

SCOO Weekly Hydrologic Outlook

Tuesday 16 August, 2016

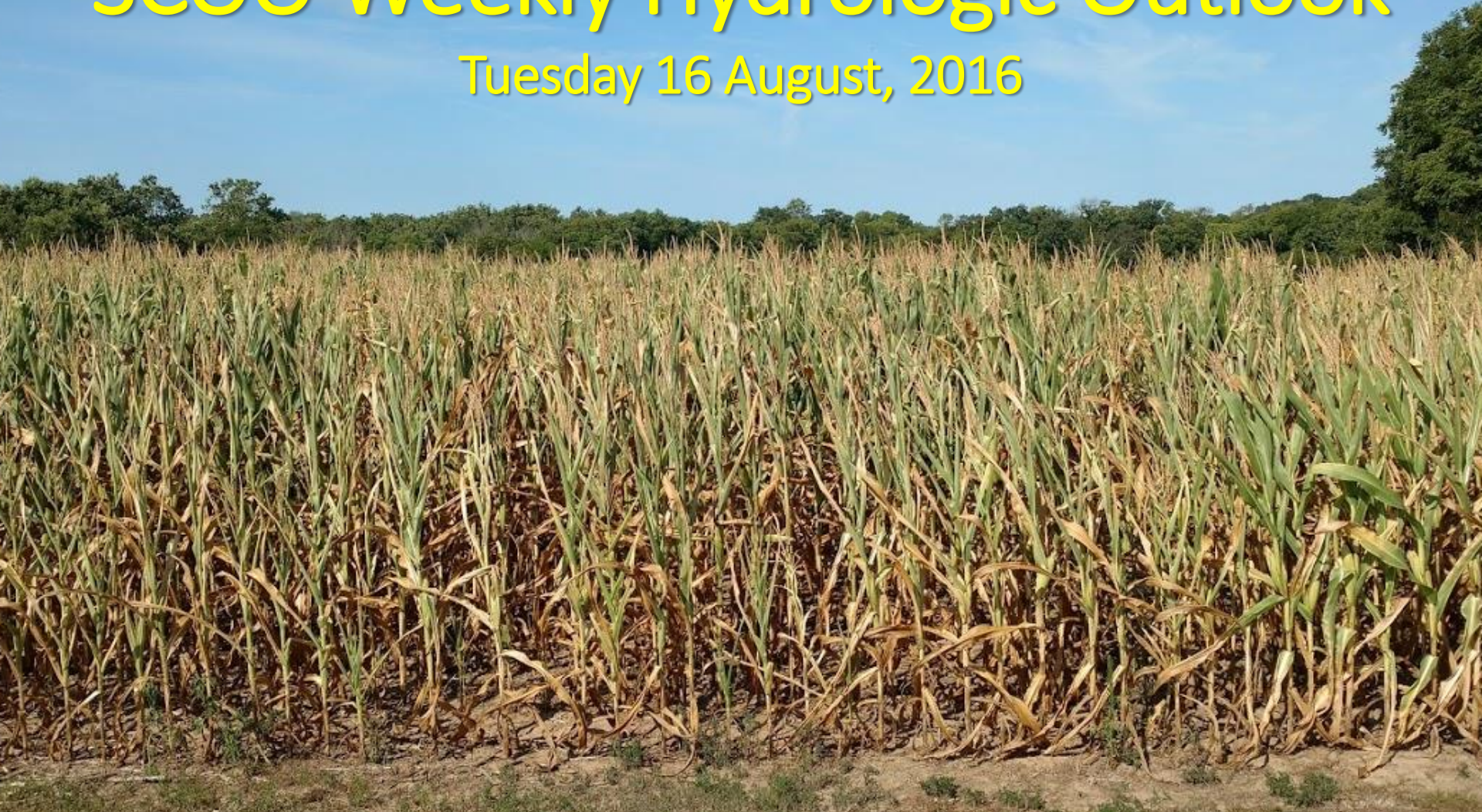
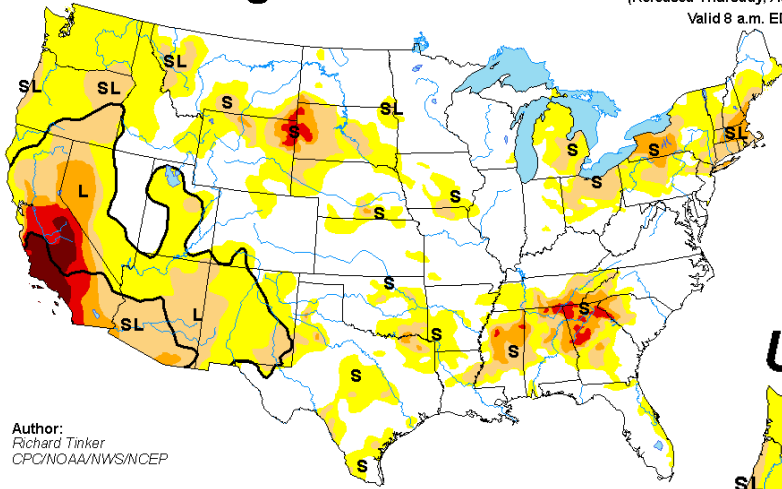


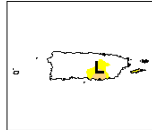
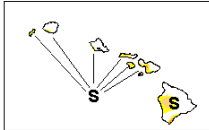
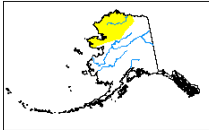
Photo Credit: Amanda M. Bennett, M.S.: Extension Educator, Agriculture and Natural Resources County Director, Miami County **The Ohio State University: College of Food, Agricultural and Environmental Sciences**

U.S. Drought Monitor

August 2, 2016
 (Released Thursday, Aug. 4, 2016)
 Valid 8 a.m. EDT



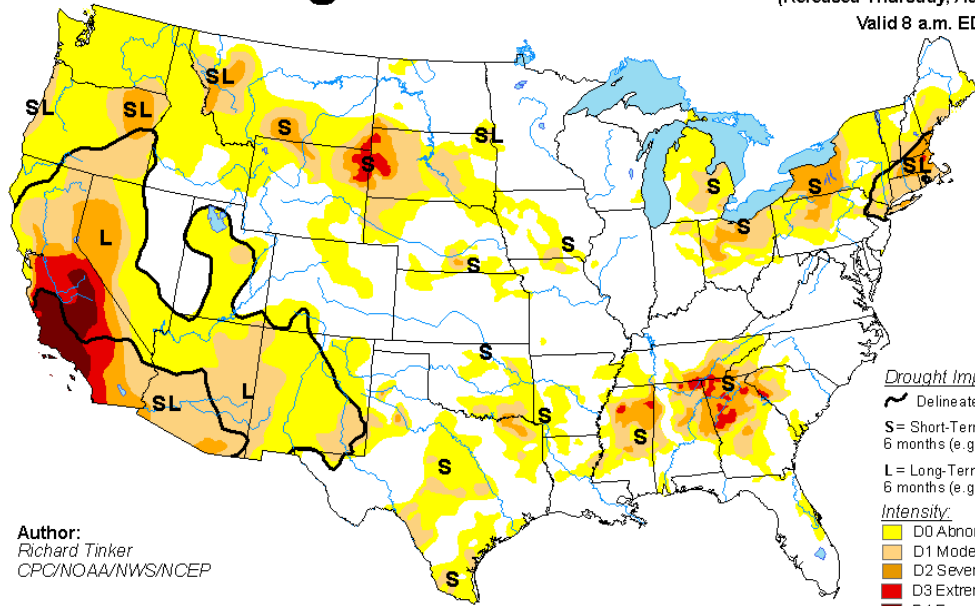
Author:
 Richard Tinker
 CPC/NOAA/NWS/NCEP



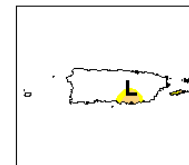
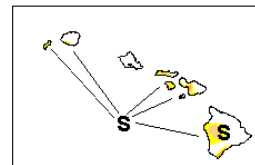
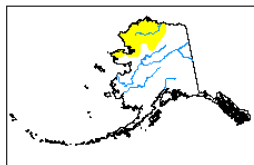
USDA
<http://dr>

U.S. Drought Monitor

August 9, 2016
 (Released Thursday, Aug. 11, 2016)
 Valid 8 a.m. EDT



Author:
 Richard Tinker
 CPC/NOAA/NWS/NCEP



USDA

National
 Drought
 Mitigation
 Center



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

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

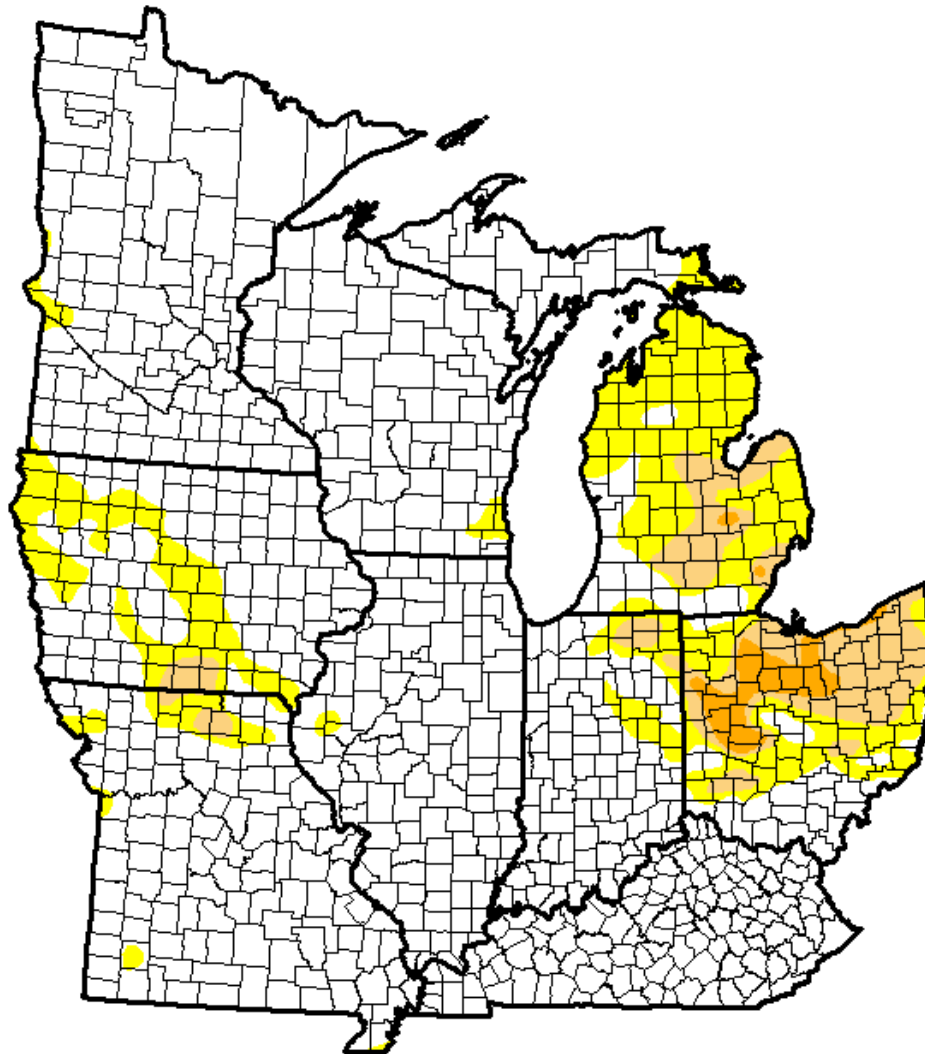
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

