

# Hydrologic and Climate Assessment

October 29, 2019



Photo Courtesy of Mary Griffith



THE OHIO STATE UNIVERSITY

**Aaron B. Wilson**

STATE CLIMATE OFFICE OF OHIO (SCOO)

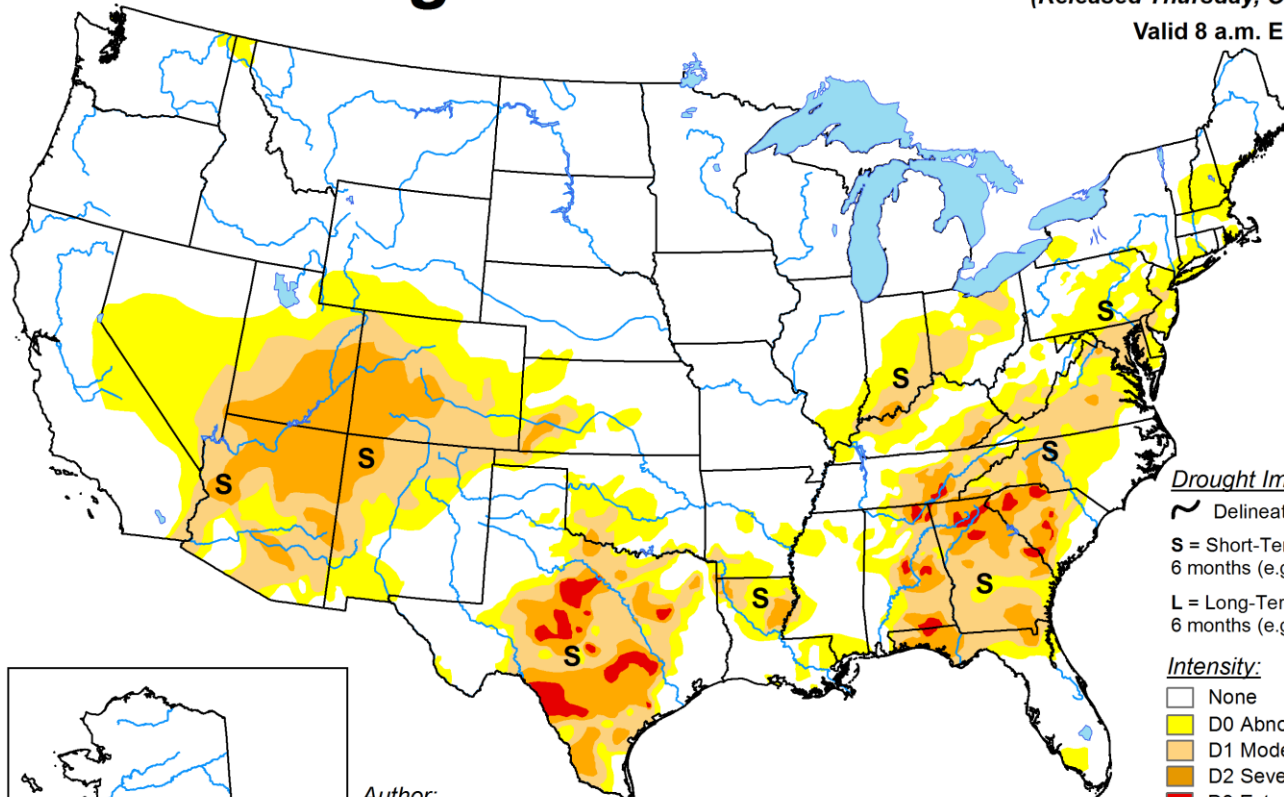
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# U.S. Drought Monitor

October 22, 2019  
 (Released Thursday, Oct. 24, 2019)  
 Valid 8 a.m. EDT



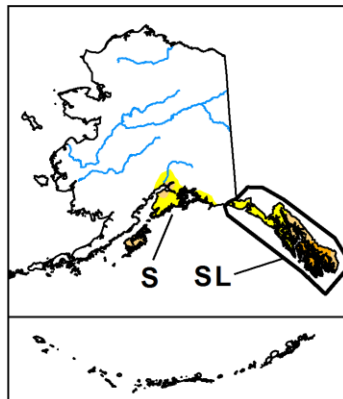
**Drought Impact Types:**

- ~ 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)

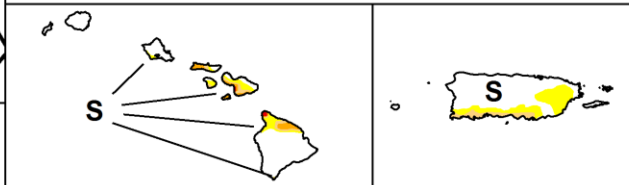
**Intensity:**

- None
- 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.



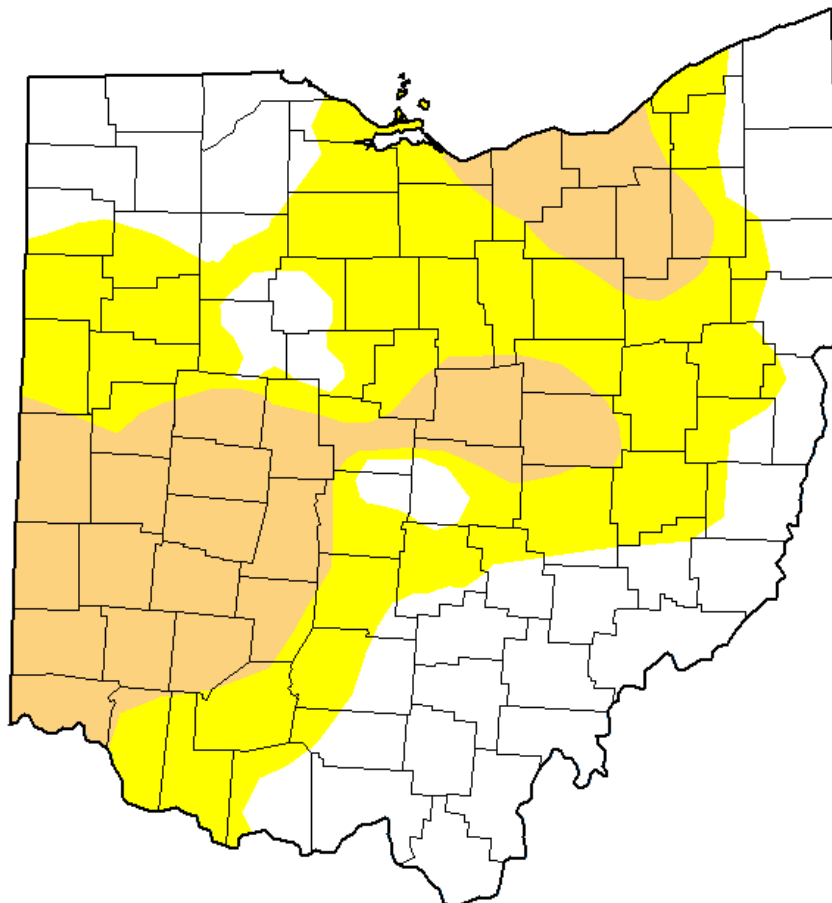
Author:  
 Richard Heim  
 NCEI/NOAA



[droughtmonitor.unl.edu](http://droughtmonitor.unl.edu)

