

# Midwest and Great Plains Climate- Drought Outlook 17 July 2014

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Hail damaged tree – Josh Boustead – copyrighted photo

# General Information

- \* **Providing climate services to the Central Region**

- \* Collaboration Activity Between:

- \* State Climatologists
    - \* Doug Kluck & John Eise (NOAA/NWS)
    - \* American Association of State Climatologists
    - \* Midwest and High Plains Regional Climate Centers
    - \* National Drought Mitigation Center/USDA

- \* **Next Regular Climate/Drought Outlook Webinar**

- \* August 21, 2014 (1 PM CDT)
  - \* Dr. Jeffery Andresen – Michigan State Climatologist

- \* **Access to Future Climate Webinars and Information**

- \* <http://www.drought.gov/drought/content/regional-programs/regional-drought-webinars>

- \* <http://mrcc.isws.illinois.edu/webinars.htm>

- \* <http://www.hprcc.unl.edu/webinars.php>

- \* **Operator Assistance for questions at the end**

# Agenda

- \* **Current Conditions**

- \* **Impacts**

- \* **Flooding**

- \* **Severe Weather**

- \* **Agriculture**

- \* **Outlooks**

- \* **El Niño**

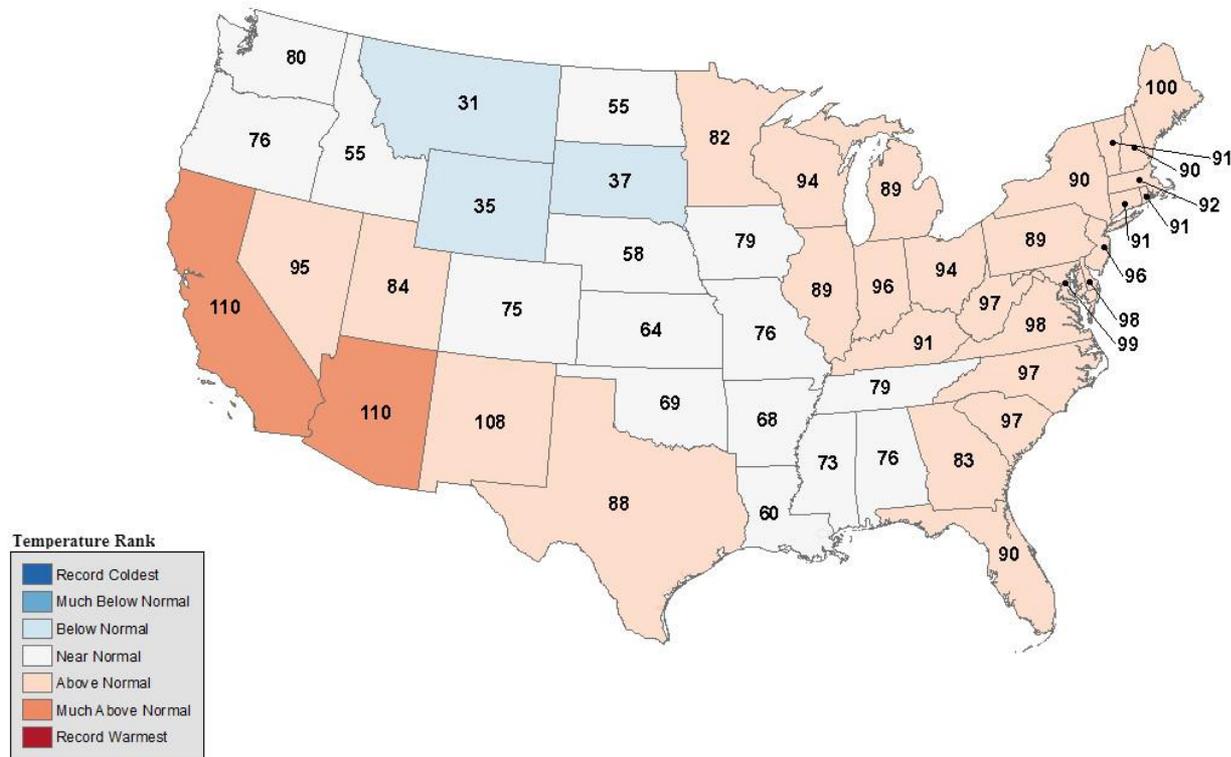
# Review/Current Conditions

# June Temperature Recap

**Warm Great Lakes  
and eastern Corn  
Belt**

**Cool northern  
Plains**

Statewide Average Temperature Rank  
June 2014



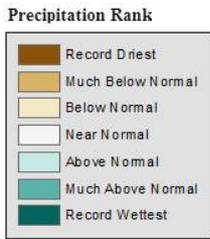
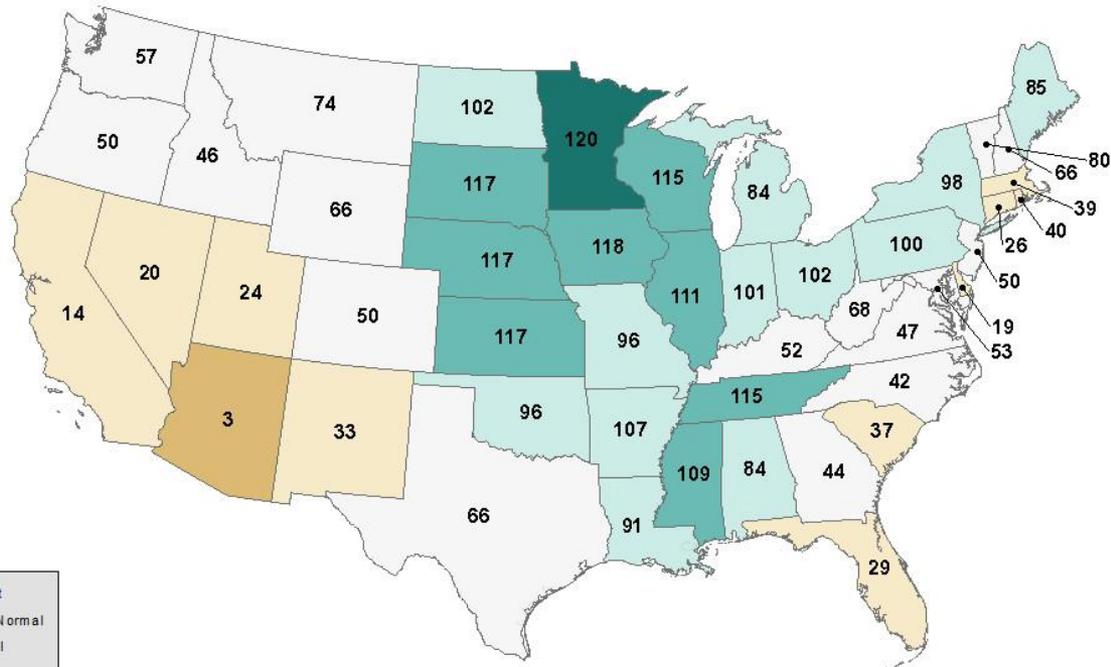
# June Precipitation Recap

Wet Midwest

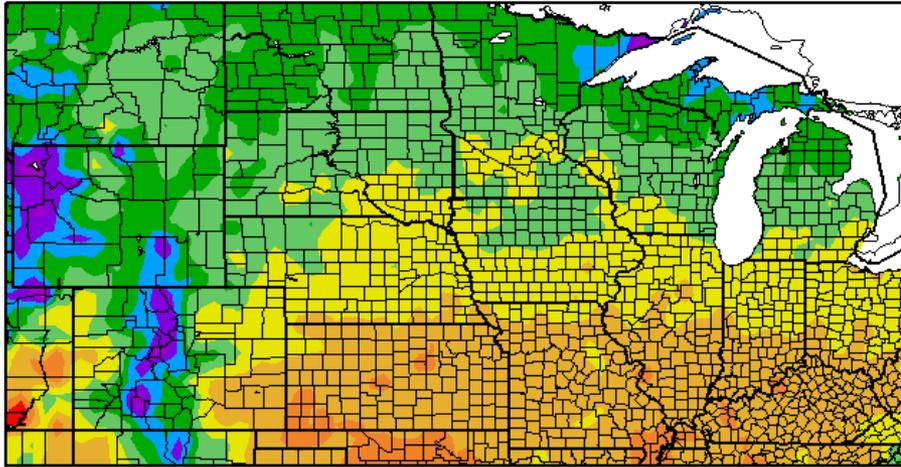
MN Record wettest  
 Top 5 wettest

SD  
 NE  
 KS  
 IA

Statewide Precipitation Rank  
 June 2014



Temperature (F)  
6/16/2014 – 7/15/2014



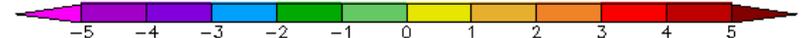
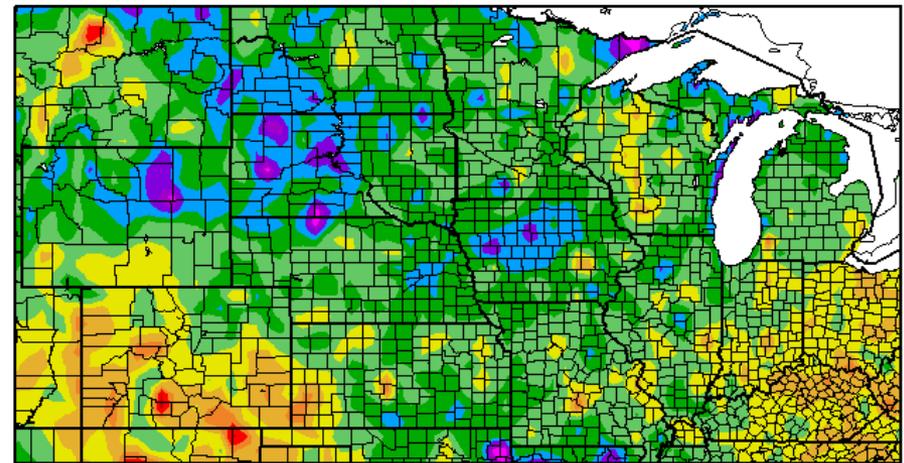
Generated 7/16/2014 at HPRCC using provisional data.