U.S. Drought Monitor Midwest

August 9, 2016
(Released Thursday, Aug. 11, 2016)
Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	80.70	19.30	6.08	1.26	0.00	0.00
Last Week <i>8/2/2016</i>	80.64	19.36	5.86	0.00	0.00	0.00
3 Months Ago <i>5/10/2016</i>	89.24	10.76	1.15	0.00	0.00	0.00
Start of Calendar Year <i>12/29/2015</i>	88.07	11.93	2.35	0.00	0.00	0.00
Start of Water Year <i>9/29/2015</i>	79.46	20.54	1.04	0.00	0.00	0.00
One Year Ago <i>8/11/2015</i>	93.15	6.85	0.73	0.00	0.00	0.00



Intensity:



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Author:

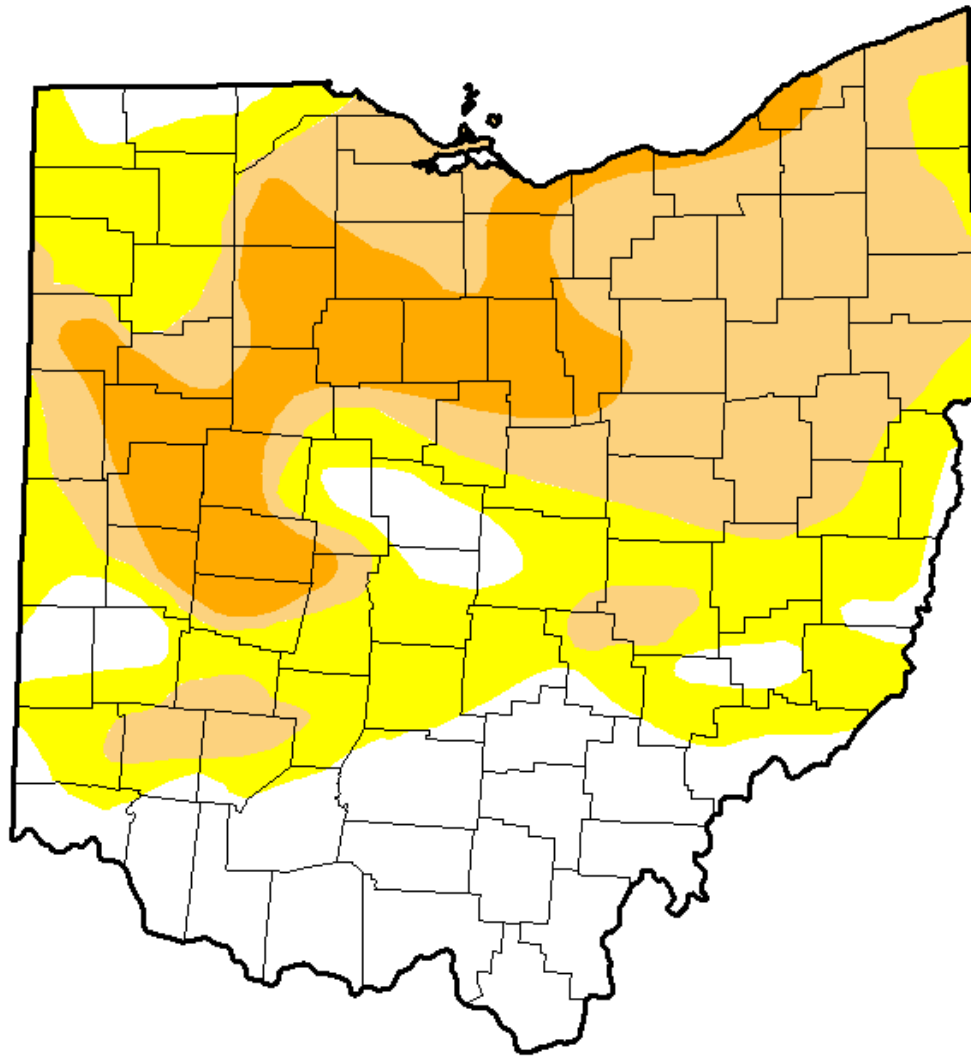
Richard Tinker
CPC/NOAA/NWS/NCEP



U.S. Drought Monitor

Ohio

August 9, 2016
 (Released Thursday, Aug. 11, 2016)
 Valid 8 a.m. EDT



Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	25.56	74.44	46.01	14.60	0.00	0.00
Last Week 8/2/2016	29.99	70.01	42.89	0.00	0.00	0.00
3 Months Ago 5/10/2016	100.00	0.00	0.00	0.00	0.00	0.00
Start of Calendar Year 12/29/2015	49.91	50.09	3.83	0.00	0.00	0.00
Start of Water Year 9/29/2015	77.24	22.76	0.00	0.00	0.00	0.00
One Year Ago 8/11/2015	100.00	0.00	0.00	0.00	0.00	0.00

Intensity:

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

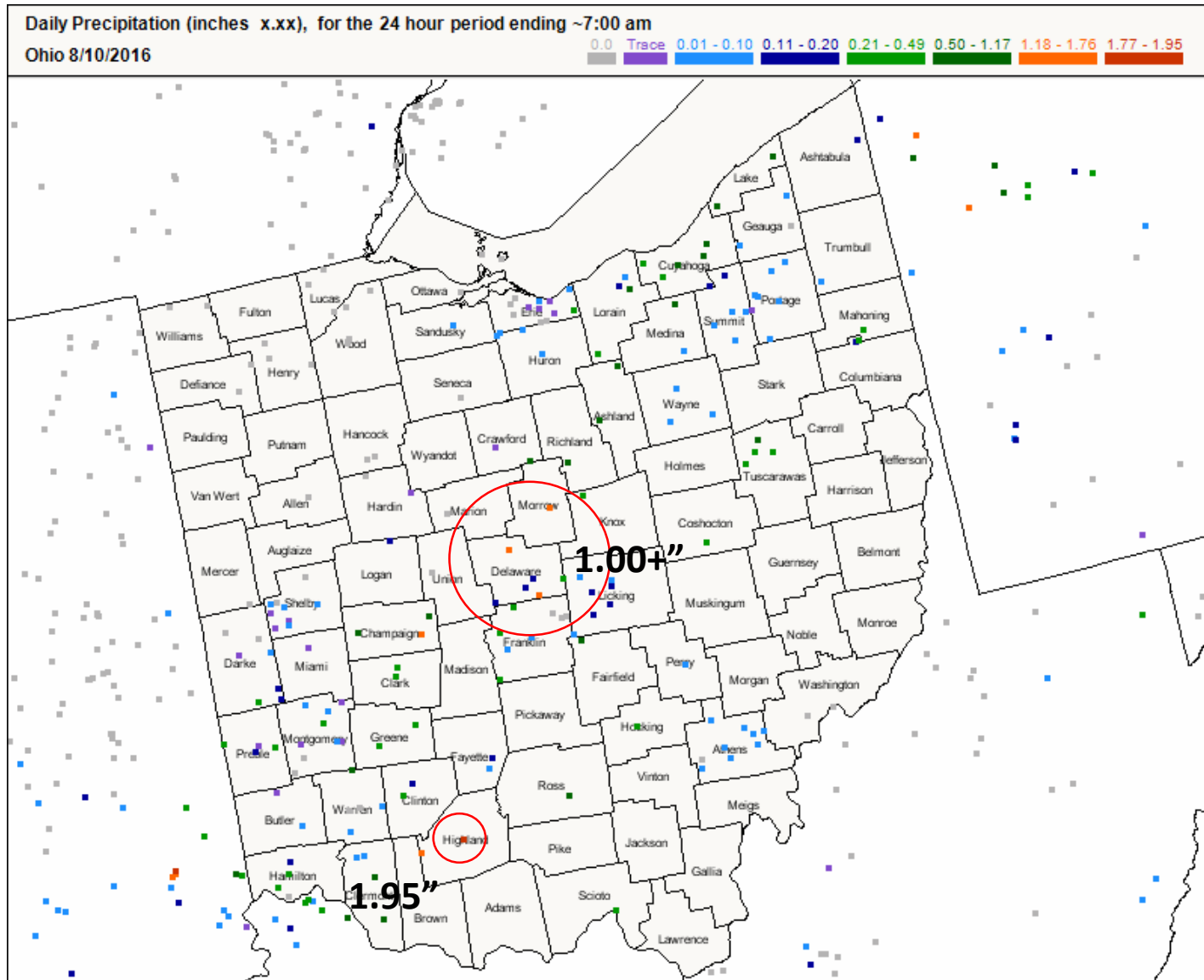
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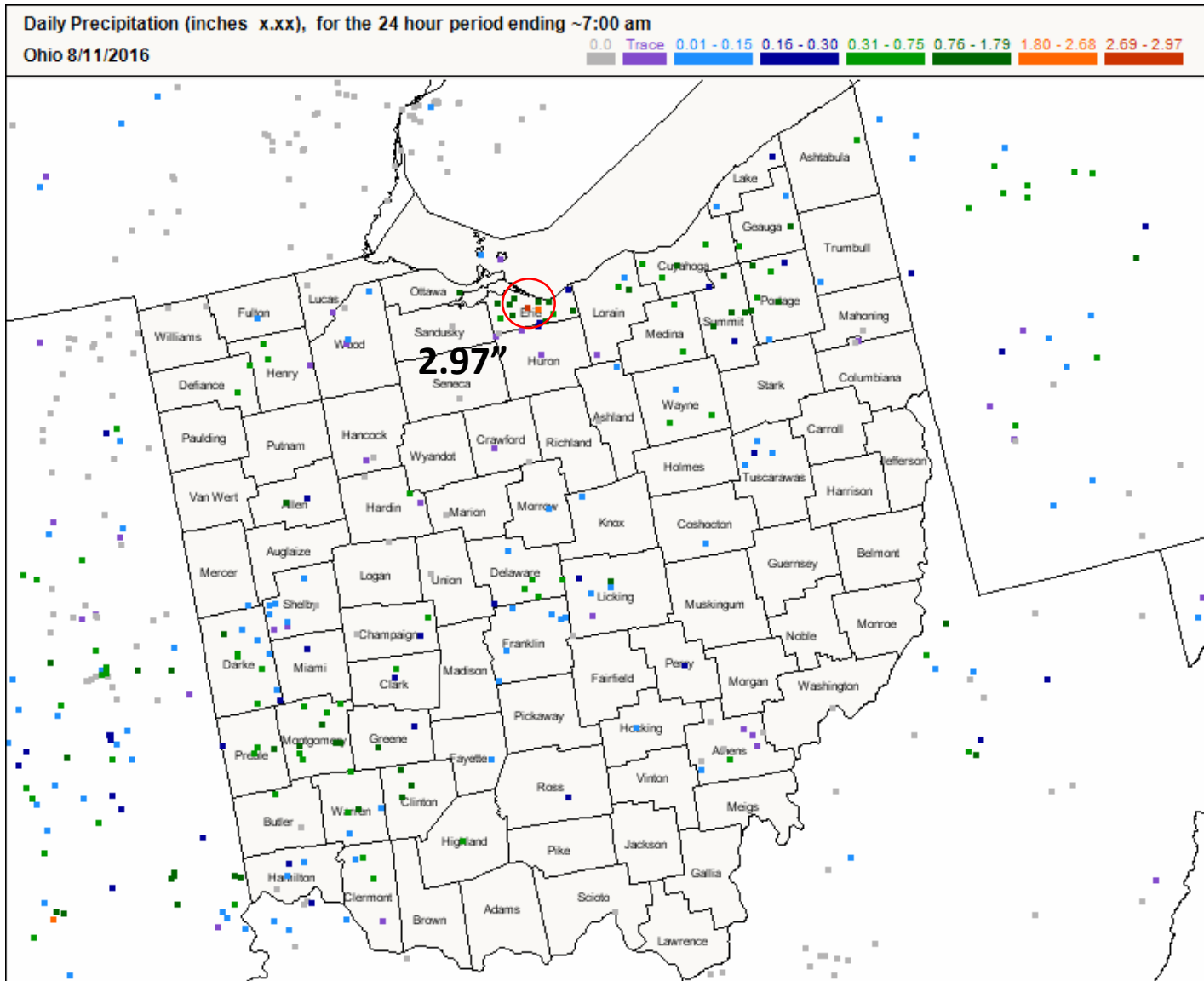
Richard Tinker
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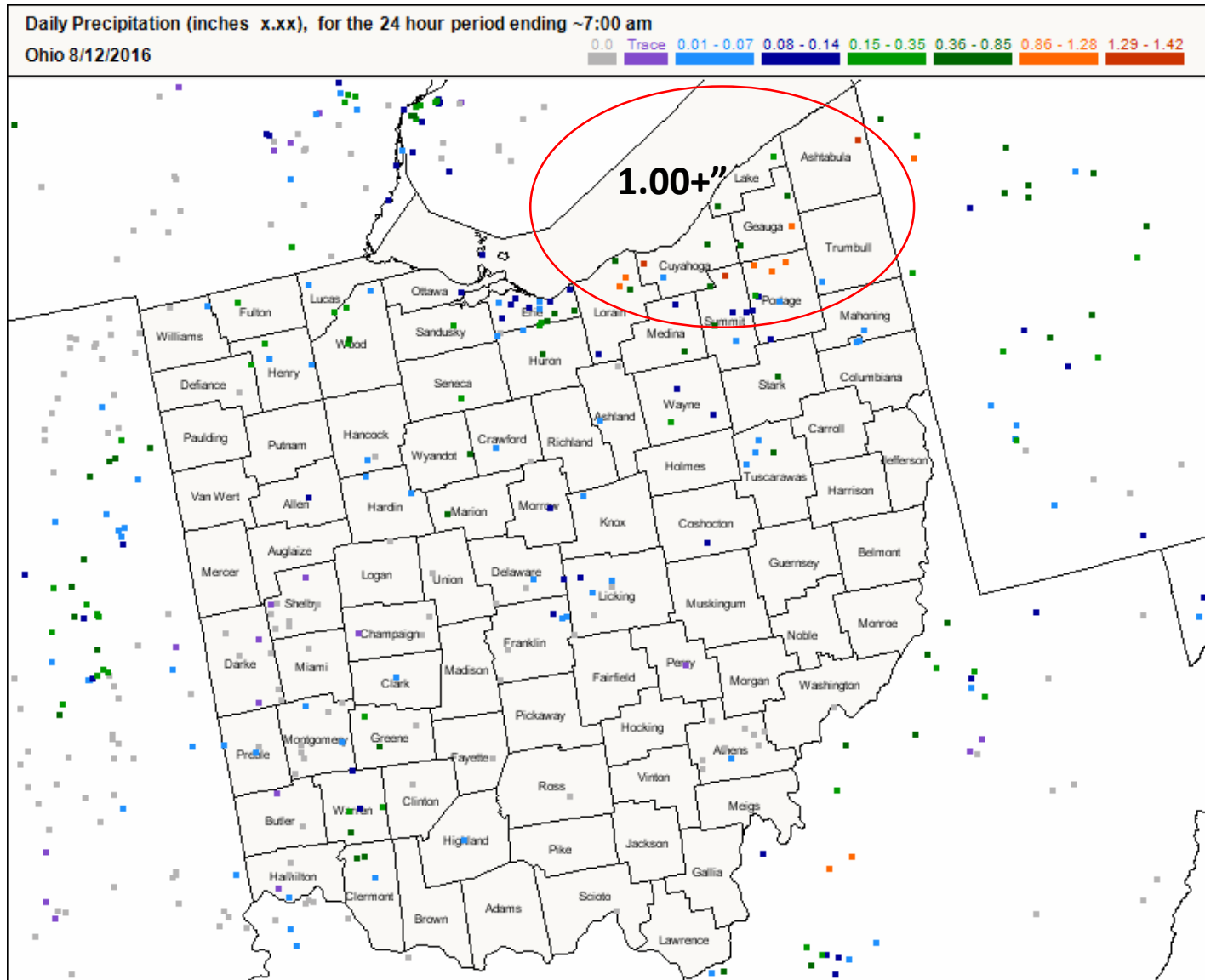
CoCoRaHS: 10 August