# U.S. Drought Monitor Ohio

**October 22, 2019**  
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*Drought Conditions (Percent Area)*

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
<b>Current</b>	36.38	63.62	26.05	0.00	0.00	0.00
<b>Last Week</b> <i>10-15-2019</i>	31.60	68.40	26.05	0.00	0.00	0.00
<b>3 Months Ago</b> <i>07-23-2019</i>	100.00	0.00	0.00	0.00	0.00	0.00
<b>Start of Calendar Year</b> <i>01-01-2019</i>	100.00	0.00	0.00	0.00	0.00	0.00
<b>Start of Water Year</b> <i>10-01-2019</i>	19.41	80.59	12.37	0.00	0.00	0.00
<b>One Year Ago</b> <i>10-23-2018</i>	100.00	0.00	0.00	0.00	0.00	0.00

Intensity:

- None
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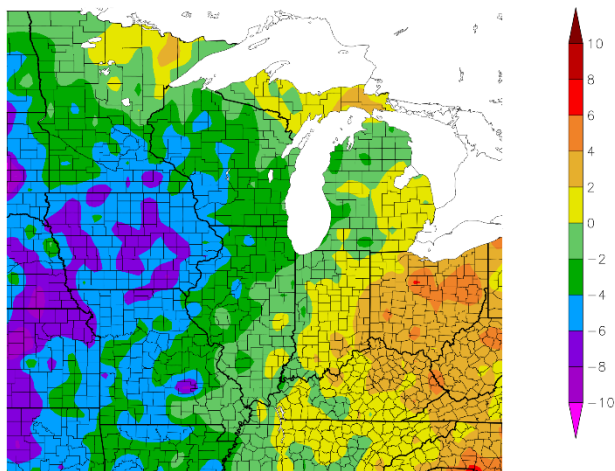


[droughtmonitor.unl.edu](http://droughtmonitor.unl.edu)

# Temperature Differences Compared to Average (1981-2010)

**7-Day**

Departure from Normal Temperature (F)  
10/22/2019 – 10/28/2019

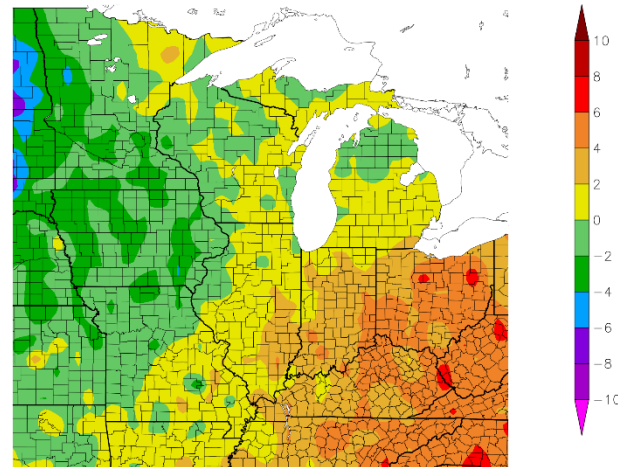


Generated 10/29/2019 at HPRCC using provisional data.

NOAA Regional Climate Centers

**30-Day**

Departure from Normal Temperature (F)  
9/29/2019 – 10/28/2019

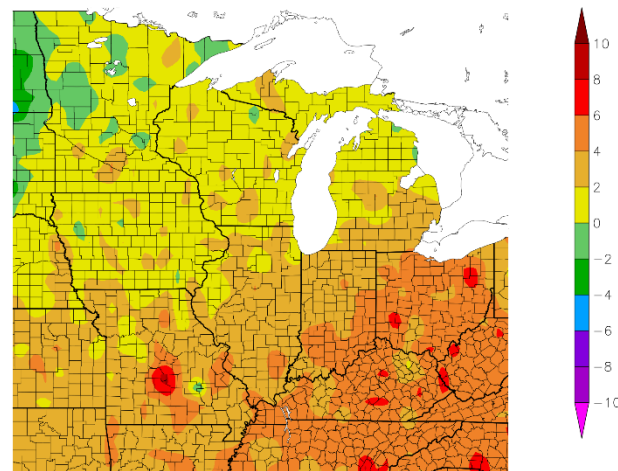


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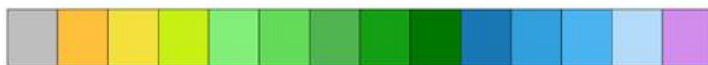
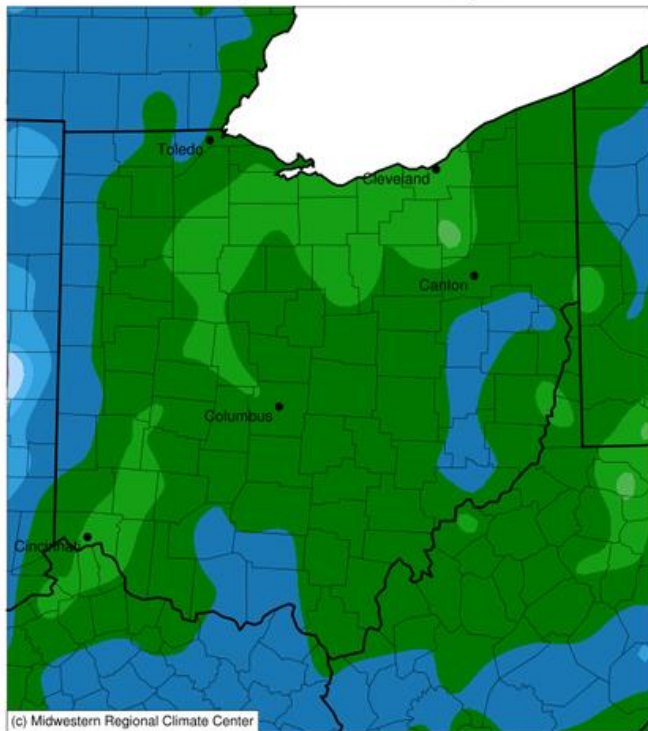
**60-Day**

