

# NOAA Climate Science & Services

## Monthly Climate Update

A look back at April and a preview of June through August

### Jake Crouch

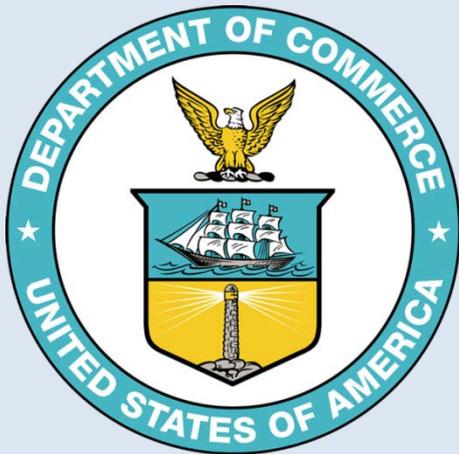
Climate Scientist, Climate Monitoring Branch,  
NOAA's National Climatic Data Center

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Regional Climatologist  
Midwestern Regional Climate Center

### David Unger

Seasonal Forecaster, Operations Branch  
NOAA's Climate Prediction Center



# U.S. Climate Highlights - April

## Cooler and wetter than average nationally

### Coldest April since 1997; 5<sup>th</sup> largest snow cover extent\*

**Temperature: 1.4°F below average – 23<sup>rd</sup> coolest**

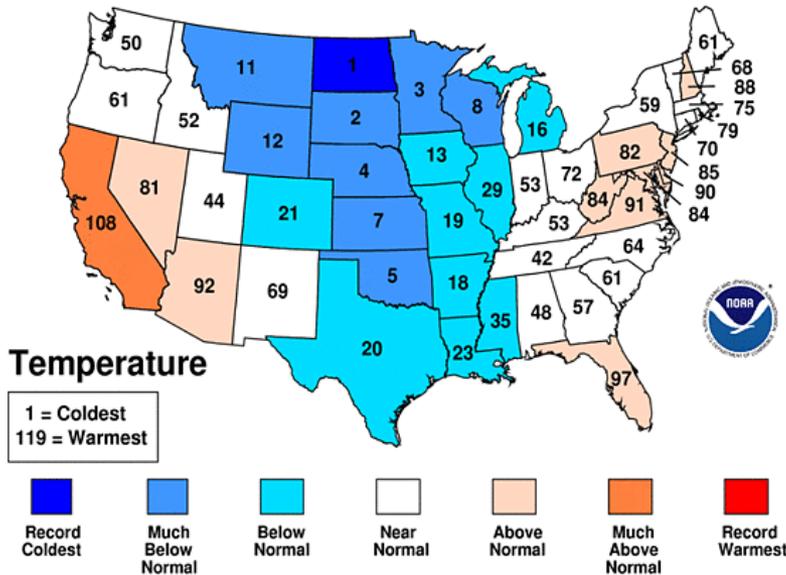
- **Cool:** Central US. ND has record cold April. Six additional states top ten cold.
- **Warm:** West Coast. CA has 12<sup>th</sup> warmest April.

**Precipitation: 0.47” above average – 19<sup>th</sup> wettest**

- **Dry:** Southwest and Northeast.
- **Wet:** Midwest and Southeast. IA and MI have record wet April. Four more states top ten wet.

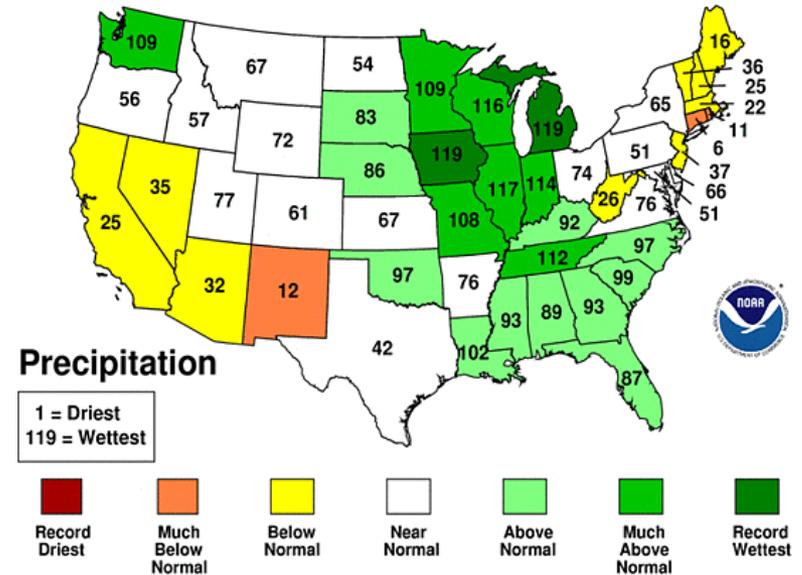
### April 2013 Statewide Ranks

National Climatic Data Center/NESDIS/NOAA



### April 2013 Statewide Ranks

National Climatic Data Center/NESDIS/NOAA

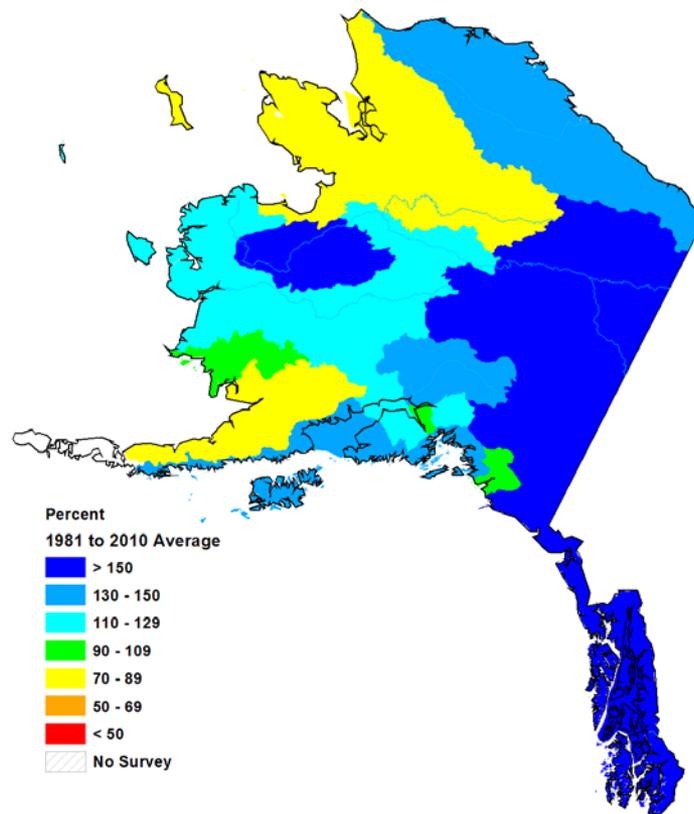


# Alaska Climate Highlights - April

## Alaska cool and wet during April

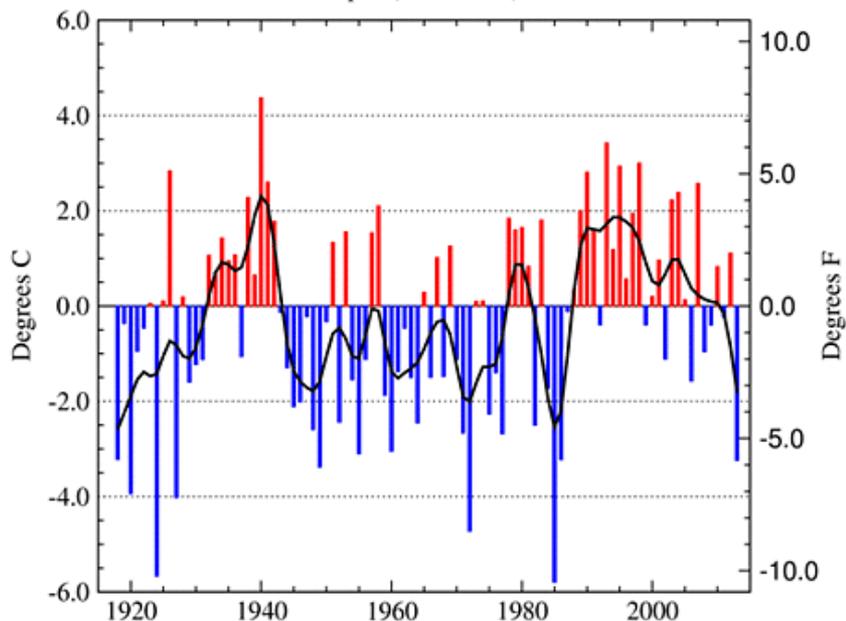
- 7<sup>th</sup> coldest April on record; 5.8°F below average
- Cold and wet conditions were associated with much-above-average snowpack in most locations.

