

# NOAA-NWS and Partners Midwest and Great Plains Drought Update Webinar

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National Drought Mitigation Center  
School of Natural Resources  
University of Nebraska-Lincoln



NOAA-NWS CR Webinar Series, September 6, 2012



# General Information

- \* **Providing climate services to the Central Region**
  - \* Collaboration with Dennis Todey (South Dakota State Climatologist), Doug Kluck (NOAA - RCSD) and John Eise (Climate Service Program Manager), State Climatologists and the Midwest Regional Climate Center, High Plains Regional Climate Center, NOAA's Climate Prediction Center, Iowa State University, and the National Drought Mitigation Center
- \* **Next Climate/Drought Outlook Webinar**
- \* **Access to Climate/Drought Webinars and information**
- \* <http://mrcc.isws.illinois.edu/webinars.htm>
- \* <http://www.hprcc.unl.edu>
- \* **Operator Assistance for questions at the end**



# Agenda

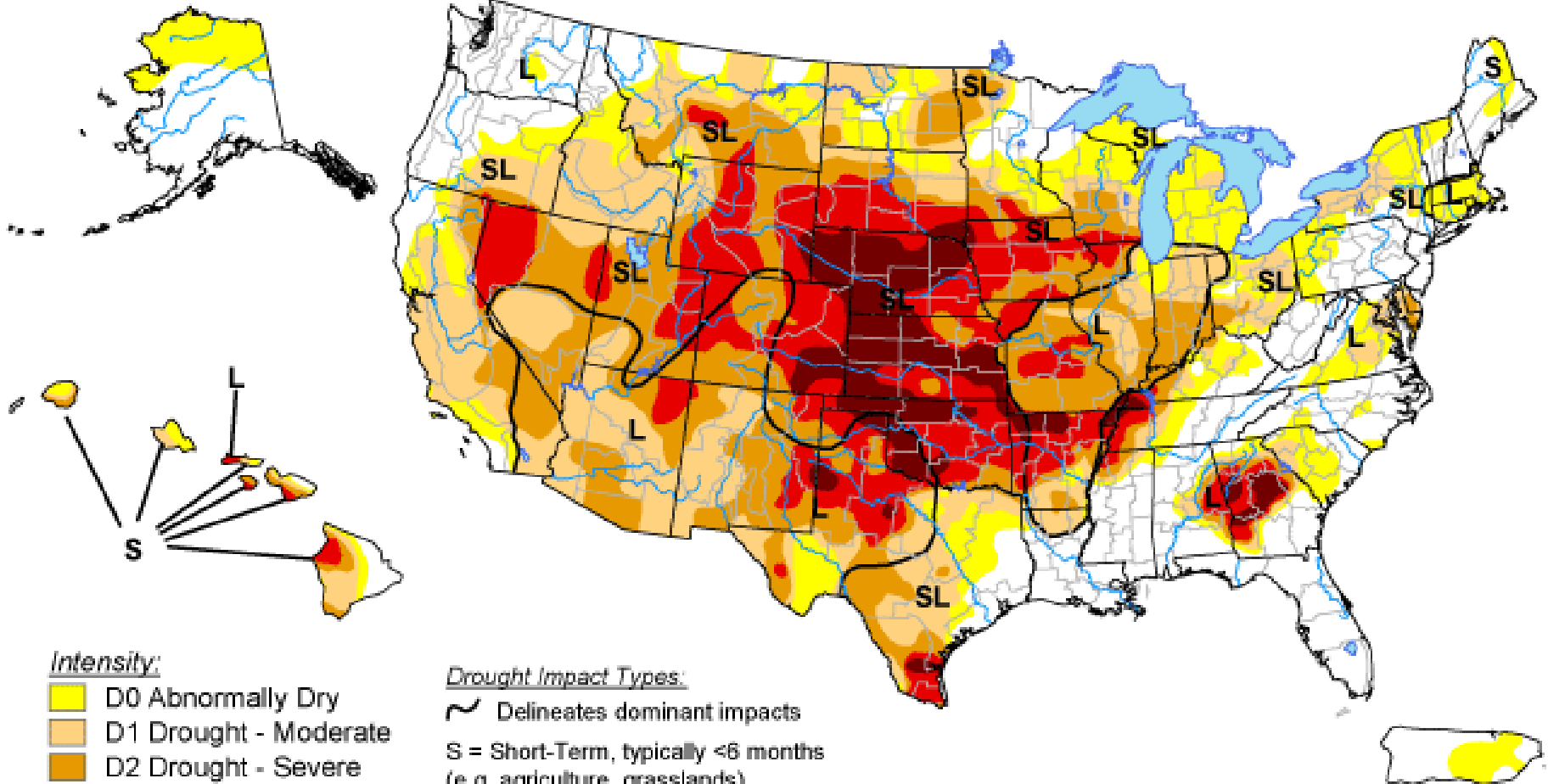
- ▶ **Current Conditions**
- ▶ **Outlooks**
- ▶ **Drought Impacts**
- ▶ **Questions/Comments**








# U.S. Drought Monitor

September 4, 2012


Valid 7 a.m. EDT



## Intensity:

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

## Drought Impact Types:

-  Delineates dominant impacts
- S = Short-Term, typically <6 months  
(e.g. agriculture, grasslands)
- L = Long-Term, typically >6 months  
(e.g. hydrology, ecology)

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



Released Thursday, September 6, 2012

Author: Brian Fuchs, National Drought Mitigation Center

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

## Drought Condition (Percent Area): United States

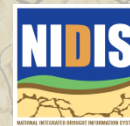
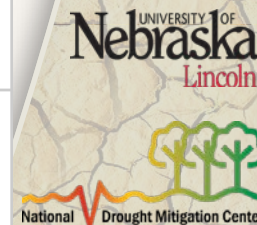
Conditions for the U.S., including Alaska, Hawaii and Puerto Rico

Week	Date	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
One Year Ago	08/30/11	59.26	40.74	27.51	20.68	15.26	9.37
Start of Water Year	09/27/11	63.45	36.55	24.42	19.61	14.87	9.50
Start of Calendar Year	12/27/11	58.88	41.12	23.89	15.88	8.37	2.76
3 Months Ago	06/05/12	46.40	53.60	32.33	15.85	3.86	0.50
Last Week	08/28/12	30.19	69.81	52.63	35.42	19.38	5.05
Current	09/04/12	30.37	69.63	53.06	35.53	17.93	5.13

### Conditions for the Contiguous U.S.

Week	Date	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
One Year Ago	08/30/11	54.07	45.93	32.83	24.75	18.27	11.21
Start of Water Year	09/27/11	56.45	43.55	29.13	23.44	17.80	11.37
Start of Calendar Year	12/27/11	50.89	49.11	28.49	18.95	10.01	3.31
3 Months Ago	06/05/12	36.01	63.99	38.60	18.92	4.60	0.60
Last Week	08/28/12	22.31	77.69	62.89	42.34	23.18	6.04
Current	09/04/12	22.54	77.46	63.39	42.48	21.45	6.14

National Drought Mitigation Center



# U.S. Drought Monitor

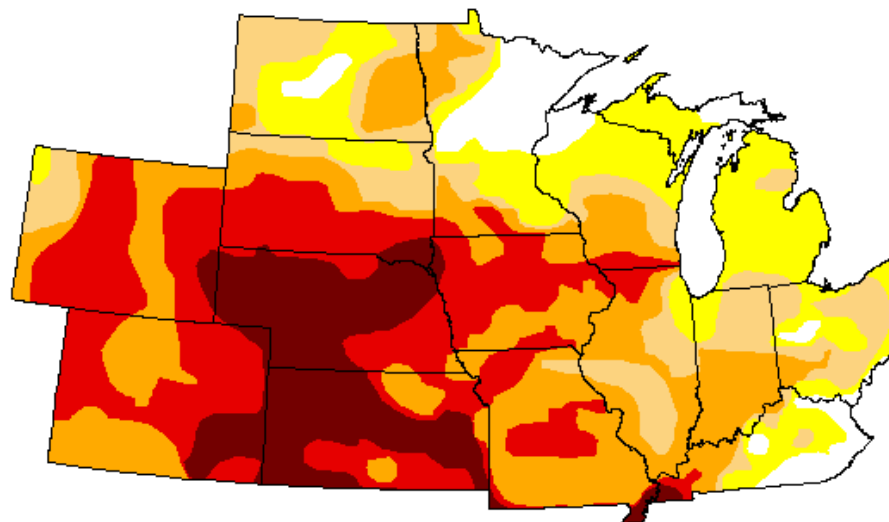
September 4, 2012

Valid 7 a.m. EST

## Central Region

*Drought Conditions (Percent Area)*

	None	D0 - D4	D1 - D4	D2 - D4	D3 - D4	D4
Current	6.26	93.74	77.74	63.66	37.88	12.86
Last Week (8/28/2012)	9.37	90.63	76.84	64.69	43.80	11.07
3 Months Ago (6/5/2012)	37.96	62.04	24.65	5.58	1.15	0.00
1 Year Ago (9/6/2011)	62.24	37.76	16.71	9.07	3.50	1.58



### Intensity:

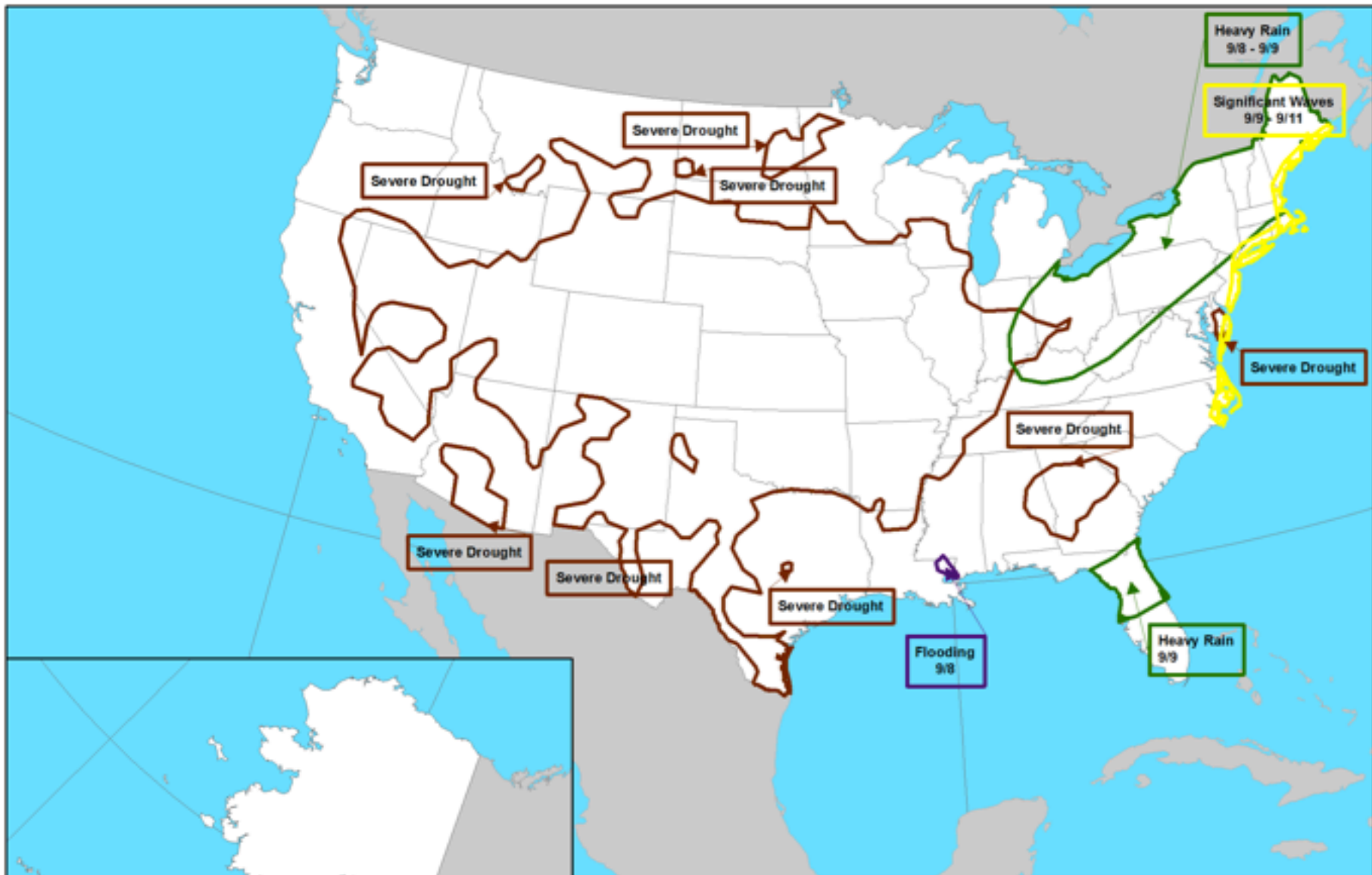


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Local conditions may vary. See accompanying text summary  
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<http://droughtmonitor.unl.edu>

