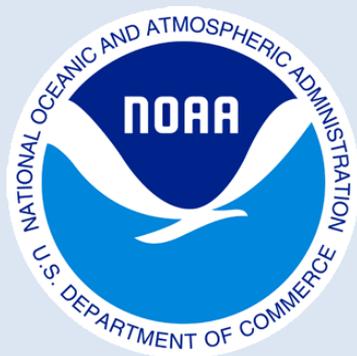


# NOAA Climate Science & Services

## Monthly Climate Update

A look back at March

A preview of May-July



### Jake Crouch

Climate Scientist, NOAA's National Centers for Environmental Information

### Dennis Todey, Ph.D.

South Dakota State University & South Dakota State Climatologist

### Jon Gottschalck

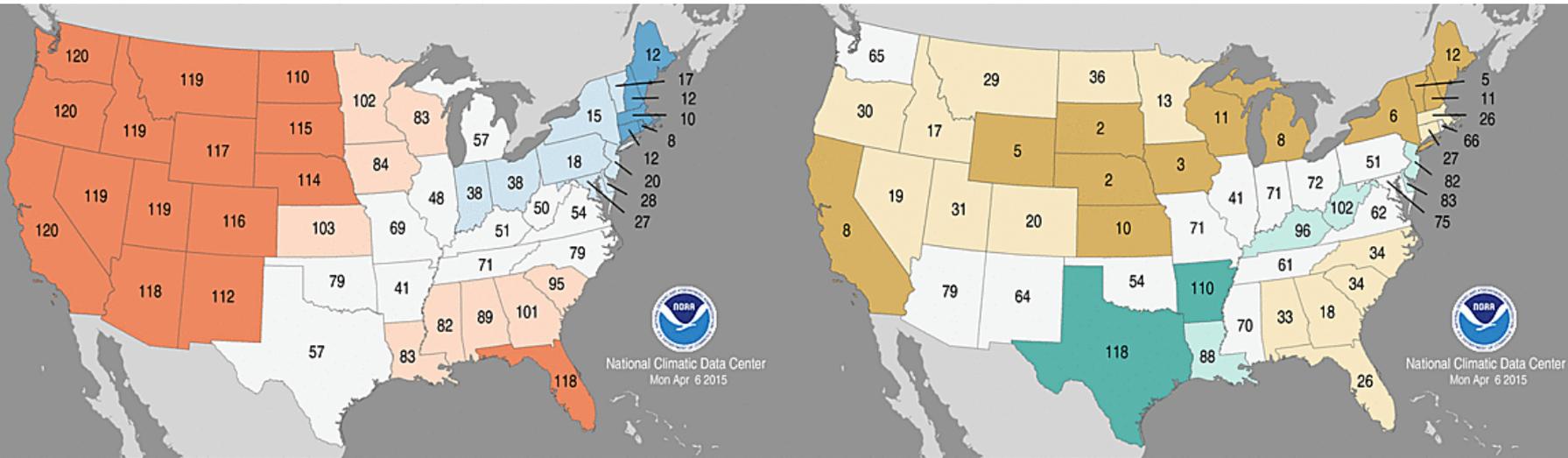
Chief, NOAA's Climate Prediction Center  
Operational Prediction Branch

# Contiguous U.S. March 2015

**Temperature:** 44.4°F, +3.9°F, 12<sup>th</sup> warmest March  
**Precipitation:** 2.08", -0.43", 19<sup>th</sup> driest March

**Statewide Temperature Ranks, March 2015**  
 Period: 1895-2015 (121 years)

**Statewide Precipitation Ranks, March 2015**  
 Period: 1895-2015 (121 years)



Record Coldest (1)    Much Below Average    Below Average    Near Average    Above Average    Much Above Average    Record Warmest (121)

Record Driest (1)    Much Below Average    Below Average    Near Average    Above Average    Much Above Average    Record Wettest (121)