## Alaska Snowpack as of May 1, 2013



Prepared by  
USDA, Natural Resources Conservation Service  
National Water and Climate Center  
Portland, Oregon  
<http://www.wcc.nrcs.usda.gov>

## Alaska Statewide Temperature Anomalies April (1918-2013)

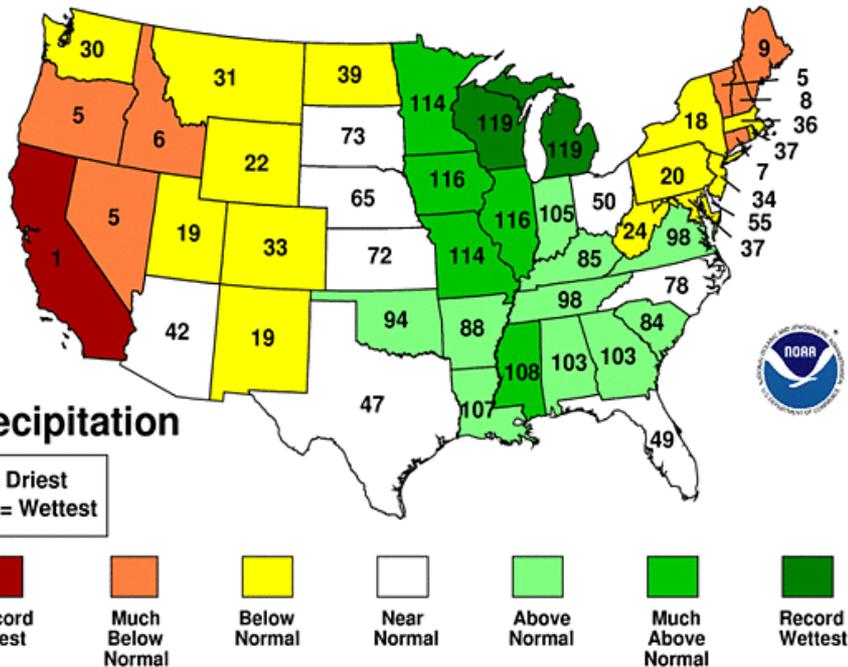


# U.S. Climate Highlights – Year to Date

## Precipitation extremes during January-April 2013 Slightly below average precipitation for Lower-48

### January-April 2013 Statewide Ranks

National Climatic Data Center/NESDIS/NOAA



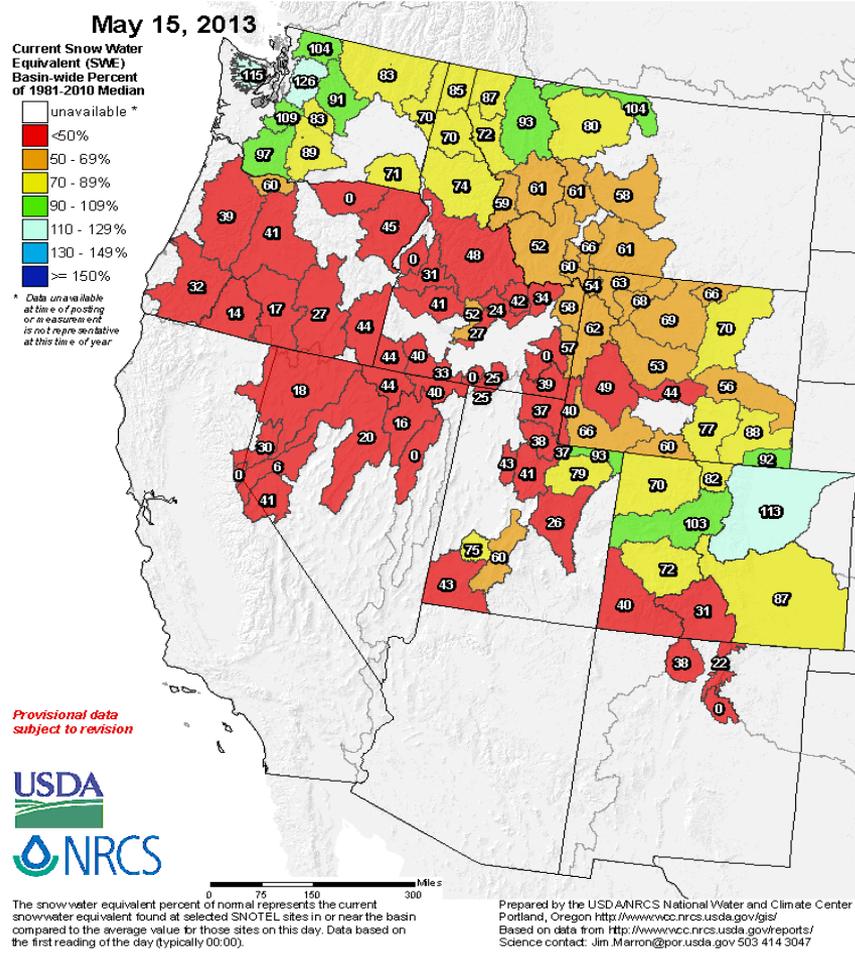
### National Precipitation 0.13" below average

- **Dry:** West and Northeast.
  - ID, NV, OR and CT, ME, NH, VT top ten dry.
  - CA has driest Jan-Apr on record with 27% of average precipitation.
- **Wet:** Midwest and Southeast.
  - IA, IL, MO, MN top ten dry.
  - MI and WI have wettest year-to-date on record.
- Drought improves in Southeast and Midwest but expands westward.



# U.S. Climate Highlights

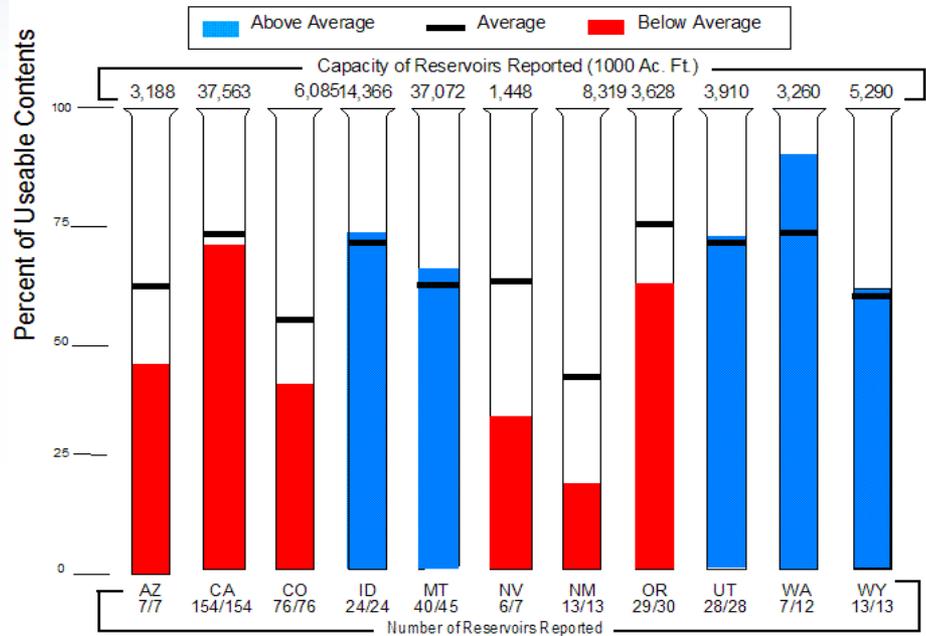
## West SNOTEL Current Snow Water Equivalent (SWE) % of Normal



## Dry with low snowpack in the West

- Water availability depends heavily on spring snowpack in the West. Reservoirs already low, with dismal snowpack totals in some locations.