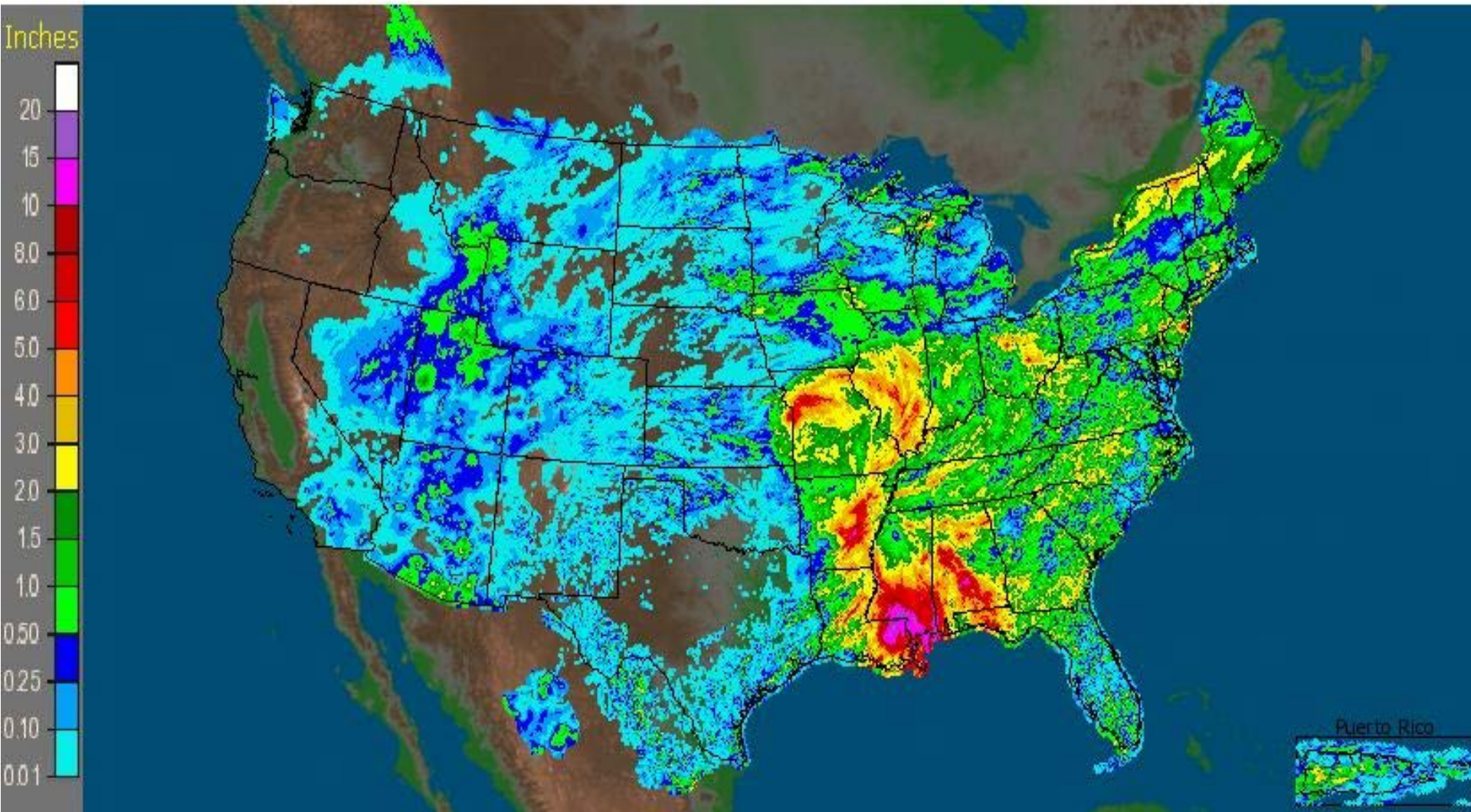


Released Thursday, September 6, 2012  
Brian Fuchs, National Drought Mitigation Center



**NWS**  
**Day 3-7 U.S. Hazards Outlook**  
**Made: 09/05/2012 3PM EDT**  
**Valid: 09/08/2012-09/12/2012**

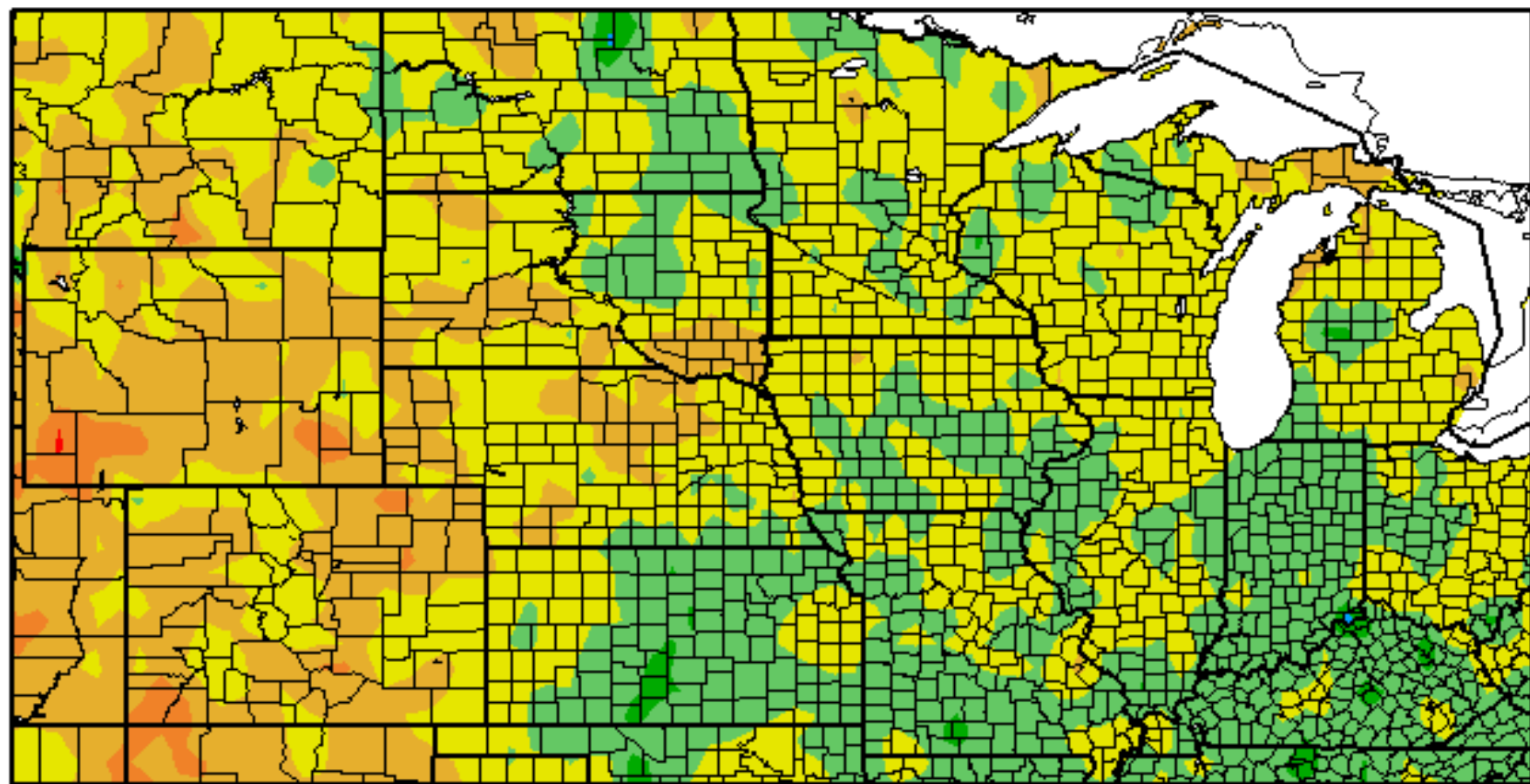
CONUS + Puerto Rico: Current 7-Day Observed Precipitation  
Valid at 9/5/2012 1200 UTC- Created 9/5/12 19:38 UTC





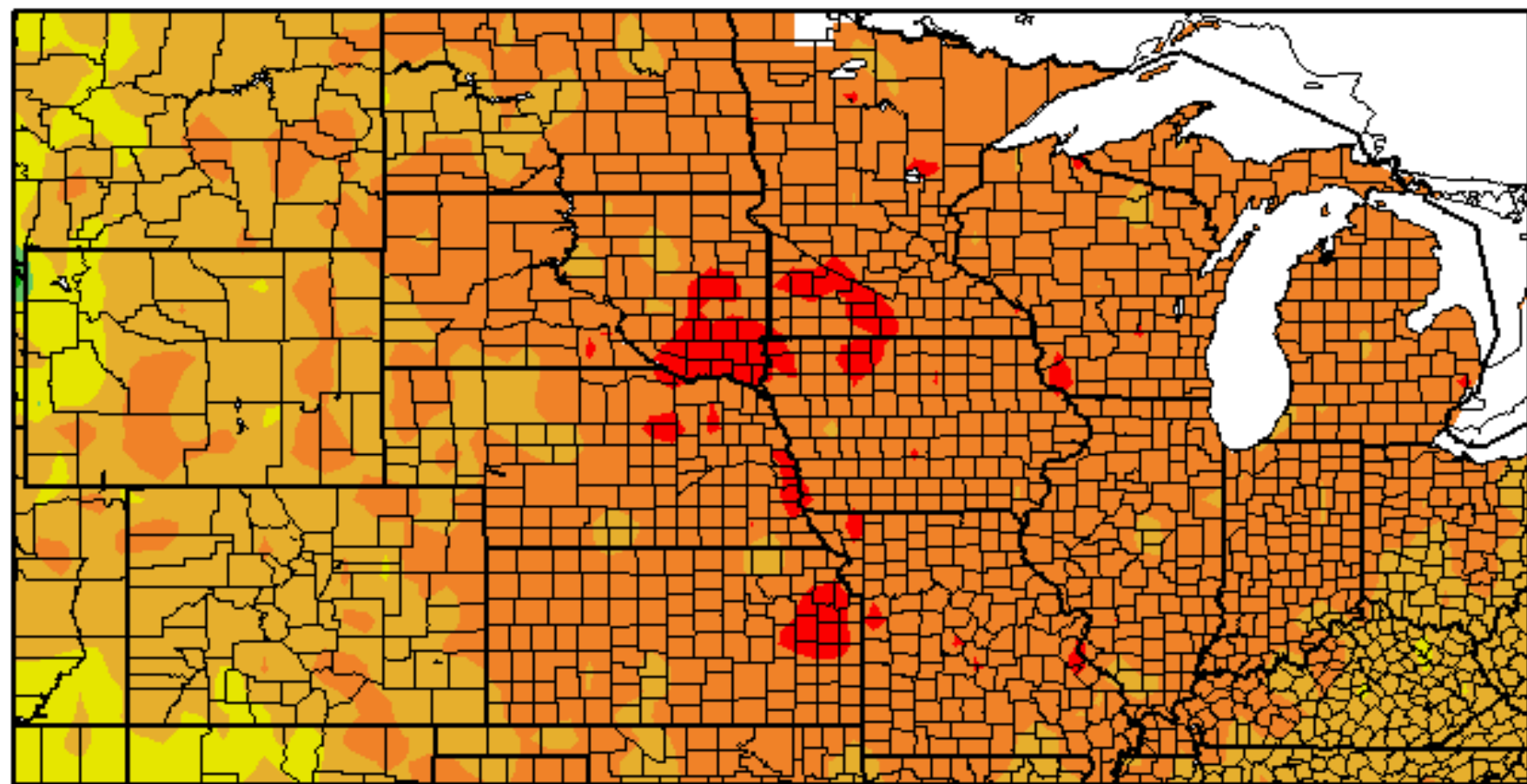
# Departure from Normal Temperature (F)

8/7/2012 - 9/5/2012



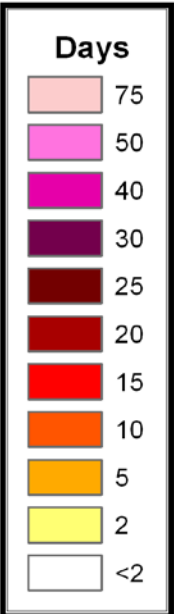
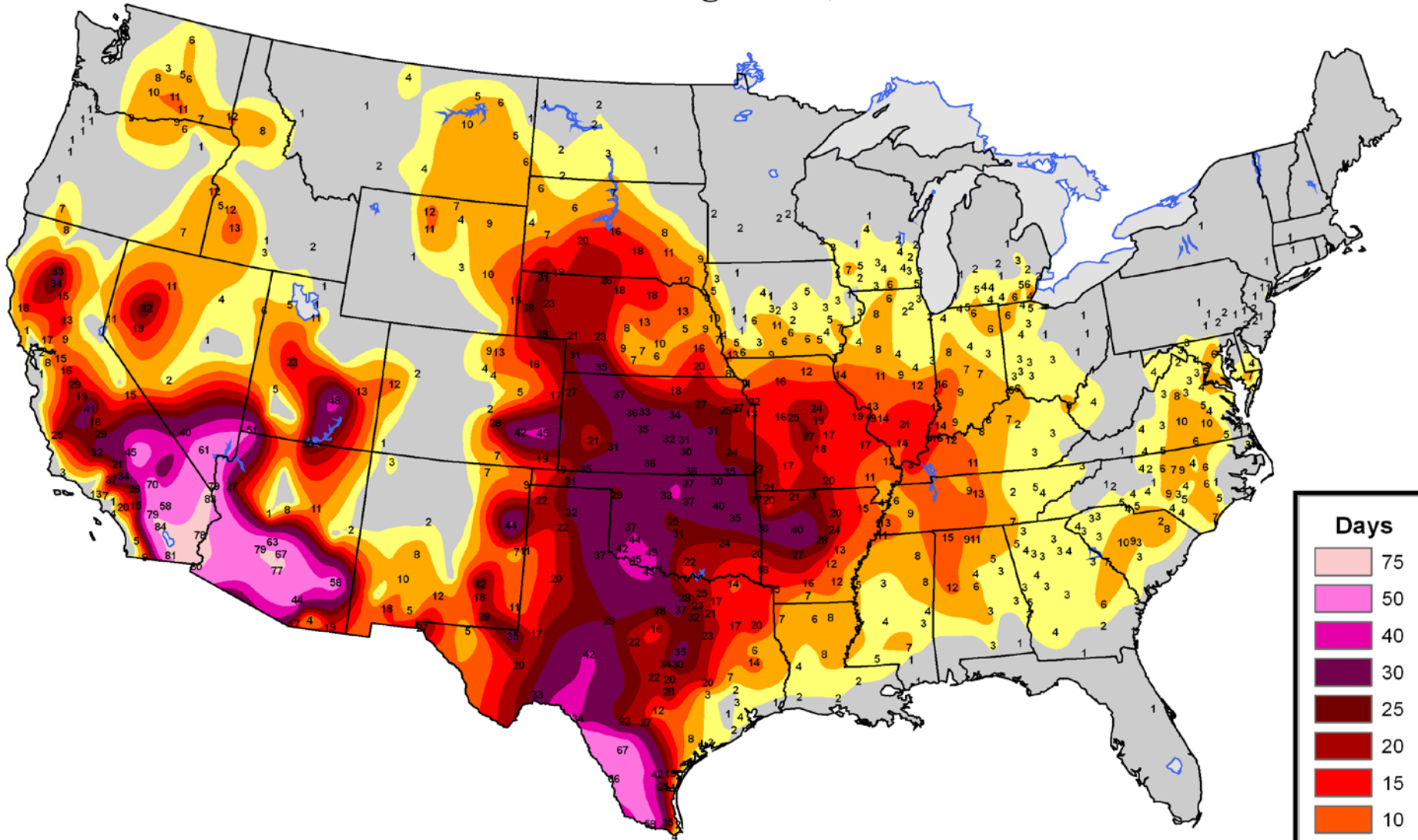
# Departure from Normal Temperature (F)

