



# Topic Team: Climate Collaboration Missouri Basin

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# MBFCC Webinar (August 19)

- Topics/Research
  - "Explaining Hydrologic Extremes in the Upper Missouri River Basin" (Ben Livneh, CU/NOAA)
    - Handout
  - "The Physics of Drought in the U.S. Central Great Plains" (Ben Livneh, CU/NOAA)
  - "Paleo Reconstructions in the Upper Missouri Basin" (Greg Pederson, USGS)
  - Current Climate and Hydro Conditions
  - National Integrated Drought Information System (NIDIS) status (more later)
  - USDA/NRCS, EPA, FEMA, NPS, BOR, USGS, BIA, NOAA

# NIDIS Activities: (Drought Early Warning System)

- KS Drought Tournament (November)
- Great Plains Tribal Water Alliance
  - Two successful grants w/BIA
- MO Basin Update meeting – Q2
- Wind River
- Montana Drought Resilience Partnership
- KS Tribal Effort w/BIA

# Part II Federal Round Robin

# NOAA Update (fed round robin)

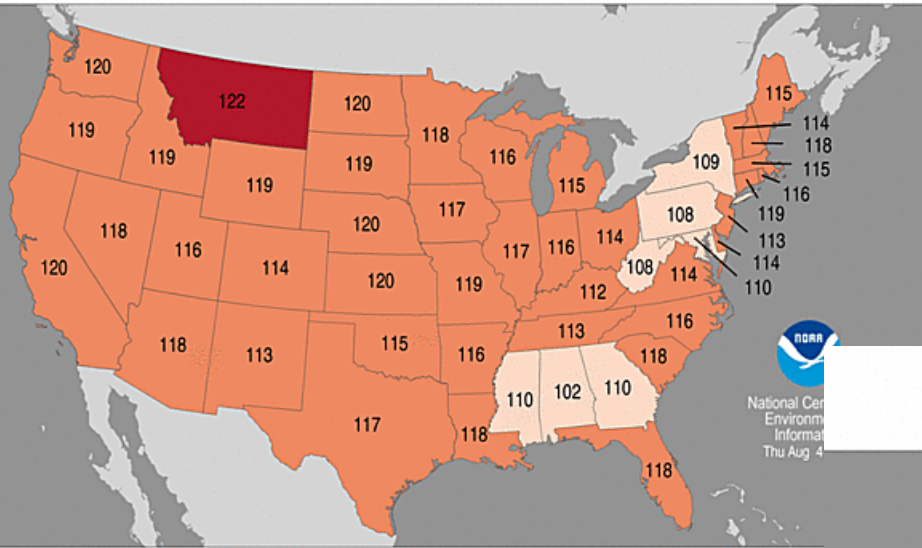
- NOAA Water Initiative
  - Hand out: New Model & Capacities
- National Climate Assessment 4.0
  - To be published late 2018
  - N. Great Plains & Midwest
- Federal Partners Tribal Partners Meeting
  - Nebraska City, September 12