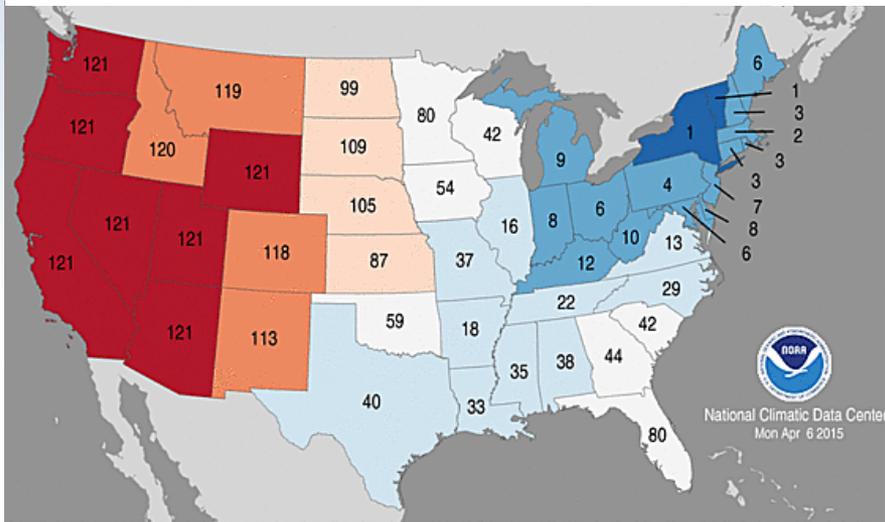
- The West and Southeast were warm; 15 states much warmer than average.
- The Northeast was cool; five states much cooler than average.
- No state record warm or cold.
- Warmest March for Lower 48 since 2012.

- The West, Southeast, and northern tier were dry; 12 states much drier than average.
- Wetter than average from Southern Plains to Ohio Valley; AR and TX much wetter than average.
- Fifth smallest Mar. snow cover extent for the Lower 48.
- March tornado count lowest since 1969.

# Contiguous U.S. Jan-Mar 2015

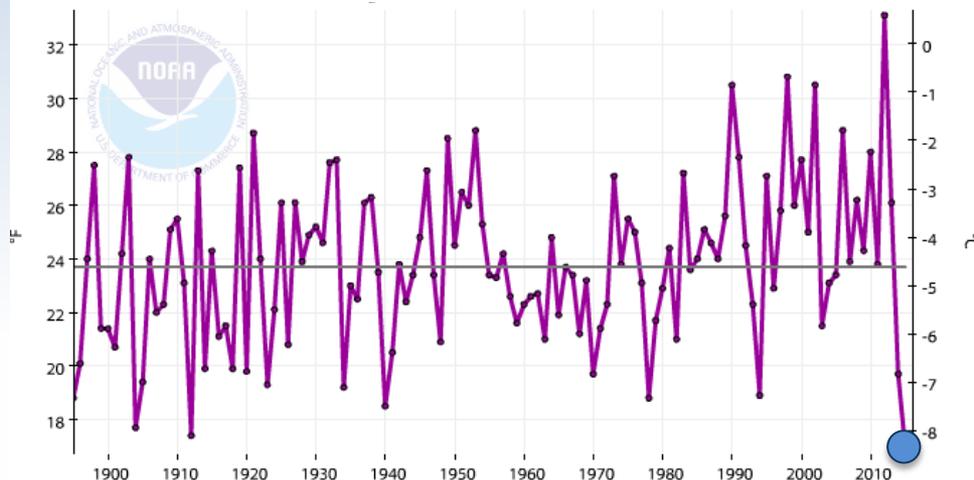
**Contiguous U.S. Temperature: 37.2°F, +2.0°F, 24<sup>th</sup> warmest January-March**