Departure from Normal Temperature (F)  
8/30/2019 – 10/28/2019



# This Week's Precipitation

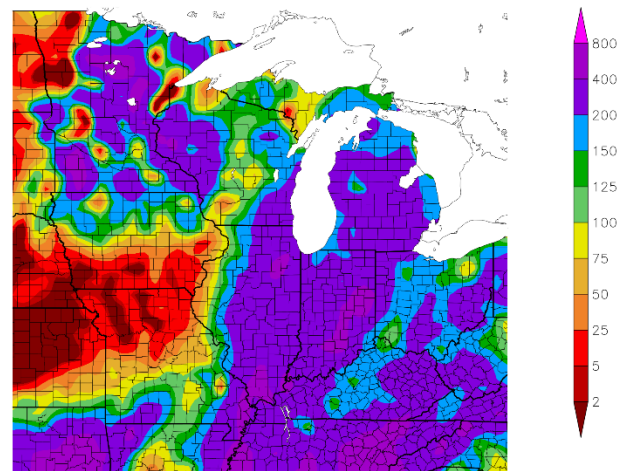
**Accumulated Precipitation (in)**  
October 22, 2019 to October 28, 2019



0.01 0.05 0.1 0.2 0.3 0.5 0.75 1 1.5 2 2.5 3 4  
Stations from the following networks used: WBAN, COOP, FAA, GHCN, ThreadEx, CoCoRaHS, WMO, ICAO, NWSLI, Midwestern Regional Climate Center  
cli-MATE: MRCC Application Tools Environment  
Generated at: 10/29/2019 1:51:08 PM CDT

## 7-Day

**Percent of Normal Precipitation (%)**  
10/22/2019 – 10/28/2019



Generated 10/29/2019 at: MRCC using provisional data.

NOAA Regional Climate Centers

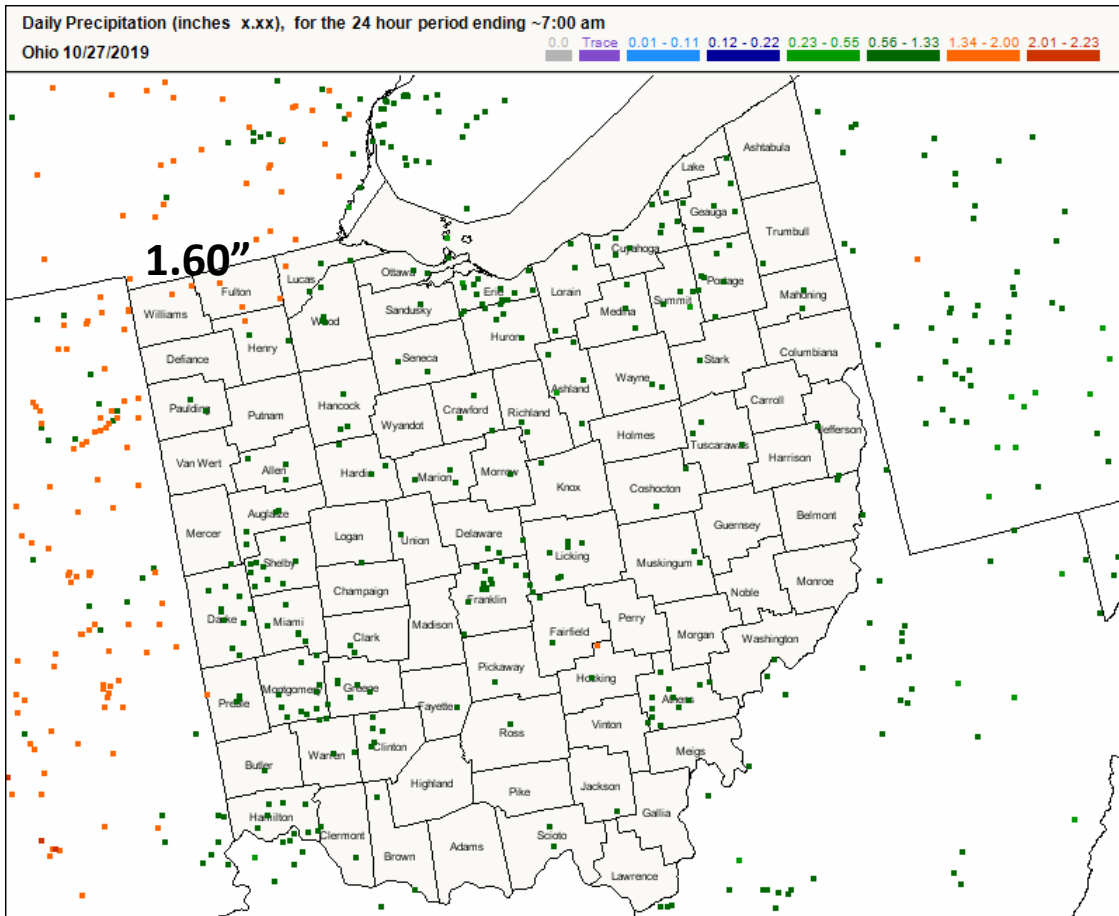


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# CoCoRaHS

## Driest since Aug 1

Cheviot: 55.09" since Jan 1



<https://cocorahs.org/>

CoCoRaHS Name	Total Precip (inches)
Huber Heights 1.8 NNW	4.06
Greenville 1.6 NNW	4.48
Raymond 3.5 NW	4.69
Greenville 4.5 N	4.89
Xenia 2.1 NNE	5.1
Arcanum 4.1 ENE	5.21
Xenia 2.8 SW	5.3
Kettering 0.2 ESE	5.33
Union 1.0 WSW	5.43
Centerville 3.9 S	5.48



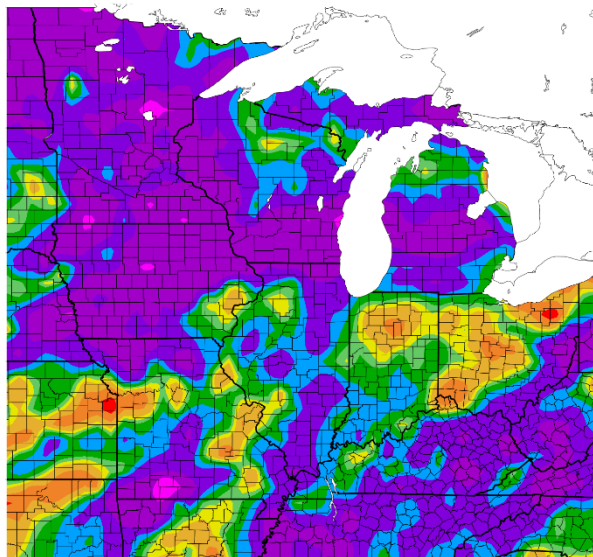
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# Precipitation Differences Compared to Average (1981-2010)