# Part III – Climate Outlook

## Statewide Minimum Temperature Ranks

January–July 2016

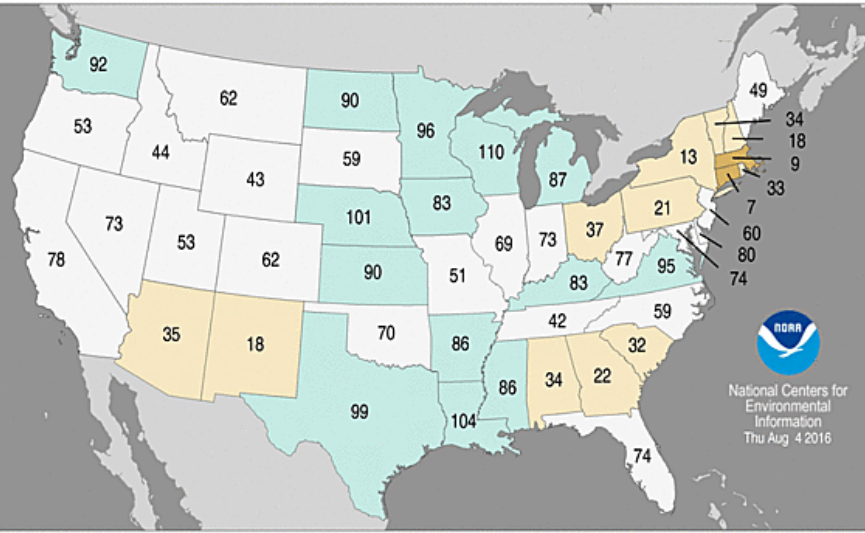
Period: 1895–2016