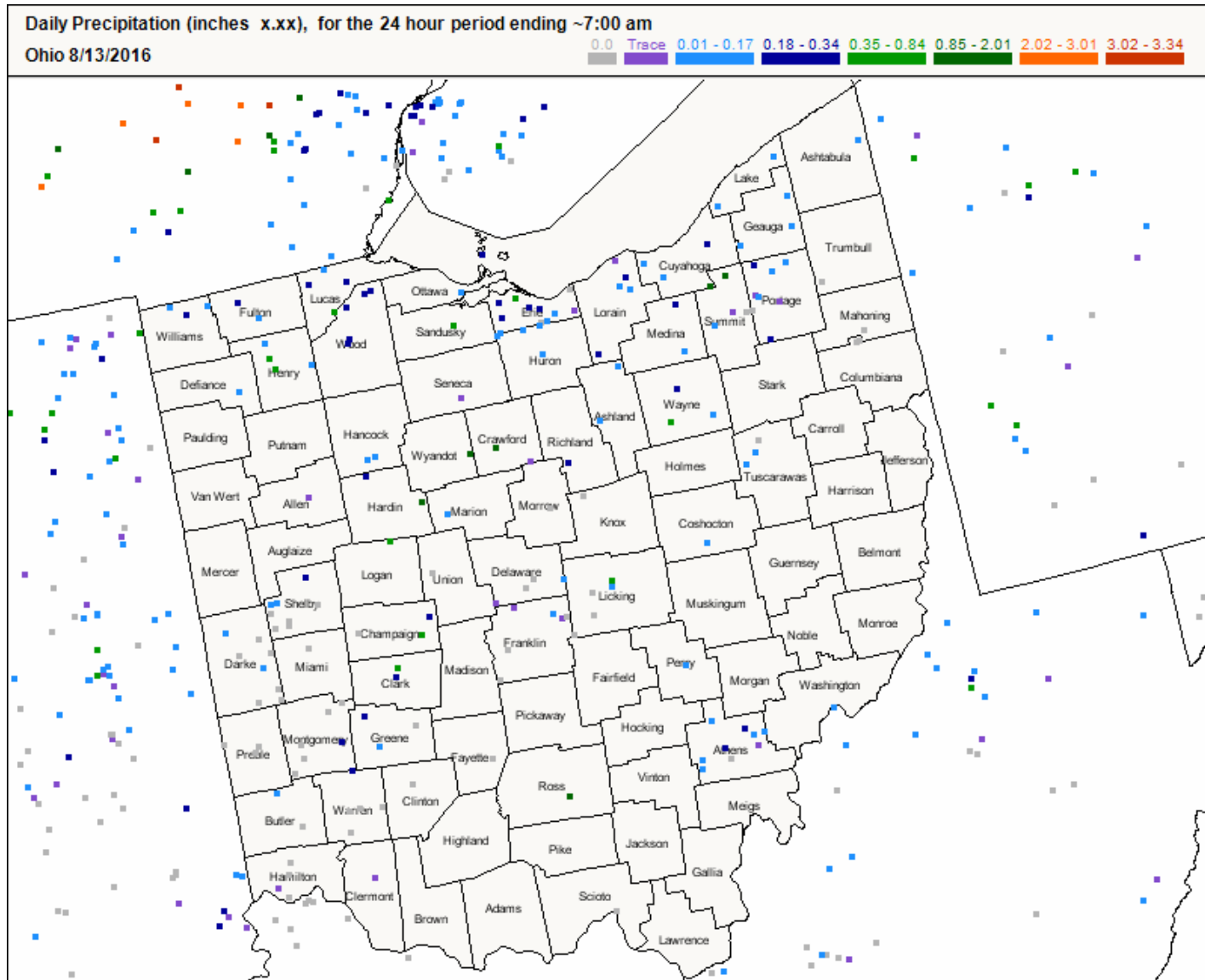
CoCoRaHS: 11 August



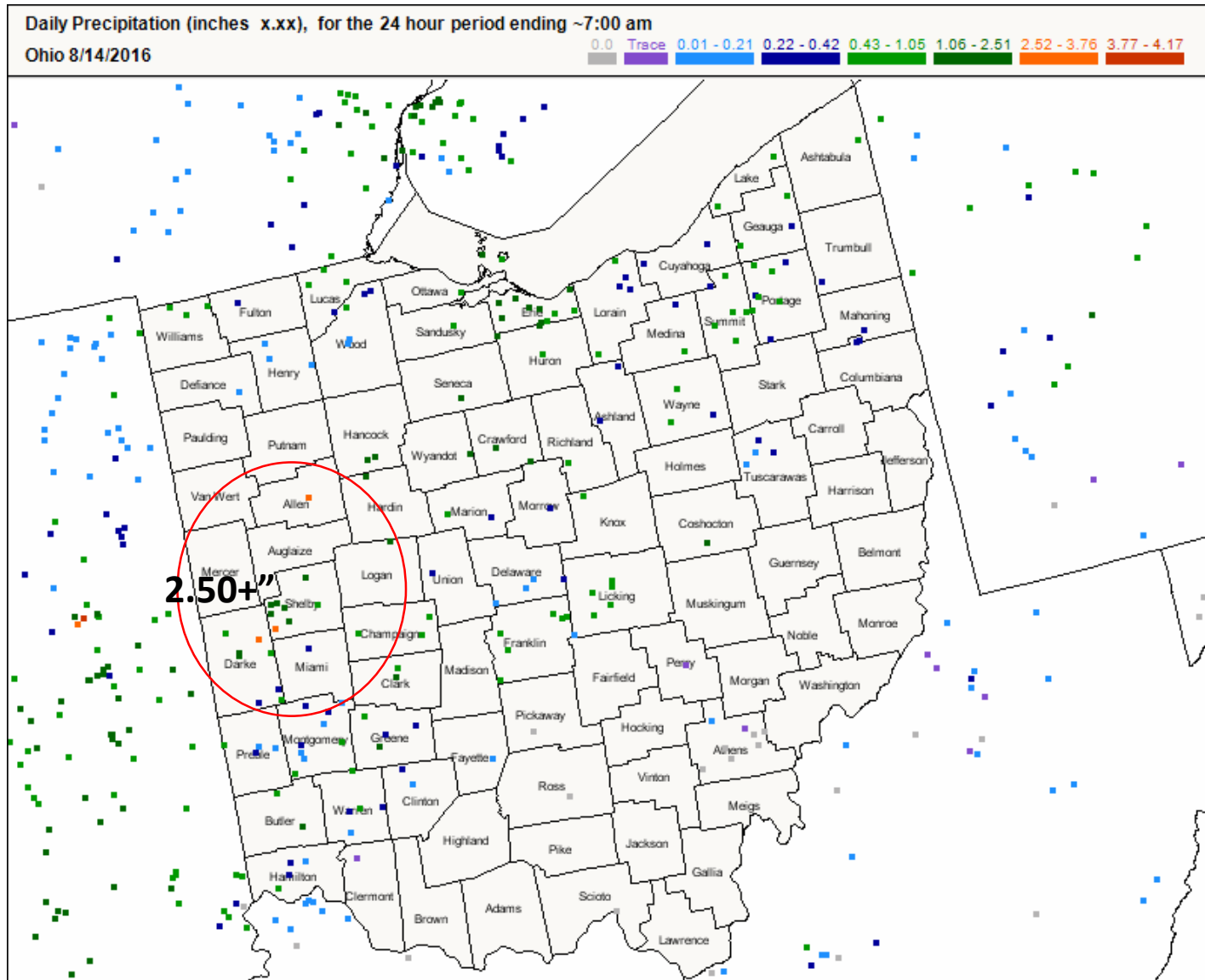
CoCoRaHS: 12 August



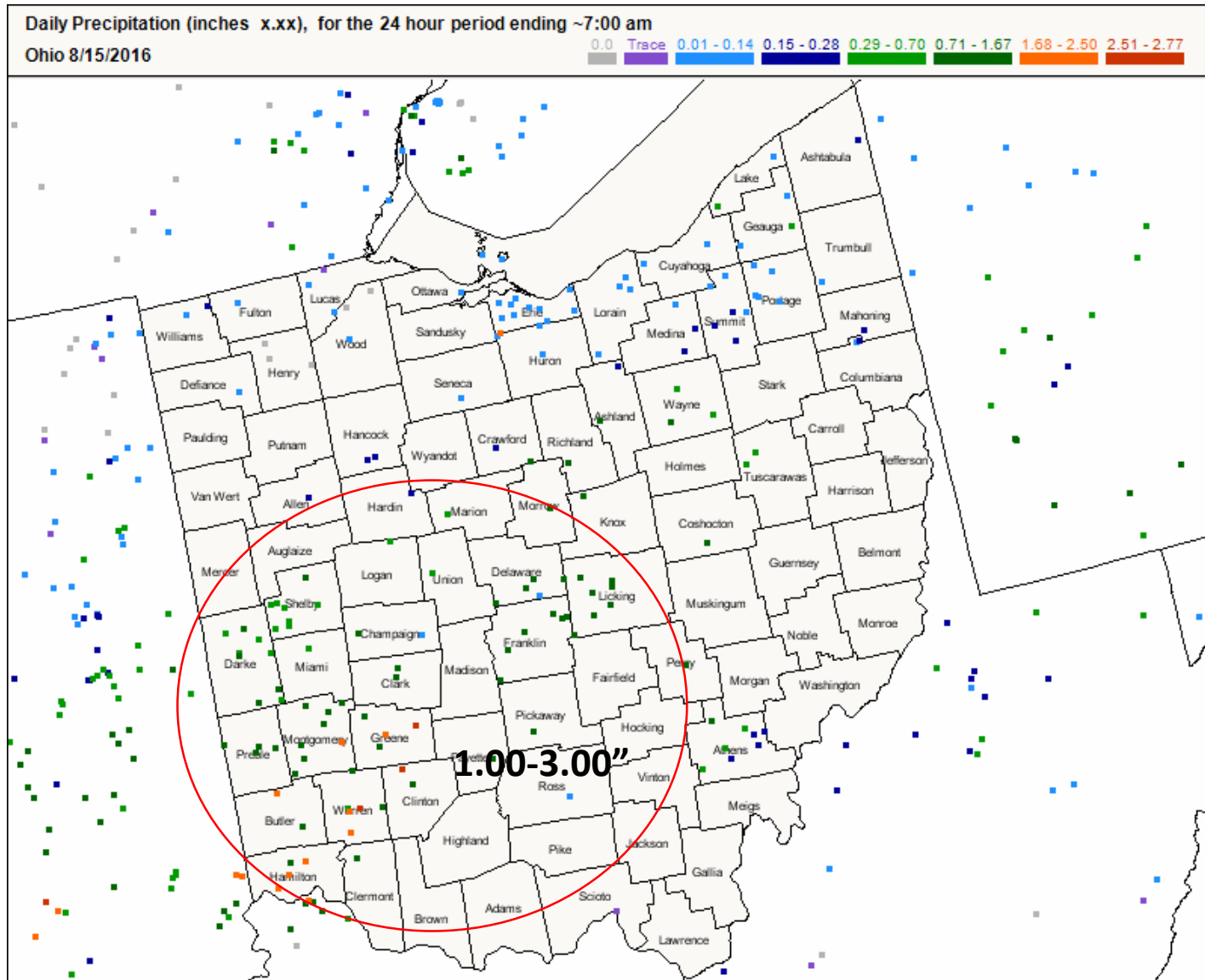
CoCoRaHS: 13 August



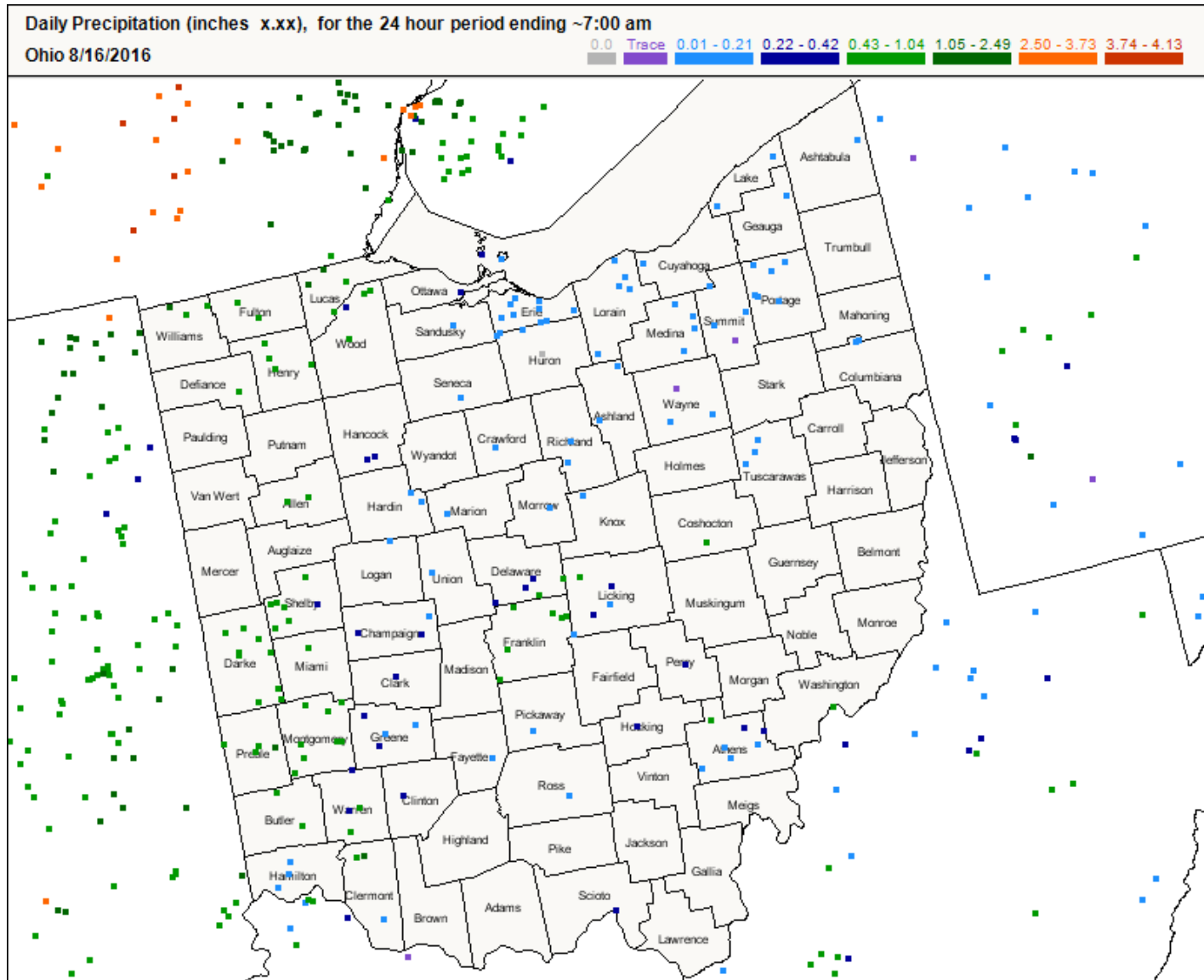
CoCoRaHS: 14 August



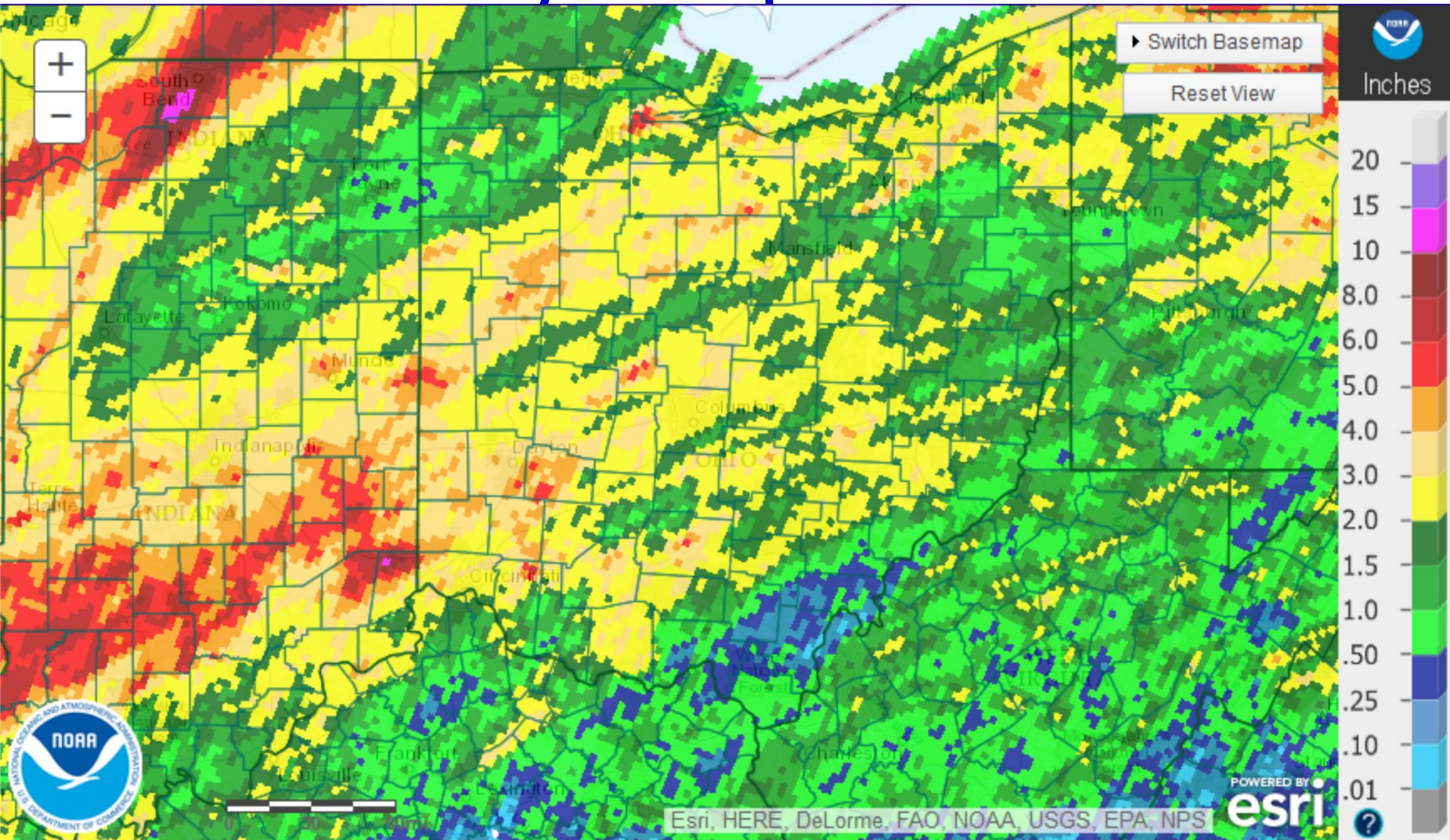
CoCoRaHS: 15 August



CoCoRaHS: 16 August



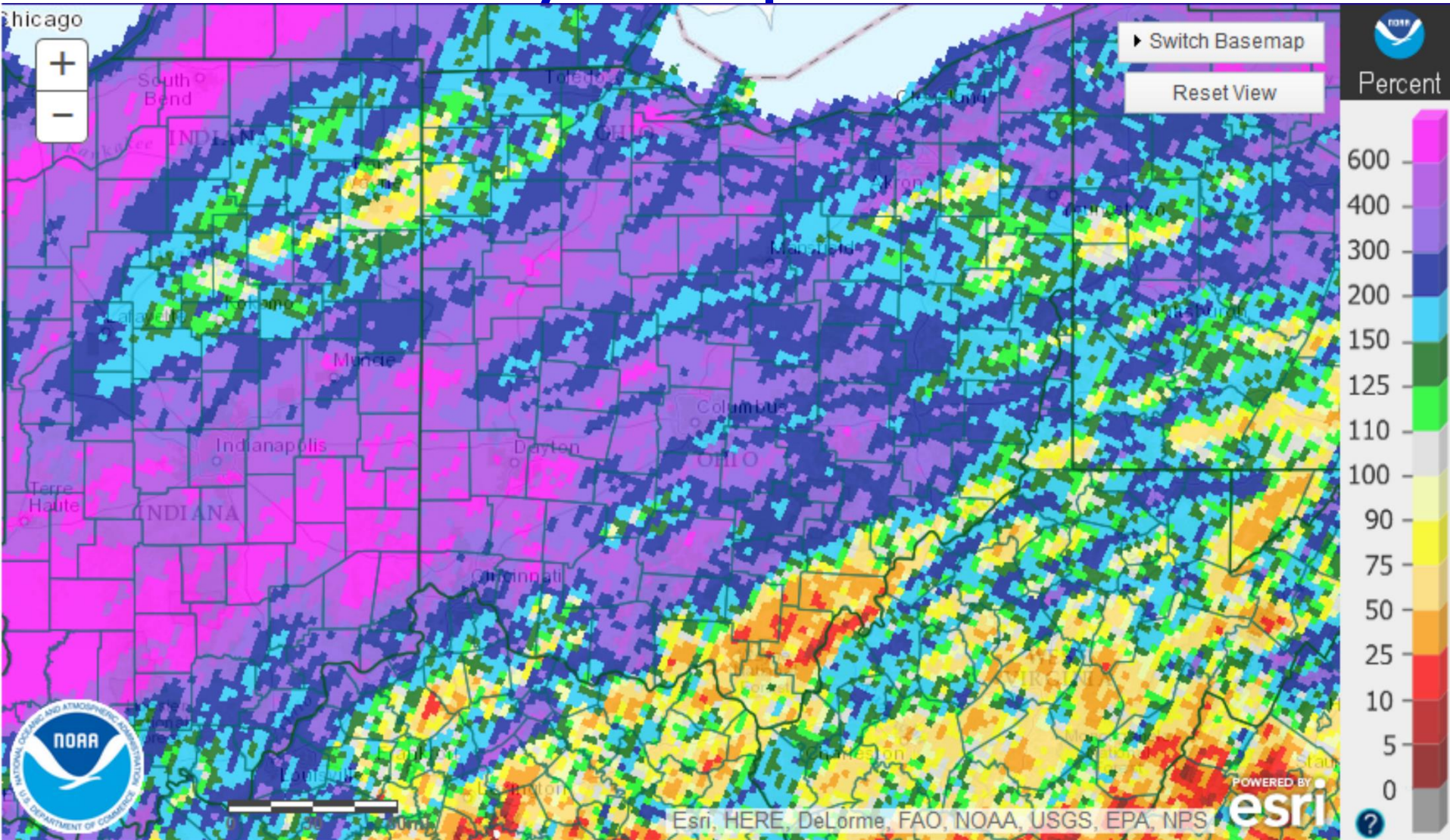
Previous 7-Day Precipitation Estimates



Total Observed



Previous 7-Day Precipitation Estimates



Percent of Normal



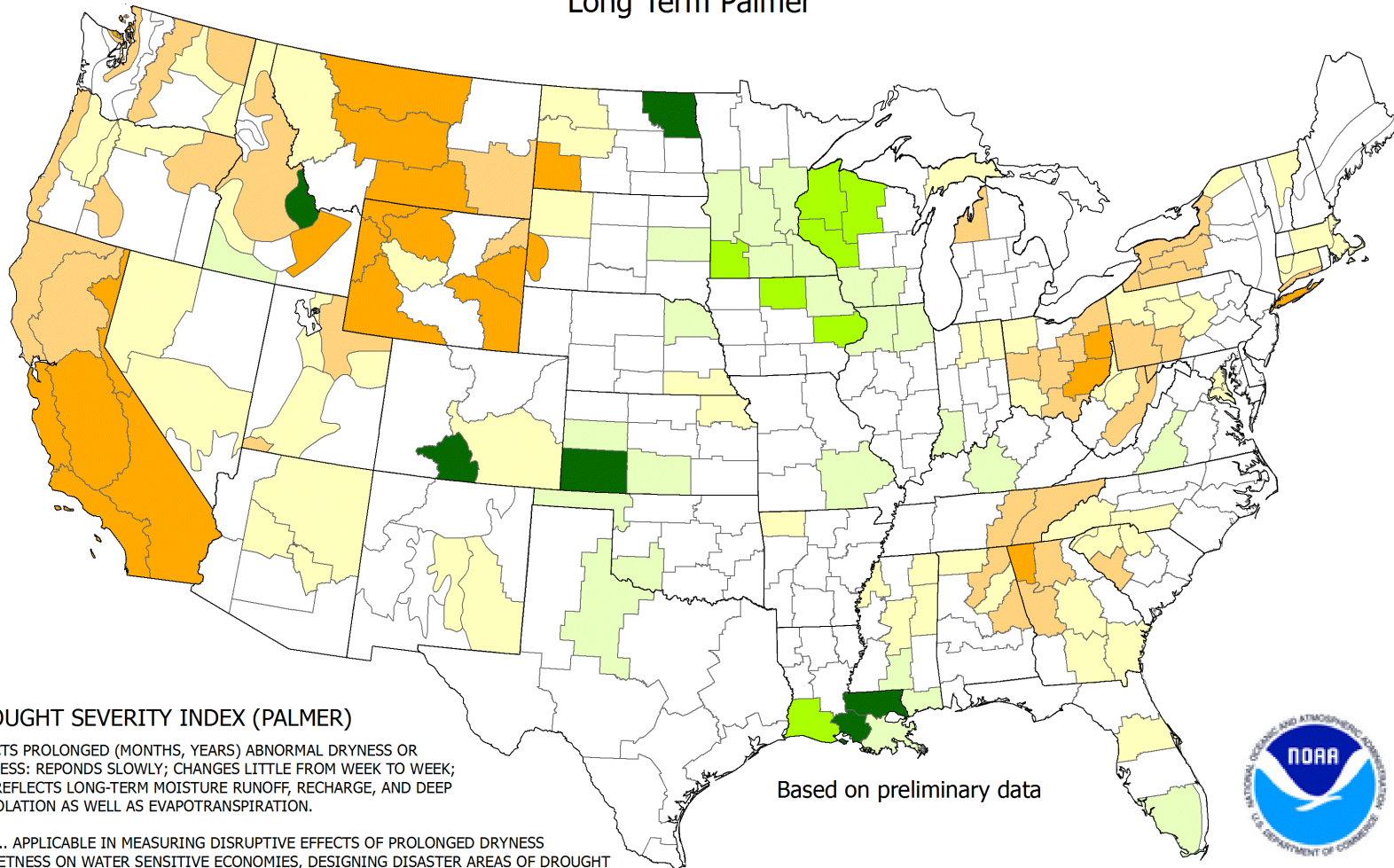


Drought Severity Index by Division