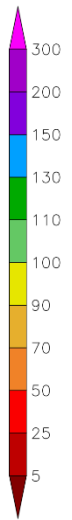
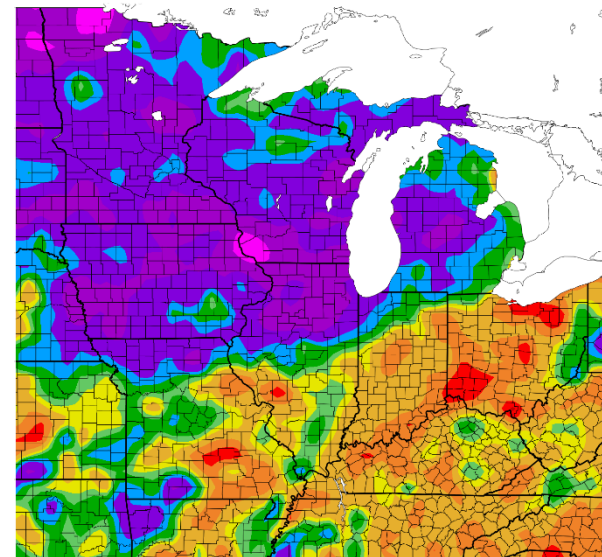
## 30-Day

Percent of Normal Precipitation (%)  
9/29/2019 – 10/28/2019



## 60-Day

Percent of Normal Precipitation (%)  
8/30/2019 – 10/28/2019



Generated 10/29/2019 at HPRCC using provisional data.

NOAA Regional Climate Centers

Generated 10/29/2019 at HPRCC using provisional data.

NOAA Regional Climate Centers

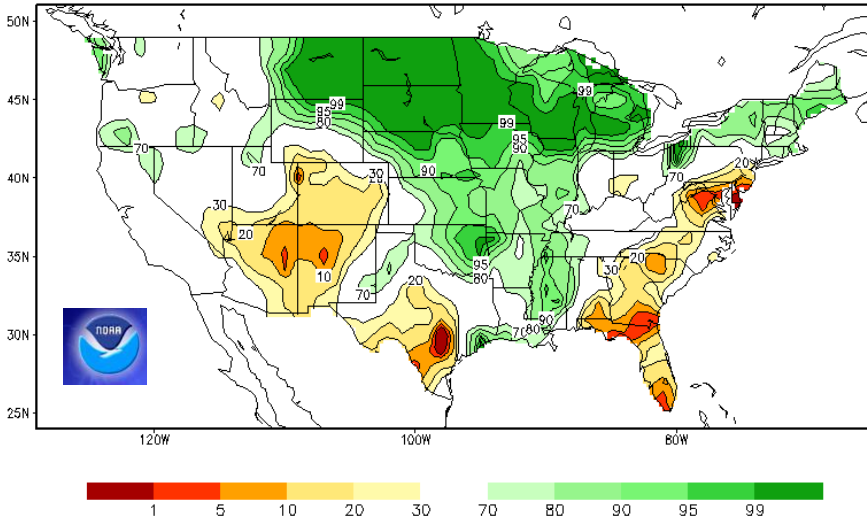


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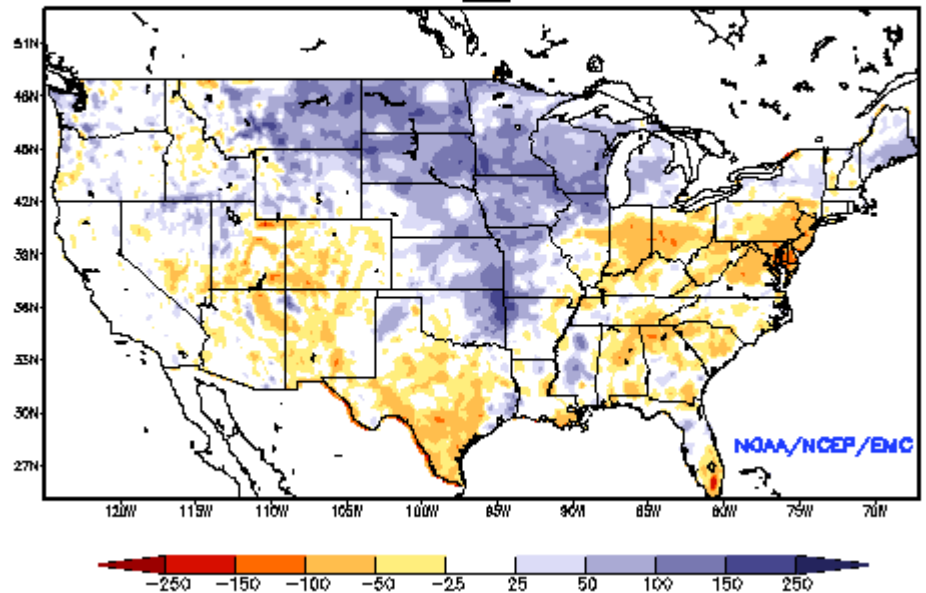
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# Soil Moisture

Calculated Soil Moisture Ranking Percentile  
OCT 28, 2019



Ensemble-Mean - Current Total Column Soil Moisture Anomaly (mm)  
NCEP NLDAS Products Valid: OCT 25, 2019