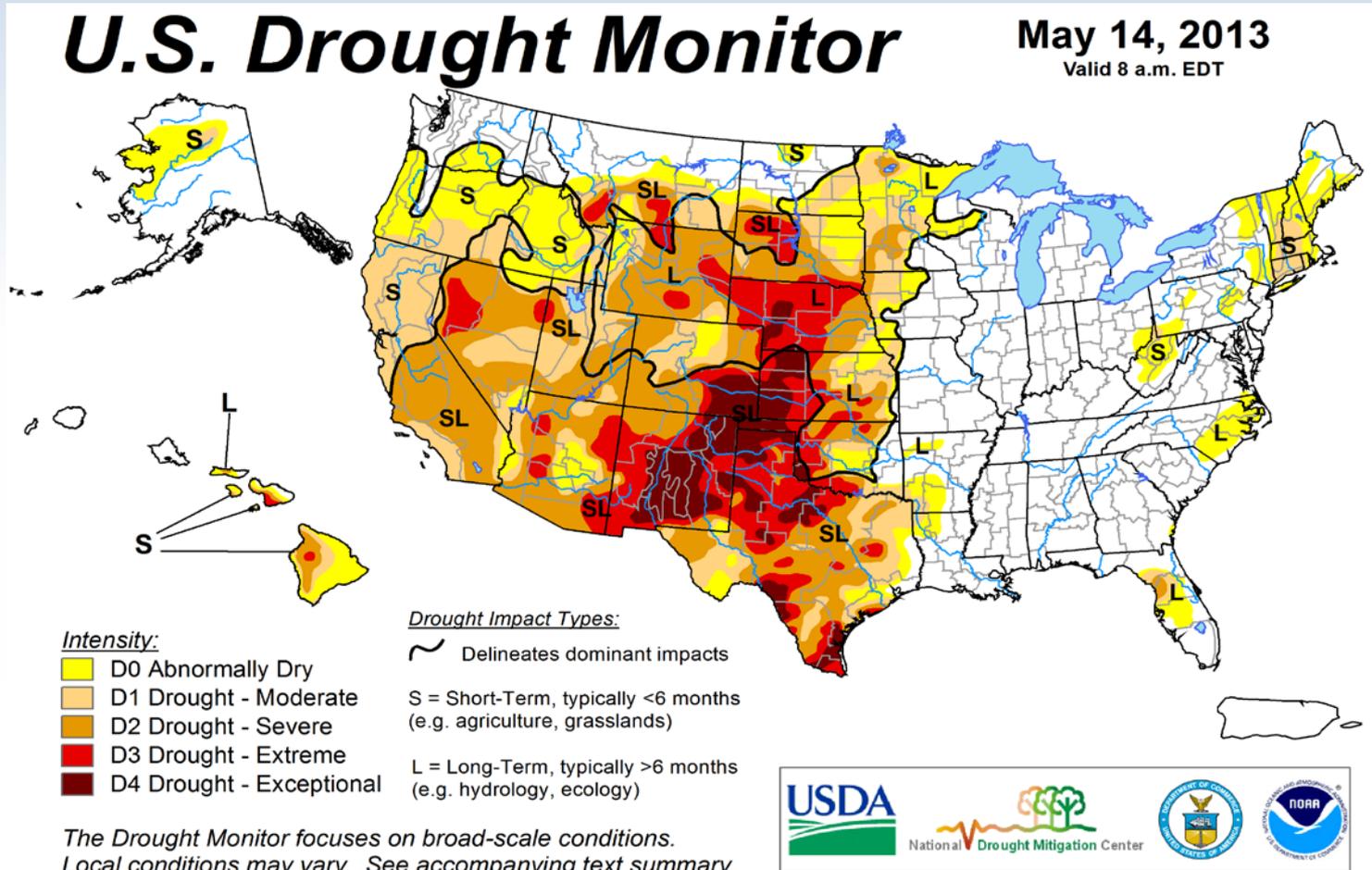
## Reservoir Storage as of May 1, 2013



Prepared by: USDA, Natural Resources Conservation Service, National Water and Climate Center, Portland, OR <http://www.wcc.nrcs.usda.gov>

# U.S. Drought Monitor

47.7 percent of contiguous U.S. in drought



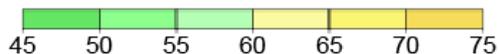
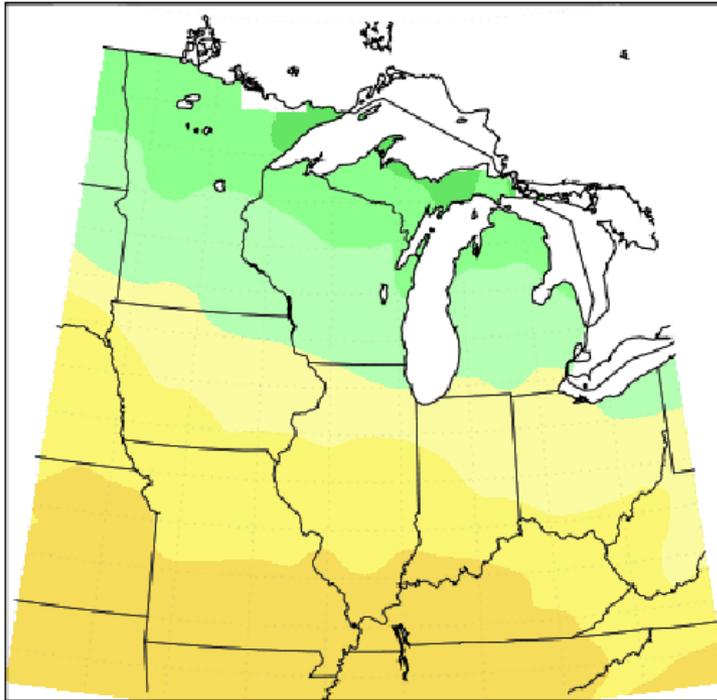
<http://droughtmonitor.unl.edu/>