Weekly Value for Period Ending Aug 13, 2016

Long Term Palmer

PDSI



DROUGHT SEVERITY INDEX (PALMER)

DEPICTS PROLONGED (MONTHS, YEARS) ABNORMAL DRYNESS OR WETNESS; RESPONDS SLOWLY; CHANGES LITTLE FROM WEEK TO WEEK; AND REFLECTS LONG-TERM MOISTURE RUNOFF, RECHARGE, AND DEEP PERCOLATION AS WELL AS EVAPOTRANSPIRATION.

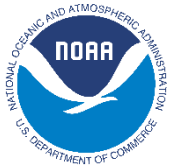
USES... APPLICABLE IN MEASURING DISRUPTIVE EFFECTS OF PROLONGED DRYNESS OR WETNESS ON WATER SENSITIVE ECONOMIES, DESIGNING DISASTER AREAS OF DROUGHT OR WETNESS; AND REFLECTING THE GENERAL LONG-TERM STATUS OF WATER SUPPLIES IN AQUIFERS, RESERVOIRS AND STREAMS.

LIMITATIONS... IS NOT GENERALLY INDICATIVE OFFSHORT-TERM (FEW WEEKS) STATUS OF DROUGHT OR WETNESS SUCH AS FREQUENTLY AFFECTS CROPS AND FIELD OPERATIONS (THIS IS INDICATED BY THE CROP MOISTURE INDEX).

Based on preliminary data

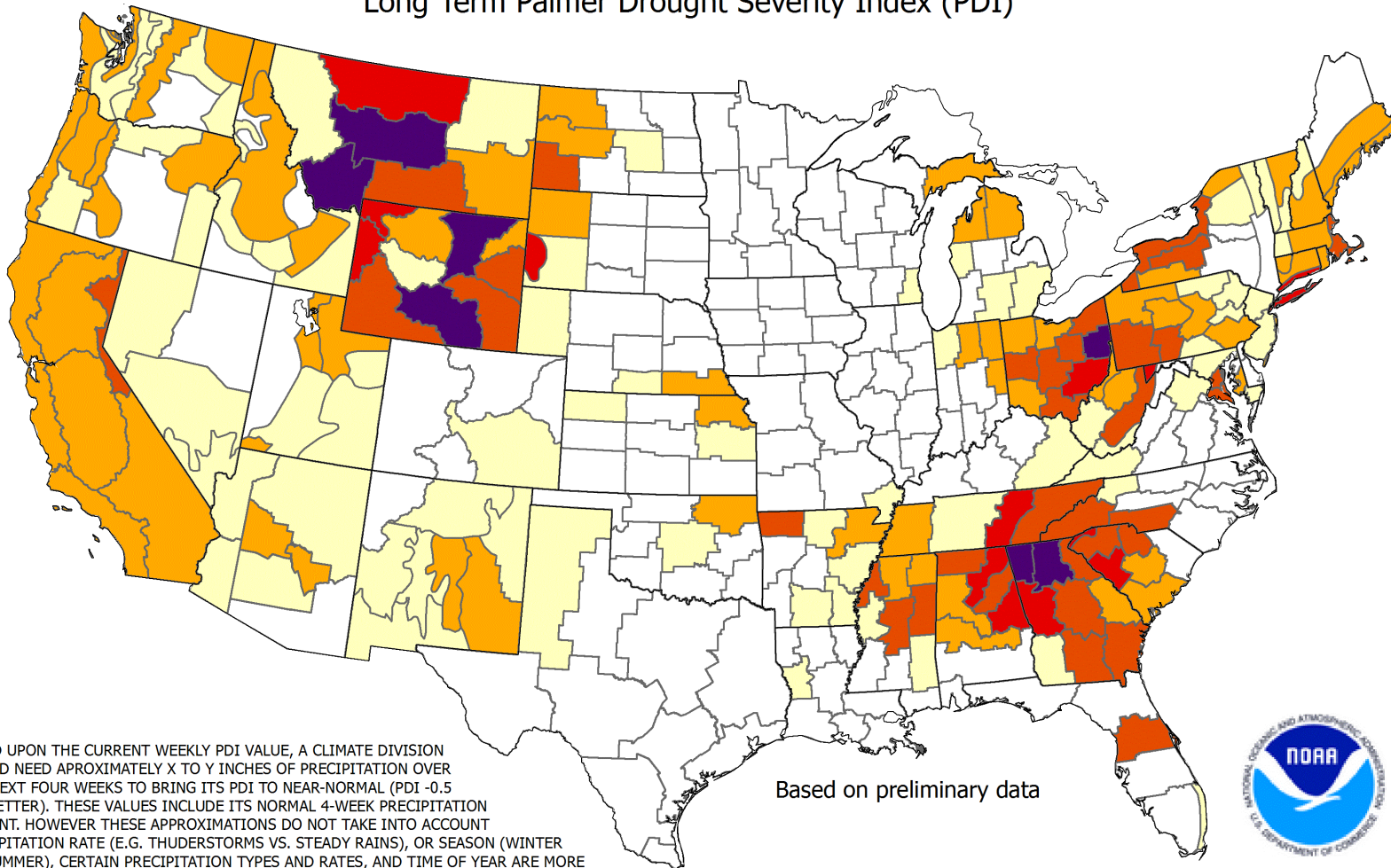


- | | |
|---------------------------------|------------------------------------|
| -4.0 or less (Extreme Drought) | +2.0 to +2.9 (Unusual Moist Spell) |
| -3.0 to -3.9 (Severe Drought) | +3.0 to +3.9 (Very Moist Spell) |
| -2.0 to -2.9 (Moderate Drought) | +4.0 and above (Extremely Moist) |
| -1.9 to +1.9 (Near Normal) | |