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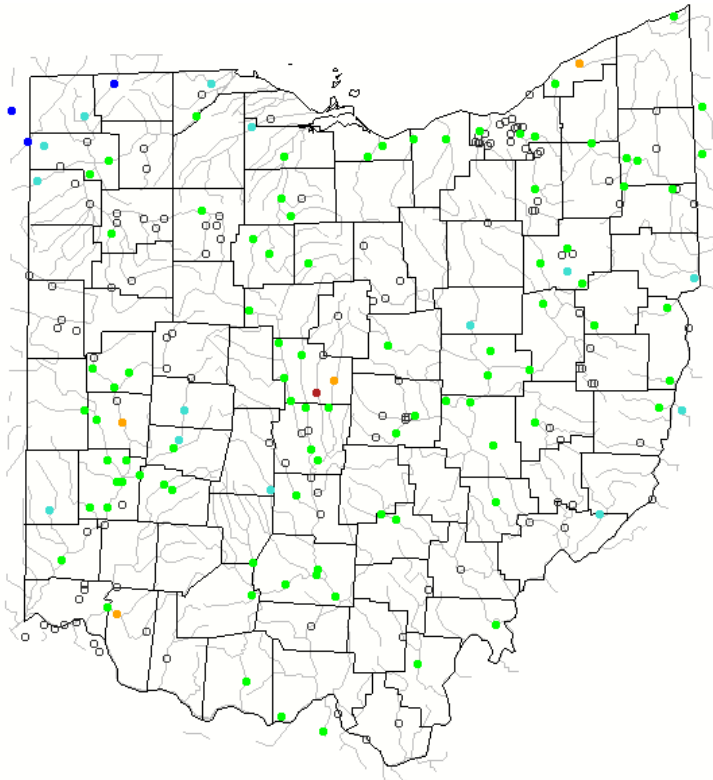
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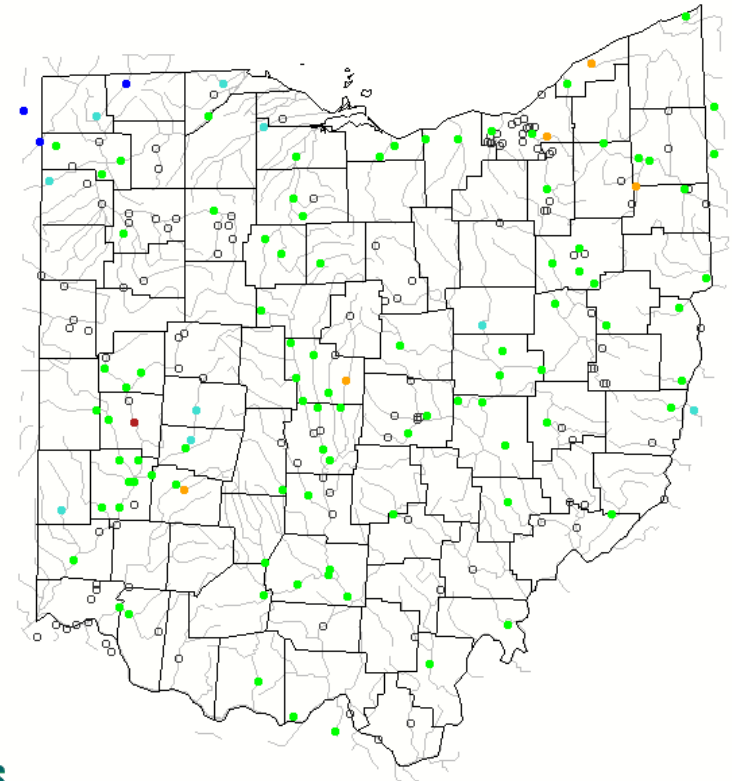


7-DAY



# USGS Streamflow

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



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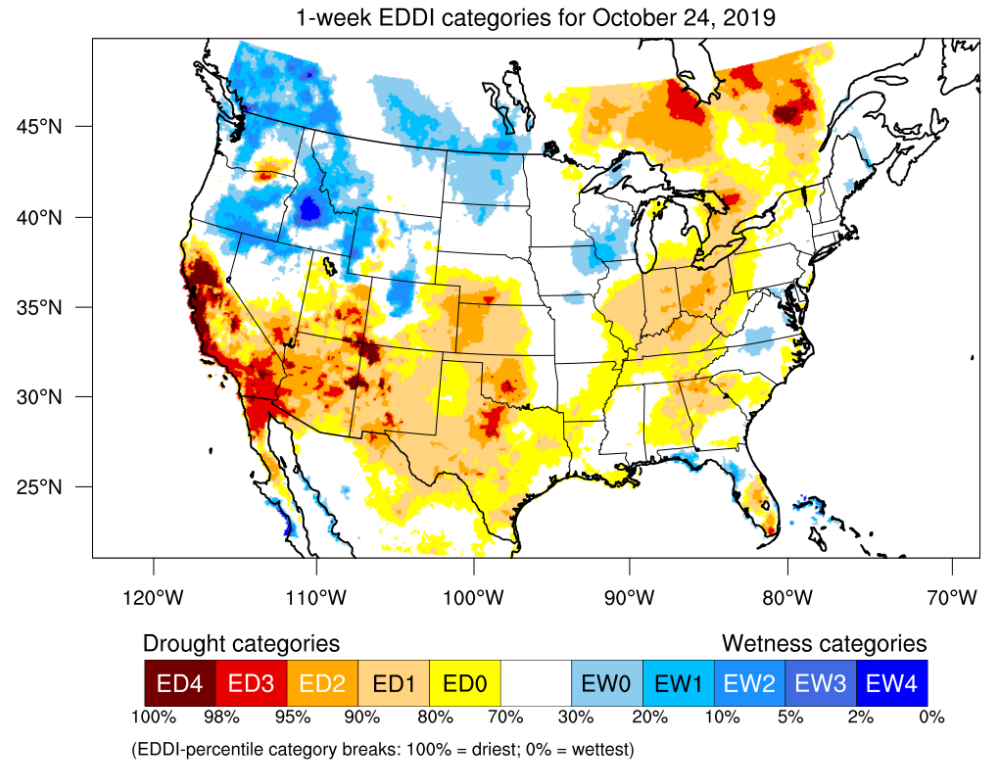
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# Evaporative Demand Drought Index

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.



Generated by NOAA/ESRL/Physical Sciences Division

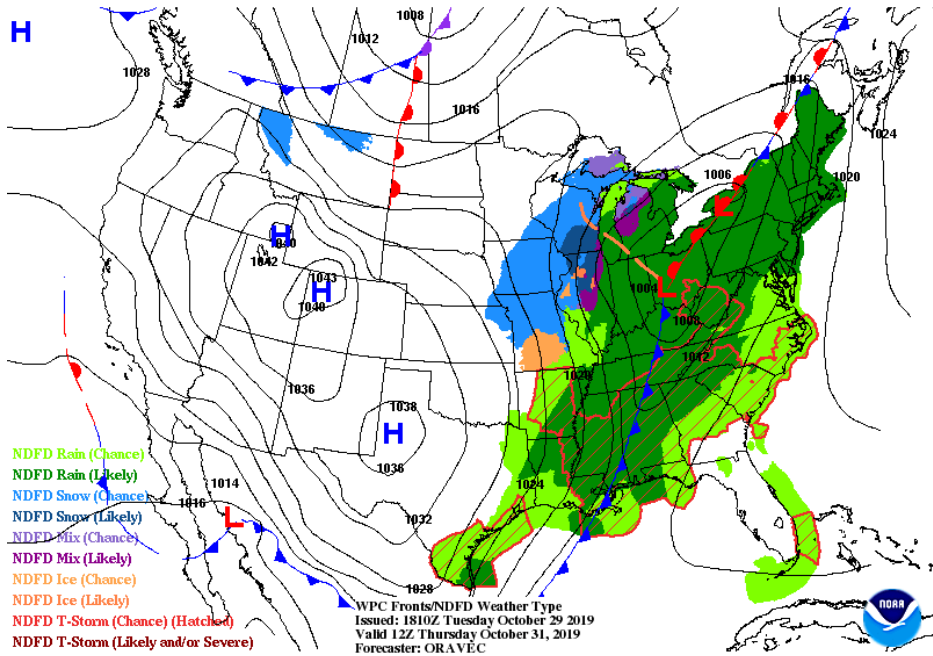
Image provided by the NOAA/ESRL Physical Sciences Division, Boulder, Colorado, from their web site at: <https://www.esrl.noaa.gov/psd/>.