## Statewide Precipitation Ranks

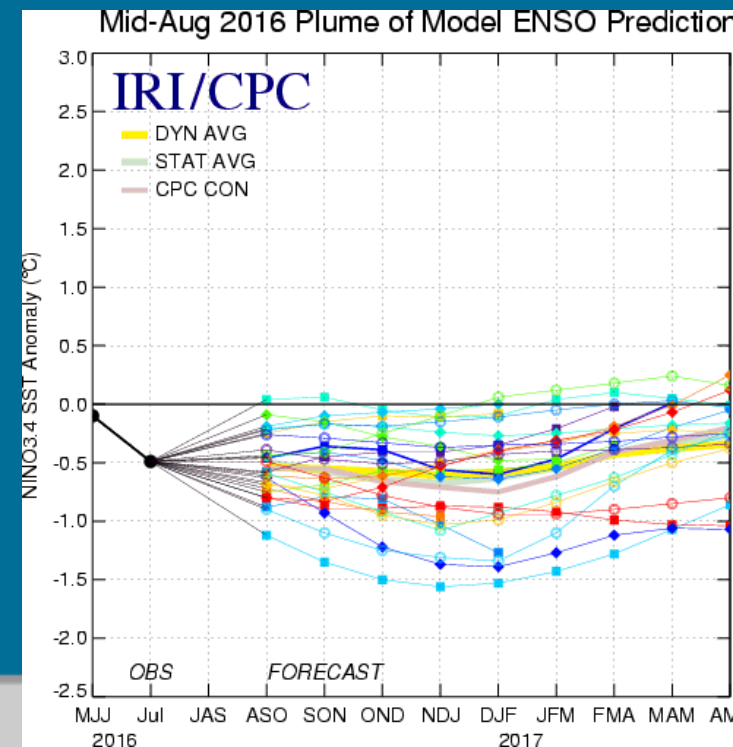
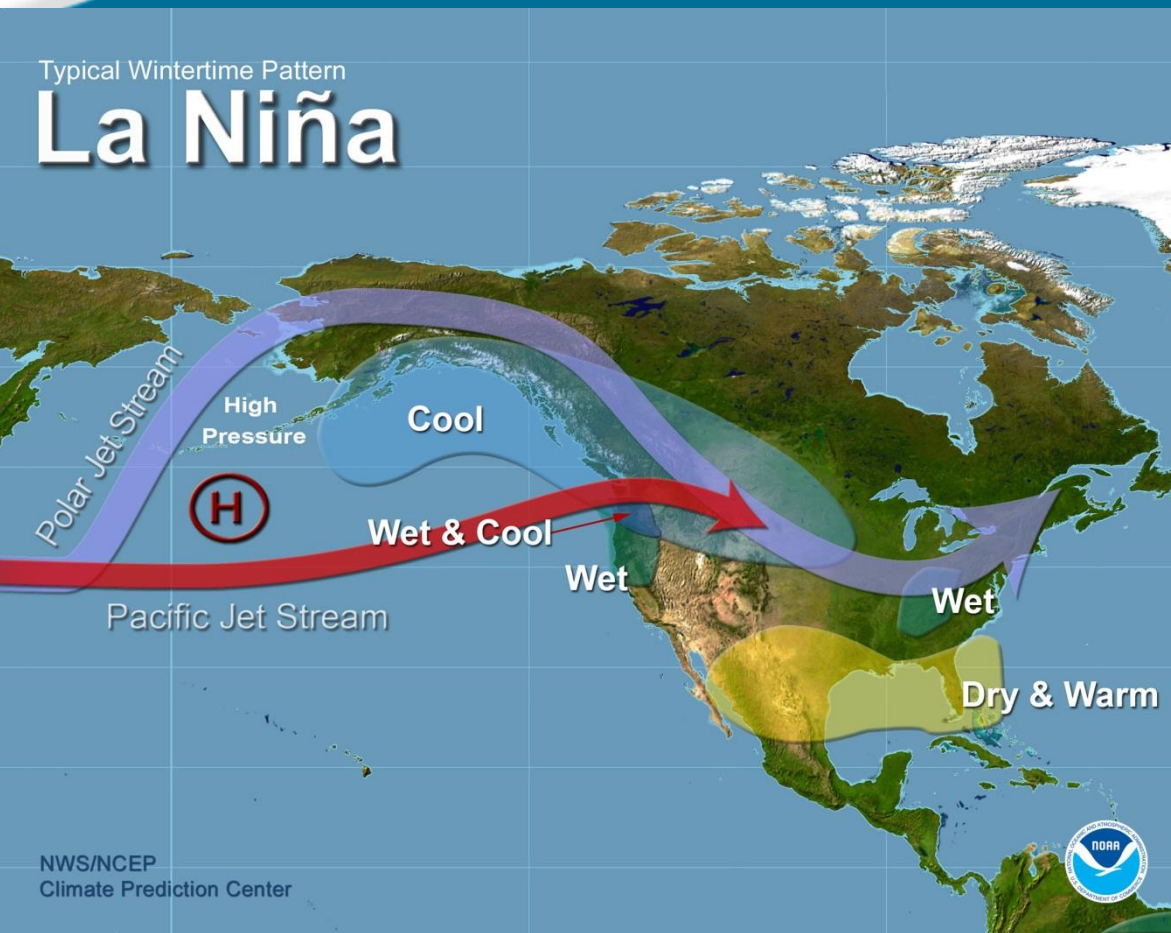
January–July 2016