Additional Precip. Needed (In.) to bring PDI to -0.5 Weekly Value for Period Ending Aug 13, 2016 Long Term Palmer Drought Severity Index (PDI)

PDSI



Based on preliminary data



BASED UPON THE CURRENT WEEKLY PDI VALUE, A CLIMATE DIVISION WOULD NEED APPROXIMATELY X TO Y INCHES OF PRECIPITATION OVER THE NEXT FOUR WEEKS TO BRING ITS PDI TO NEAR-NORMAL (PDI -0.5 OR WETTER). THESE VALUES INCLUDE ITS NORMAL 4-WEEK PRECIPITATION AMOUNT. HOWEVER THESE APPROXIMATIONS DO NOT TAKE INTO ACCOUNT PRECIPITATION RATE (E.G. THUNDERSTORMS VS. STEADY RAINS), OR SEASON (WINTER VS. SUMMER), CERTAIN PRECIPITATION TYPES AND RATES, AND TIME OF YEAR ARE MORE CONDUCTIVE FOR AMELIORATING DROUGHT WHILE OTHERS MAY PRODUCE LESS DROUGHT REDUCTION (E.G. RUNOFF OR FROZEN GROUND).

UNCOLORED CLIMATE DIVISIONS ARE CURRENTLY AT NEAR-NORMAL TO MOIST PDI CONDITIONS. (EXAMPLE - IF 4-WEEK NORMAL PRECIPITATION IS 3 INCHES AND PDI DEFICIT TO BRING TO -0.5 IS 4 INCHES, THE VALUE IS 7)

- | | |
|-------------------|-----------------|
| Zero Inches | 9 to 12 Inches |
| Trace to 3 Inches | 12 to 15 Inches |
| 3 to 6 Inches | Over 15 Inches |
| 6 to 9 Inches | |

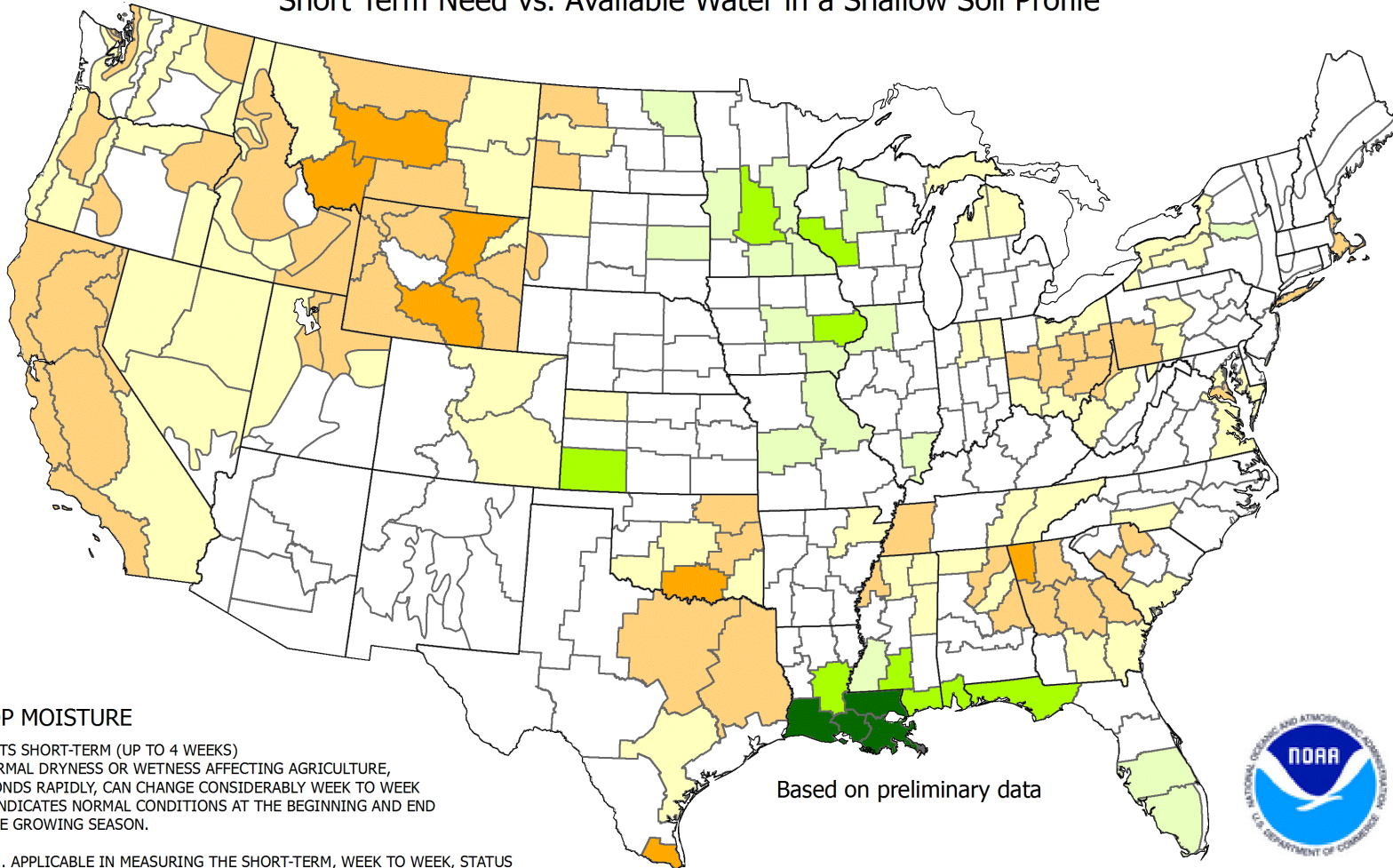


Crop Moisture Index by Division

Weekly Value for Period Ending Aug 13, 2016

Short Term Need vs. Available Water in a Shallow Soil Profile

CMI



CROP MOISTURE

DEPICTS SHORT-TERM (UP TO 4 WEEKS) ABNORMAL DRYNESS OR WETNESS AFFECTING AGRICULTURE, RESPONDS RAPIDLY, CAN CHANGE CONSIDERABLY WEEK TO WEEK AND INDICATES NORMAL CONDITIONS AT THE BEGINNING AND END OF THE GROWING SEASON.

USES... APPLICABLE IN MEASURING THE SHORT-TERM, WEEK TO WEEK, STATUS OF DRYNESS OR WETNESS AFFECTING WARM SEASON CROPS AND FIELD OPERATIONS

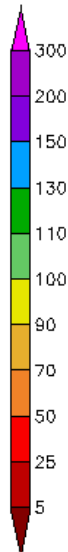
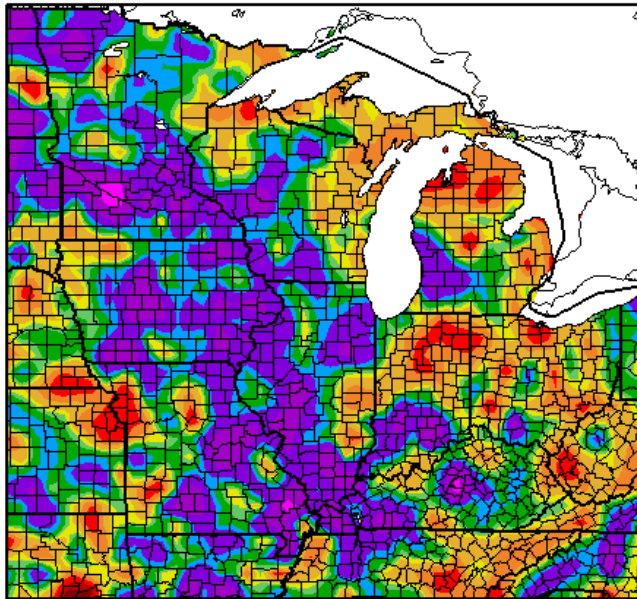
LIMITATIONS... MAY NOT BE APPLICABLE TO GERMINATING AND SHALLOW ROOTED CROPS WHICH ARE UNABLE TO EXTRACT THE DEEP OR SUBSOIL MOISTURE FROM A SHALLOW SOIL PROFILE, OR FOR COOL SEASON CROPS GROWING WHEN TEMPERATURES ARE AVERAGING BELOW ABOUT 55F. IT IS NOT GENERALLY INDICATIVE OF THE LONG-TERM (MONTHS, YEARS) DROUGHT OR WET SPELLS WHICH ARE DEPICTED BY THE DROUGHT SEVERITY INDEX.

Based on preliminary data



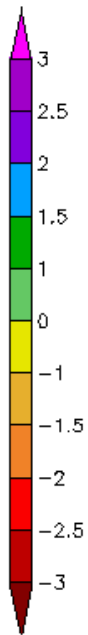
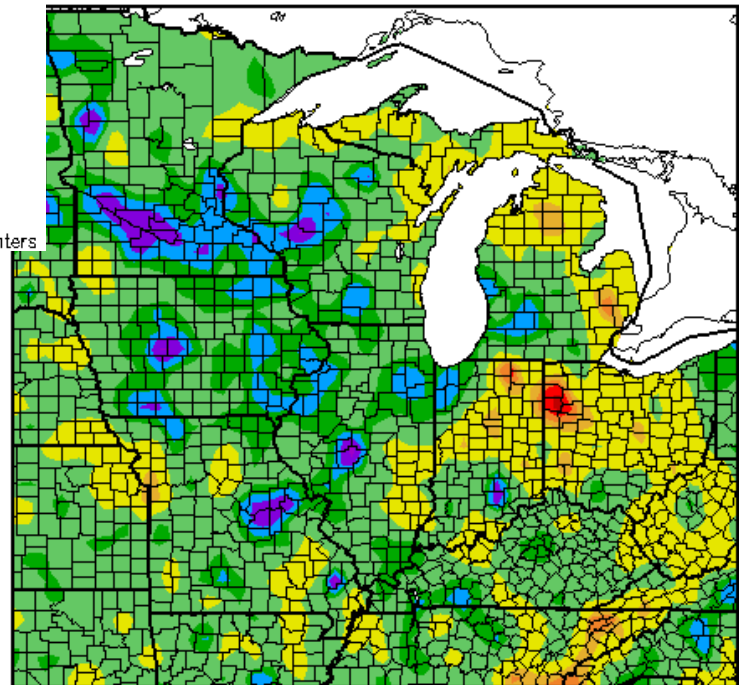
- | | |
|---|---------------------------------|
| -3.0 or less (Severly Dry) | +1.0 to +1.9 (Abnormally Moist) |
| -2.0 to -2.9 (Excessively Dry) | +2.0 to +3.0 (Wet) |
| -1.0 to -1.9 (Abnormally Dry) | 3.0 and above (Excessively Wet) |
| -0.9 to +0.9 (Slightly Dry/Favorably Moist) | |

Percent of Normal Precipitation (%)
7/16/2016 – 8/14/2016



Previous 30-Days

30 Day SPI
7/16/2016 – 8/14/2016

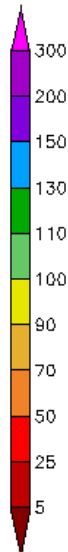
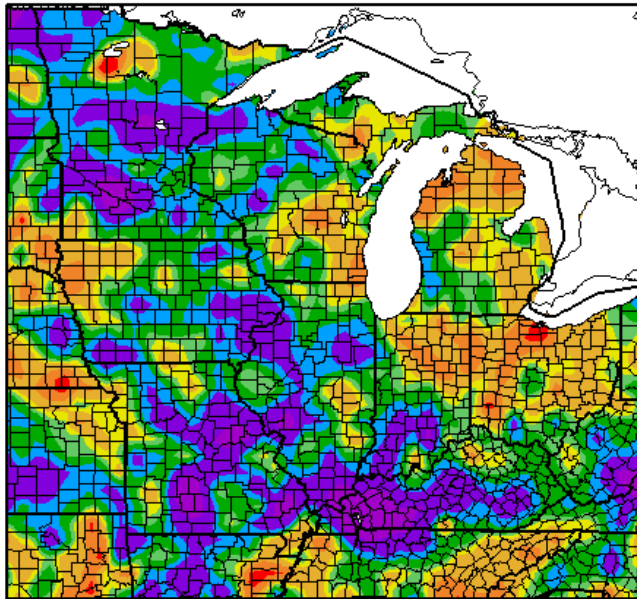


Generated 8/15/2016 at HPRCC using provisional data.