**Statewide Temperature Ranks, March 2015**  
**Period: 1895-2015 (121 years)**

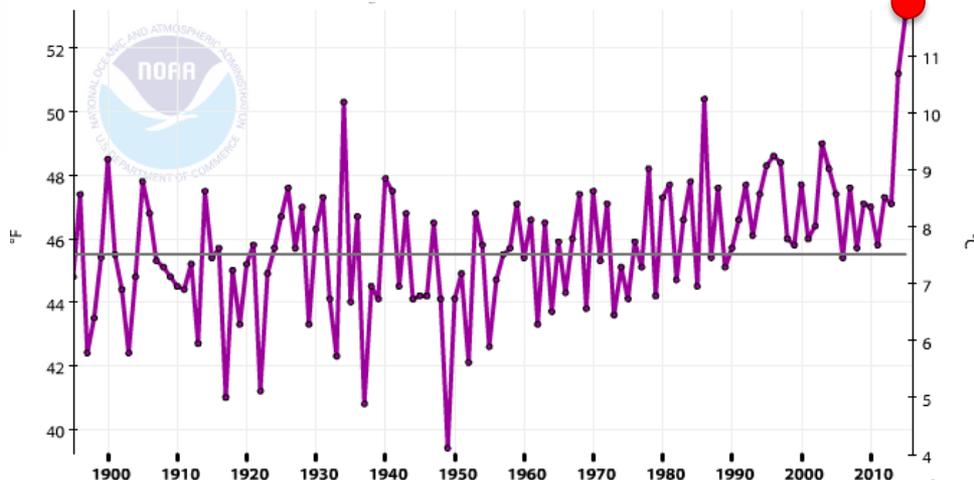


- Seven western states were record warm for Jan-Mar.
  - **California:** 53.0°F (+7.6°F). Previous record was 51.2°F in 2014.
- Two northeastern states were record cold for Jan-Mar.
  - **New York:** 16.9°F (-6.8°F). Previous record was 17.4°F in 1912.
- ~26% of Americans live in a record setting state.

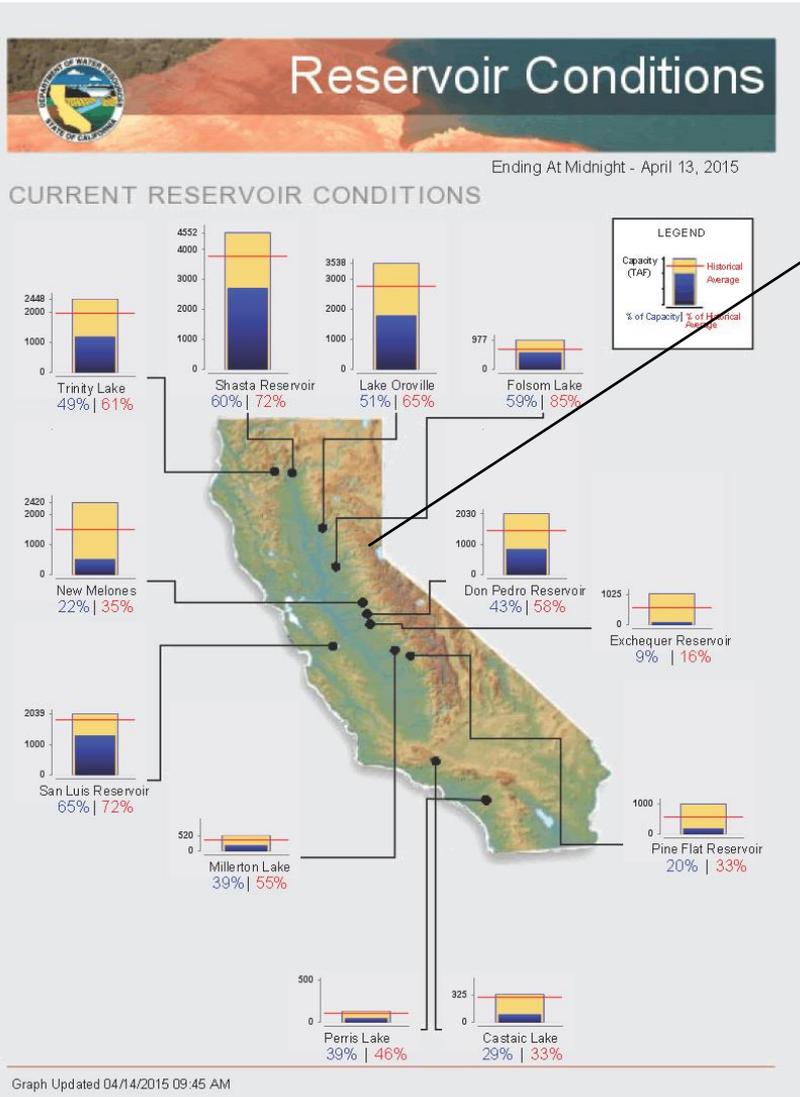
**New York Average Temperature Jan-Mar**