1/1/2012 - 9/5/2012



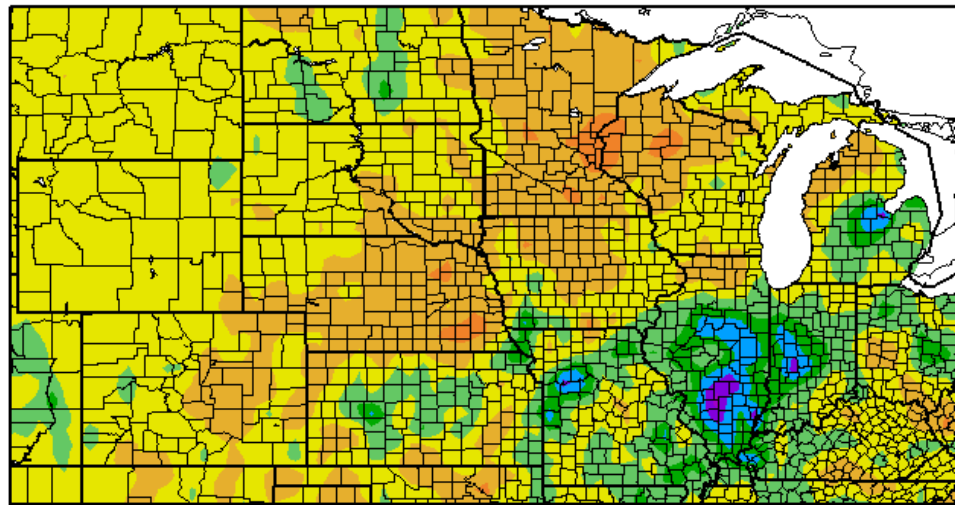
# Number of Days $\geq 100^{\circ}\text{F}$

June 1 - August 31, 2012



# Departure from Normal Precipitation (in)

8/7/2012 - 9/5/2012



## 30 Day ACIS Departure from Normal and % Normal

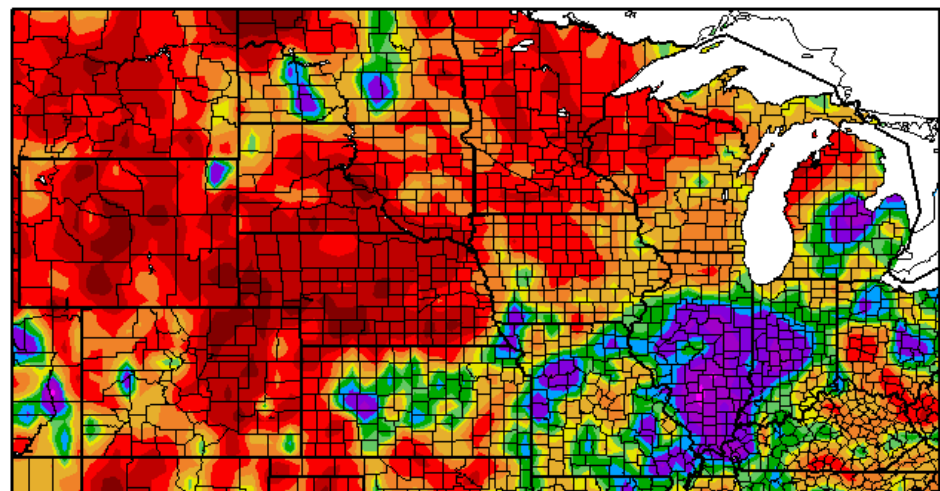
### Percent of Normal Precipitation (%)

8/7/2012 - 9/5/2012



Generated 9/6/2012 at HPRCC using provisional data.

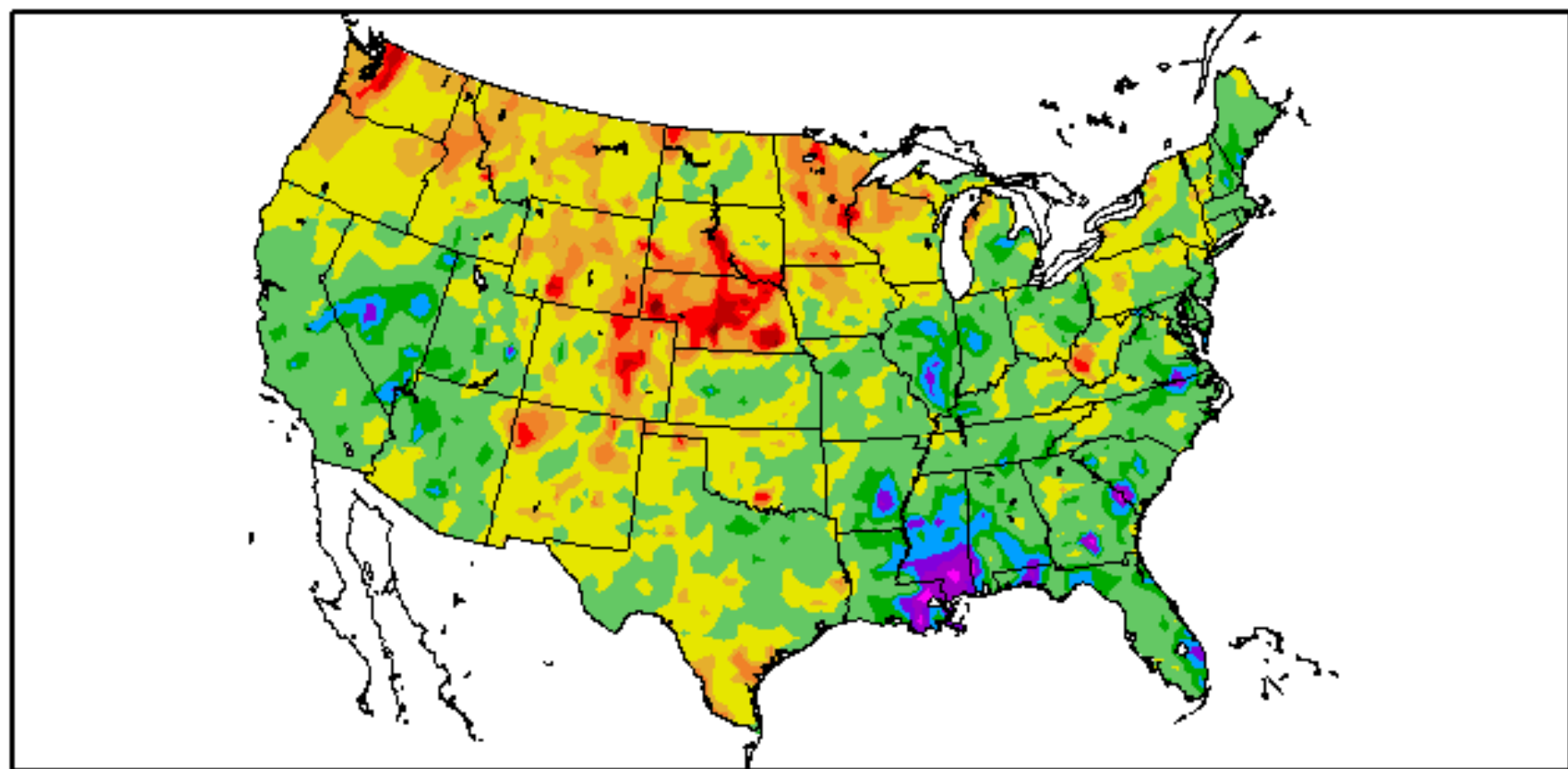
Regional Climate Centers



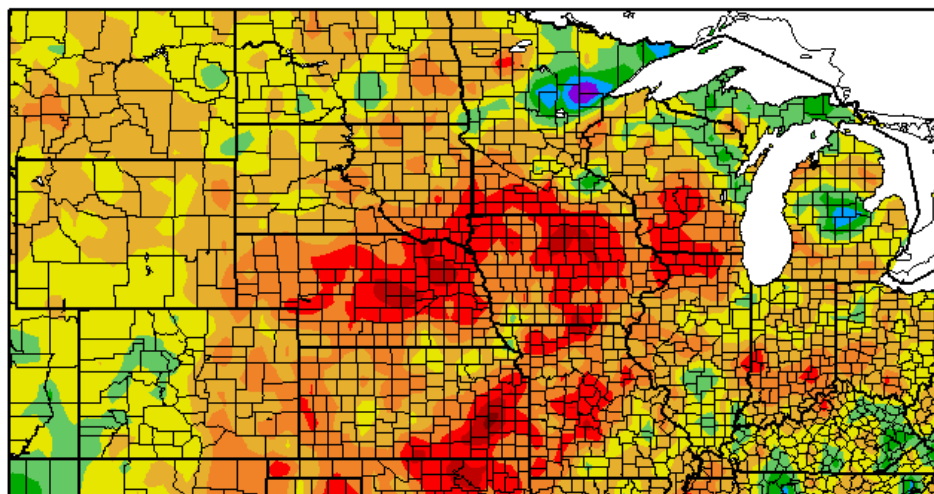
Generated 9/6/2012 at HPRCC using provisional data.

Regional Climate Centers

30 Day SPI  
8/7/2012 - 9/5/2012



Departure from Normal Precipitation (in)  
6/8/2012 - 9/5/2012



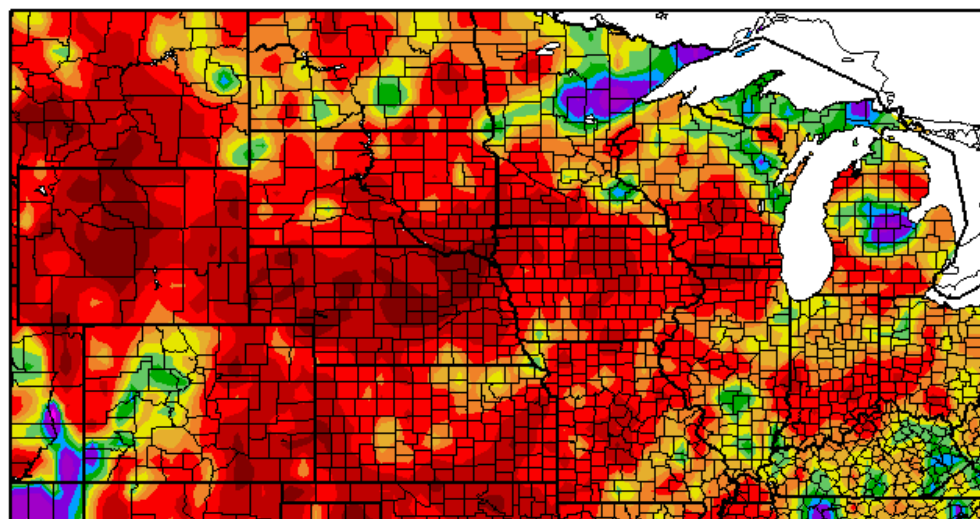
**90 Day ACIS Departure from Normal and % of Normal**

Percent of Normal Precipitation (%)  
6/8/2012 - 9/5/2012



Generated 9/6/2012 at HPRCC using provisional data.