Regional Climate Centers

# Most recent 30-day temperature

Departure from Normal Temperature (F)  
6/16/2014 – 7/15/2014

**Generally cooler than average conditions.  
Good in corn belt. Not as good in northern corn belt.**



Generated 7/16/2014 at HPRCC using provisional data.

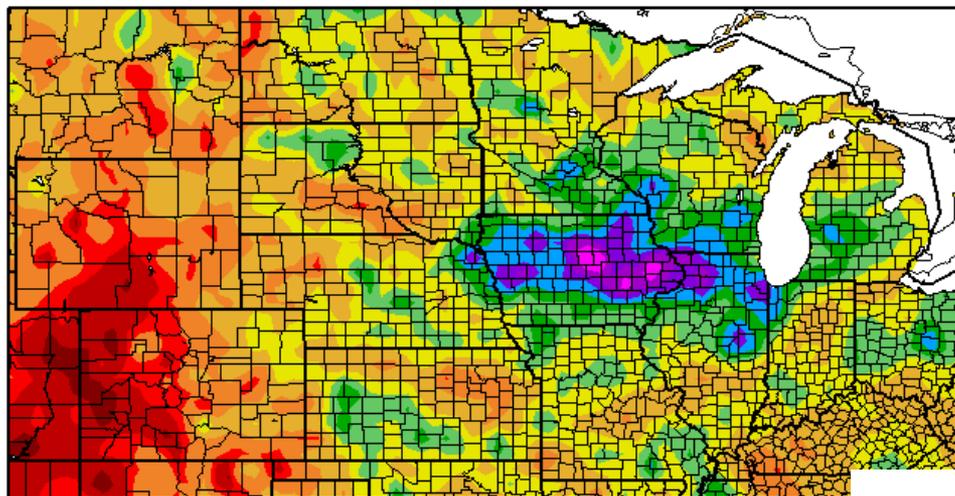
Regional Climate Centers

<http://www.hprcc.unl.edu/maps/current/>

**HPRCC – Regional Climate Centers**

Precipitation (in)  
6/16/2014 - 7/15/2014

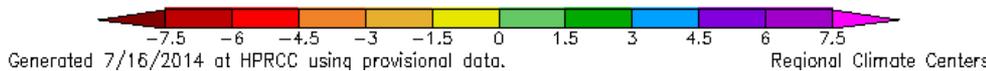
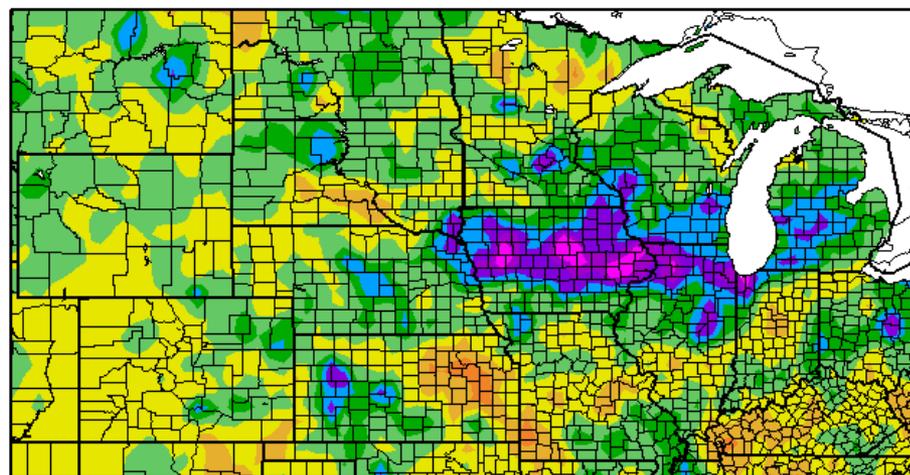
# Most recent 30-day precipitation



Generated 7/16/2014 at HPRCC using provisional data.

**Wet across Iowa and Illinois**

Departure from Normal Precipitation (in)  
6/16/2014 - 7/15/2014

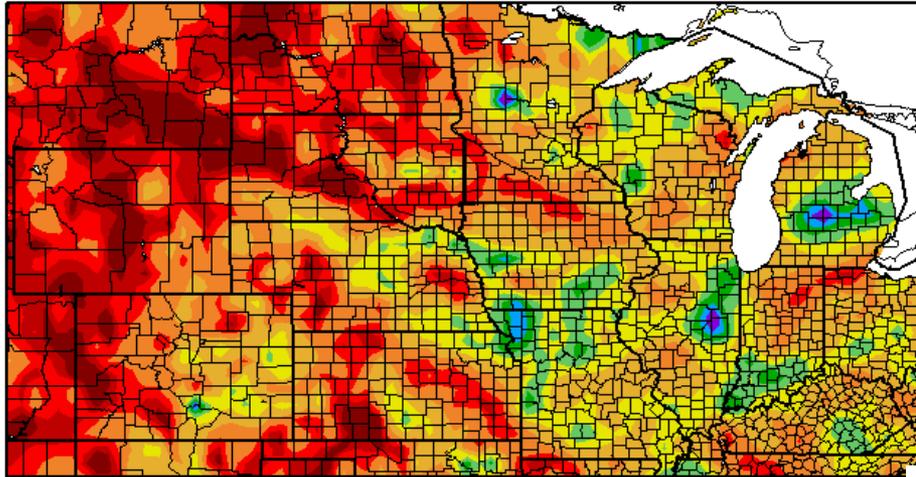


Generated 7/16/2014 at HPRCC using provisional data.

<http://www.hprcc.unl.edu/maps/current/>

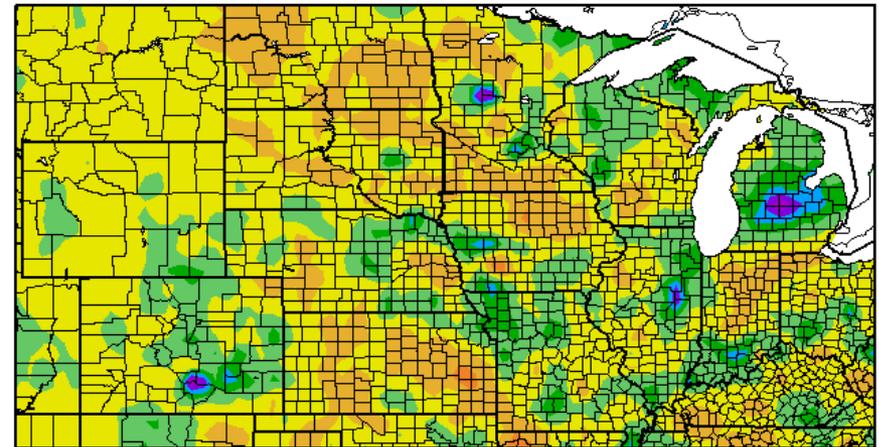
**HPRCC - Regional Climate Centers**

Precipitation (in)  
7/2/2014 - 7/15/2014



# Most recent 14-day precipitation

Departure from Normal Precipitation (in)  
7/2/2014 - 7/15/2014



Quickly drying out in certain areas

Reduced ET helping out

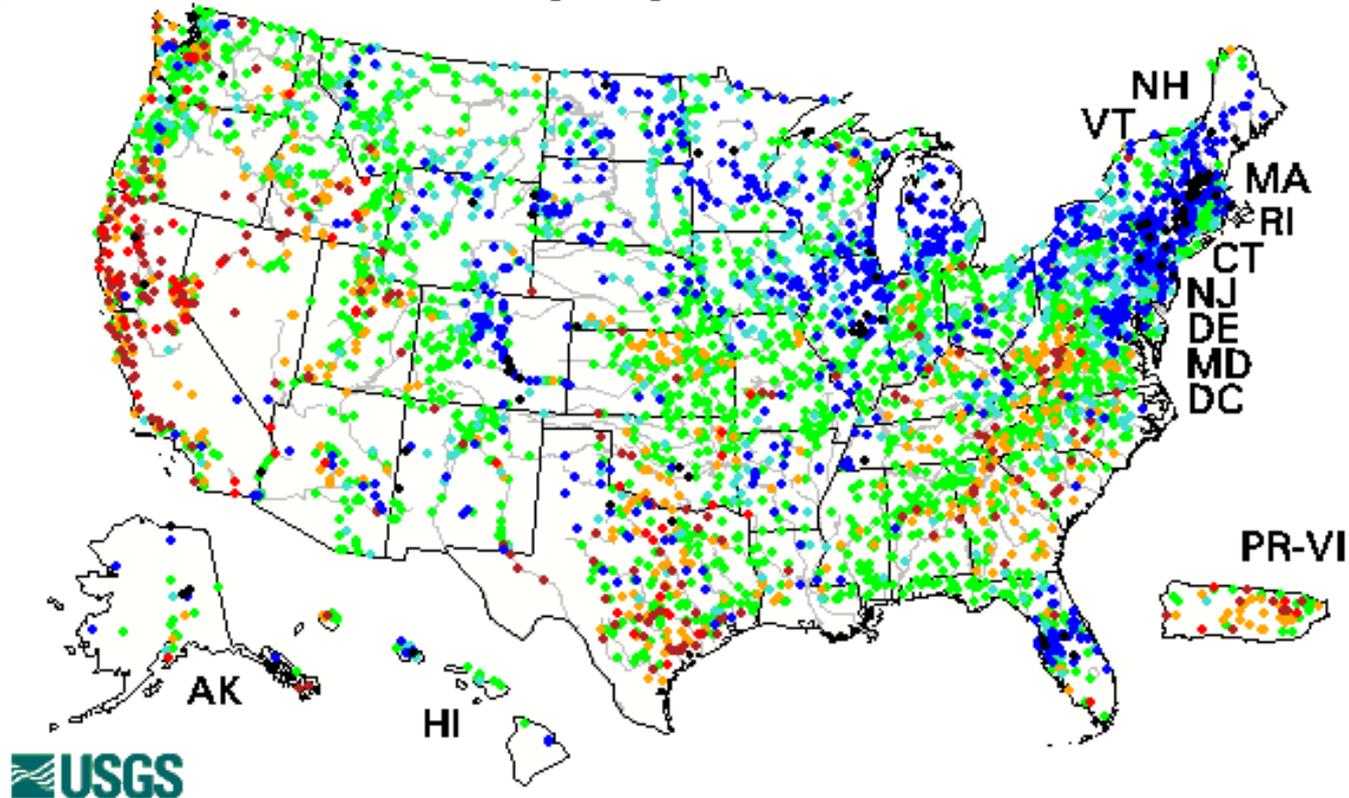
<http://www.hprcc.unl.edu/maps/current/>