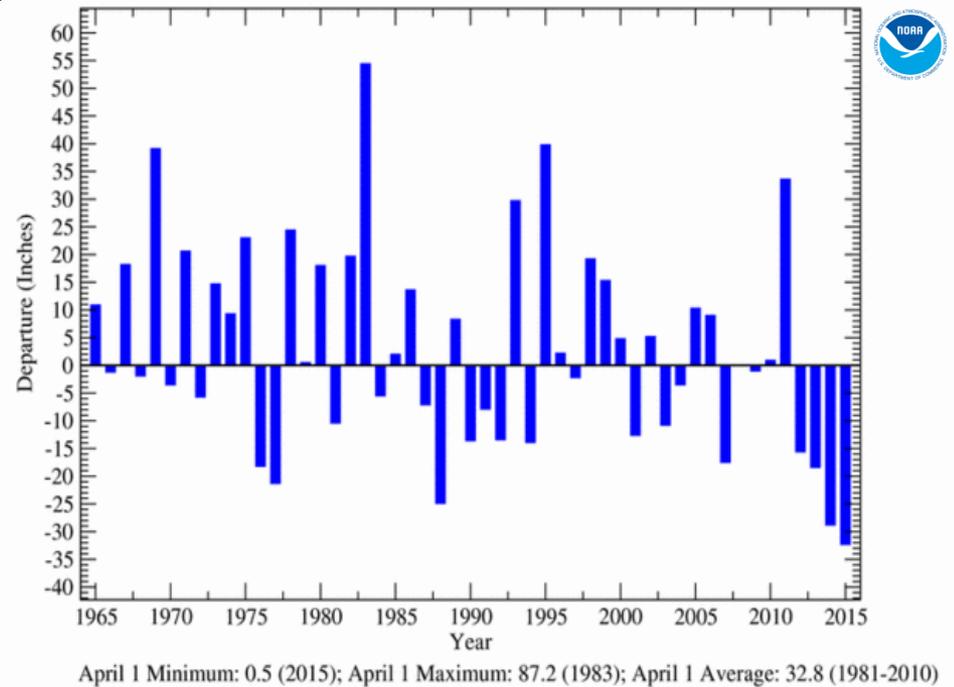
**California Average Temperature Jan-Mar**



# California Drought



## Donner Summit, CA Snow Water Equivalent Departures April 1 Measurement minus 1981-2010 April 1 Normal



<http://www.ncdc.noaa.gov/sotc/national/2015/3/supplemental/page-3>

# Current U.S. Drought

## 37.5% of Contiguous U.S. in Drought

(↑ 8.8~% since beginning of January)