Period: 1895–2016



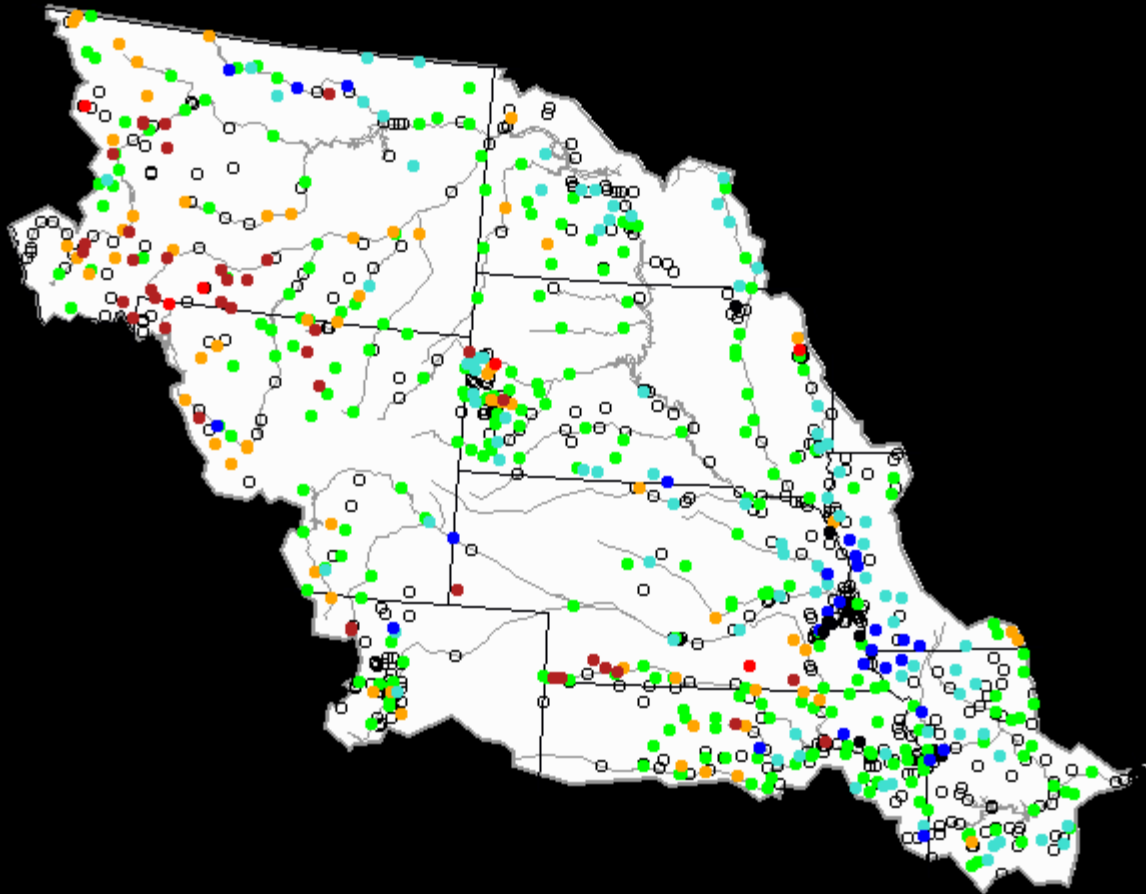
# Current Conditions and Outlook








- Likely weak La Niña



# 28-Day Average Streamflow

August 24<sup>th</sup>, 2016



Explanation - Percentile classes						
						
Low	<10	10-24	25-75	76-90	>90	High
	Much below normal	Below normal	Normal	Above normal	Much above normal	