HPRCC - Regional Climate Centers



# 7-Day Average Streamflow

Thursday, July 17, 2014 08:00ET

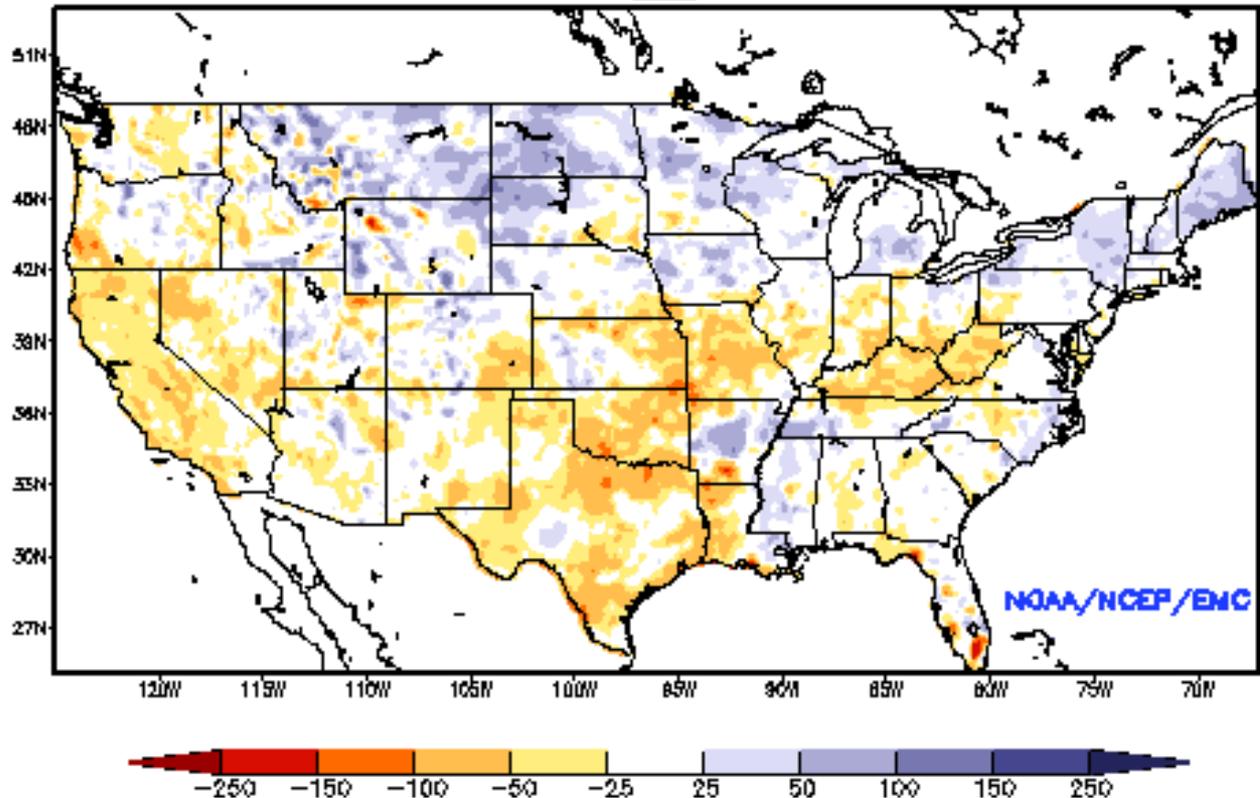


Thursday, 17 Apr. 2014

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

# Soil Moisture status

Ensemble-Mean - Current Total Column Soil Moisture Anomaly (mm)  
NCEP NLDAS Products \_\_\_ Valid: JUL 12, 2014

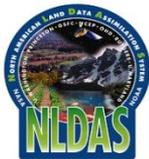


Wet area in the northern Plains and Midwest

Still hanging on to dry in southern areas

Soil Moisture Anomaly in millimeters

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

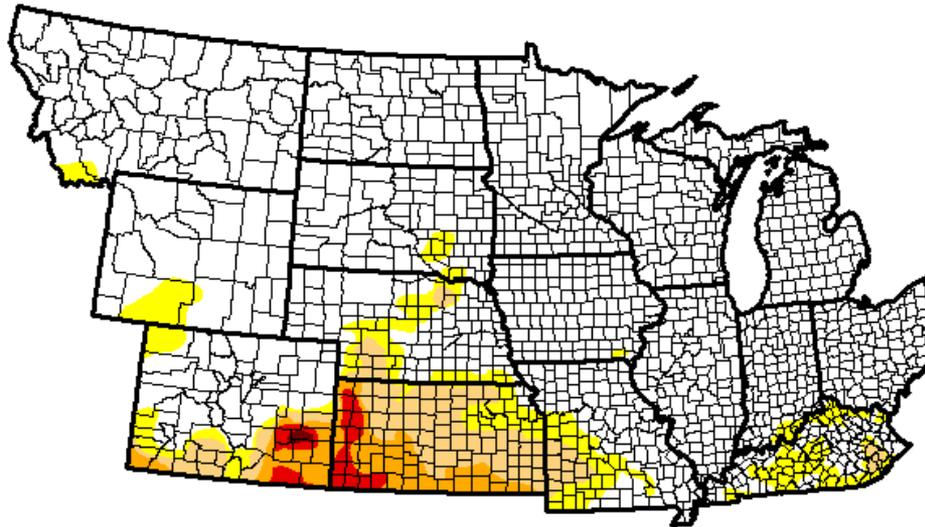


# U.S. Drought Monitor NWS Central Region

**July 15, 2014**  
(Released Thursday, Jul. 17, 2014)  
Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0	D1	D2	D3	D4
<b>Current</b>	82.36	7.84	5.66	2.93	1.13	0.08
<b>Last Week</b> <i>7/8/2014</i>	80.43	9.02	5.62	3.33	1.50	0.11
<b>3 Months Ago</b> <i>4/15/2014</i>	67.25	14.57	9.40	6.59	2.05	0.13
<b>Start of Calendar Year</b> <i>12/01/2013</i>	59.98	22.98	10.36	5.60	0.94	0.13
<b>Start of Water Year</b> <i>10/1/2013</i>	42.76	24.39	19.10	12.34	1.28	0.13
<b>One Year Ago</b> <i>7/16/2013</i>	58.09	9.94	9.97	11.72	6.81	3.47



### Intensity:



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

### Author:

David Miskus  
NOAA/NWS/NCEP/CPC



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

# Impacts

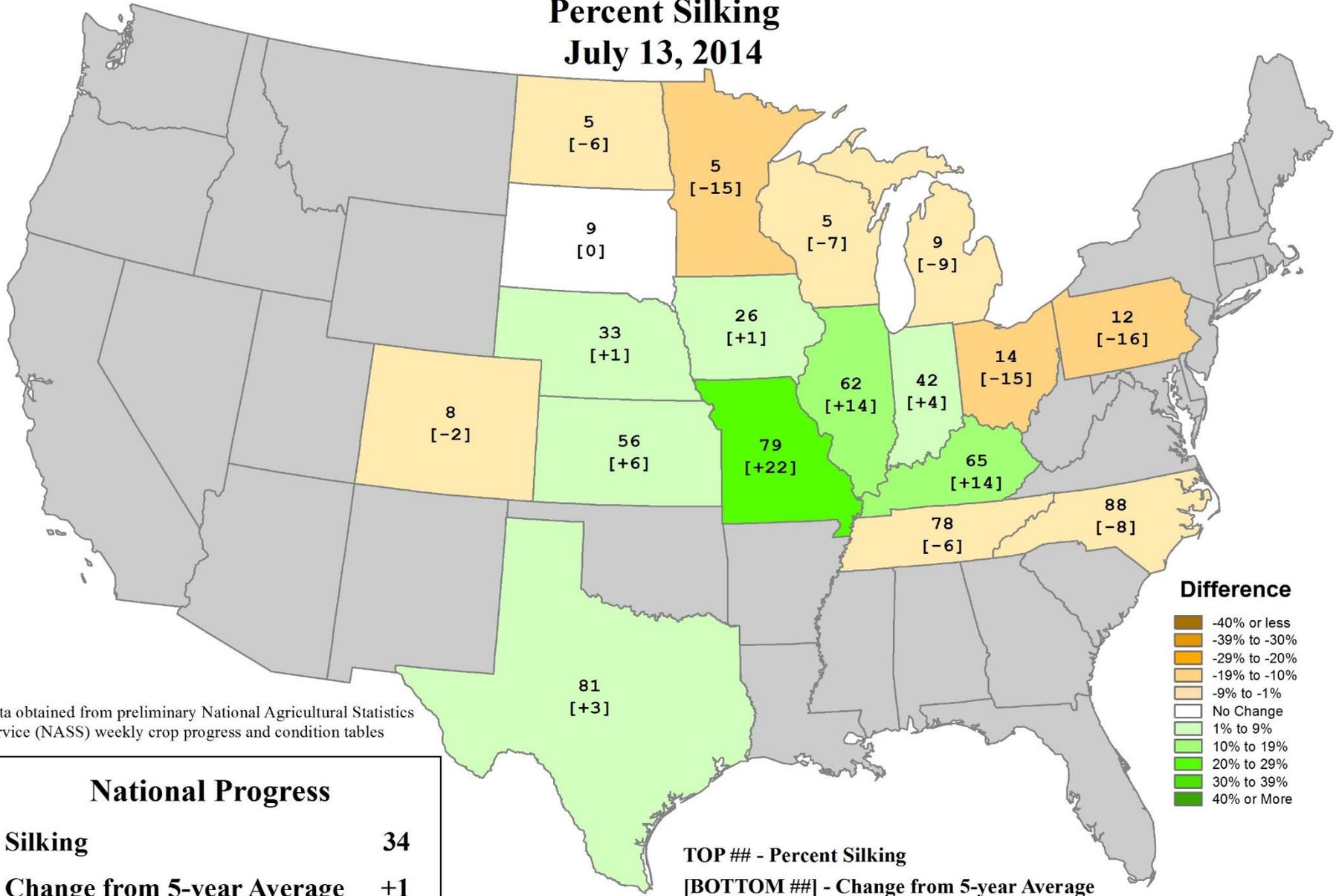
The image features a solid blue background with a white wavy line at the bottom. The word "Impacts" is centered in white text.