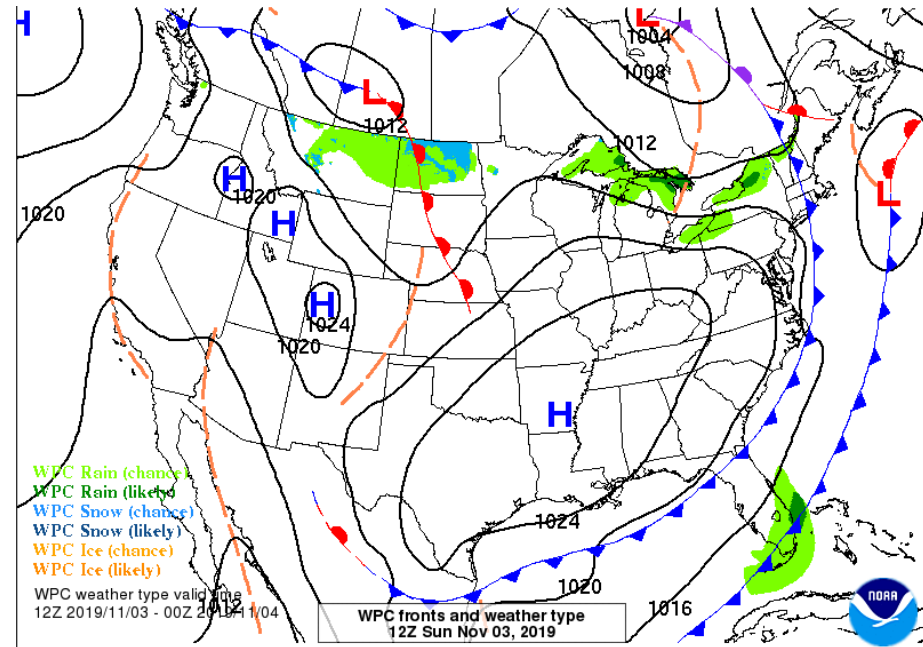
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# Weather for the Week Ahead