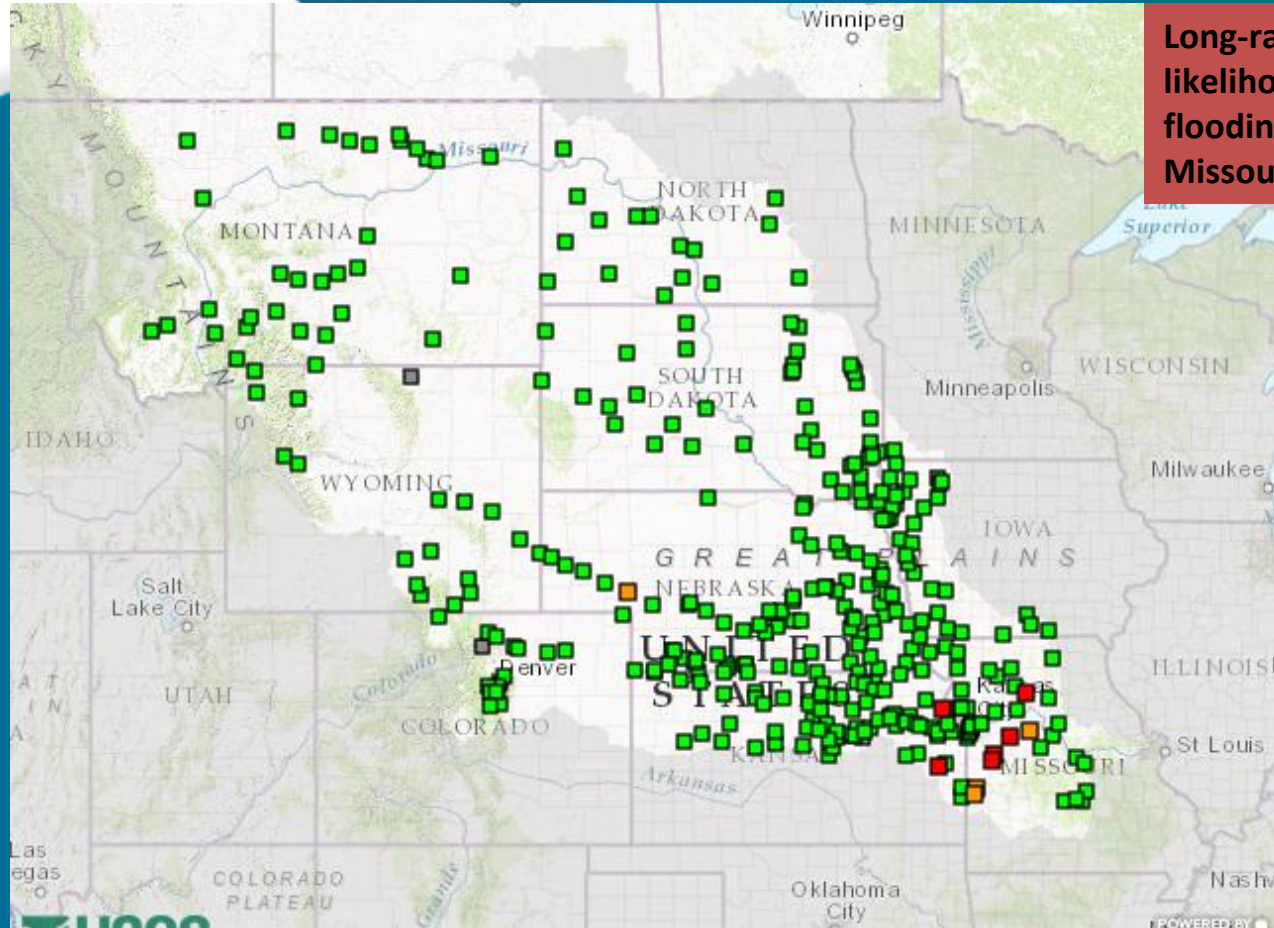
<http://waterwatch.usgs.gov/>



# MISSOURI BASIN

## FLOOD POTENTIAL AUG-OCT

Long-range river outlooks indicate the likelihood (>50% chance) of tributary flooding in the eastern portion of the Missouri River basin August--October.



Show locations with 50% or greater chance of flooding during Aug-Sep-Oct (10)

- 0 Gauges: > 50% Major Long-Range Flood Risk
- 6 Gauges: > 50% Moderate Long-Range Flood Risk
- 4 Gauges: > 50% Minor Long-Range Flood Risk
- 338 Gauges: < 50% Long-Range Flood Risk
- 5 Gauges: No forecast within selected timeframe

Show all locations

Last map update:  
08/19/2016 at 12:06:11 pm EDT  
08/19/2016 at 16:06:11 UTC

[What is UTC time?](#)