Impacts

# Agriculture

# U.S. Corn Progress

Percent Silking  
July 13, 2014



### Difference

- 40% or less
- 39% to -30%
- 29% to -20%
- 19% to -10%
- 9% to -1%
- No Change
- 1% to 9%
- 10% to 19%
- 20% to 29%
- 30% to 39%
- 40% or More

Data obtained from preliminary National Agricultural Statistics Service (NASS) weekly crop progress and condition tables

### National Progress

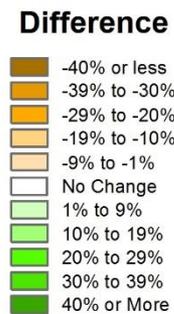
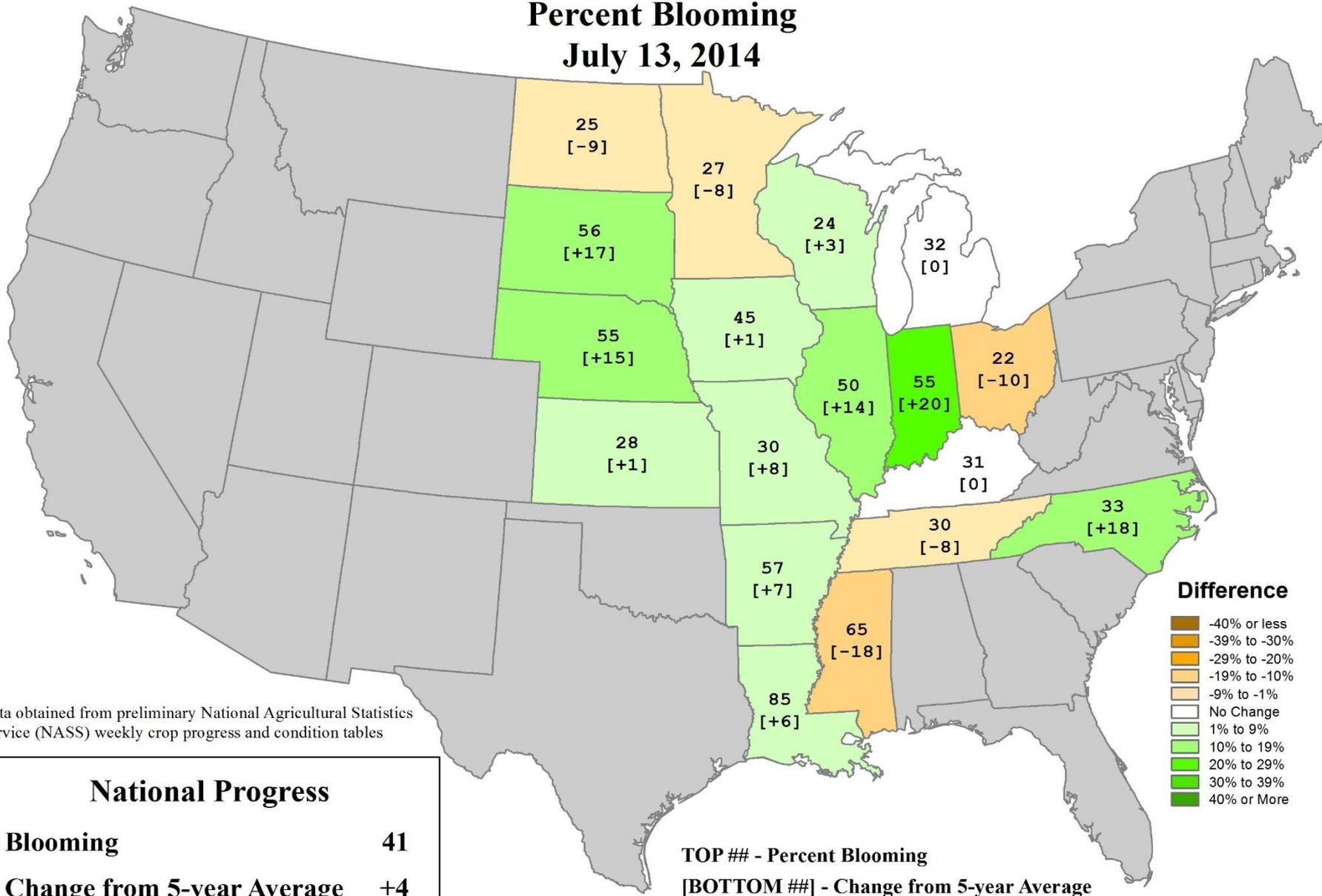
**Silking** 34  
**Change from 5-year Average** +1

TOP ## - Percent Silking

[BOTTOM ##] - Change from 5-year Average

# U.S. Soybeans Progress

Percent Blooming  
July 13, 2014



Data obtained from preliminary National Agricultural Statistics Service (NASS) weekly crop progress and condition tables

National Progress	
<b>Blooming</b>	<b>41</b>
<b>Change from 5-year Average</b>	<b>+4</b>

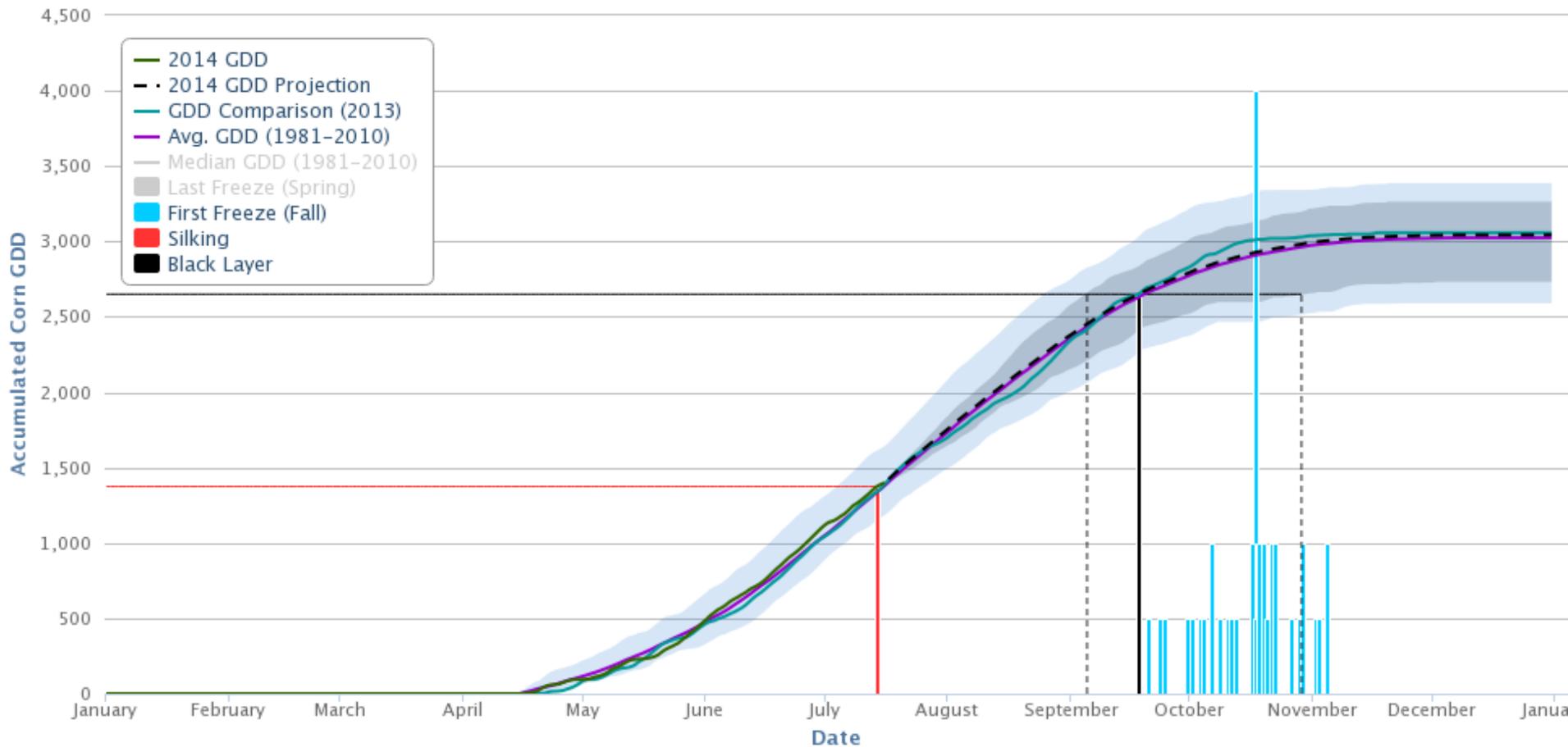
TOP ## - Percent Blooming  
[BOTTOM ##] - Change from 5-year Average

# Ag summary

- \* Generally crop conditions are quite good – crops progressing well
- \* Some delay northern area due to delayed planting and wet conditions
- \* Oddly quicker development in some areas
- \* Variable development in wetter areas
  
- \* Severe weather talked about in a bit....