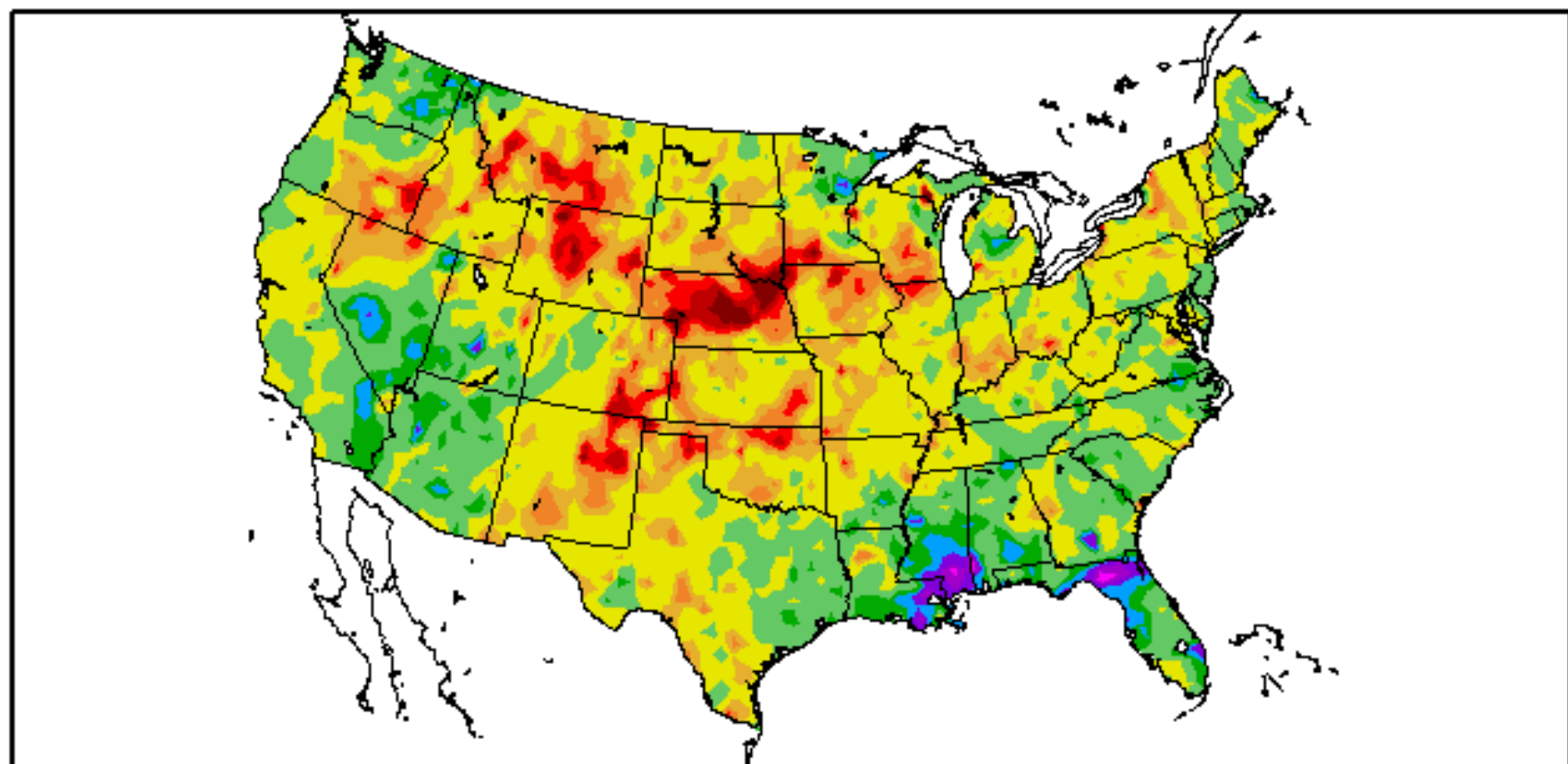
Regional Climate Centers



Generated 9/6/2012 at HPRCC using provisional data.

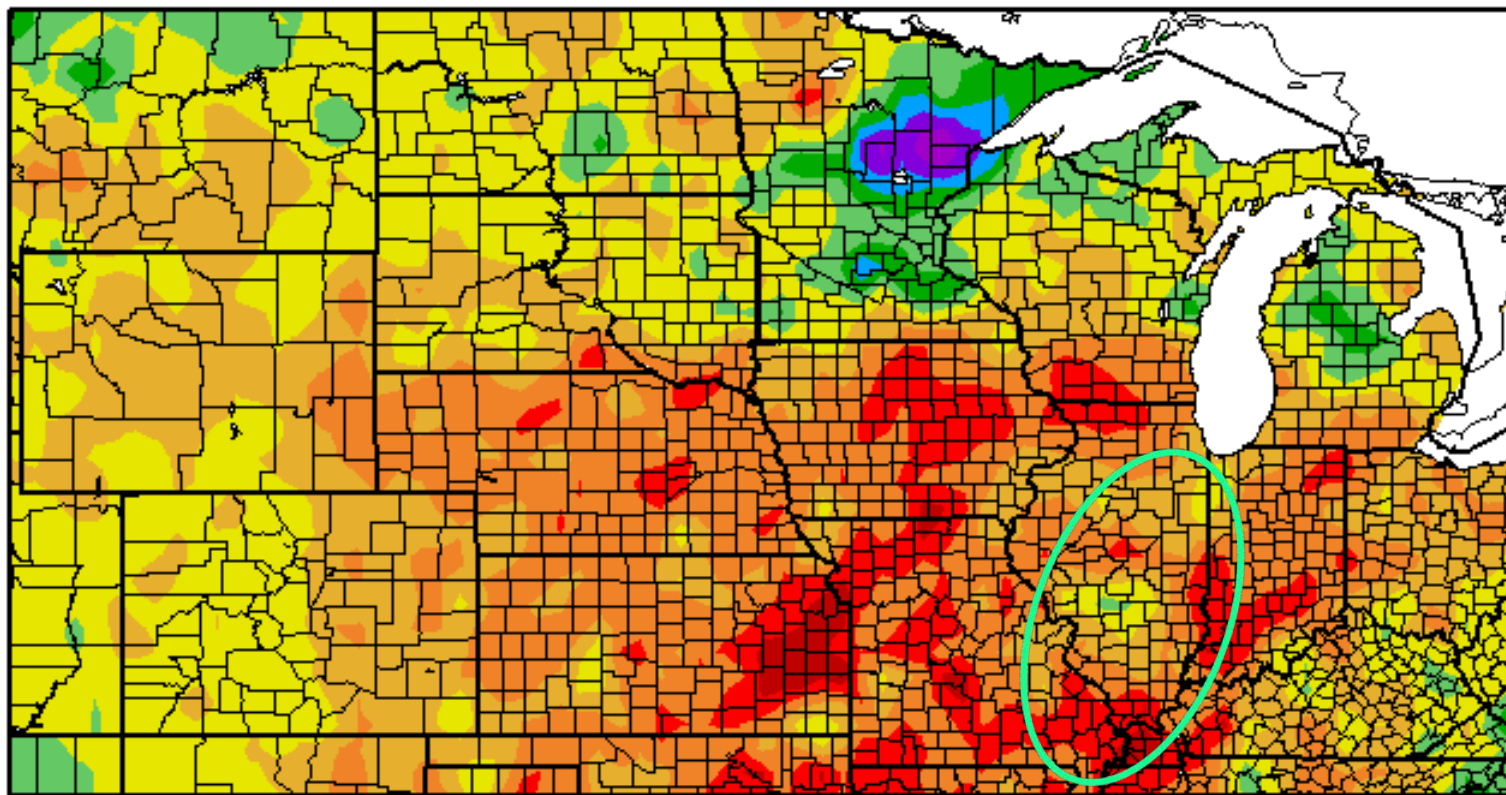
Regional Climate Centers

90 Day SPI  
6/8/2012 - 9/5/2012



# Growing Season ACIS Departure from Normal

Departure from Normal Precipitation (in)  
4/1/2012 - 9/5/2012



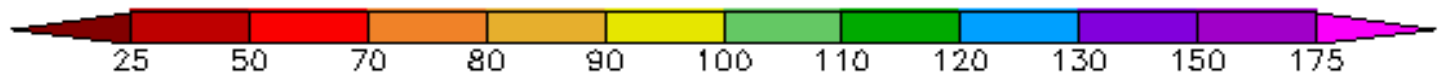
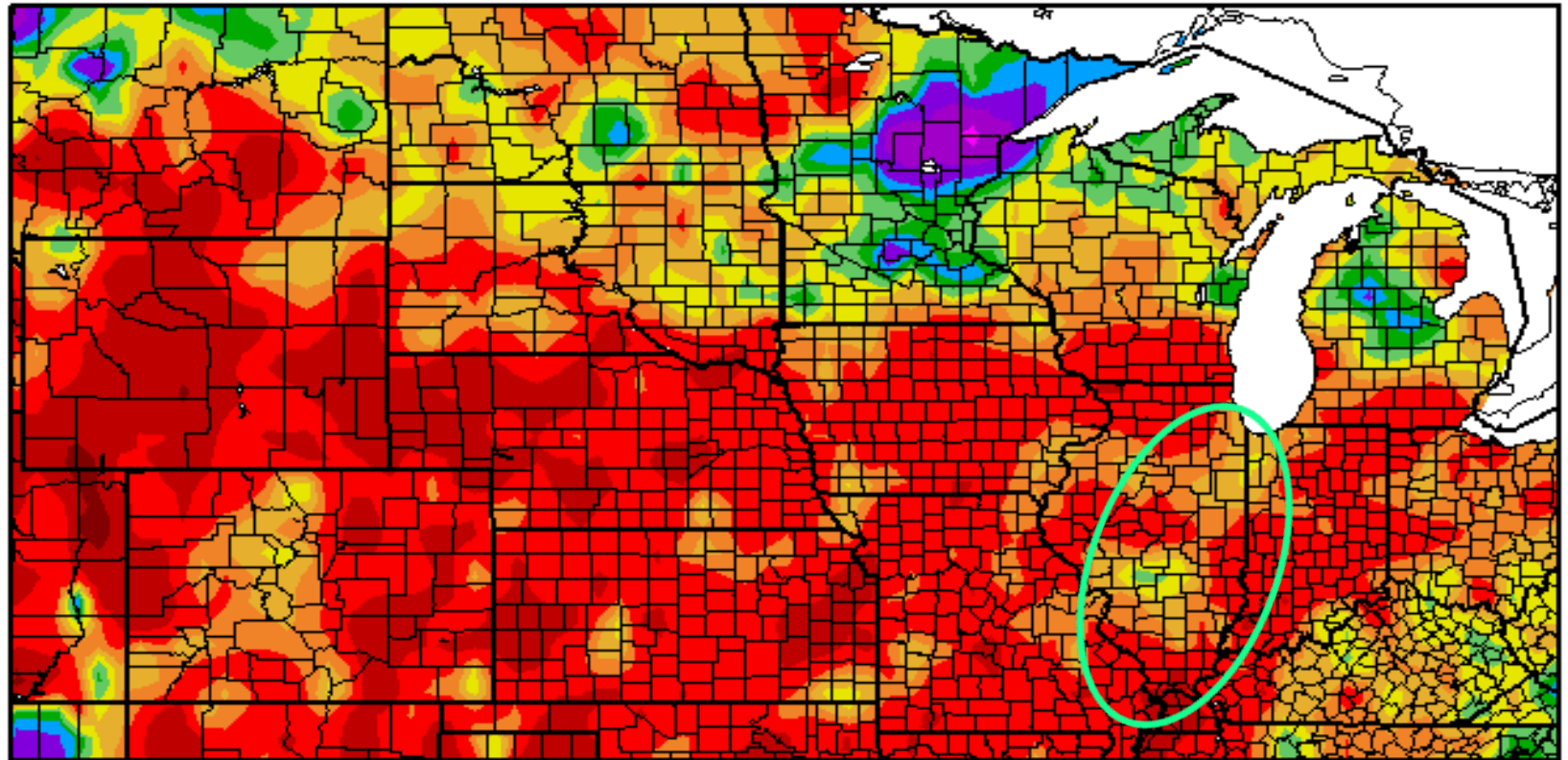
Generated 9/6/2012 at HPRCC using provisional data.

Regional Climate Centers



# Growing Season ACIS Percent of Normal

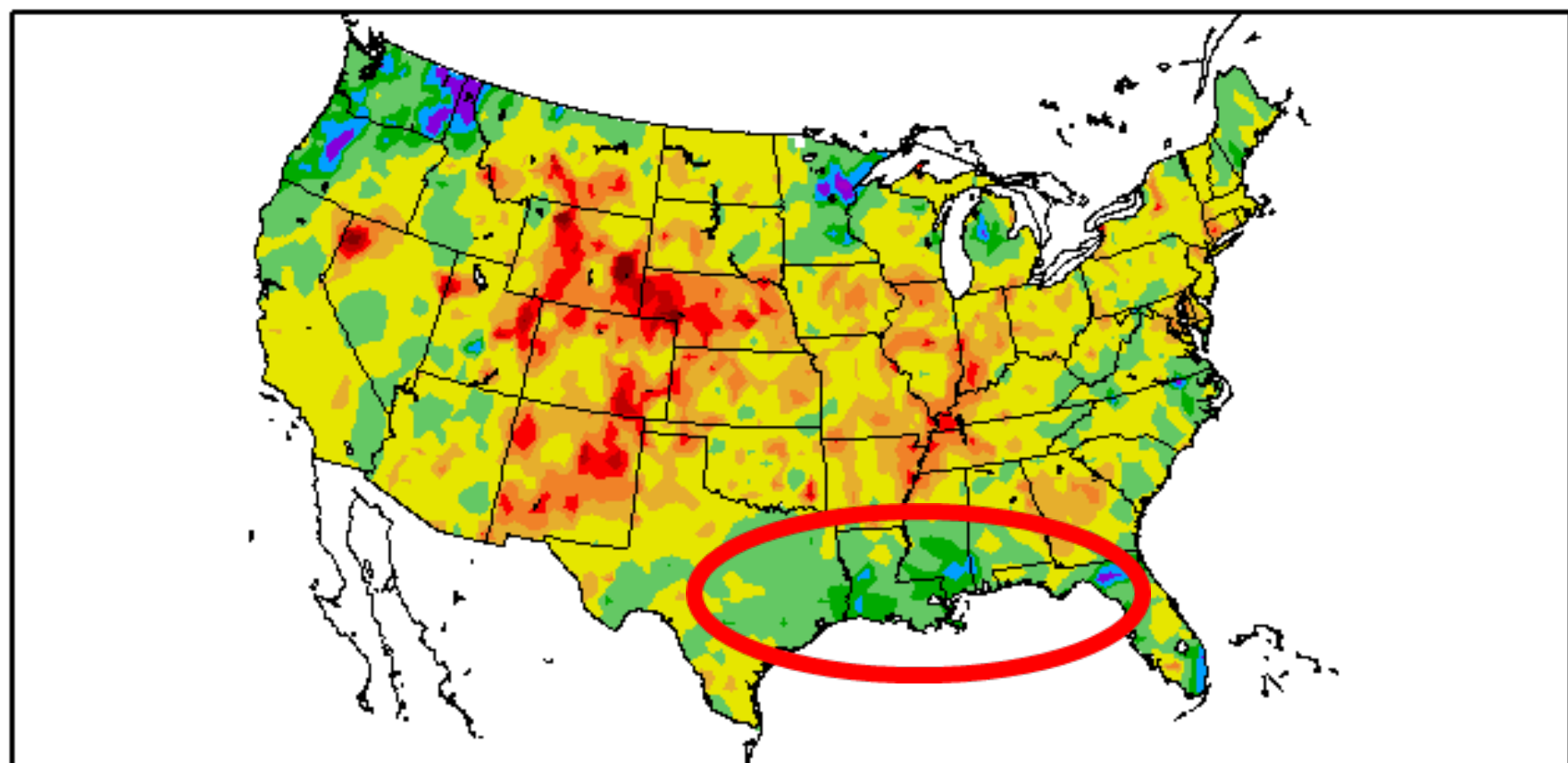
Percent of Normal Precipitation (%)  
4/1/2012 – 9/5/2012



