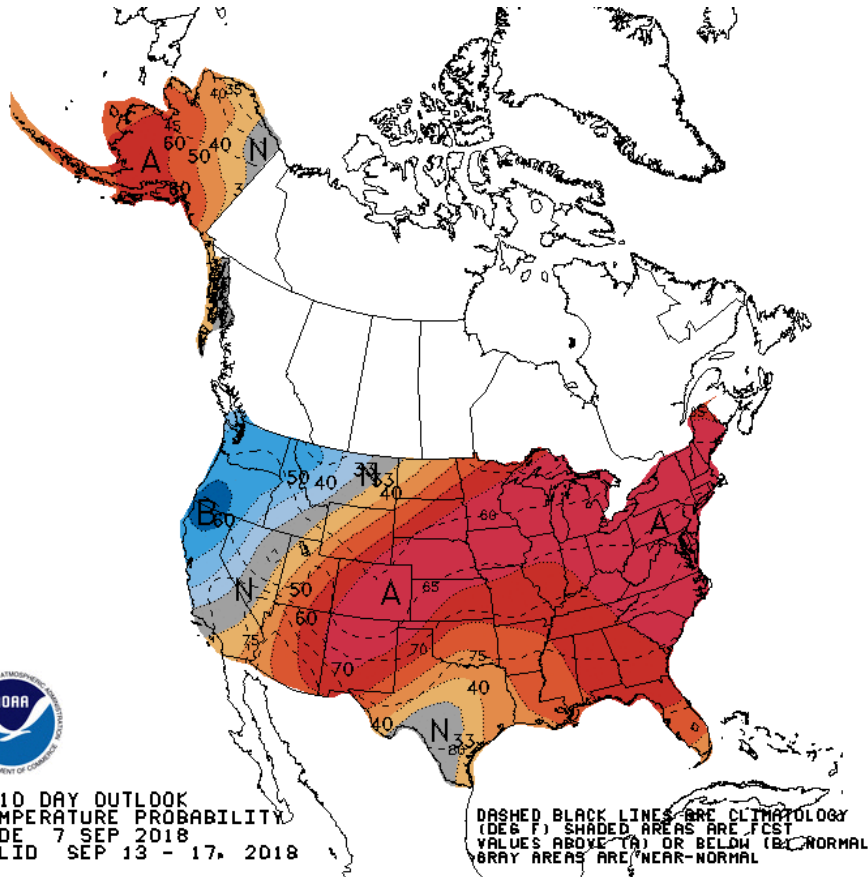
# Weather for the Week Ahead



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# 6-10 Day Outlook



Highs: Upper 70s to Low 80s; Lows: Low 60s; Precip: 0.75-1"

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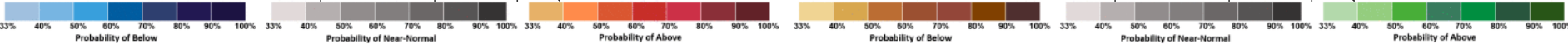
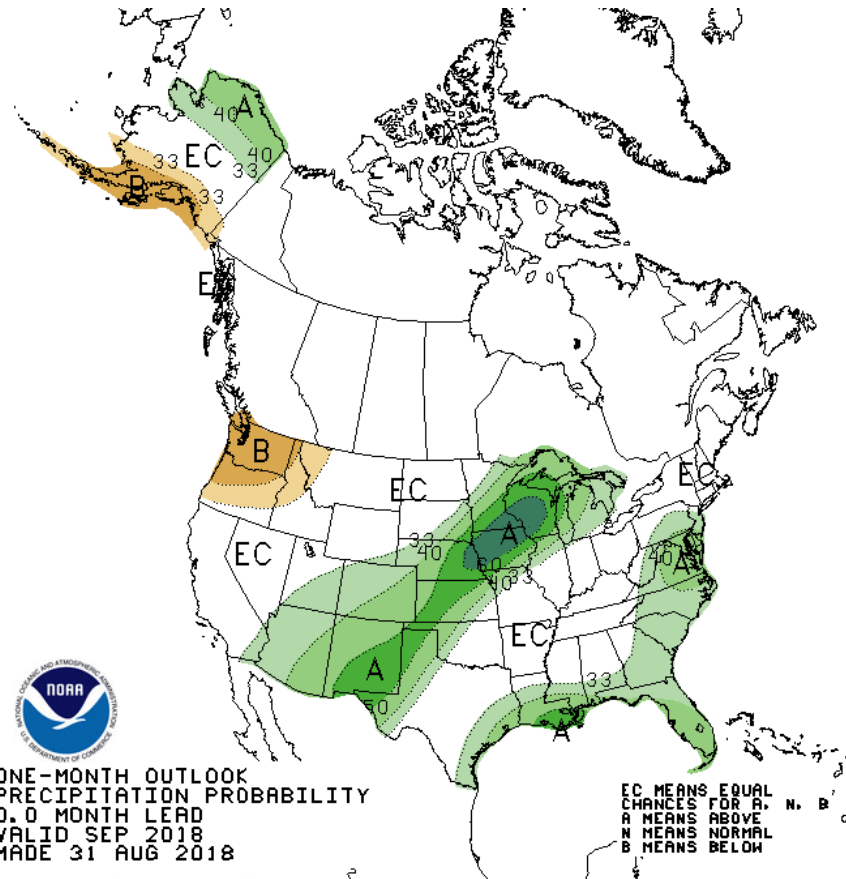
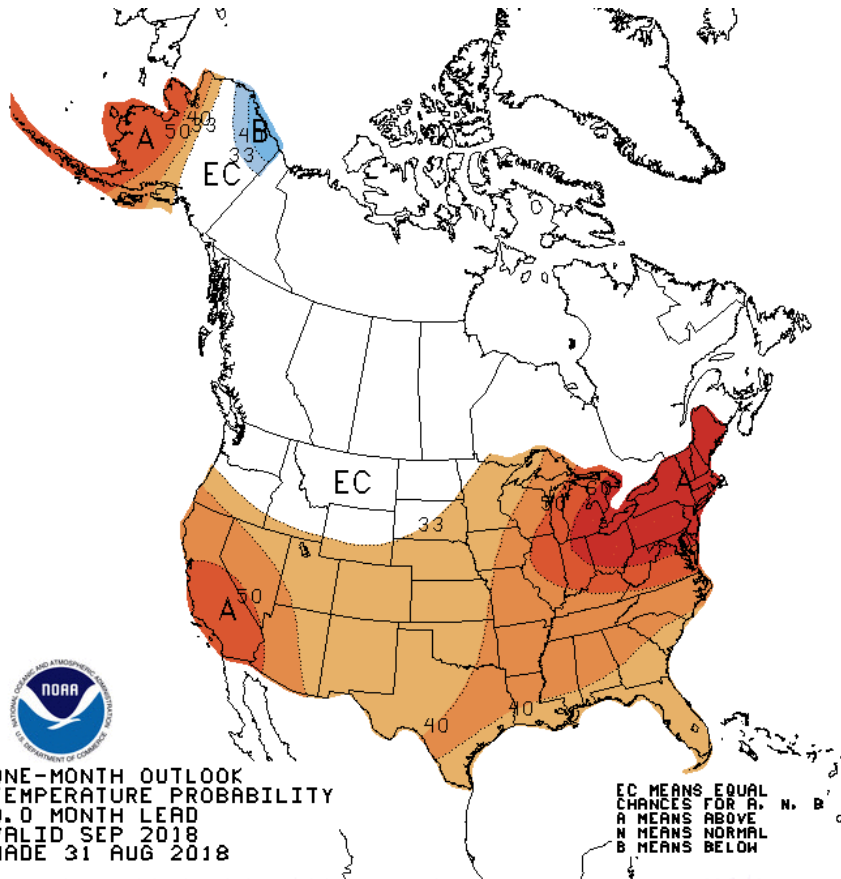
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# September Outlook