## Corn Growing Degree Day Tool

Location: 42.09, -92.05 in Benton Co., IA, Start Date: April 15, Maturity Days: 110, Freeze Temp: 28°F, Variation: All Years



GDD Base 50/86 (degrees F); Created: 07/17/2014

<https://drinet.hubzero.org/groups/uzu/tools/gdd>

Impacts

# Mississippi River/Flooding

# Flooding issues

- \* Mississippi barge traffic stopped during flooding – locks closed due to flooding (IA, MO)
- \* Rail traffic slowed or diverted in areas along the river – BNSF Hannibal, MO and CN
- \* Road closures in MN and other locations
- \* Bridges closed Quincy, IL and Louisiana, MO
- \* Golf courses damaged, MN/IA others – lost revenue
- \* Limiting recreation, camping, hiking, boating – damaged facilities, high water, etc.

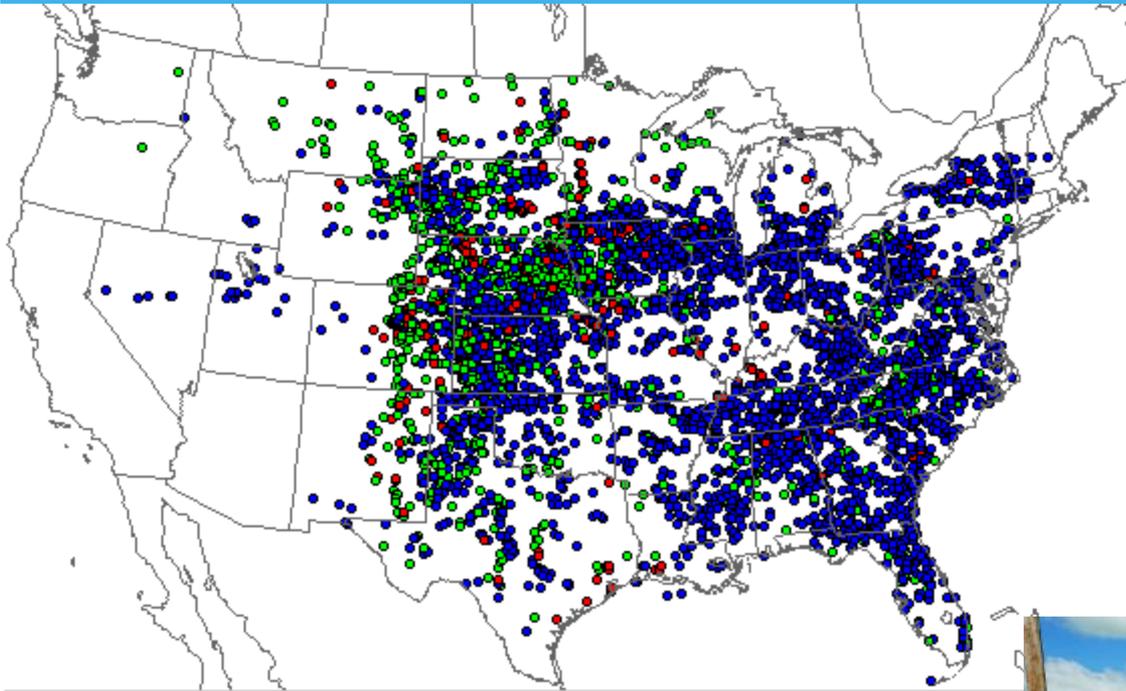


John Schultz/AP

Impacts

# Severe Weather

# Severe Weather Reports June 2014



PRELIMINARY SEVERE WEATHER  
REPORT DATABASE (ROUGH LOG)

NOAA/Storm Prediction Center Norman, Oklahoma

Severe Weather  
June 01, 2014 - June

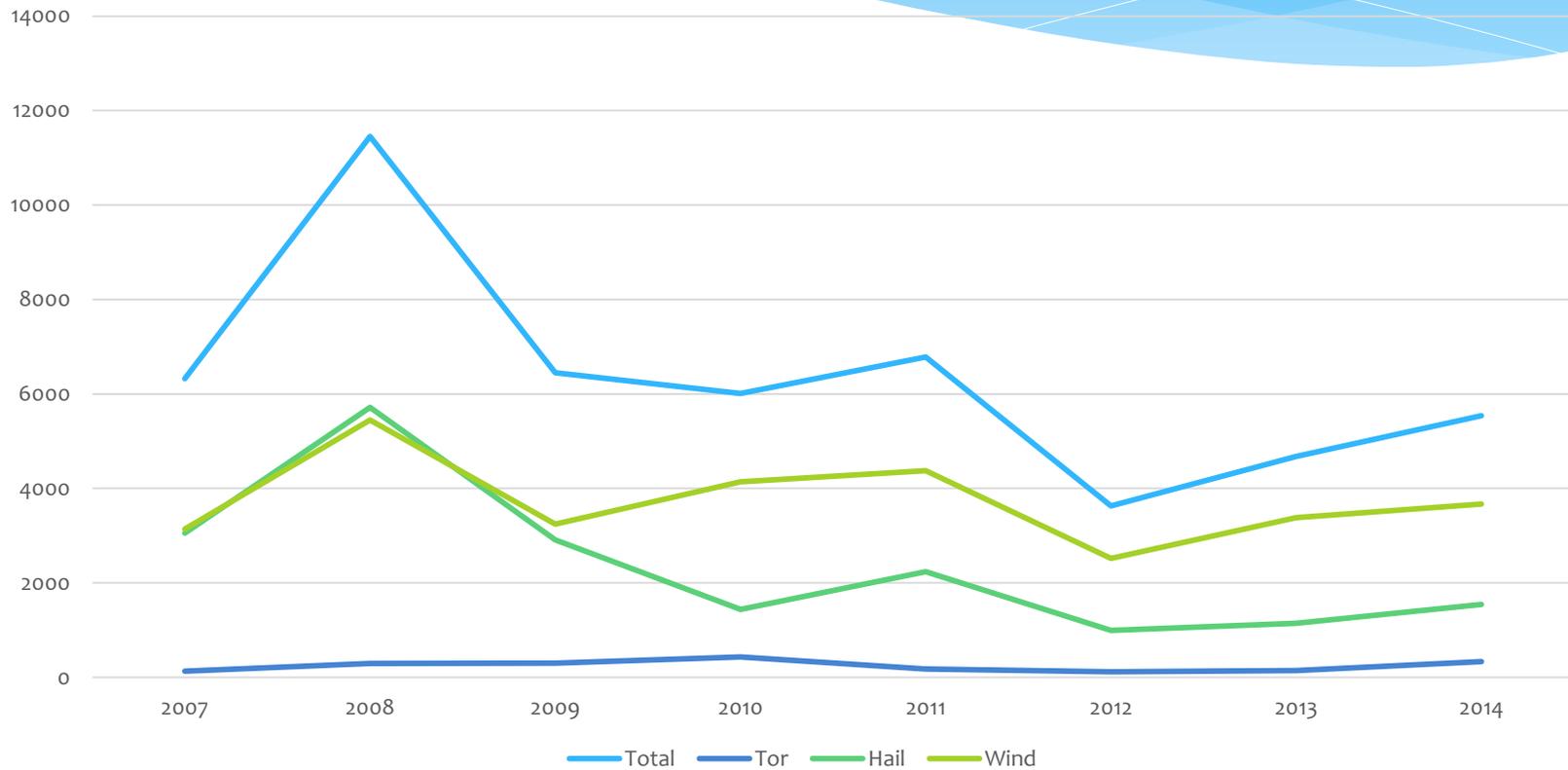
Updated: Tuesday July 01, 2014

Piatt County, IL Illinois FB  
Farm Week



# June Severe Reports

June Severe Weather Reports  
NOAA Storm Prediction Center



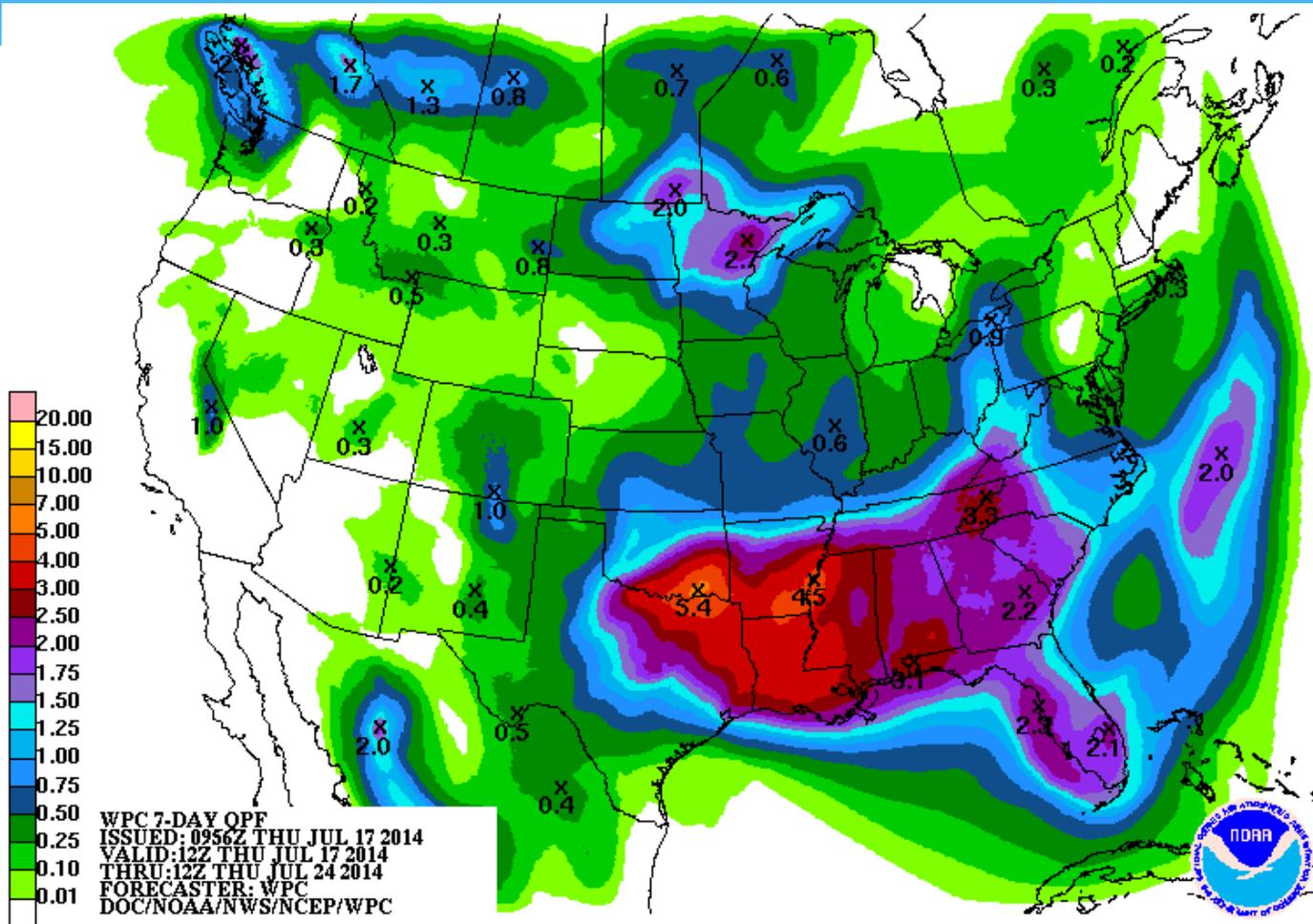
# Outlooks

# Climate Outlooks

- \* **7-day precipitation forecast**
- \* **8-14 day outlook**
- \* **August**
- \* **3 Months (August - October)**
- \* **Seasonal Drought Outlooks**
- \* **El Nino**