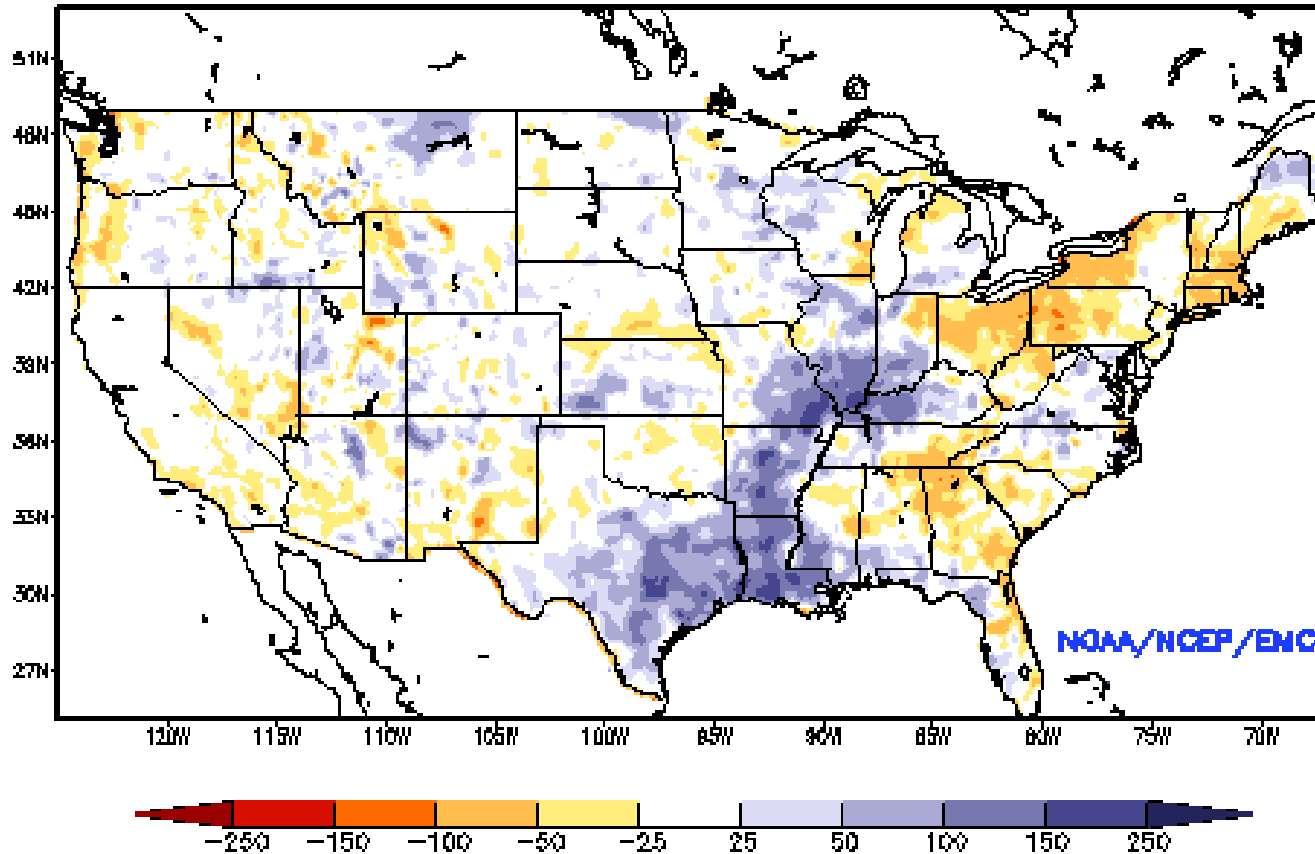
[Map Help](#)

[Product Description](#)

[Feedback](#)

# Soil Moisture Anomaly

Ensemble-Mean - Current Total Column Soil Moisture Anomaly (mm)  
NCEP NLDAS Products Valid: AUG 19, 2016