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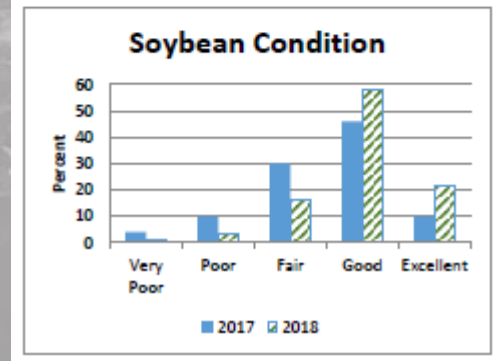
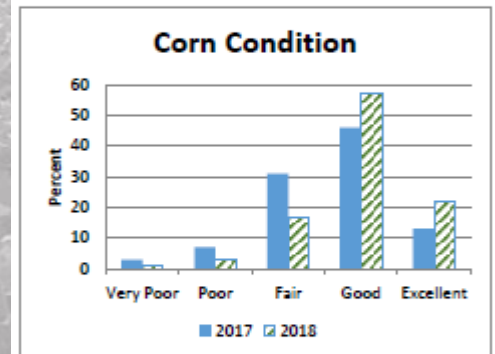
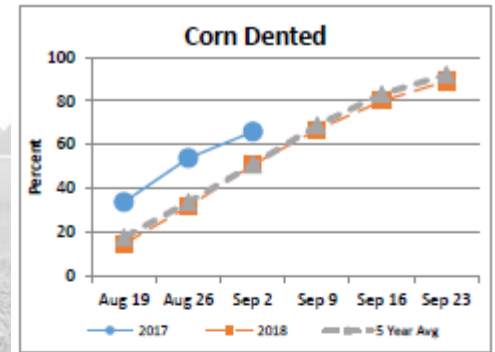
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# Ag Highlights

- 5.4 days suitable for work
- Heat pushed maturity in corn and soybeans
- Corn for silage harvest increased



NASS: Cheryl Turner –

[https://www.nass.usda.gov/Statistics\\_by\\_State/Ohio/Publications/Crop\\_Progress\\_&\\_Condition/2017/cw3017oh.pdf](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>

**Drought Monitor:** A few dry areas still hanging around across the north

**30-Day and 60-Day:** Warmest in the NE where it is drier

**The week ahead:)** Stalled out front and remnants from Tropical Storm Gordon mean soggy conditions across the Buckeye State this week



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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**

 50% chance of **0.22"** of rain in **12 hours**  
 50% chance of **0.36"** of rain in **24 hours**

|  |  |  |
|--|--|--|
| <b>Fri</b><br><br><b>Rain</b><br>79° / 66°<br>65% | <b>Sat</b><br><br><b>Chance of T-Storms</b><br>79° / 60°<br>35% | <b>Sun</b><br><br><b>Few Clouds</b><br>81° / --<br>5% |
|--|--|--|

[+ Add New Field](#)

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