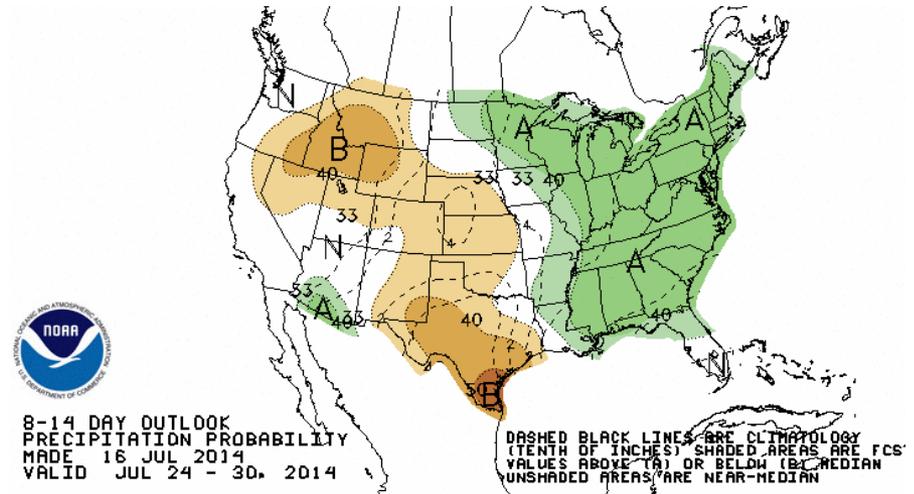
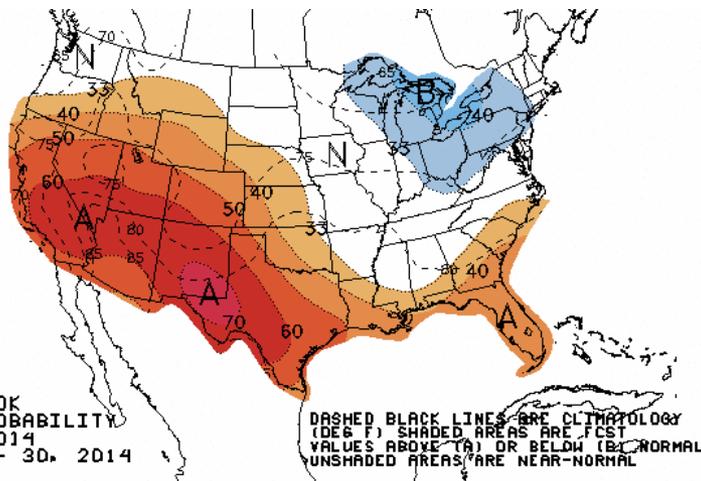
# 7-day Quantitative Precipitation Forecast

Valid: 7 AM Thu 17 Jul– 7 AM Thu 24 Apr



<http://www.wpc.ncep.noaa.gov/qpf/day1-7.shtml>

# Temperature and Precipitation Probabilities for 24 Jul. – 30 Jul. 2014



90% 80% 70% 60% 50% 40% 33% 33% 40% 50% 60% 70% 80% 90%

Probability of Below | Normal | Probability of Above

90% 80% 70% 60% 50% 40% 33% 33% 40% 50% 60% 70% 80% 90%

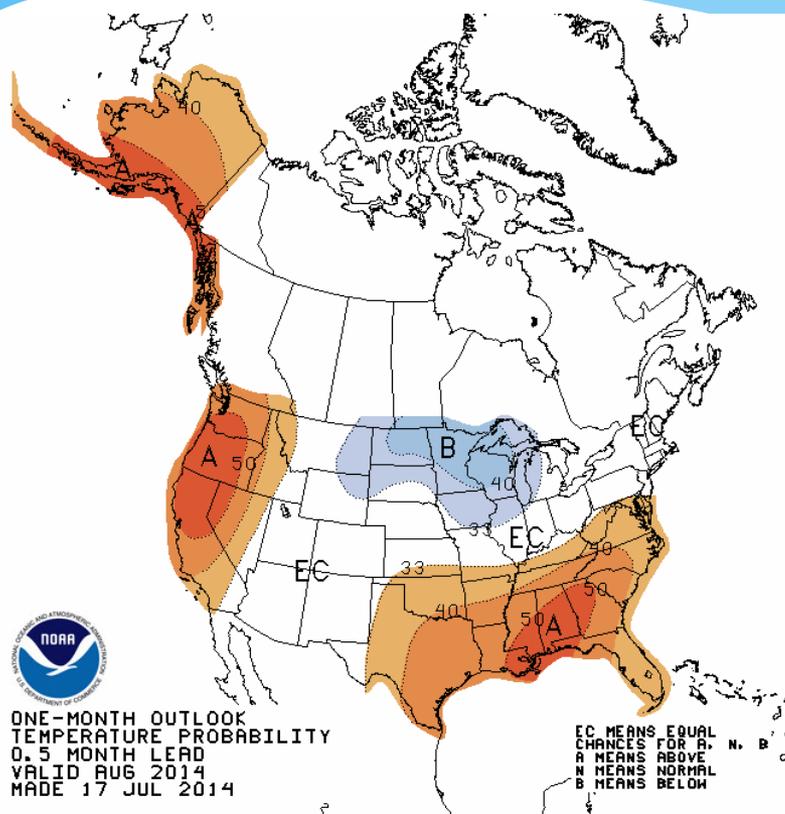
Probability of Below | Normal | Probability of Above