Regional Climate Centers

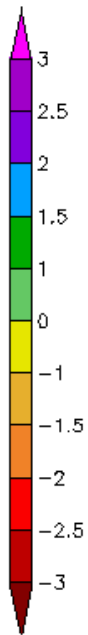
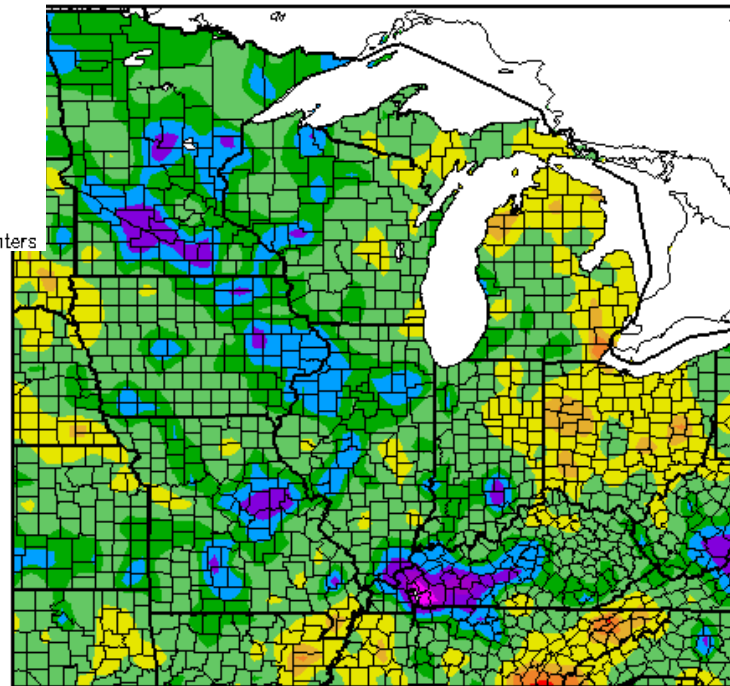
The Standardized Precipitation Index (SPI) indicates how unusual the amount of accumulated precipitation is, compared to the historical record over a given time scale.

Percent of Normal Precipitation (%)
6/16/2016 – 8/14/2016



Previous 60-Days

60 Day SPI
6/16/2016 – 8/14/2016



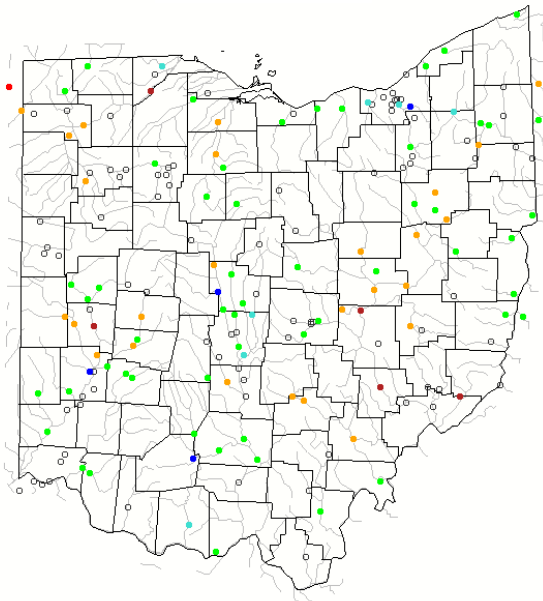
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Regional Climate Centers

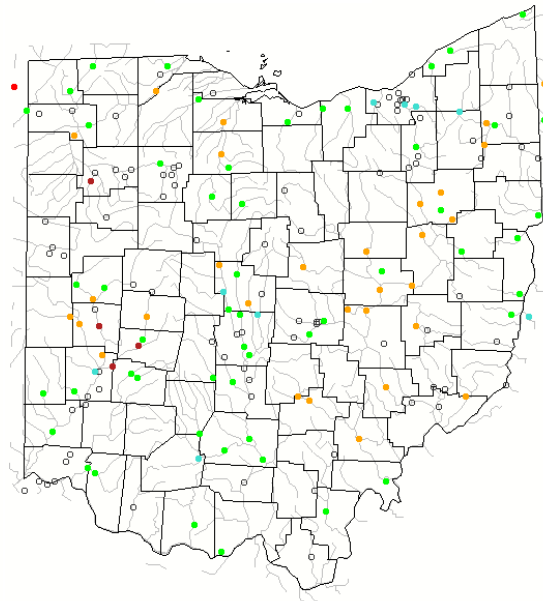
The Standardized Precipitation Index (SPI) indicates how unusual the amount of accumulated precipitation is, compared to the historical record over a given time scale.