Thursday



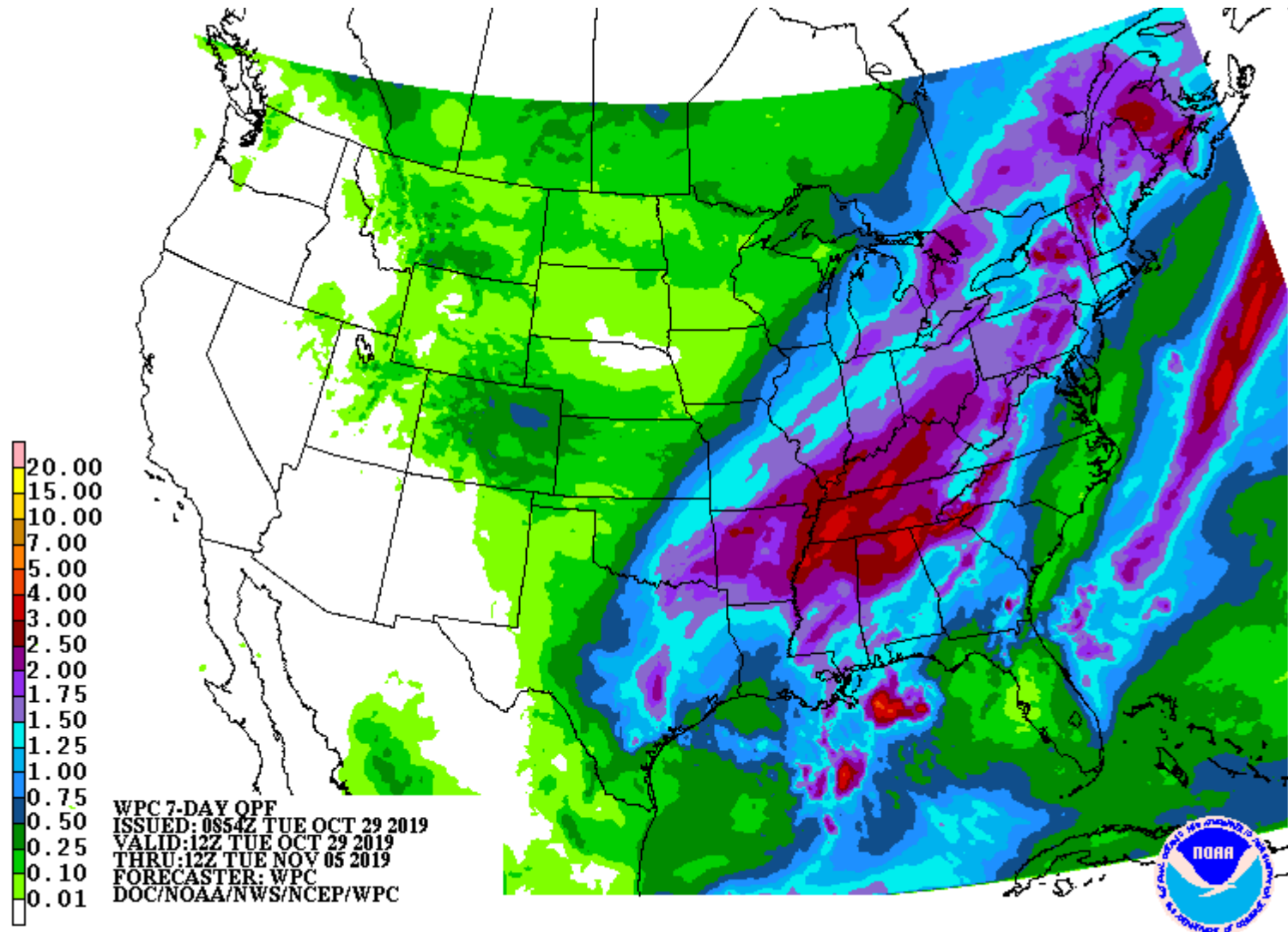
Sunday



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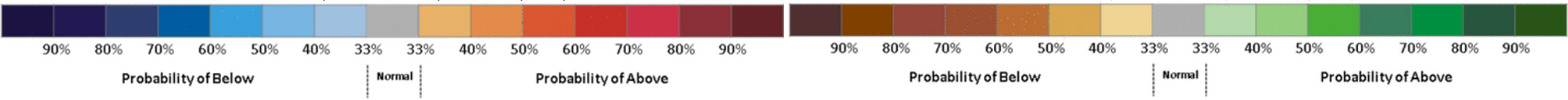
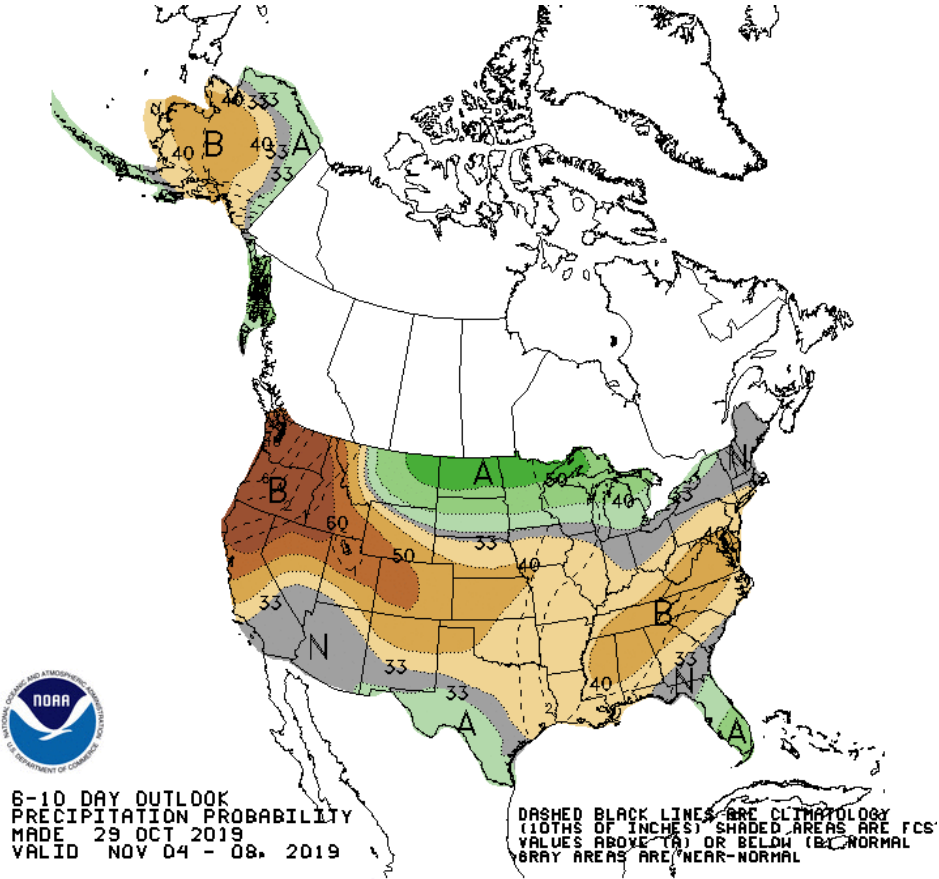
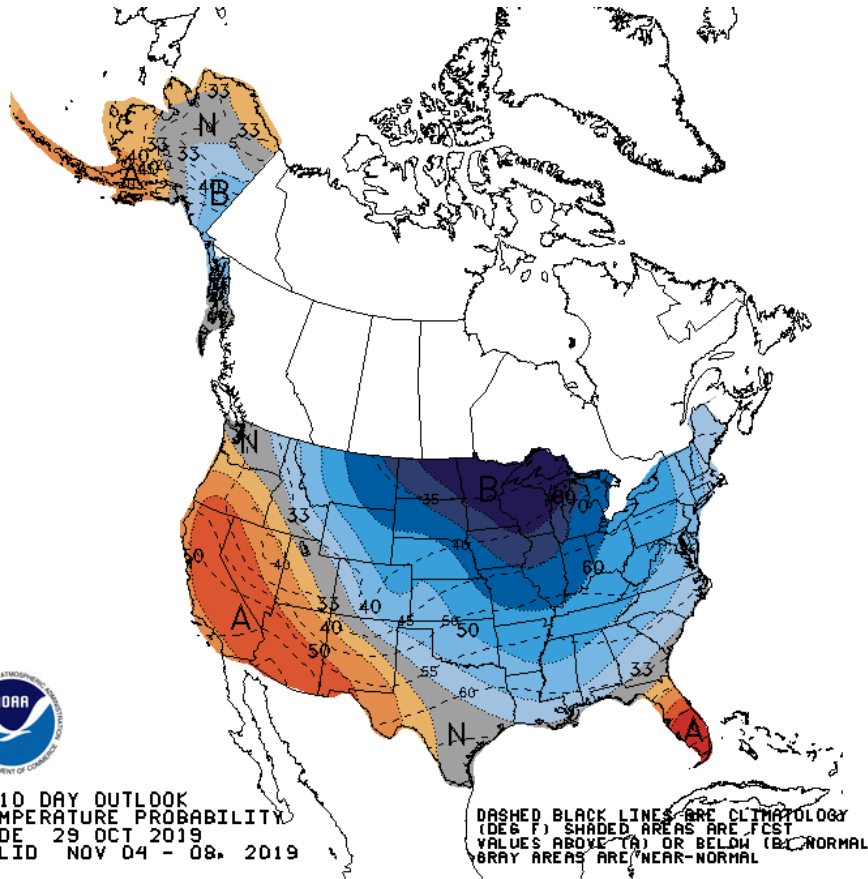
# Weather for the Week Ahead