Temperature

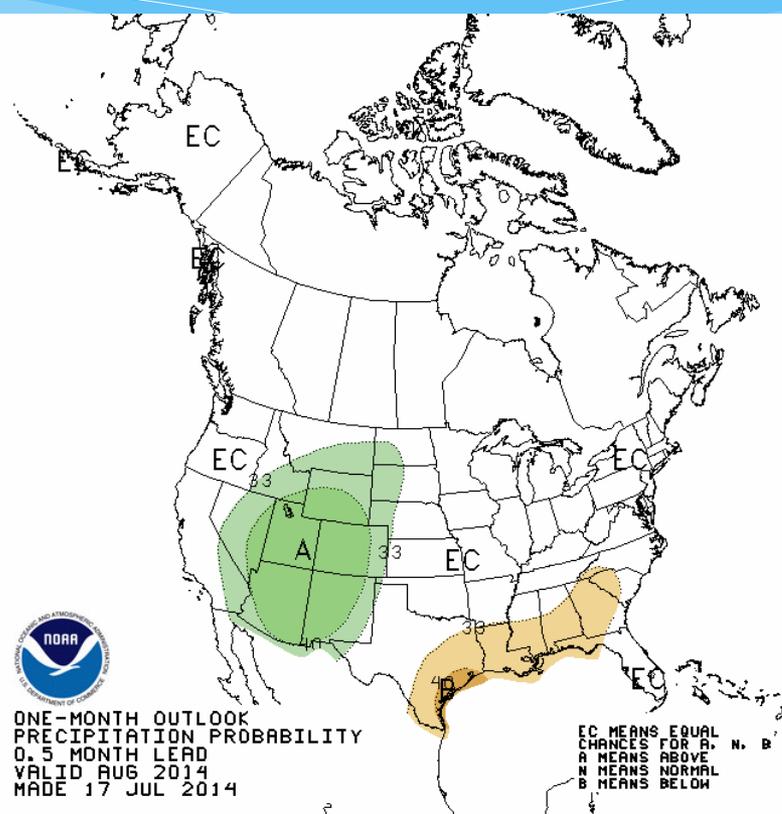
Precipitation

<http://www.cpc.ncep.noaa.gov/products/predictions/814day/index.php>

# August Temperature and Precipitation Probabilities



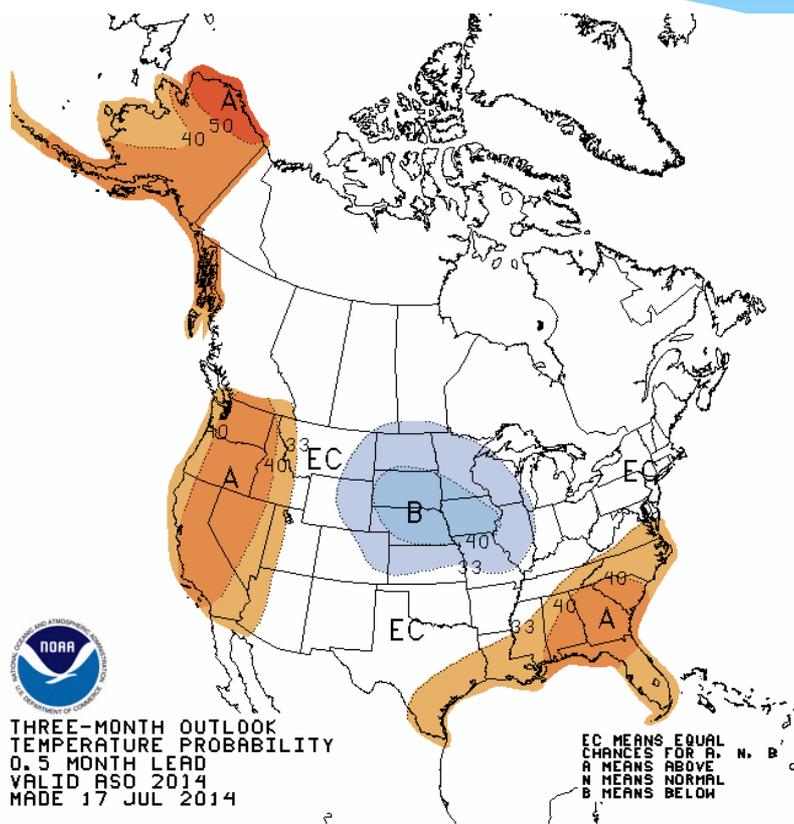
Temperature



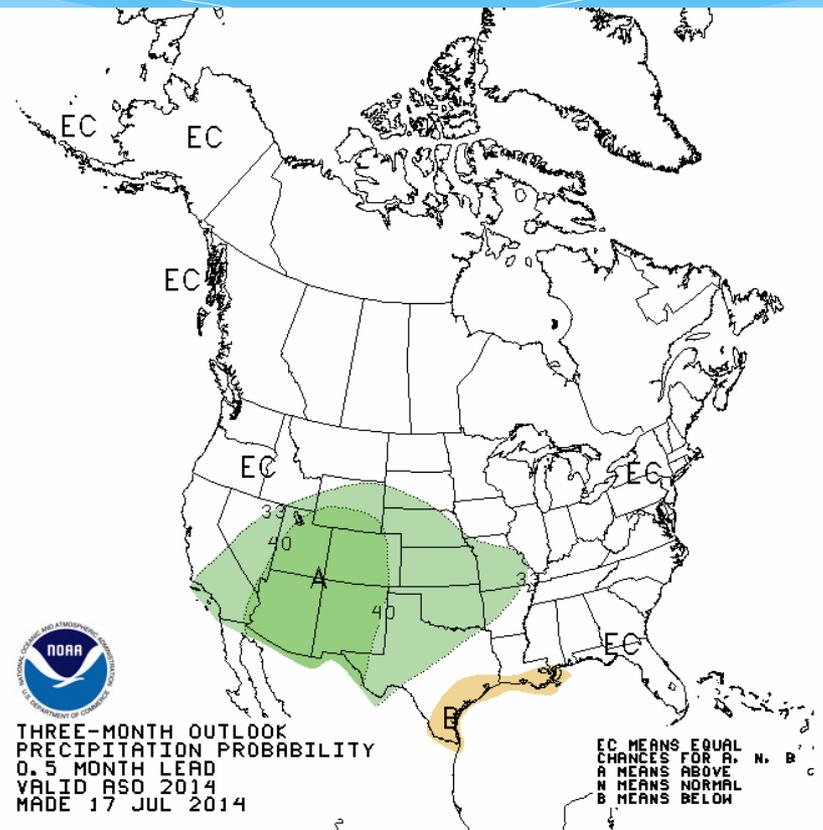
Precipitation

<http://www.cpc.ncep.noaa.gov/products/predictions/30day/>

# 3 Month Temperature and Precipitation Probabilities (August - October)



Temperature



Precipitation

# Drought Outlook through 31 Oct.

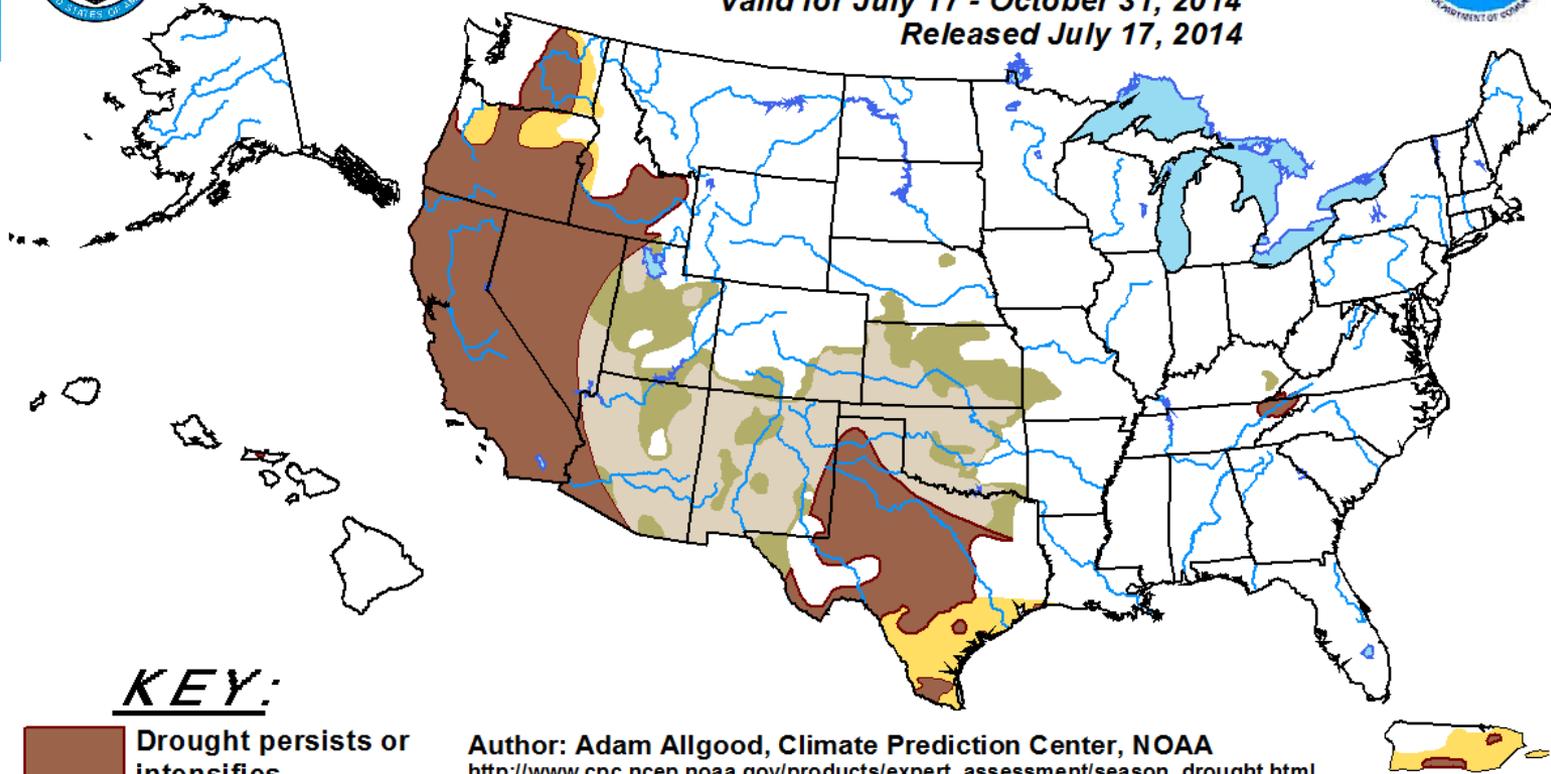


## U.S. Seasonal Drought Outlook

Drought Tendency During the Valid Period

Valid for July 17 - October 31, 2014

Released July 17, 2014



### KEY:

-  Drought persists or intensifies
-  Drought remains but improves
-  Drought removal likely
-  Drought development likely

Author: Adam Allgood, Climate Prediction Center, NOAA

[http://www.cpc.ncep.noaa.gov/products/expert\\_assessment/season\\_drought.html](http://www.cpc.ncep.noaa.gov/products/expert_assessment/season_drought.html)

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).

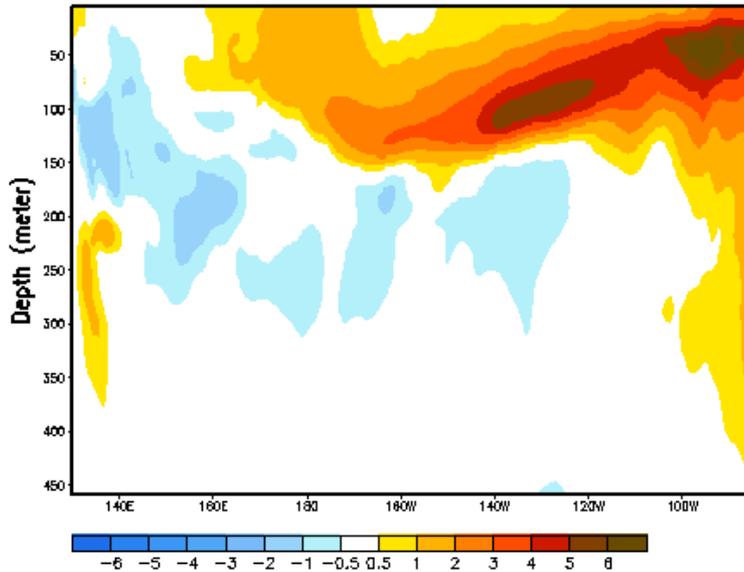
For weekly drought updates, see the latest U.S. Drought Monitor.

NOTE: The tan area areas imply at least a 1-category improvement in the Drought Monitor intensity levels by the end of the period although drought will remain.