<http://www.emc.ncep.noaa.gov/mmb/nldas/drought/>

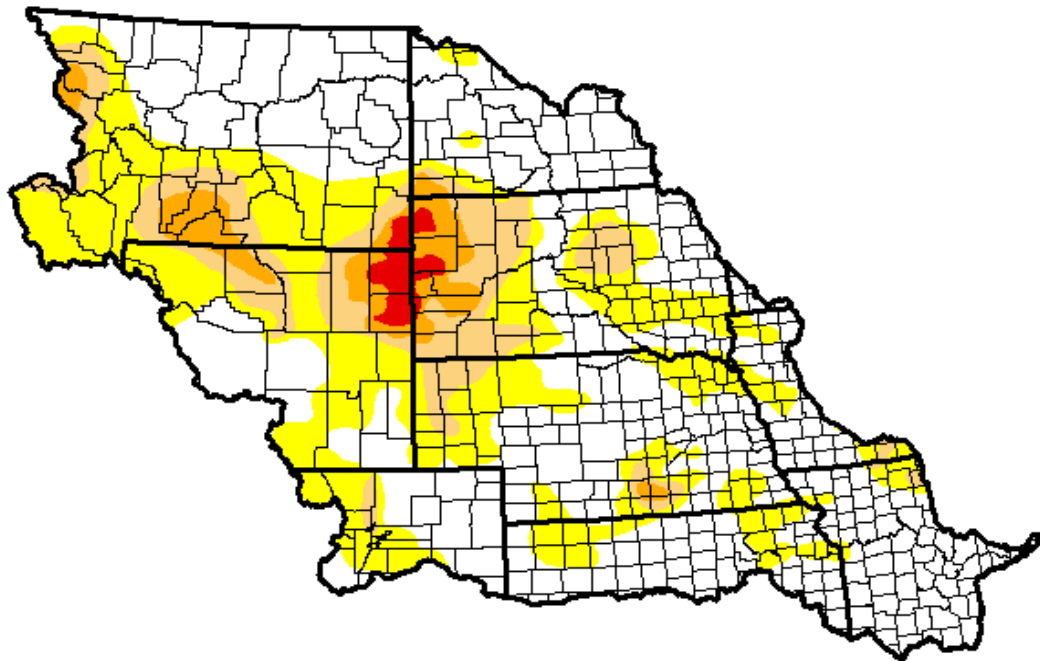
# U.S. Drought Monitor

## Missouri Watershed

**August 16, 2016**  
 (Released Thursday, Aug. 18, 2016)  
 Valid 8 a.m. EDT

*Drought Conditions (Percent Area)*

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
<b>Current</b>	55.13	44.87	16.15	5.68	1.33	0.00
<b>Last Week</b> 8/9/2016	51.54	48.46	18.36	5.83	1.60	0.00
<b>3 Months Ago</b> 5/17/2016	88.50	11.50	2.74	0.20	0.00	0.00
<b>Start of Calendar Year</b> 12/29/2015	76.44	23.56	5.55	1.28	0.00	0.00
<b>Start of Water Year</b> 9/29/2015	65.65	34.35	6.75	3.42	0.66	0.00
<b>One Year Ago</b> 8/18/2015	84.15	15.85	5.37	1.91	0.11	0.00