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# 6-10 Day Outlook



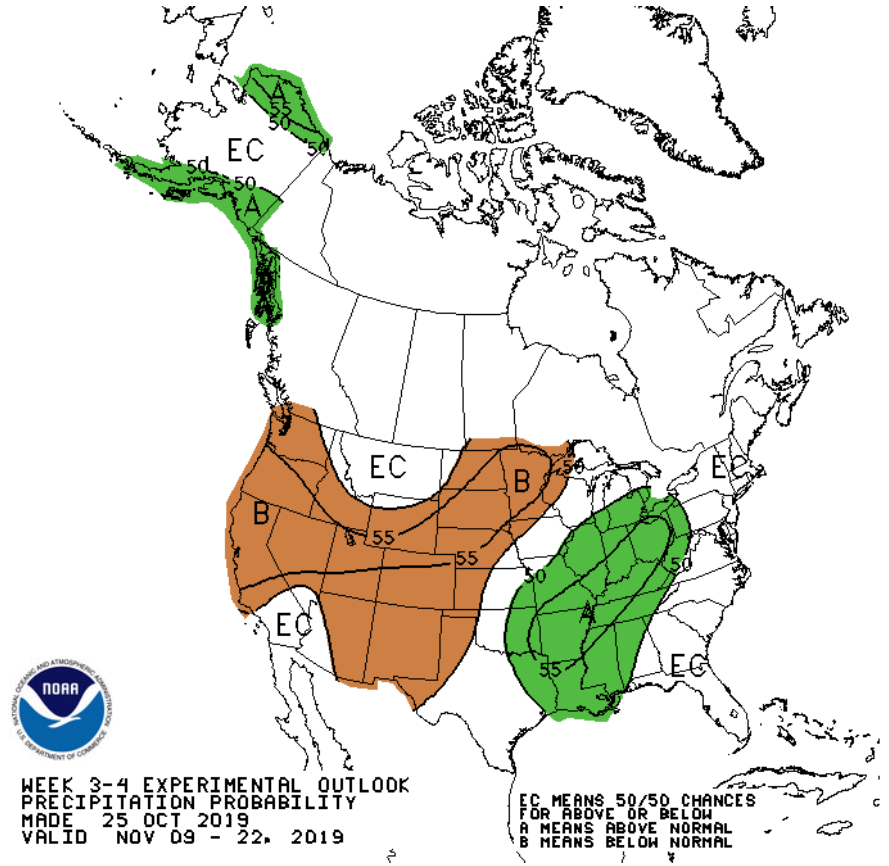
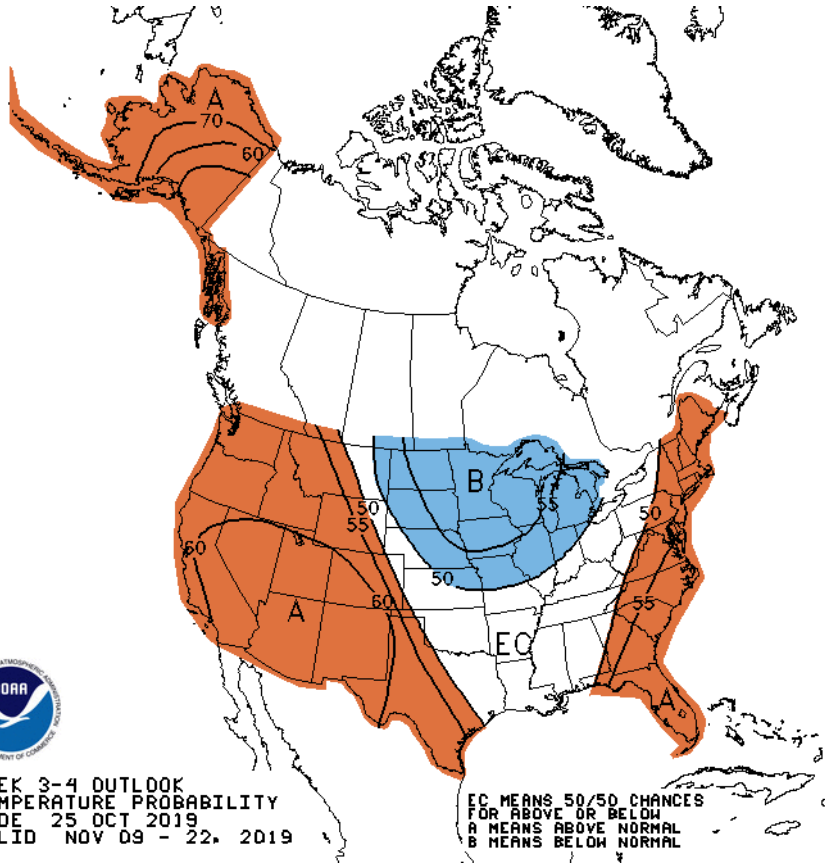
Highs: 56-61°F; Lows: 39-41°F; Precip: 0.60-0.80" (per week)



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# 3-4 Week Outlook



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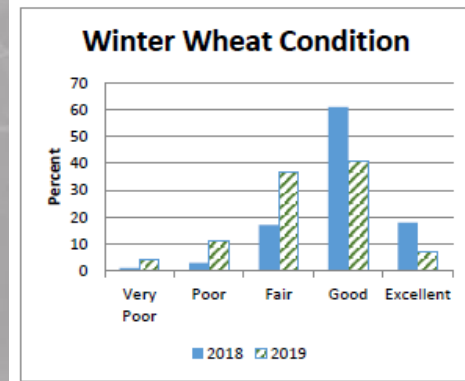
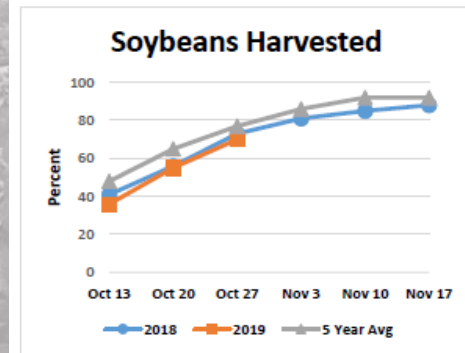
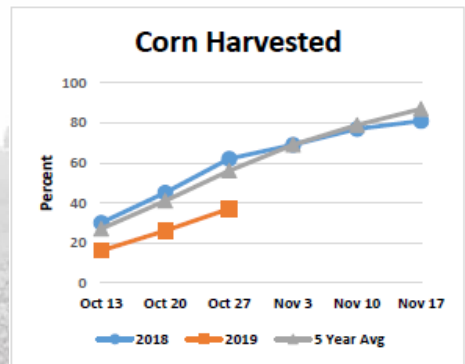
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# Ag Highlights

- 5.3 days suitable for fieldwork during the week ending October 27.
- Corn harvested completion increased 11 percentage points over last week, but lagged behind the 5-year average by 19 points.
- Average corn moisture content was 21 percent and remained higher than the 5-year average.
- Pastures rated in good to excellent condition decreased slightly and some producers were switching to hay for forage.

**NASS: Cheryl Turner –**

[https://www.nass.usda.gov/Statistics\\_by\\_State/Ohio/Publications/Crop\\_Progress\\_&\\_Condition/2019/cw1719oh.pdf](https://www.nass.usda.gov/Statistics_by_State/Ohio/Publications/Crop_Progress_&_Condition/2019/cw1719oh.pdf)



# Summary of Conditions

Photo Credit: Kat Bledsoe



**Drought Monitor:** Moderate Drought conditions remained as some areas improved.

**Climate Recap:** Warmer than average with first significant rain for some since the end of June!

**The week ahead:** Another potent cold front and much colder conditions arrive this week.



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# Partners and Additional Information

- SCOO's Website: <https://climate.osu.edu>
- NOAA's National Climatic Data Center: [www.ncdc.noaa.gov](http://www.ncdc.noaa.gov)
  - Monthly climate reports (U.S. & Global): [www.ncdc.noaa.gov/sotc/](http://www.ncdc.noaa.gov/sotc/)
- NOAA's Climate Prediction Center: [www.cpc.ncep.noaa.gov](http://www.cpc.ncep.noaa.gov)
- USDA Midwest Climate Hub: <https://www.climatehubs.oce.usda.gov/hubs/midwest>
- Climate Portal: [www.climate.gov](http://www.climate.gov)
- U.S. Drought Portal: [www.drought.gov](http://www.drought.gov)
- National Drought Mitigation Center: <https://drought.unl.edu/>
- Midwest Regional Climate Center: <https://mrcc.isws.illinois.edu>
- Community Collaborative Rain Snow Hail Network (CoCoRaHS): <https://cocorahs.org>
- Song: "Lazy River Rag" by Dan Lebowitz