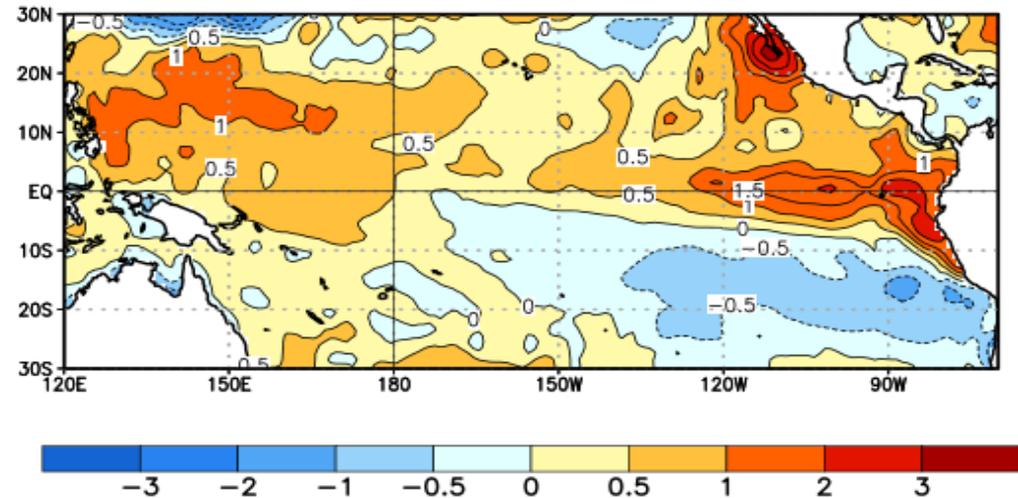
The Green areas imply drought removal by the end of the period (D0 or none)

# Warm water progression in Pacific

Equatorial Temperature Anomaly (°C)  
Pentad centered on 13 MAY 2014



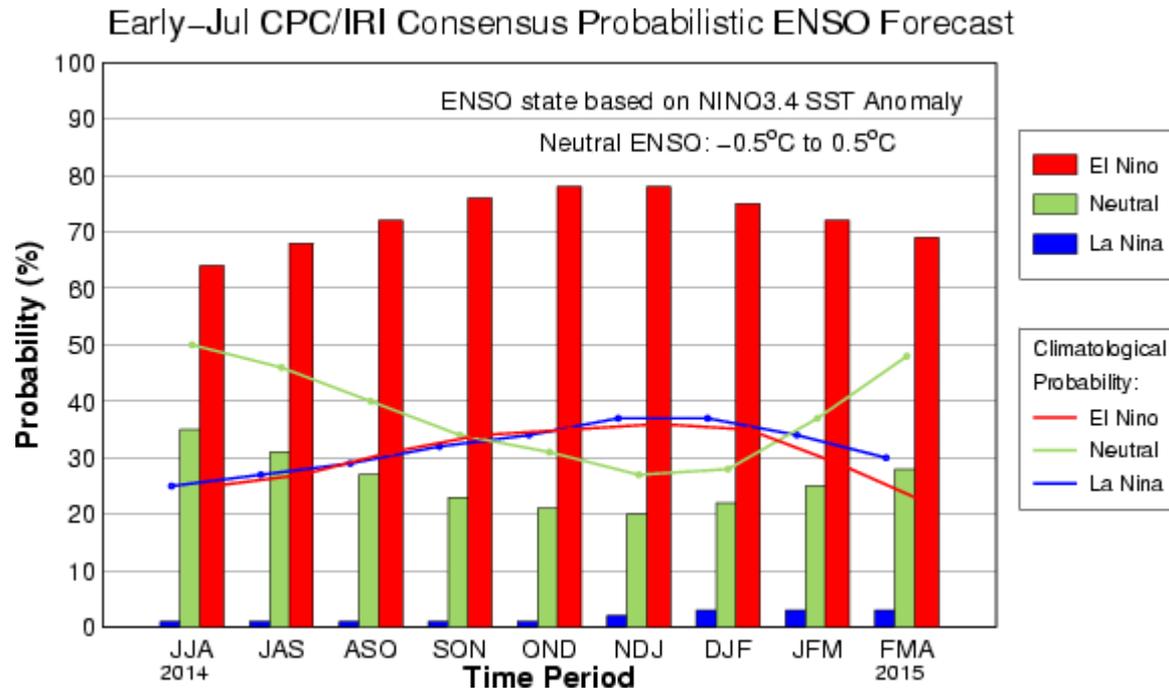
Average SST Anomalies  
15 JUN 2014 – 12 JUL 2014



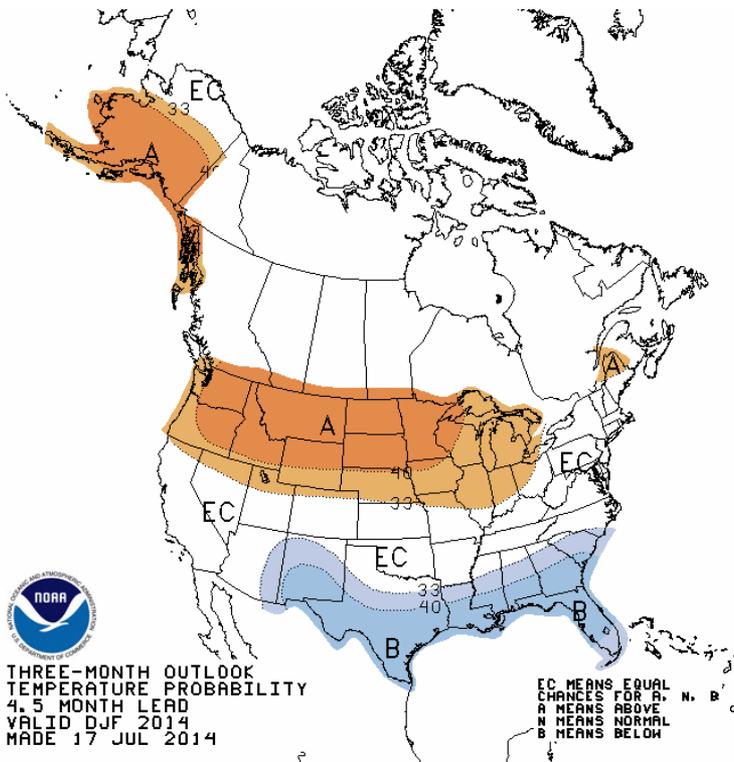
# CPC/IRI Probabilistic ENSO Outlook

Updated: 10 July 2014

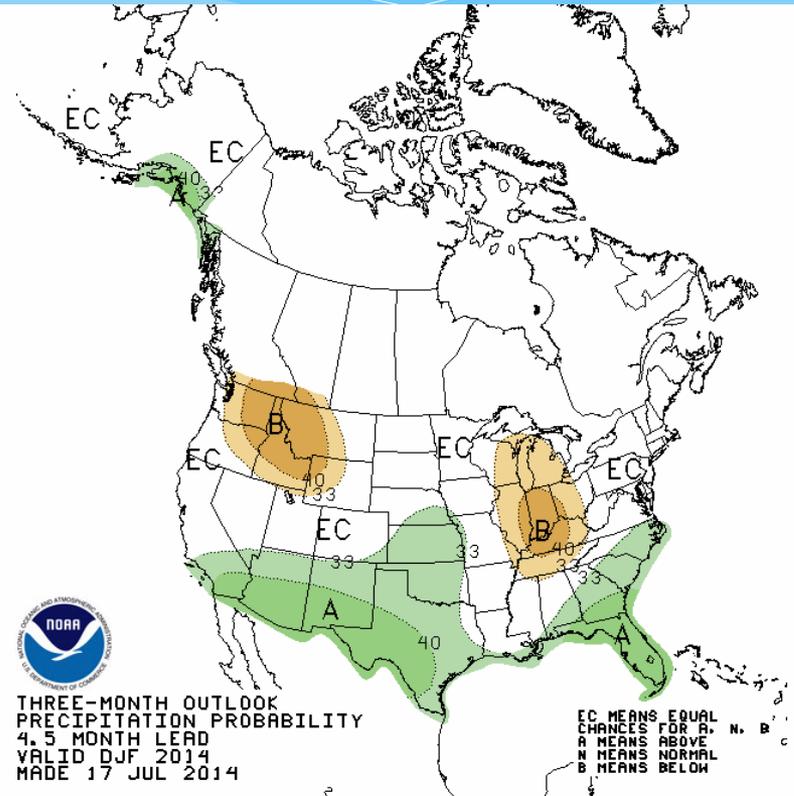
The chance of El Niño is about 70% during the Northern Hemisphere summer and is near 80% during the fall and winter.



# 3 Month Temperature and Precipitation Probabilities (December - February)



Temperature



Precipitation

# Summary - Conditions

- \* Generally cooler than average much of the region
- \* Overall wetter, but a few locations drying out quickly
- \* Carry-over flood problems
- \* Agriculture generally in good shape
  
- \* Fire – fairly quiet limiting burning capability

# Summary - Outlooks

- \* Warm next several days, then average to cooler more likely.
- \* Cooler conditions most likely throughout the rest of growing season north
- \* Wet more likely further west
- \* Wet areas will continue to dry and drain
- \* Ag conditions generally good – a little too cool north
- \* El Nino likely – reflected in winter outlooks

## Further Information - Partners

- **Today's and Past Recorded Presentations and :**
- \* <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 Portal: [www.drought.gov](http://www.drought.gov)
- National Drought Mitigation Center: <http://drought.unl.edu/>
- State climatologists
  - \* <http://www.stateclimate.org>
- Regional climate centers
  - \* <http://mrcc.isws.illinois.edu>
  - \* <http://www.hprcc.unl.edu>

# Thank You and Questions?

- \* Questions:

- \* **Climate:**

- \* Dennis Todey: [dennis.todey@sdstate.edu](mailto:dennis.todey@sdstate.edu) , 605-688-5141

- \* Doug Kluck: [doug.kluck@noaa.gov](mailto:doug.kluck@noaa.gov), 816-994-3008

- \* John Eise: [john.eise@noaa.gov](mailto:john.eise@noaa.gov), 816-268-3144

- \* Mike Timlin: [mtimlin@illinois.edu](mailto:mtimlin@illinois.edu); 217-333-8506

- \* Natalie Umphlett: [numphlett2@unl.edu](mailto:numphlett2@unl.edu) ; 402 472-6764

- \* Brian Fuchs: [bfuchs2@unl.edu](mailto:bfuchs2@unl.edu) 402 472-6775

- \* **Weather:**

- \* [crhroc@noaa.gov](mailto:crhroc@noaa.gov)