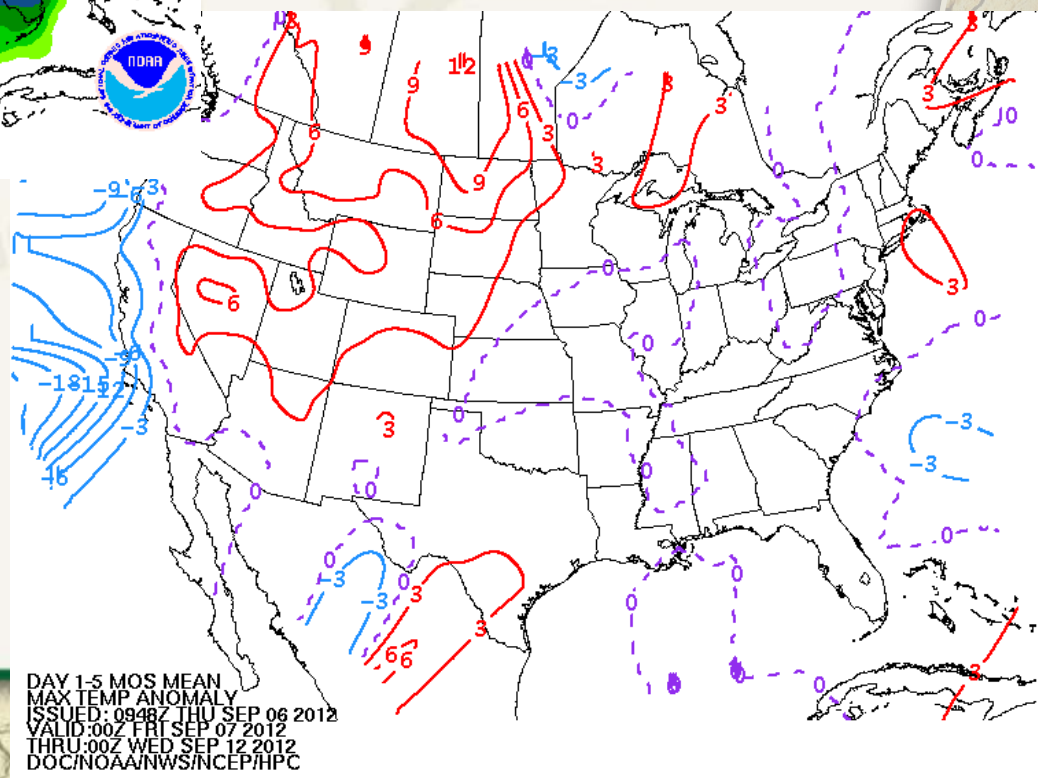
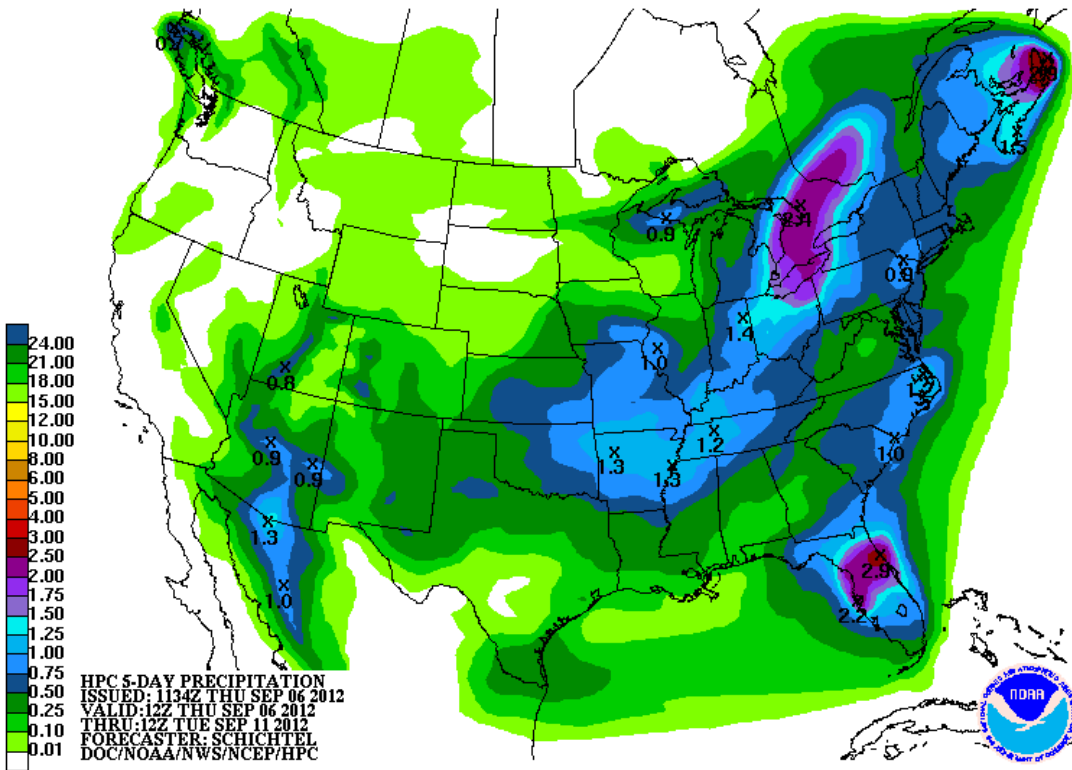
Generated 9/6/2012 at HPRCC using provisional data.

Regional Climate Centers

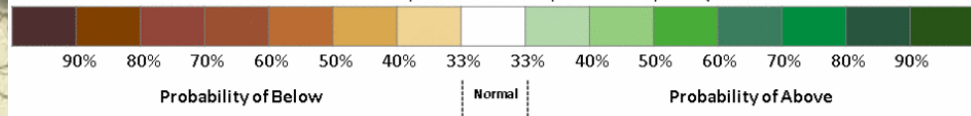
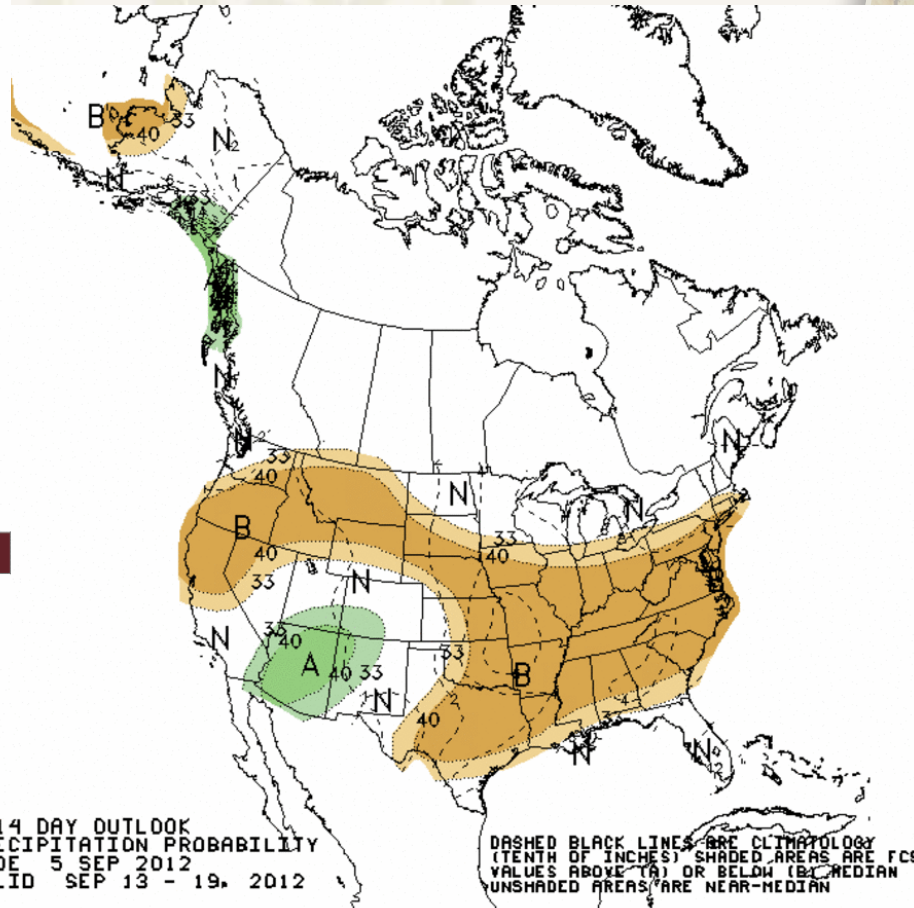
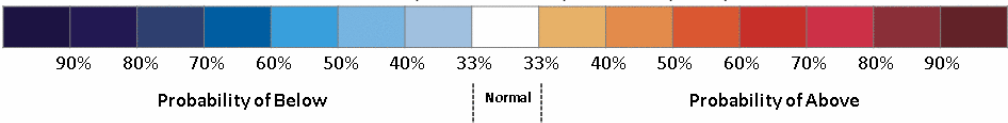
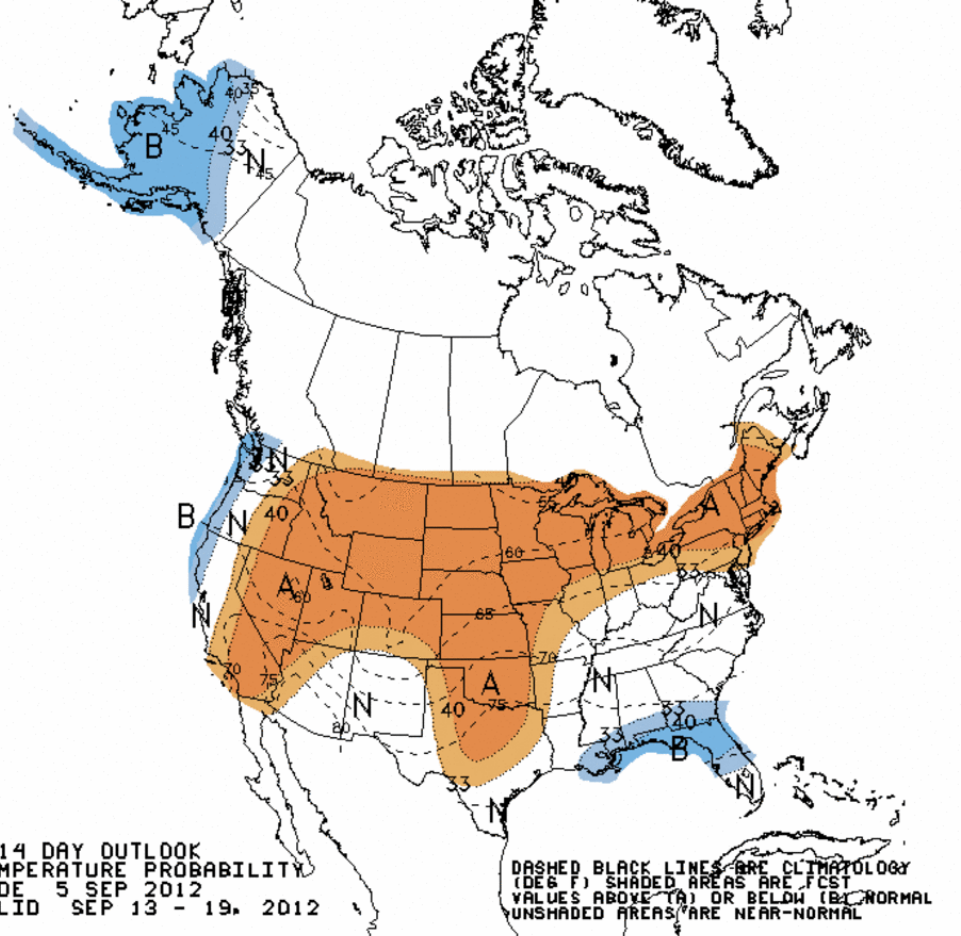
Year-to-date SPI  
1/1/2012 - 9/5/2012