**Released Thursday, May 16, 2013**  
Author: Rich Tinker, NOAA/NWS/NCEP/CPC

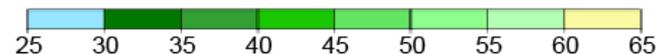
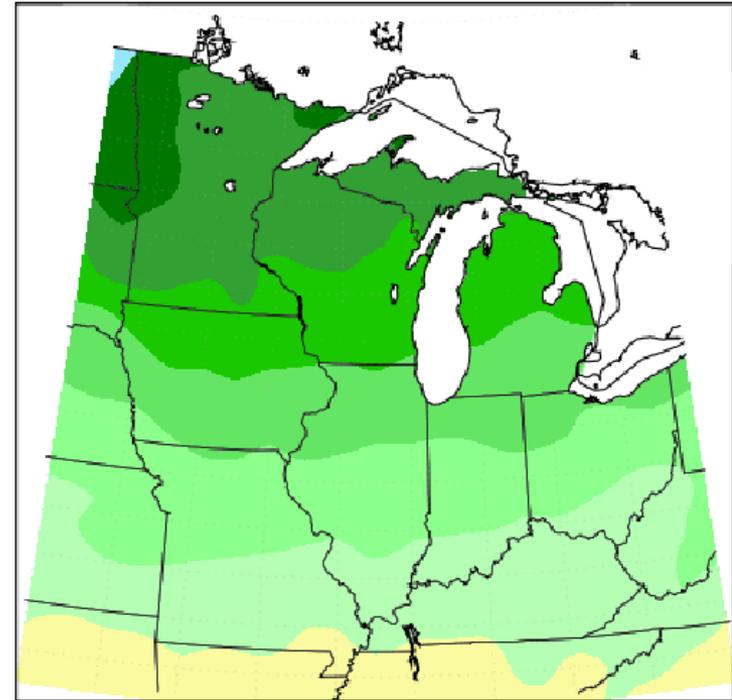
# Midwestern Regional Highlights

## Cool 2013 Spring Temperatures – Contrast to 2012

Average Maximum Temperature, (°F)  
March 1, 2012 to April 30, 2012



Average Maximum Temperature, (°F)  
March 1, 2013 to April 30, 2013



MRCC

Midwestern Regional Climate Center  
Illinois State Water Survey, Prairie Research Institute  
University of Illinois at Urbana-Champaign



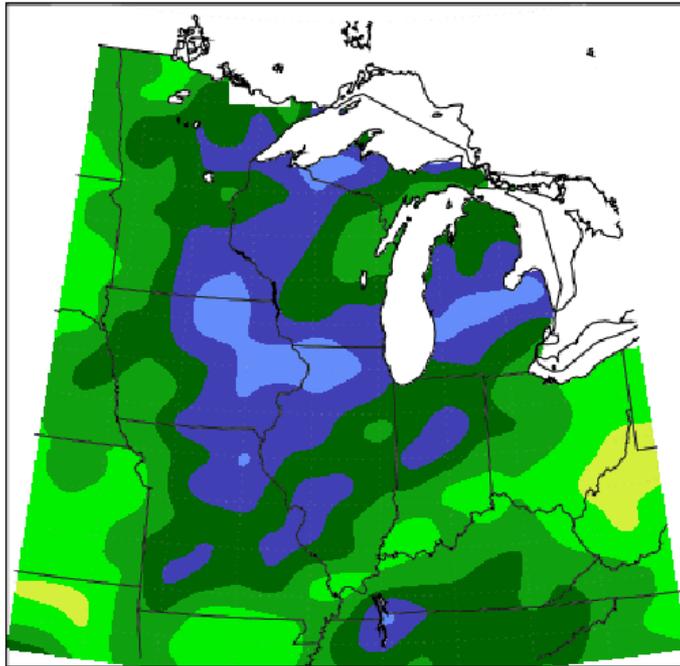
May 16, 2013

Monthly Climate Webinar

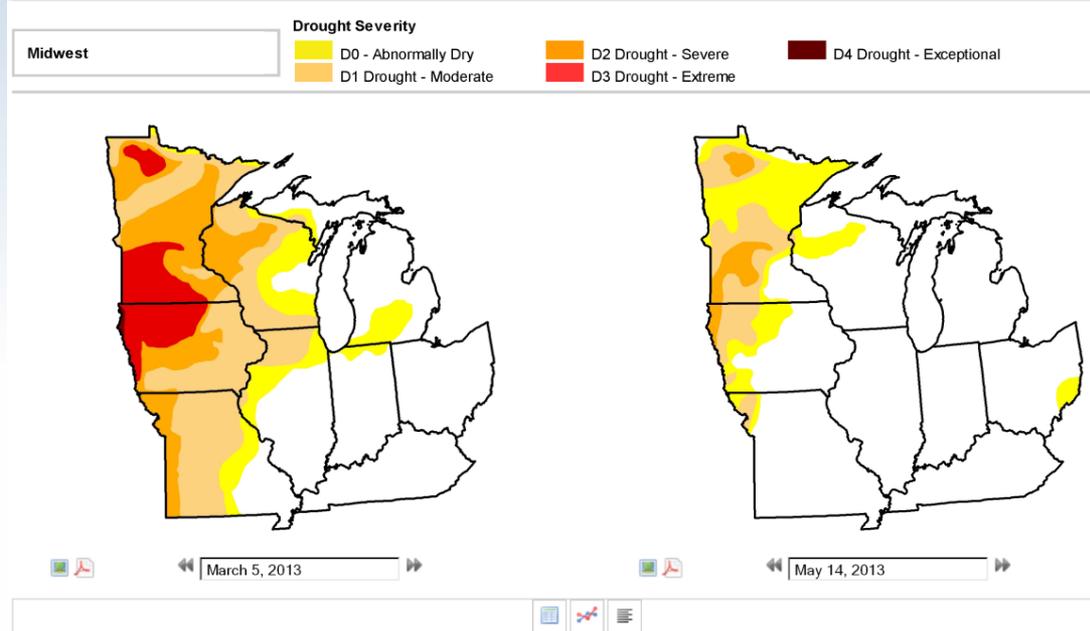
# Midwestern Regional Highlights

## Heavy 2013 Spring Precipitation – Impact on Drought Monitor Status

Accumulated Precipitation: Percent of Mean  
March 1, 2013 to April 30, 2013



Mean Period is 1981-2010



Week	Nothing	D0-D4	D1-D4	D2-D4	D3-D4	D4
March 5, 2013	44.53	55.47	45.74	22.46	7.85	0.14
May 14, 2013	78.29	21.71	10.18	2.62	0.01	0.00