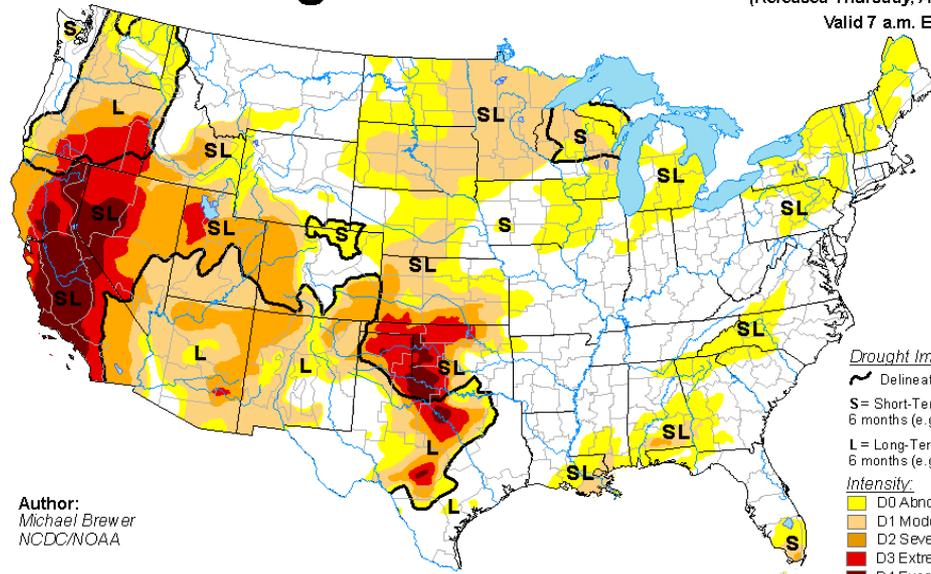
- **Improvement:** Interior Northwest, Southern Rockies and Plains, Mid-Mississippi Valley
- **Degradation:** Central Rockies, Northern Plains, Upper Midwest, Southeast
- **Status quo:** West Coast and Great Basin

### U.S. Drought Monitor

April 14, 2015

(Released Thursday, Apr. 16, 2015)

Valid 7 a.m. EST



Author:  
Michael Brewer  
NCDC/NOAA

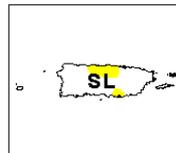
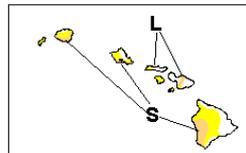
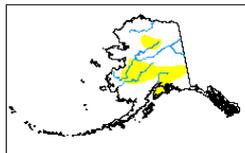
#### Drought Impact Types:

- ~ 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:

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

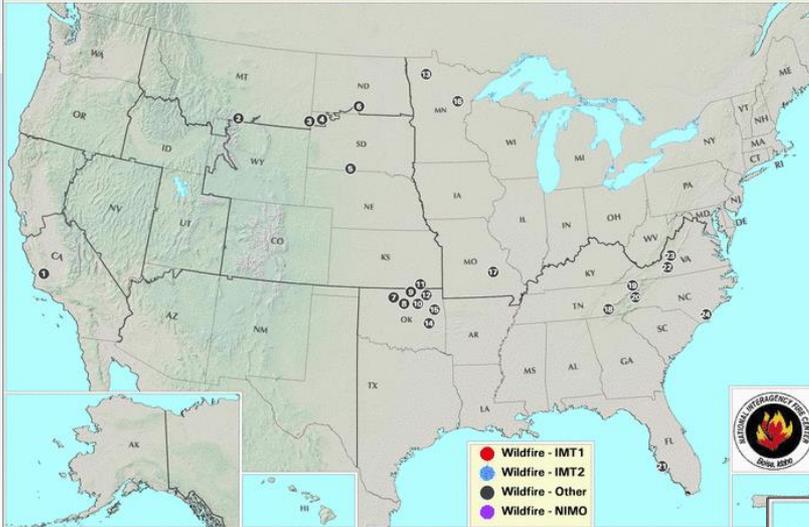
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.