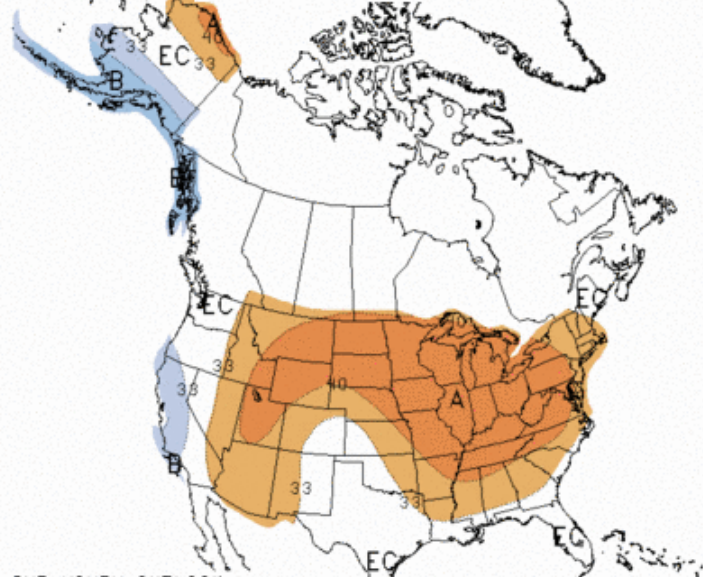
# HPC 5-Day Outlook



# CPC 8-14-Day Outlooks: Valid September 13-19, 2012



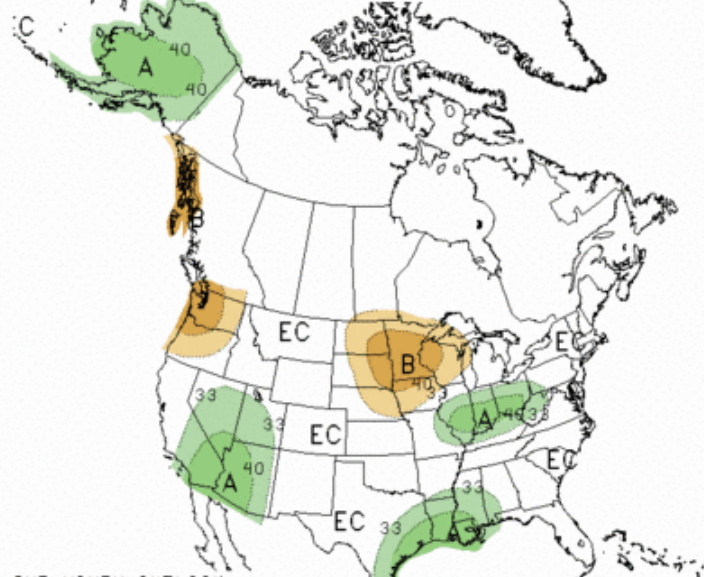
Sep\_2012



ONE-MONTH OUTLOOK  
TEMPERATURE PROBABILITY  
0.0 MONTH LEAD  
VALID SEP 2012  
MADE 31 AUG 2012

EC MEANS EQUAL  
CHANCES FOR A, N, B  
A MEANS ABOVE  
N MEANS NORMAL  
B MEANS BELOW

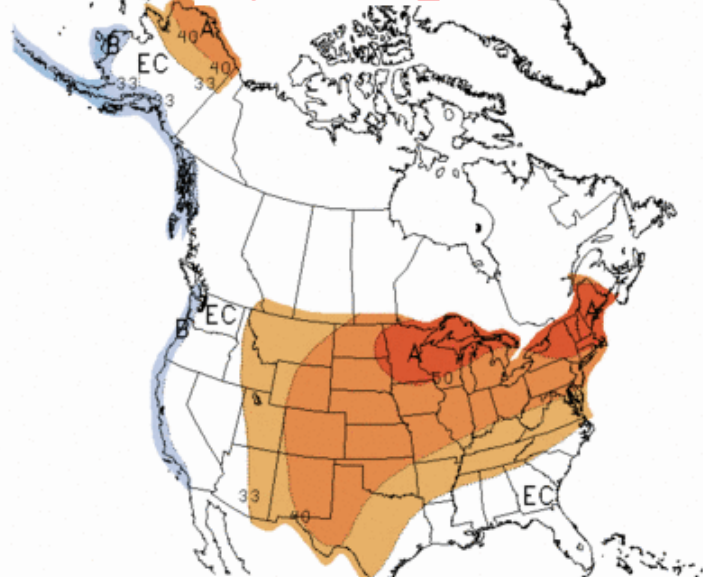
Sep\_2012



ONE-MONTH OUTLOOK  
PRECIPITATION PROBABILITY  
0.0 MONTH LEAD  
VALID SEP 2012  
MADE 31 AUG 2012

EC MEANS EQUAL  
CHANCES FOR A, N, B  
A MEANS ABOVE  
N MEANS NORMAL  
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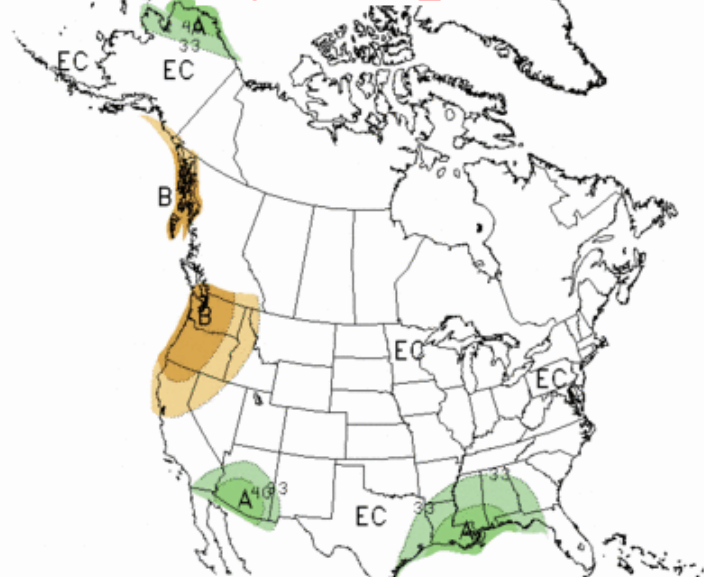
Sep-Oct-Nov\_2012



THREE-MONTH OUTLOOK  
TEMPERATURE PROBABILITY  
0.5 MONTH LEAD  
VALID SON 2012  
MADE 16 AUG 2012

EC MEANS EQUAL  
CHANCES FOR A, N, B  
A MEANS ABOVE  
N MEANS NORMAL  
B MEANS BELOW

Sep-Oct-Nov\_2012

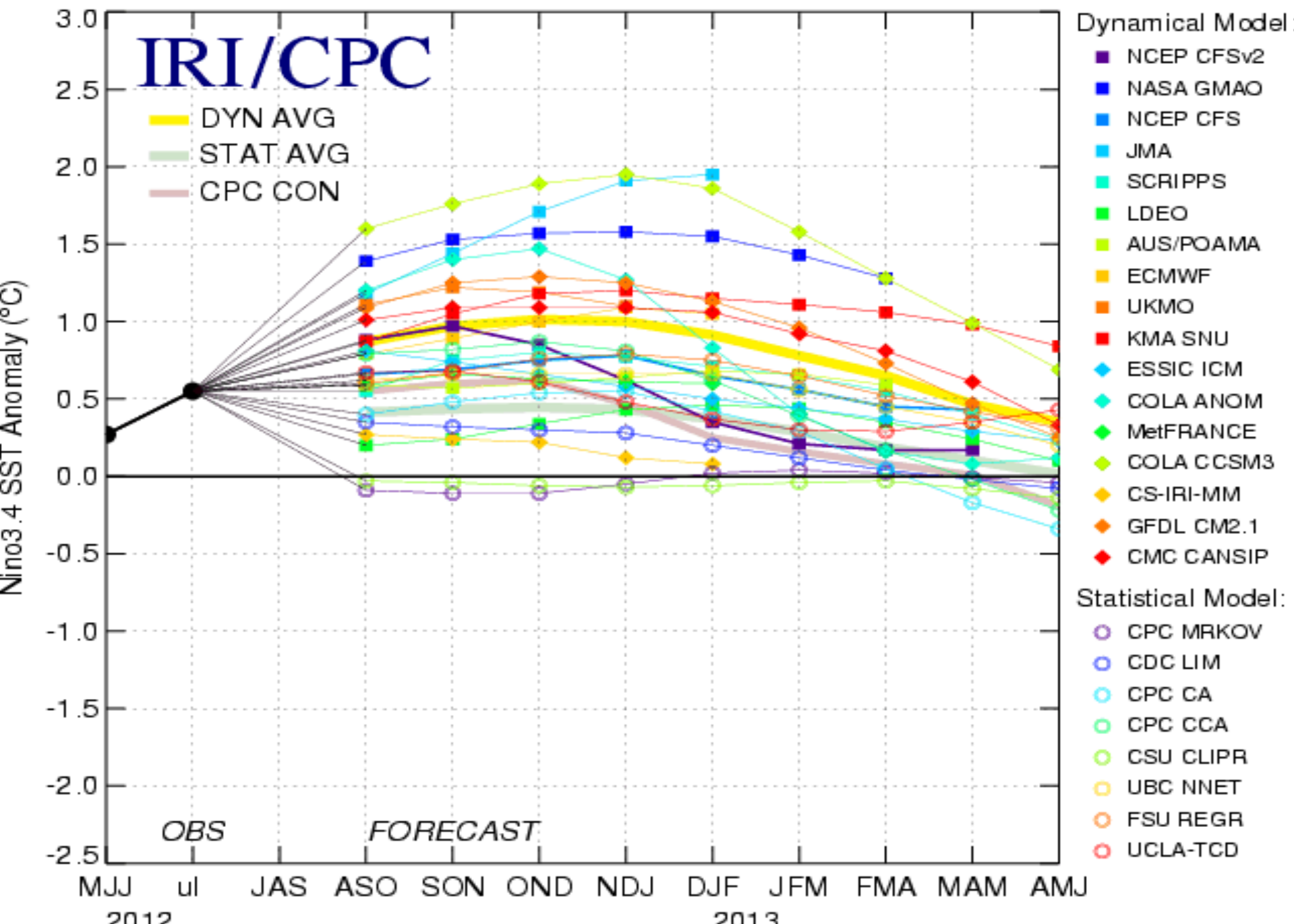


THREE-MONTH OUTLOOK  
PRECIPITATION PROBABILITY  
0.5 MONTH LEAD  
VALID SON 2012  
MADE 16 AUG 2012

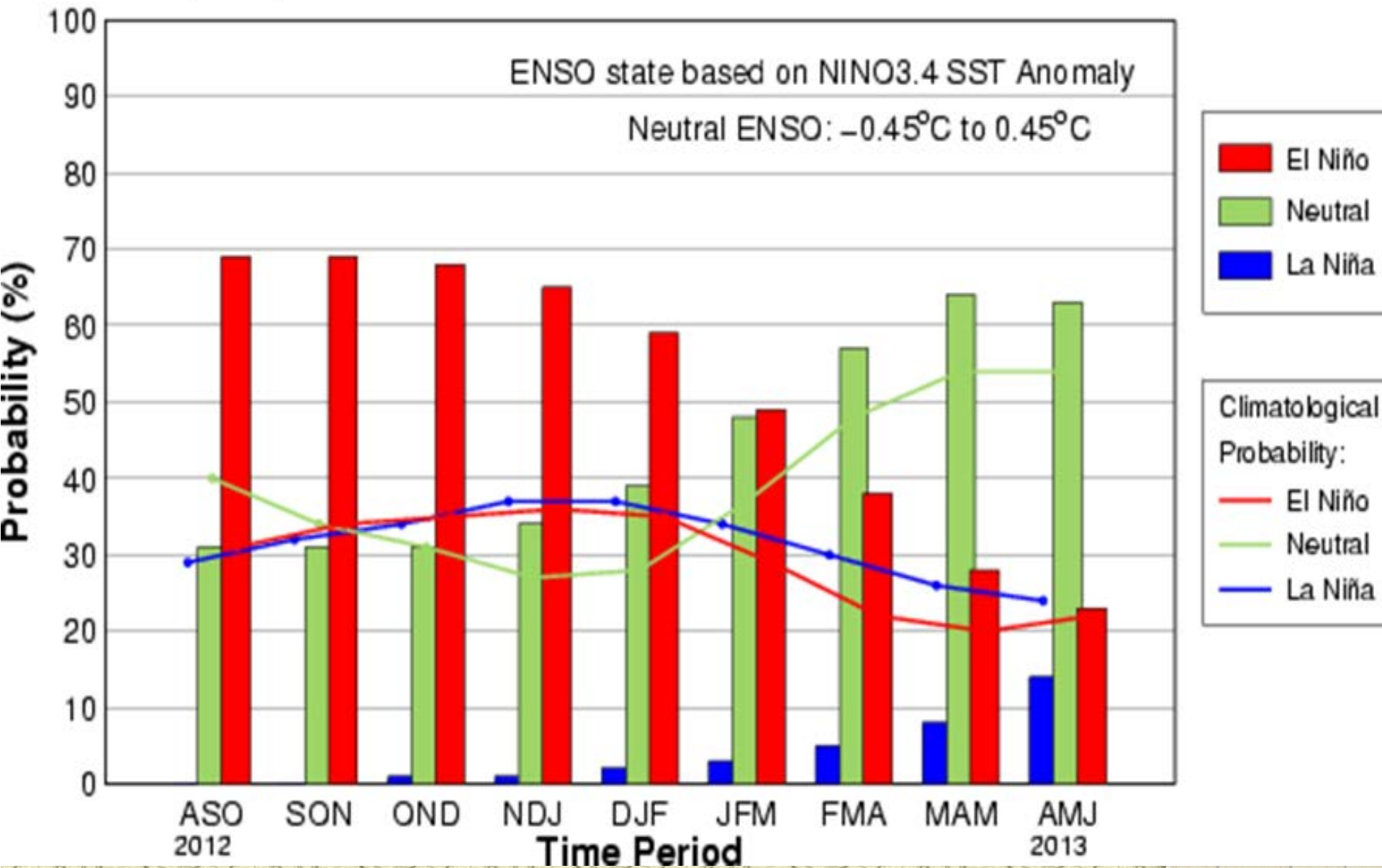
EC MEANS EQUAL  
CHANCES FOR A, N, B  
A MEANS ABOVE  
N MEANS NORMAL  
B MEANS BELOW