Midwestern Regional Climate Center  
Illinois State Water Survey, Prairie Research Institute  
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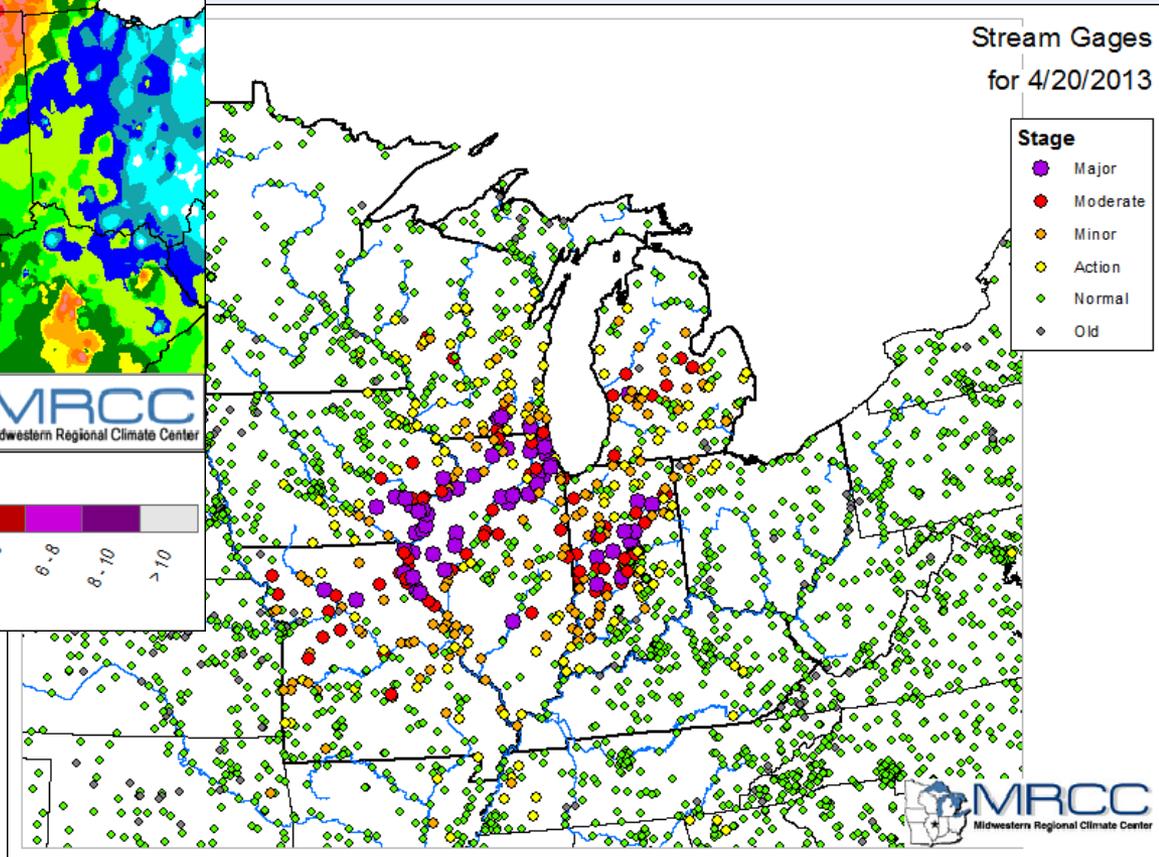
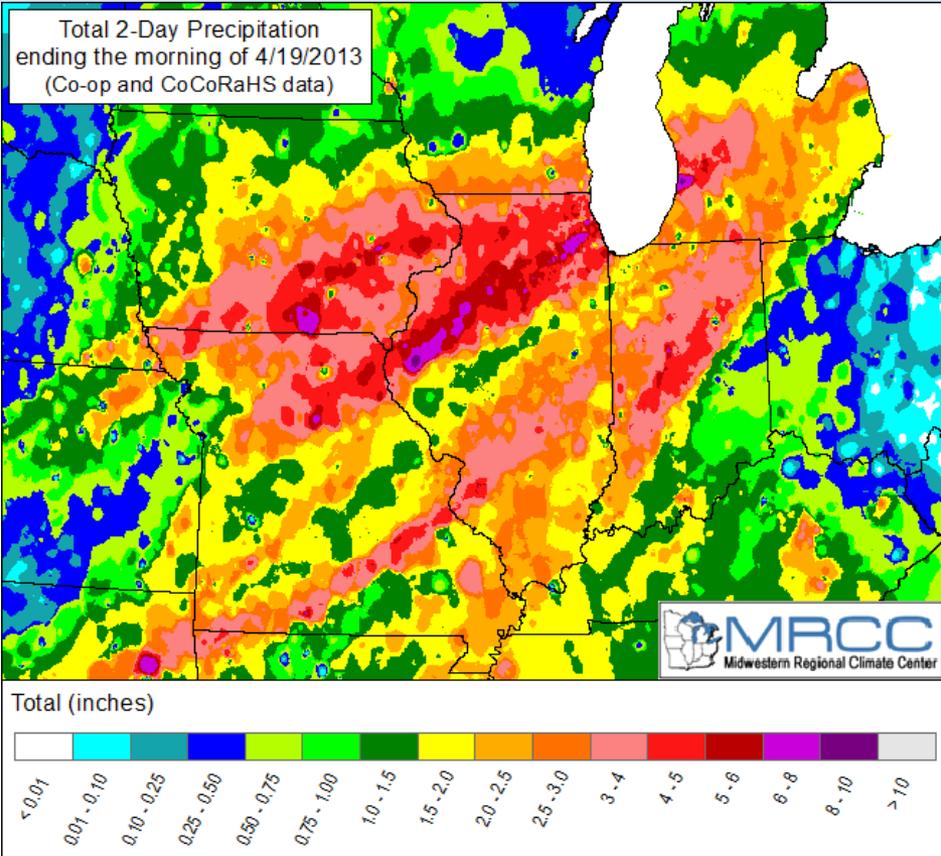


May 16, 2013

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# Midwestern Regional Highlights

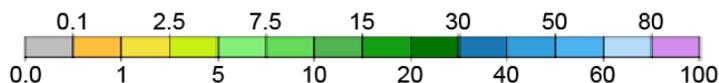
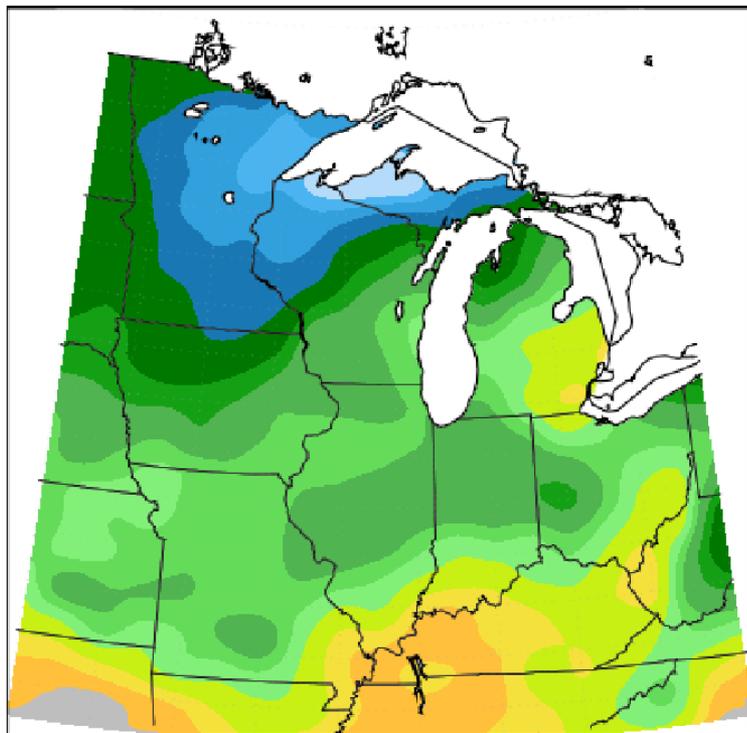
## Heavy Rains, April 17-19 – Flash Flooding and River Flooding



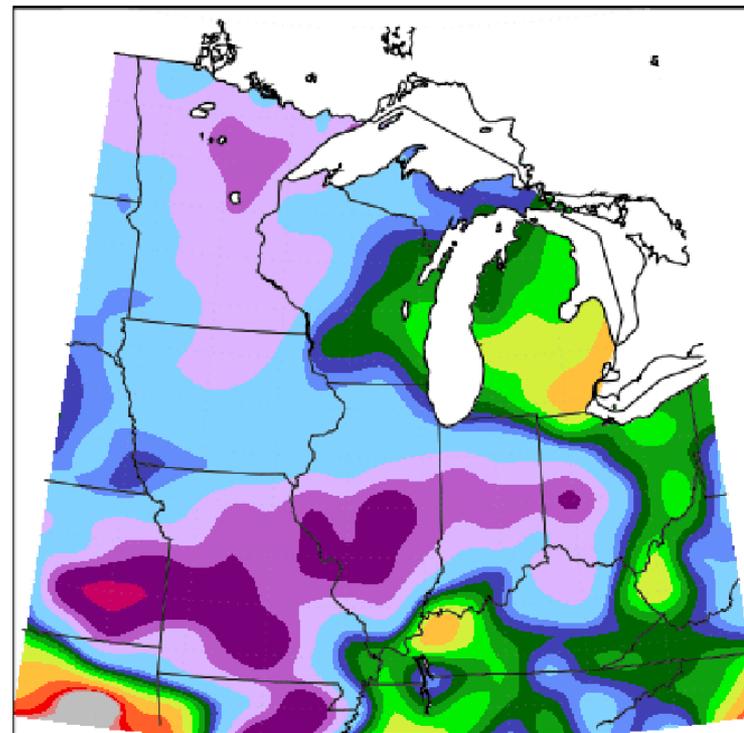
# Midwestern Regional Highlights

## Lots of 2013 Spring Snow – Several Times Normal for Season

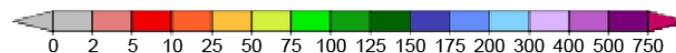
Accumulated Snowfall (in)  
March 1, 2013 to May 5, 2013