*Intensity:*

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

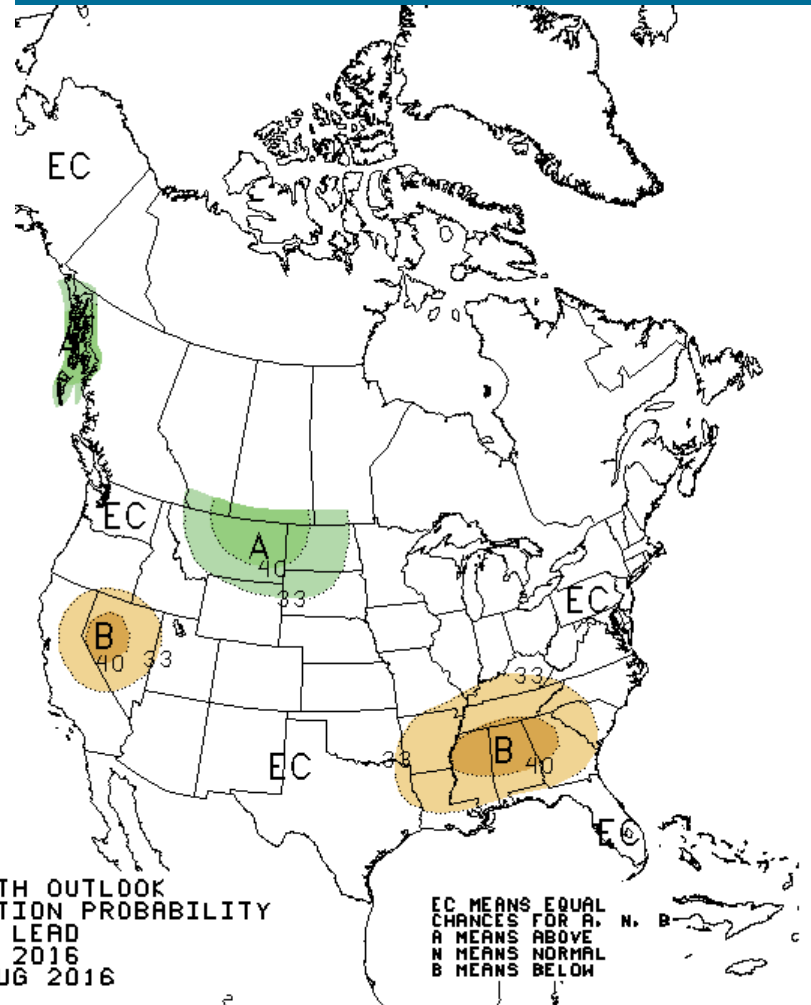
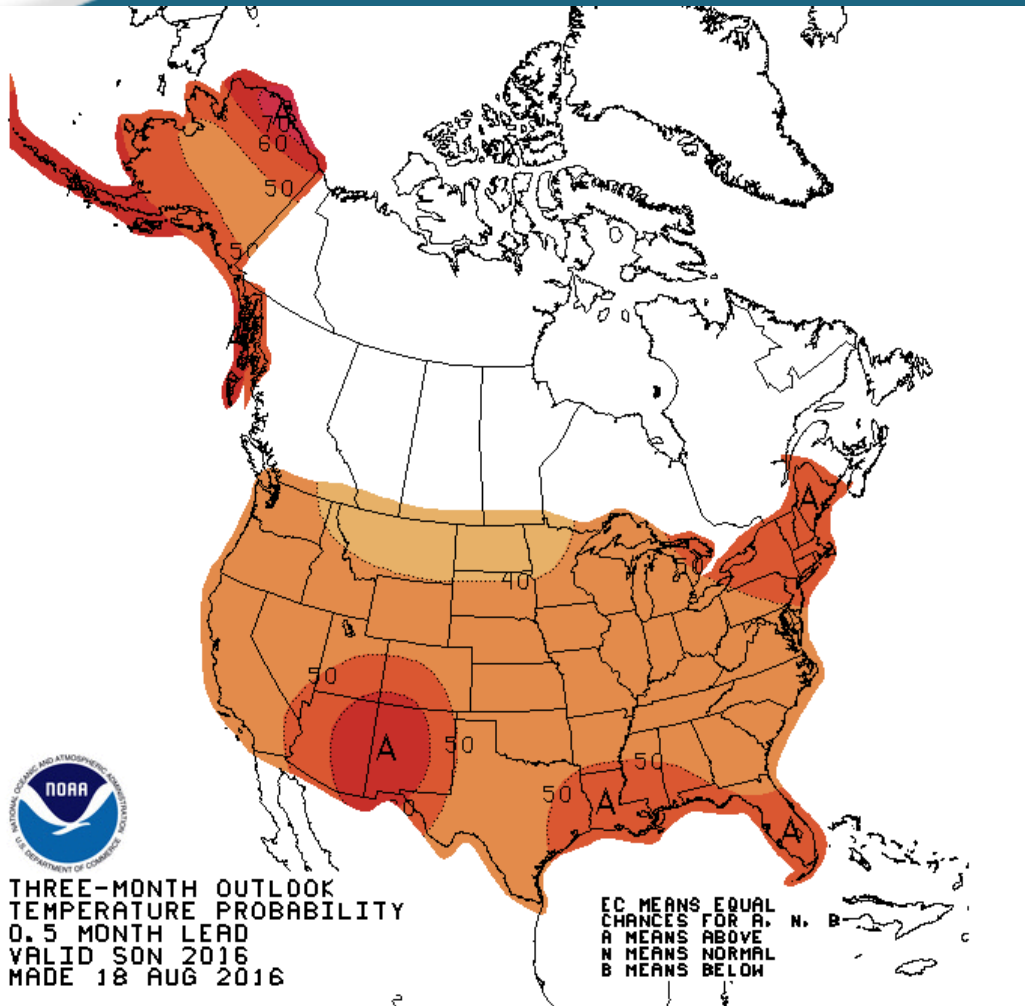
*The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.*

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# Sep-Nov Temp & Precip Outlook



# Dec-Feb Temp & Precip Outlook