# Mid-Aug 2012 Plume of Model ENSO Predictions



# Early-Sep CPC/IRI Consensus Probabilistic ENSO Forecast



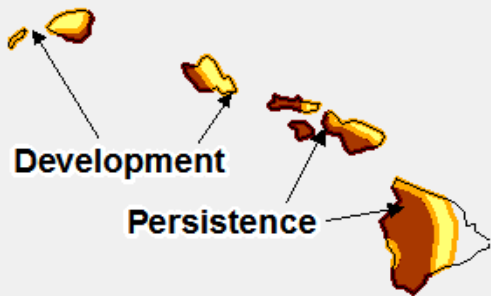
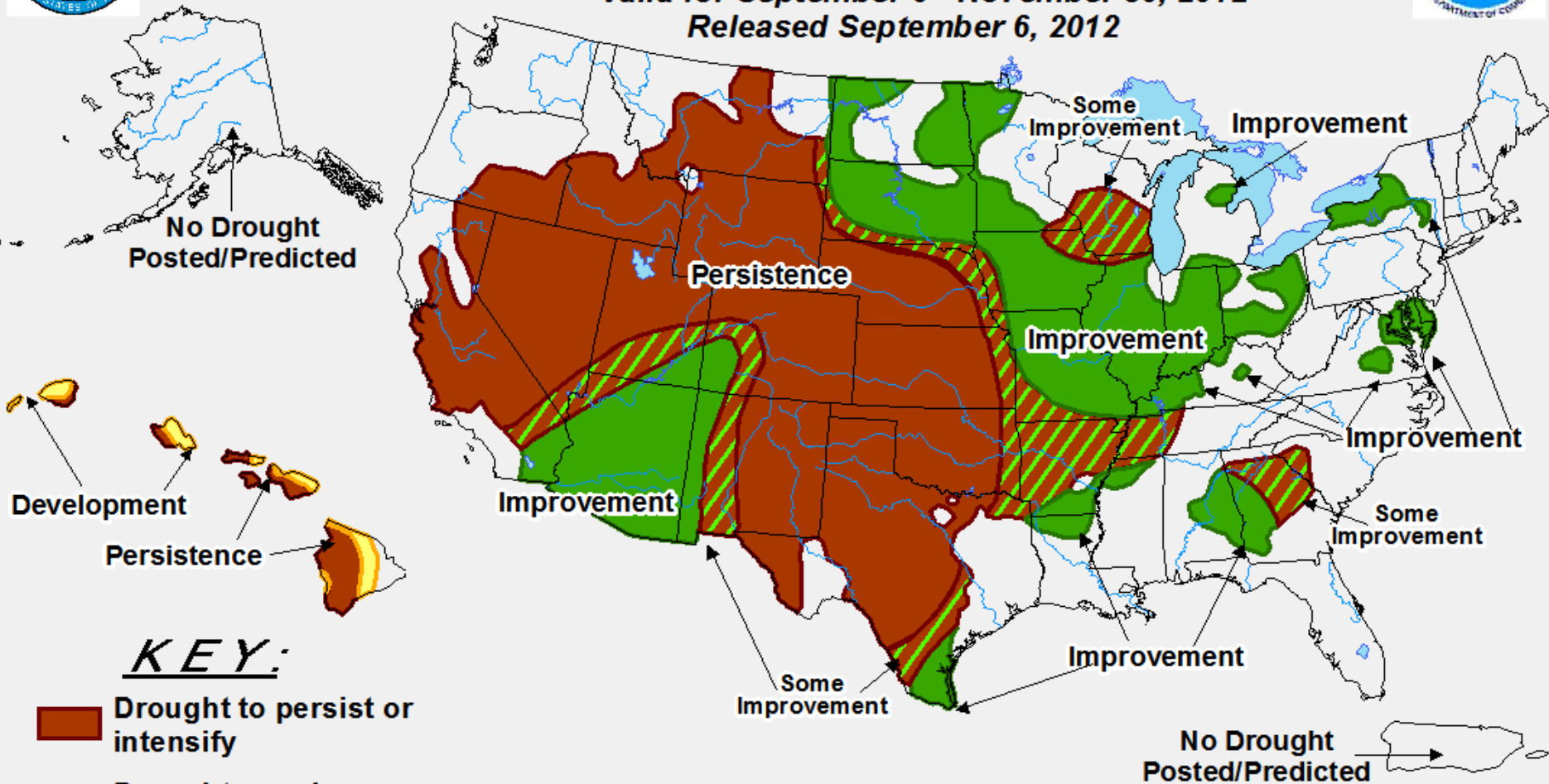


# U.S. Seasonal Drought Outlook





## Drought Tendency During the Valid Period

Valid for September 6 - November 30, 2012

Released September 6, 2012



### KEY:

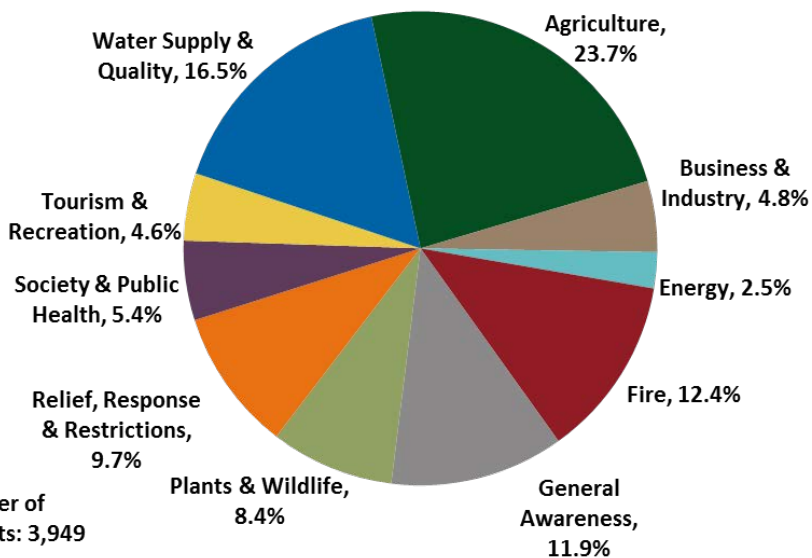
-  Drought to persist or intensify
-  Drought ongoing, some improvement
-  Drought likely to improve, impacts ease
-  Drought development likely

Depicts large-scale trends based on subjectively derived probabilities guided by short- and long-range statistical and dynamical forecasts. Short-term events -- such as individual storms -- cannot be accurately forecast more than a few days in advance. Use caution for applications -- such as crops -- that can be affected by such events. "Ongoing" drought areas are approximated from the Drought Monitor (D1 to D4 intensity). For weekly drought updates, see the latest U.S. Drought Monitor. NOTE: the green improvement areas imply at least a 1-category improvement in the Drought Monitor intensity levels, but do not necessarily imply drought elimination.

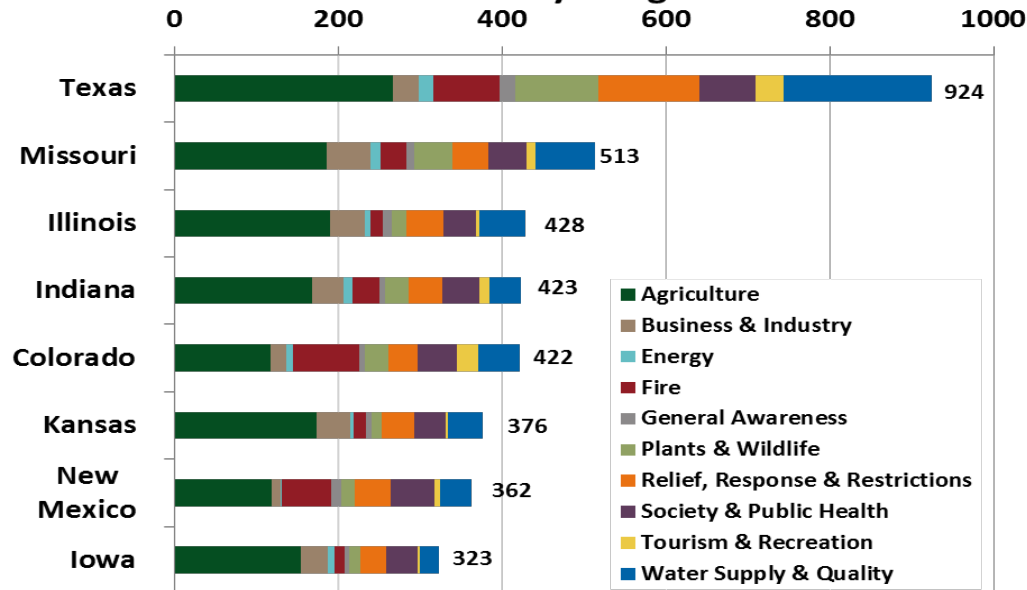


# Drought Impacts by Sector and State

Reports by category in the Drought Impact Reporter, January - August 2012

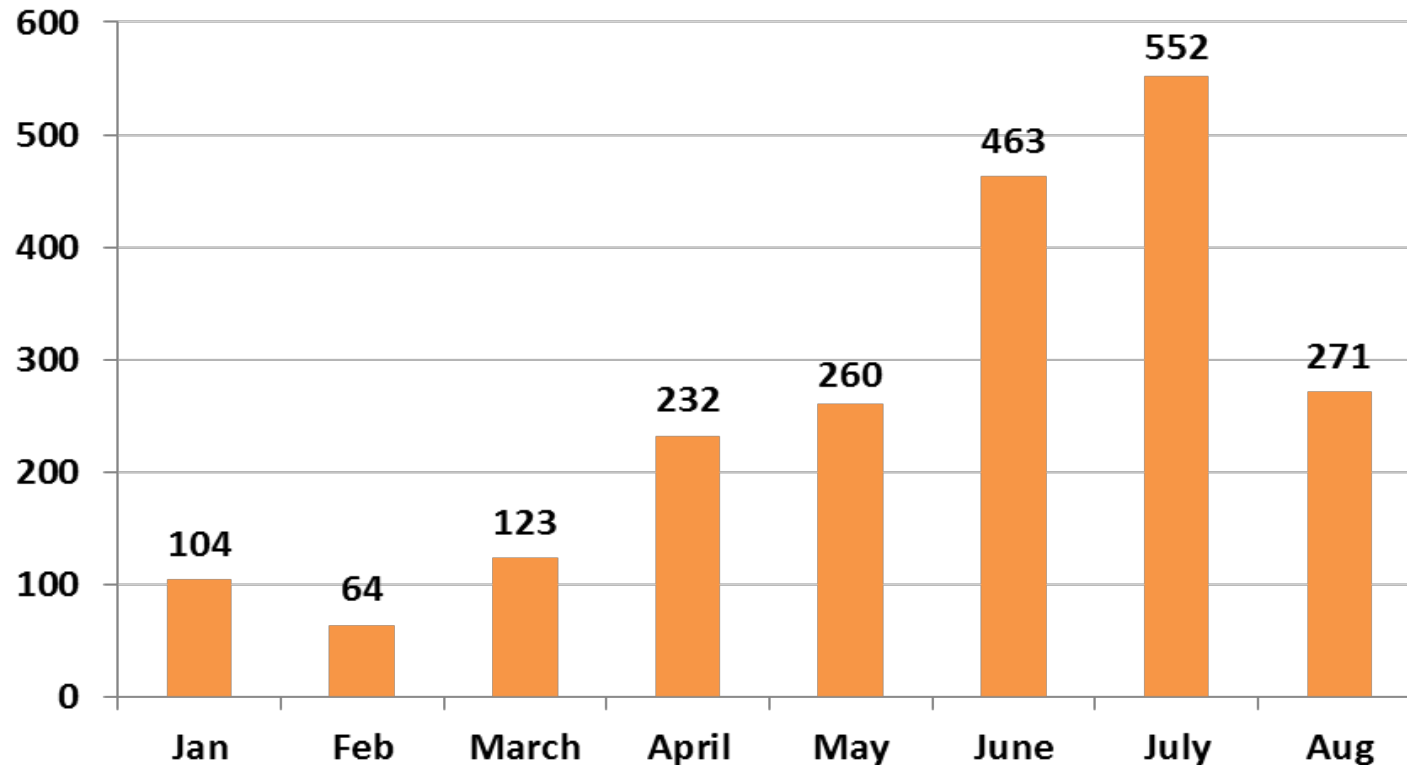


Reports by state in the Drought Impact Reporter, January - August 2012



# Voluntarily Reported Drought Impacts

## Volunteer-submitted reports, January - August 2012



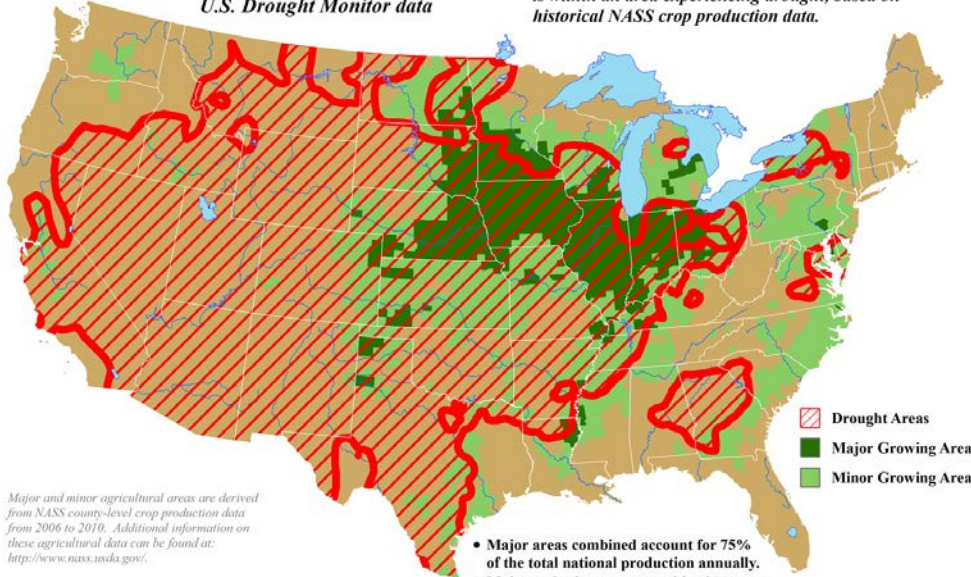
Reports for each month of 2012 (through August) submitted by volunteers to the Drought Impact Reporter

# Drought Impacts: Agriculture

## U.S. Corn Areas Experiencing Drought

Reflects September 4, 2012  
U.S. Drought Monitor data

Approximately 83% of the corn grown in the U.S. is within an area experiencing drought, based on historical NASS crop production data.