Accumulated Snowfall: Percent of Mean  
March 1, 2013 to May 5, 2013



Mean Period is 1981 - 2010



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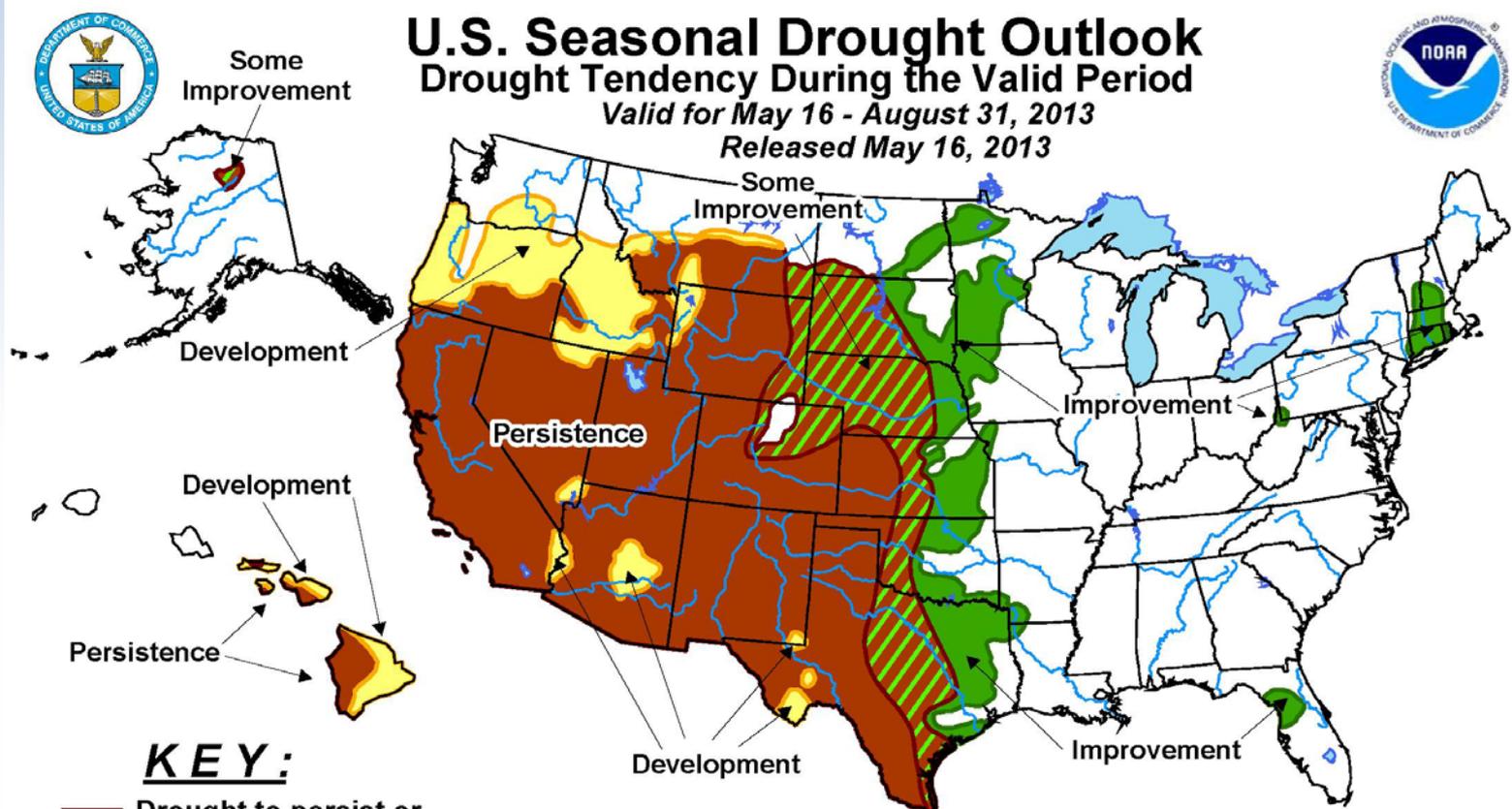


May 16, 2013

Monthly Climate Webinar

# U.S. Drought Outlook

## 3-month forecast



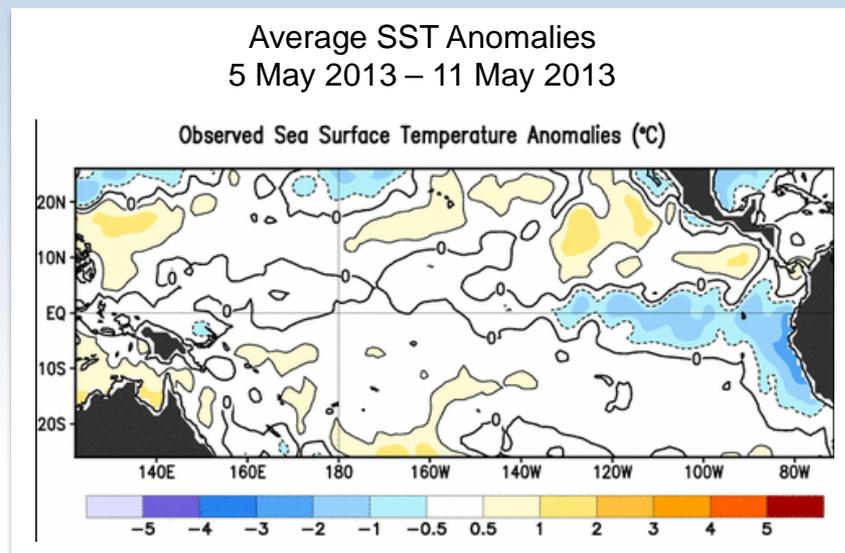
- KEY:**
- Drought to persist or intensify
  - Drought ongoing, some improvement
  - Drought likely to improve, impacts ease
  - Drought development likely

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.

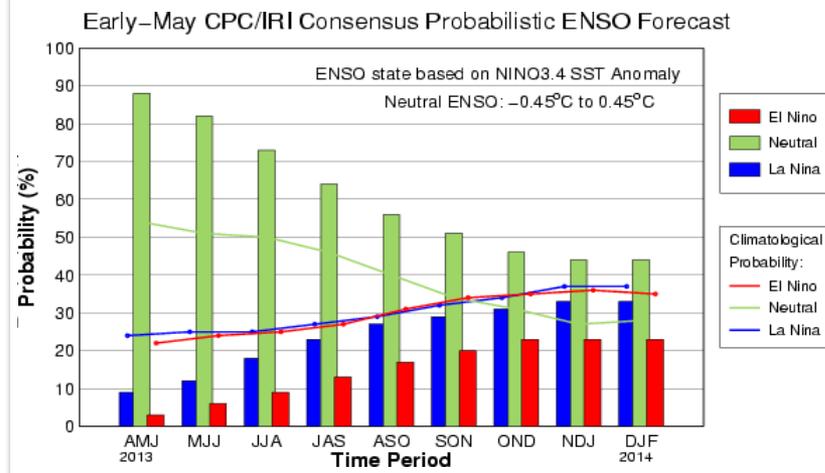


# El Niño/La Niña Southern Oscillation (ENSO) Sea Surface Temperature Update

- ENSO-neutral conditions continue
- Equatorial sea surface temps. are close to average
- Atmospheric circulation over tropical Pacific is near average
- ENSO-neutral favored through the N. Hemisphere summer 2013