USGS Streamflow

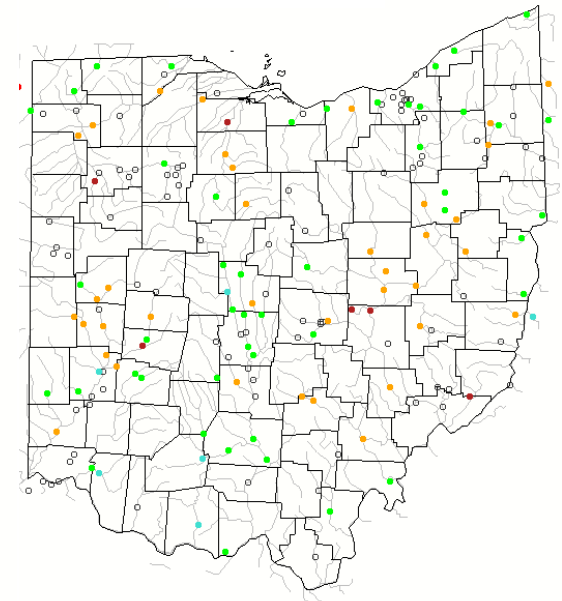
7-DAY



14-DAY



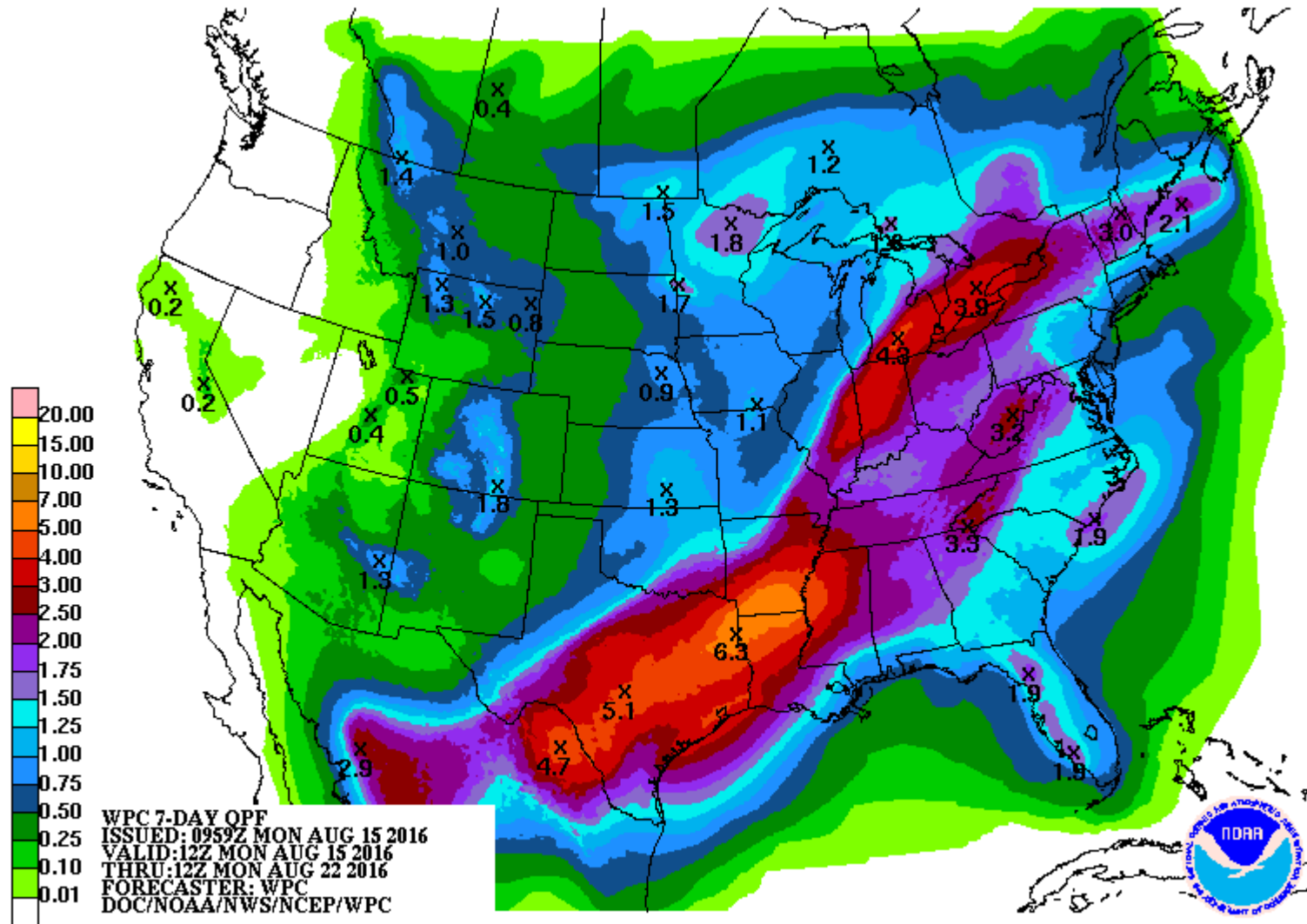
28-DAY



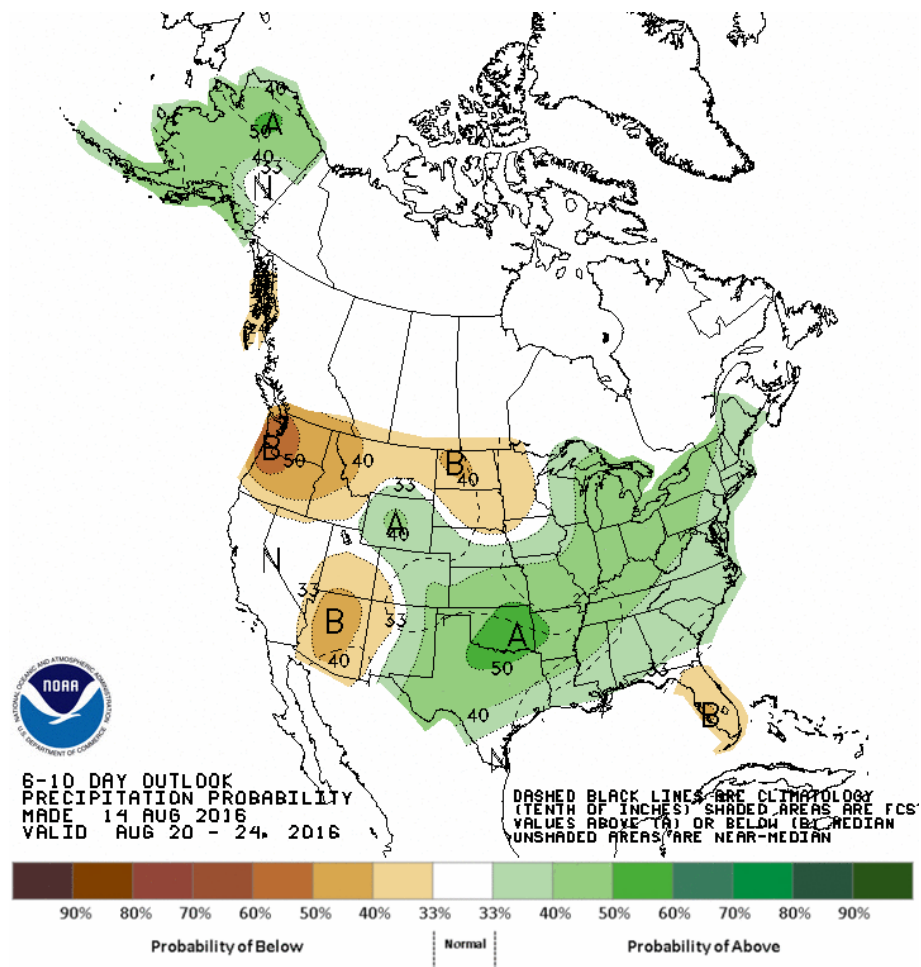
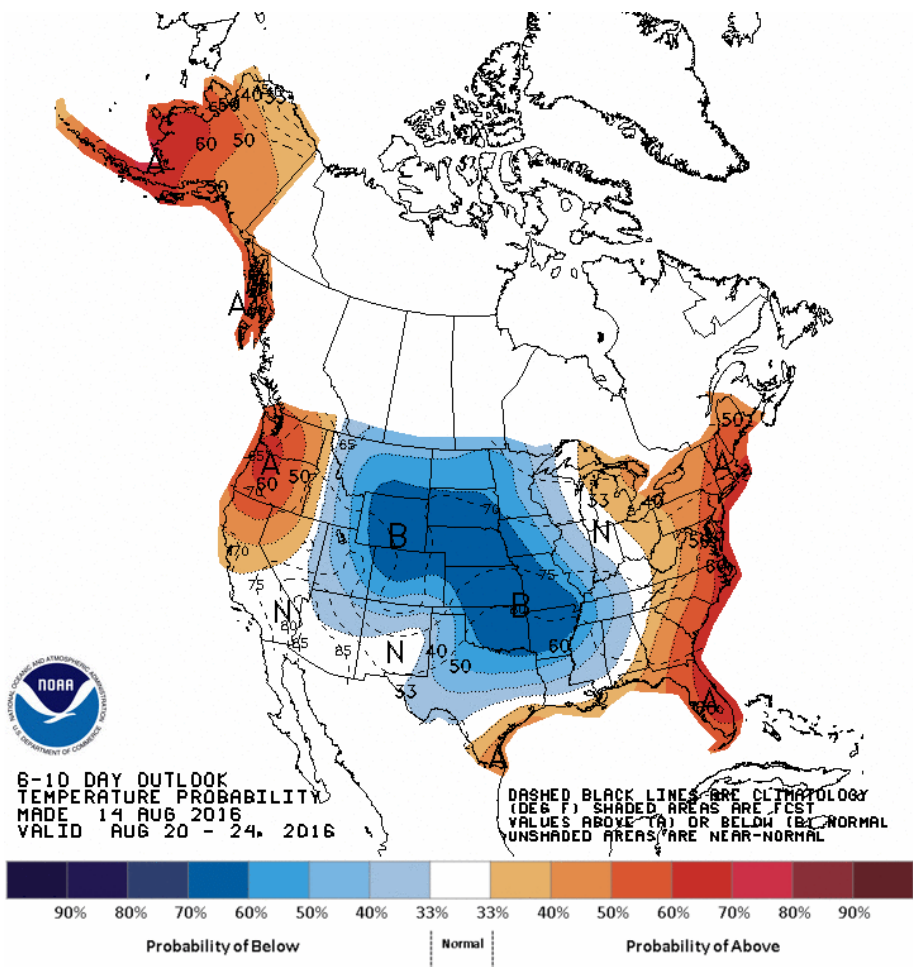
Explanation - Percentile classes							
Low	<10 Much below normal	10-24 Below normal	25-75 Normal	76-90 Above normal	>90 Much above normal	High	Not-ranked

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

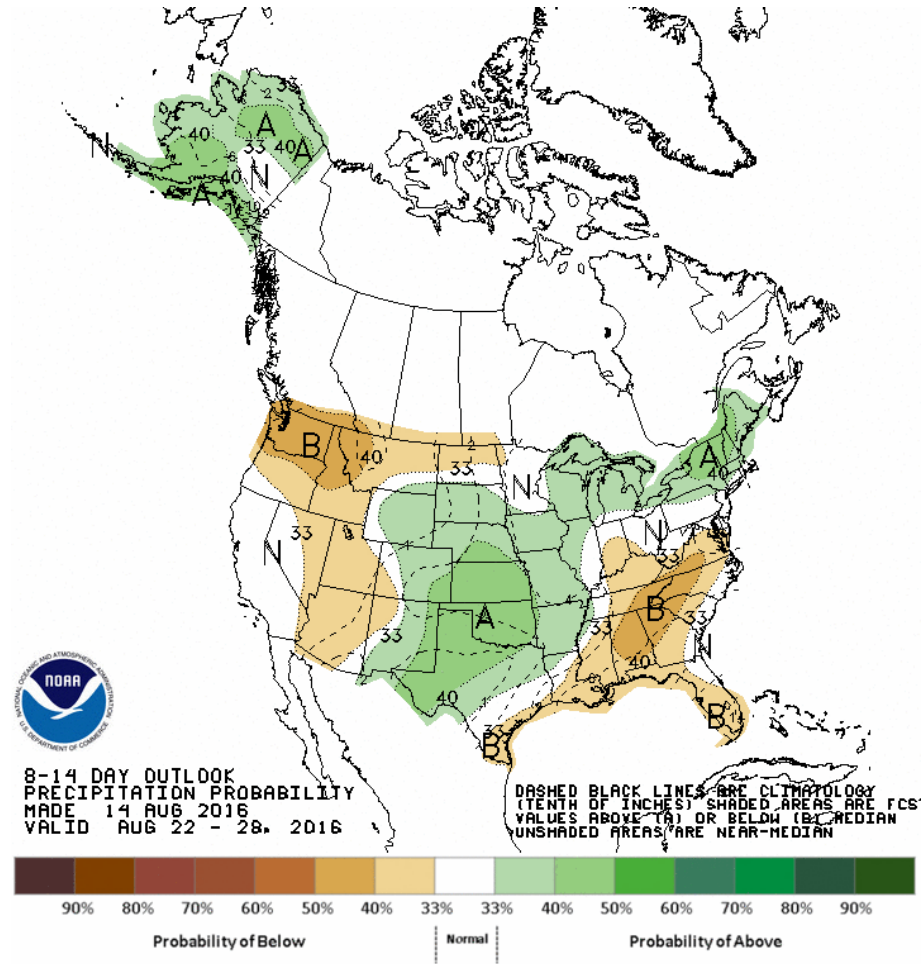
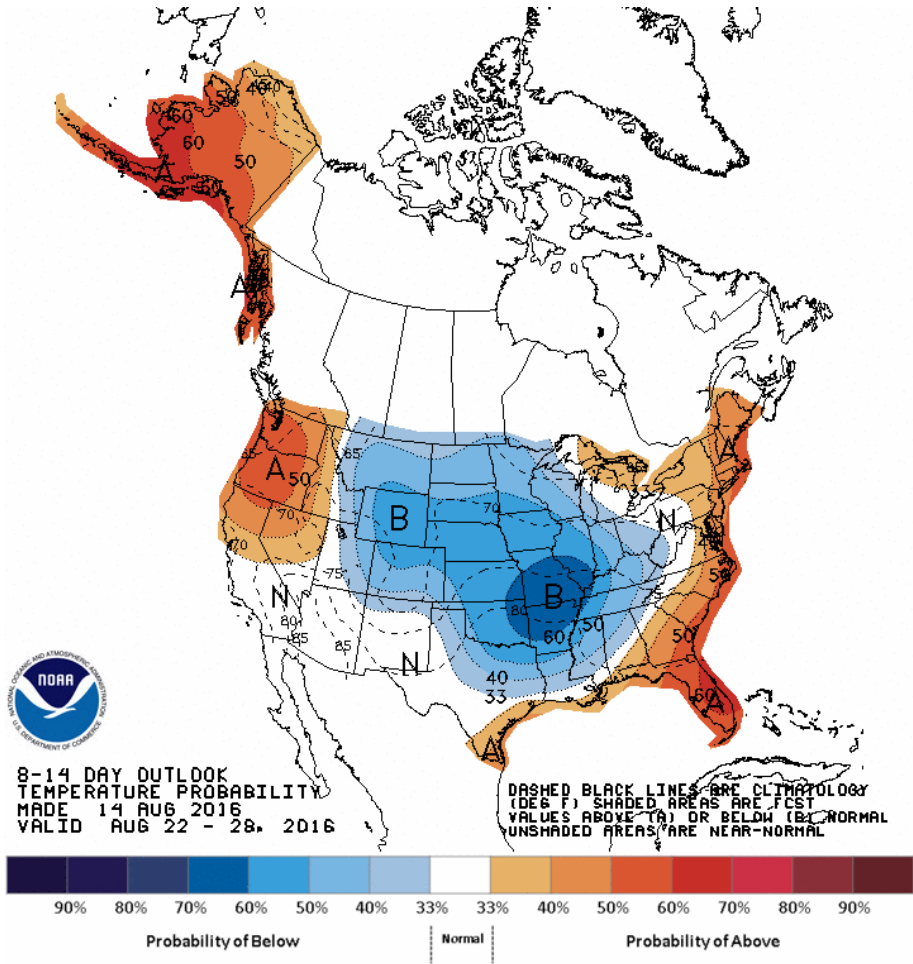
Weather for the Week Ahead



6-10 Day Outlook



8-14 Day Outlook



SUMMARY OF CONDITIONS

• Current

- Drought Monitor: D2 went into effect for the N. Miami and Scioto Basins last week
 - 7-day Precipitation: Widespread rainfall this week above 2” across the western 2/3 of the state
 - Weekly Palmer Drought Severity Index: E and SE in Extreme Drought conditions where more that 12” needed to bring up to neutral
 - Crop Moisture Index: Some improvement across the northern climate divisions
 - 30-Day precipitation: 5-25% of normal for west, north, and east with locally improving conditions
 - Standard Precipitation Index: Lowest values in W. Central, E. Central, and Northern Ohio – values as low as -3
- **1 Category improvement for most of the state**
 - **Need to watch carefully the conditions across the east**