- Drought Areas
- Major Growing Area
- Minor Growing Area

Major and minor agricultural areas are derived from NASS county-level crop production data from 2006 to 2010. Additional information on these agricultural data can be found at: <http://www.nass.usda.gov/>.

Mapped drought areas are derived from the U.S. Drought Monitor product and do not depict the intensity of drought in any particular location. More information on the Drought Monitor can be found at: <http://www.drought.unl.edu/dm/monitor.html>.

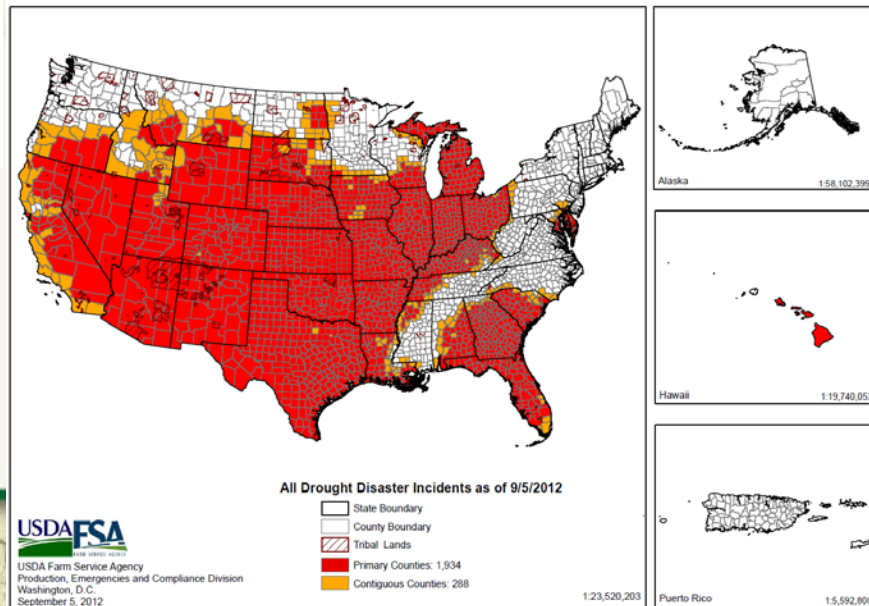
- Major areas combined account for 75% of the total national production annually.
- Major and minor areas combined account for 99% of the total national production annually.

USDA Agricultural Weather Assessments  
World Agricultural Outlook Board

On July 11, USDA's World Agricultural Outlook Board cut the estimate for the 2012 U.S. corn crop by 1.82 billion bushels. The 12% cut left the projected U.S. corn production at 12.97 billion bushels.

On August 10, 2012 USDA/WAOB adjusted the crops down again by 2.17 billion bushels (16.7%):  
**Corn:** 123.4 bushels/acre (10.8 billion bushels), down from 146.0 in July and 166.0 in June.  
**Soybeans:** 36.1 bushels/acre (83.4 million tons), down from 40.5 in July and 43.9 in June.

## 2012 Secretarial Drought Designations - All Drought



All Drought Disaster Incidents as of 9/5/2012

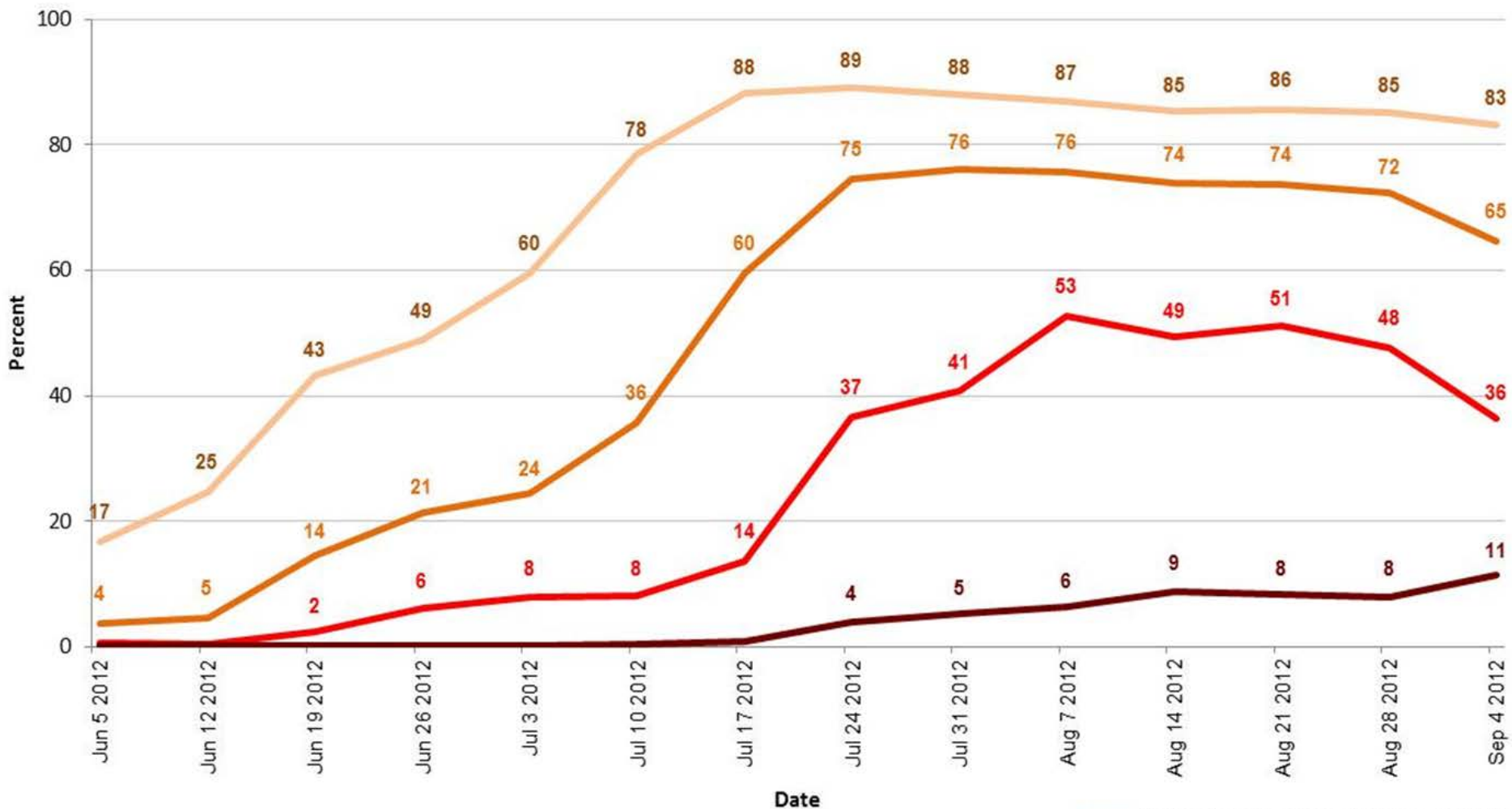
- State Boundary
- County Boundary
- Tribal Lands
- Primary Counties: 1,934
- Contiguous Counties: 288

USDA FSA  
USDA Farm Service Agency  
Production, Emergencies and Compliance Division  
Washington, D.C.  
September 5, 2012

1:23,520,203

Alaska 1:58,102,399  
Hawaii 1:19,740,053  
Puerto Rico 1:5,582,808

# United States Corn Areas Located in Drought




**Agricultural Weather Assessments**  
**World Agricultural Outlook Board**

- Moderate or more intense drought (D1+)
- Severe or more intense drought (D2+)
- Extreme or more intense drought (D3+)
- Exceptional drought (D4)

# Further Information

## Today's Recorded Presentation:

- <http://mrcc.isws.illinois.edu/webinars.htm>  
<http://www.hprcc.unl.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)
- Climate Portal: [www.climate.gov](http://www.climate.gov)
- U.S. Drought Monitor: [www.droughtmonitor.unl.edu](http://www.droughtmonitor.unl.edu)
- National Drought Mitigation Center: [www.drought.unl.edu](http://www.drought.unl.edu)
- Drought Impact Reporter: [www.droughtreporter.unl.edu](http://www.droughtreporter.unl.edu)
- NIDIS Drought Portal: [www.drought.gov](http://www.drought.gov)
- State climatologists
  - <http://www.stateclimate.org>
- Regional climate centers
  - <http://mrcc.isws.illinois.edu>
  - <http://www.hprcc.unl.edu>



# Contact Information:

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402-472-8238

National Drought Mitigation Center  
School of Natural Resources  
University of Nebraska-Lincoln



# Impacts of Drought on Fish and Wildlife

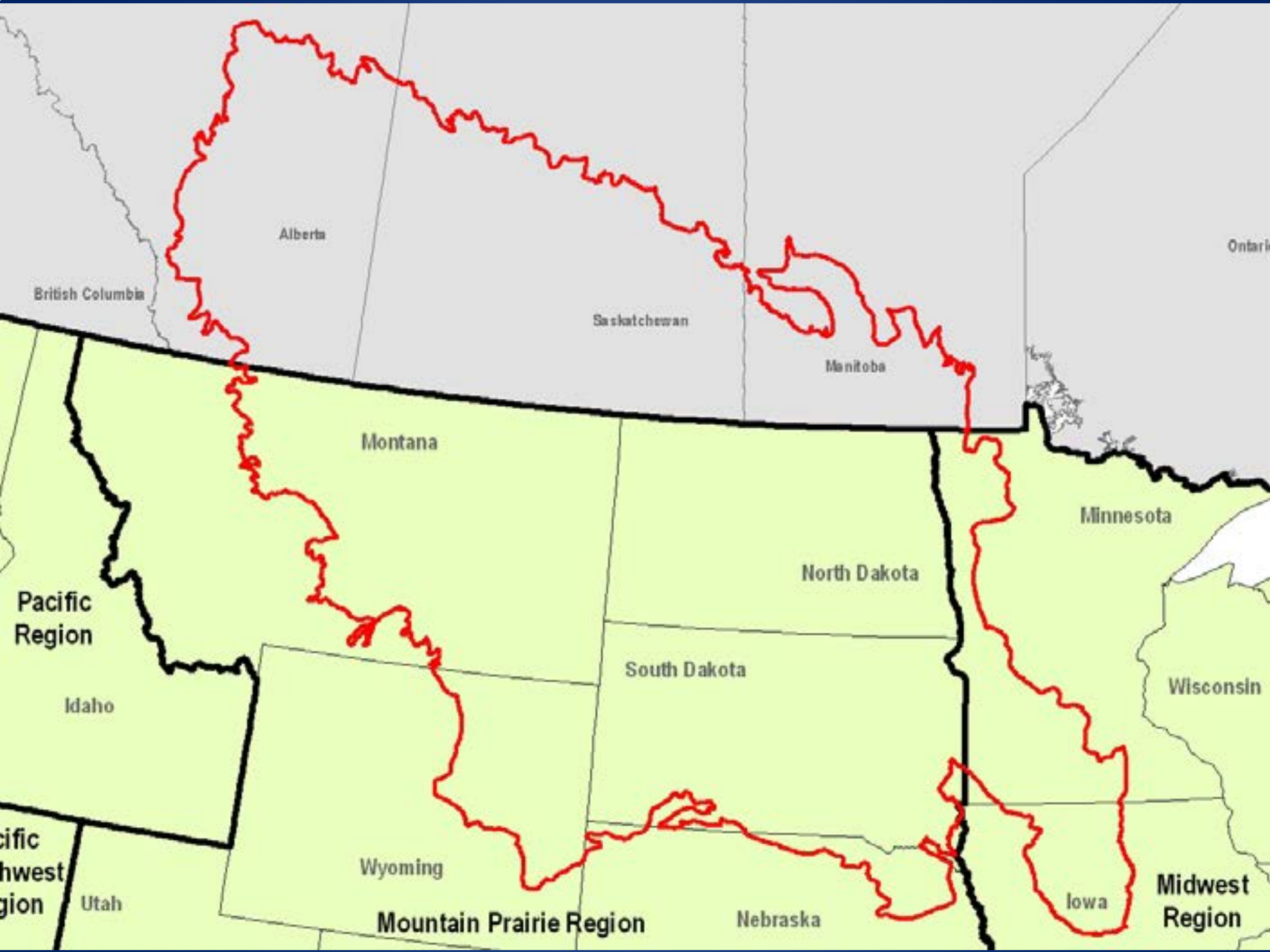
## *The Good, The Bad, The Ugly*

Rick Nelson

Coordinator – Plains & Prairie Potholes LCC

U.S. Fish and Wildlife Service













**DON'T DELAY  
DRAIN TODAY!  
← 4 MI. →**

**BELVIEW CEMENT PRODUCTS**



2011 12 28



2011 12 28

# Warm water closes Yellowstone Park rivers to fishing



# 40,000 shovelnose sturgeon were killed in Iowa



IMAGE HOSTED BY  
[GALLERY.NANFA.ORG](http://GALLERY.NANFA.ORG)



9 2'98









# Summary

**The Good – short duration droughts can have positive impacts e.g. deflation**

**The Bad – droughts can result in local extinctions, loss of habitats, competition for limited resources, e.g. invasive species**

**The Ugly – ecological impacts of drought are often exacerbated by economic and political impacts, e.g. needs of people vs. needs of fish wildlife**

# Questions