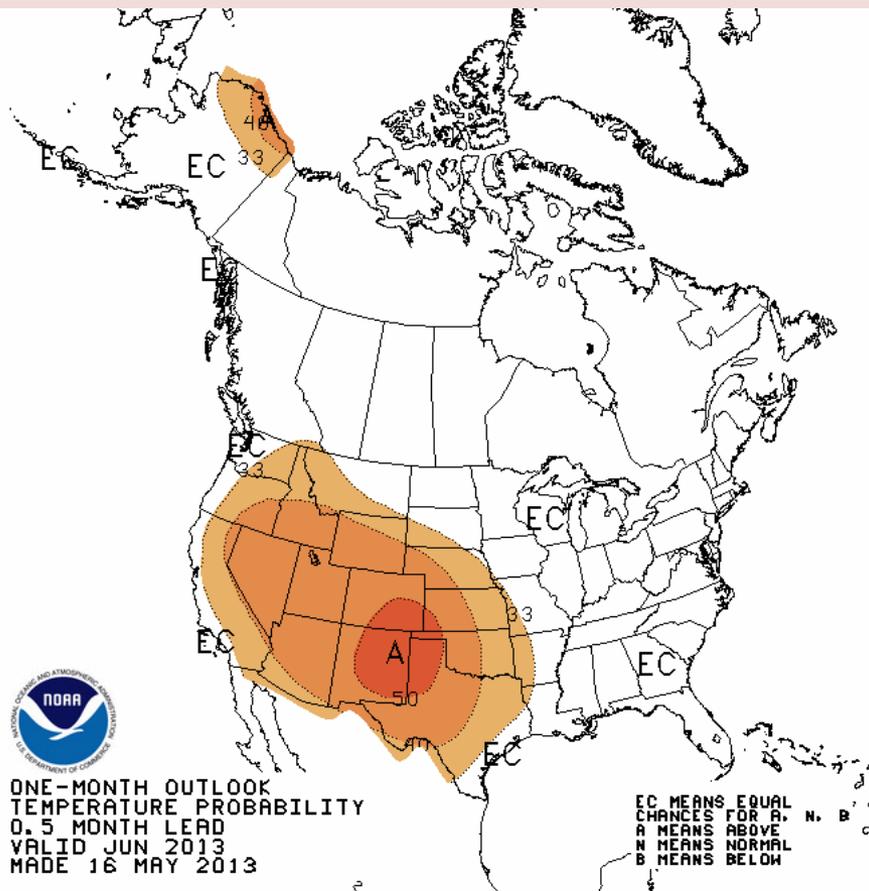


Early-May CPC/IRI Consensus Probabilistic ENSO Forecast

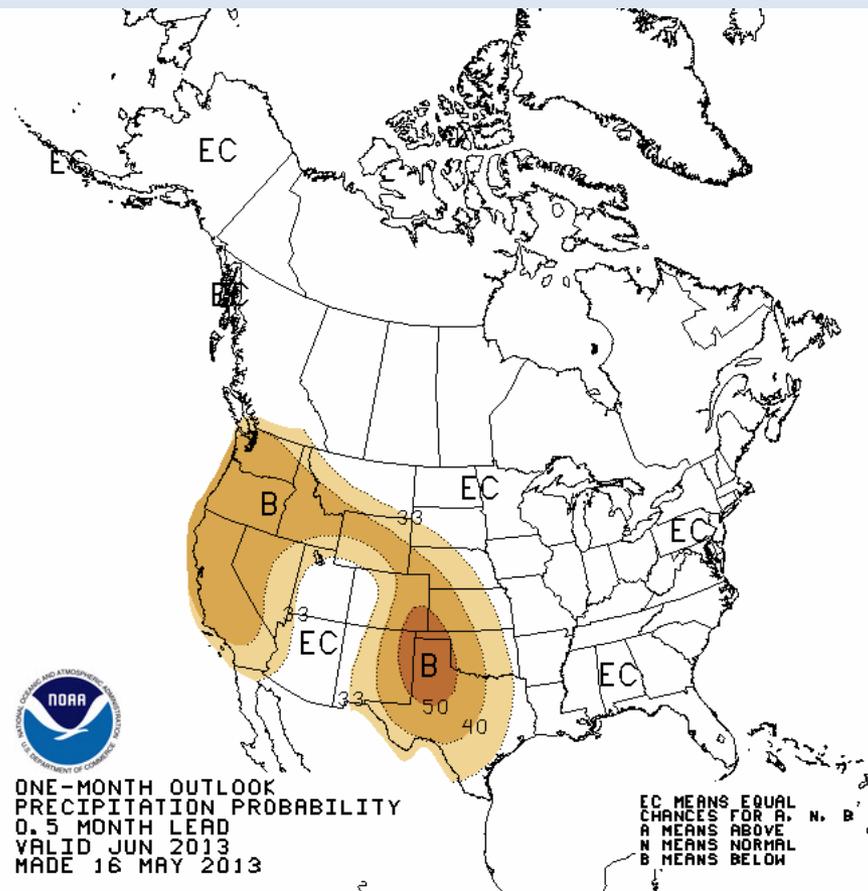


# Monthly Forecast (June)

## June Average Temperature Probability

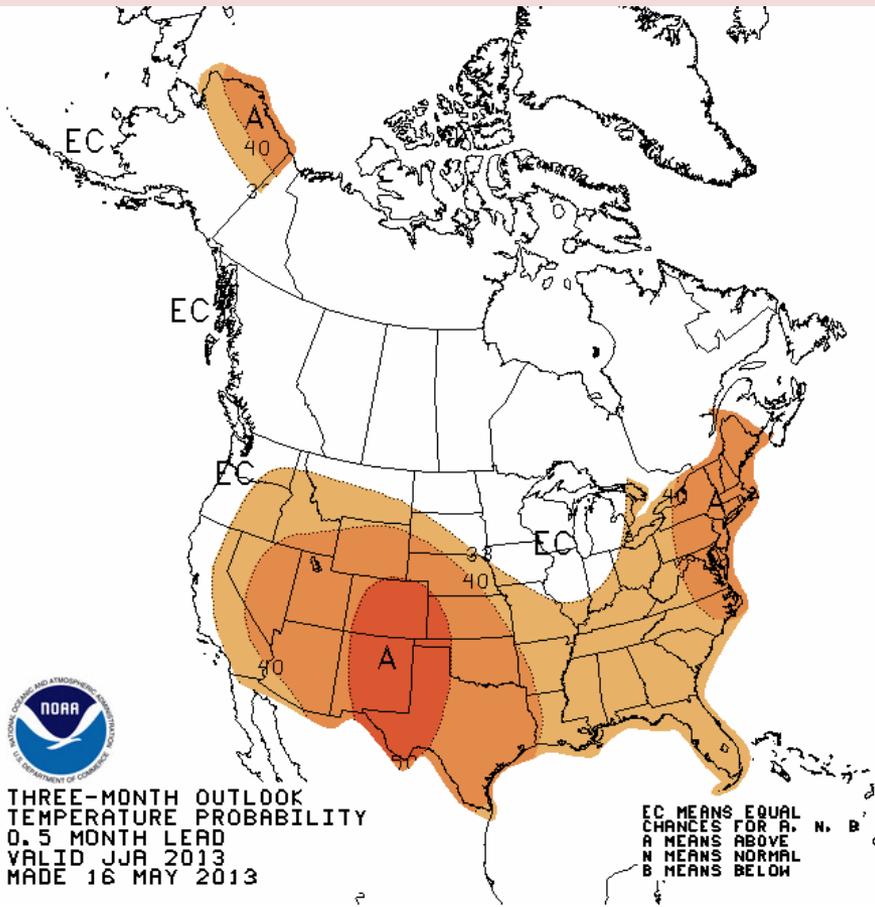


## June Total Precipitation Probability



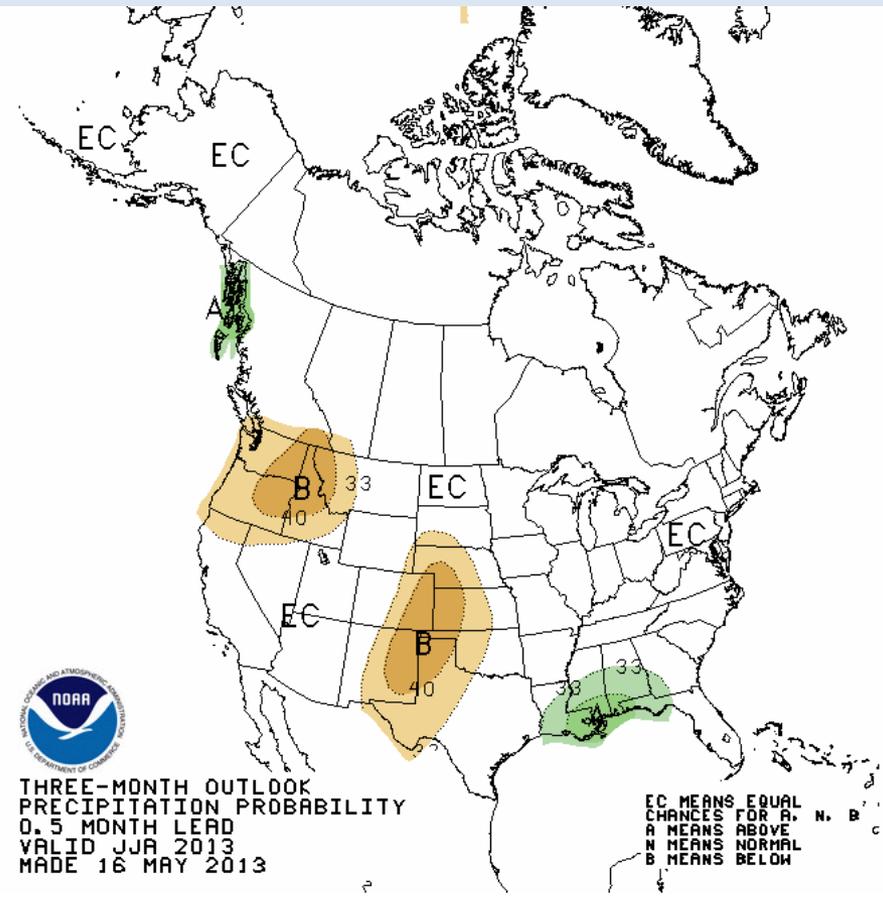
# Seasonal Forecast (Jun-Jul-Aug)

## Jun-Jul-Aug Average Temperature Probability



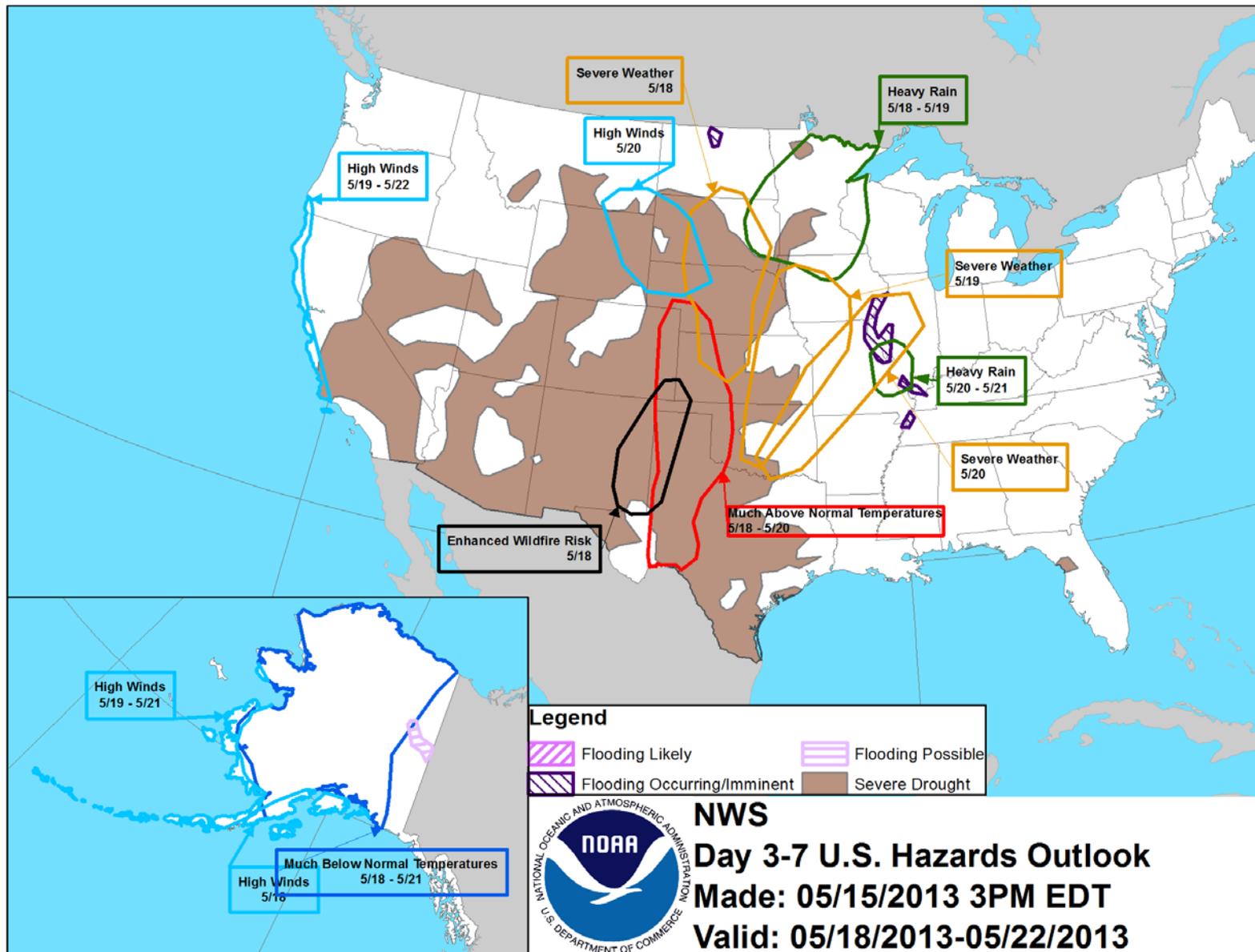
  
 THREE-MONTH OUTLOOK  
 TEMPERATURE PROBABILITY  
 0.5 MONTH LEAD  
 VALID JJA 2013  
 MADE 16 MAY 2013

## Jun-Jul-Aug Total Precipitation Probability



  
 THREE-MONTH OUTLOOK  
 PRECIPITATION PROBABILITY  
 0.5 MONTH LEAD  
 VALID JJA 2013  
 MADE 16 MAY 2013

# U.S. Hazards Outlook



# For More Information



## Today's Presentation:

- <http://www.ncdc.noaa.gov/sotc/briefings>

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)

U.S. Drought Monitor: <http://drought.gov>

Climate Portal: [www.climate.gov](http://www.climate.gov)

Midwestern Regional Climate Center: <http://mrcc.isws.illinois.edu/index.jsp>

National Snow & Ice Data Center: <http://nsidc.org/arcticseaicenews/>

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