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

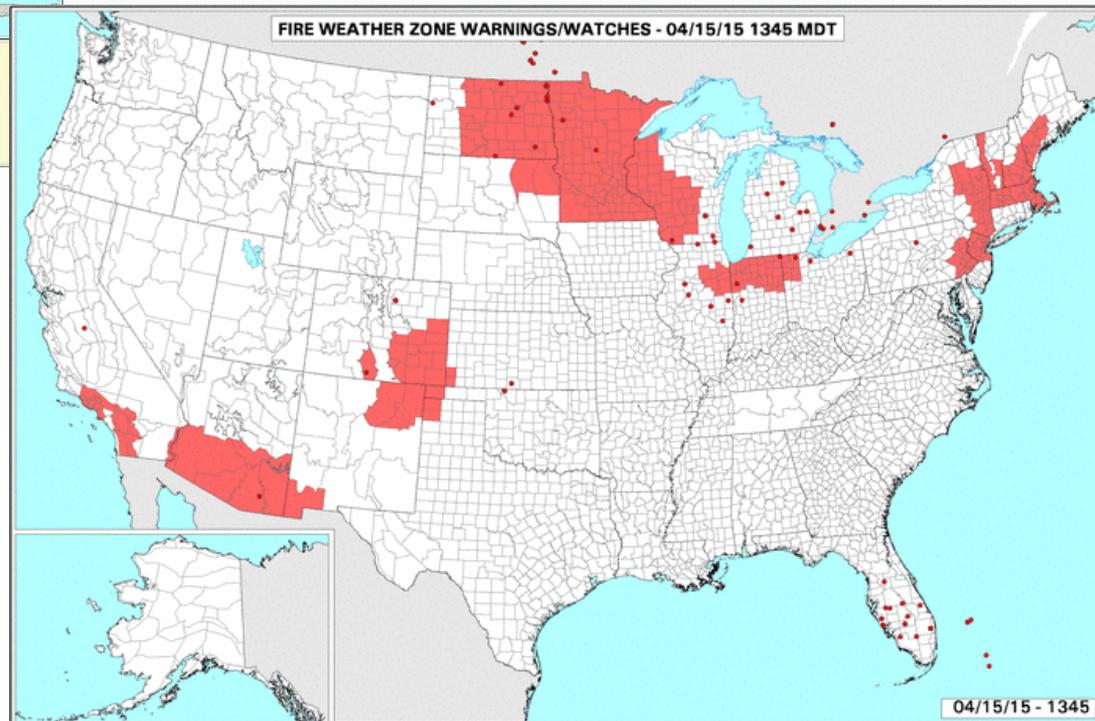
# Current Large Incidents

April 10, 2015



- |                  |              |               |                         |
|------------------|--------------|---------------|-------------------------|
| 1 FRYING PAN     | 8 BROKEY     | 16 FENCE      | 22 CLEARWATER           |
| 2 WEST FORK ROAD | 9 WYNONA     | 17 TAMARACK   | 23 SHORT HILLS MOUNTAIN |
| 3 SHEEP DRAW     | 10 WEBSTER   | 18 BEARCLAW   | 24 COMPASS POINT        |
| 4 MOONSHINE      | 11 Z BAR 7   | 19 HAMPTON    |                         |
| 5 ASHES          | 12 2230 ROAD | 20 POPLAR     |                         |
| 6 BIG LAKE       | 13 STAR      | 21 WEED LANE  |                         |
| 7 ARCHULETA      | 14 DUMP      | 23 QUAIL ROAD |                         |

# Fire Activity



04/15/15 - 1345

USDA Forest Service  
<http://activefiremaps.fs.fed.us/current.php>



# Fire Issues

- Fires not uncommon in spring
- Complicated issues – what is the problem this year?
  - Dry surfaces
  - Good growth for several years
  - Lack of snow to knock down vegetation
- Numerous red flag warnings
- Rapidly spreading/burning areas
- Part I-29 in ND closed yesterday (smoke and dust)



Fire at University of Mary Bismarck, ND –  
Bismarck Tribune

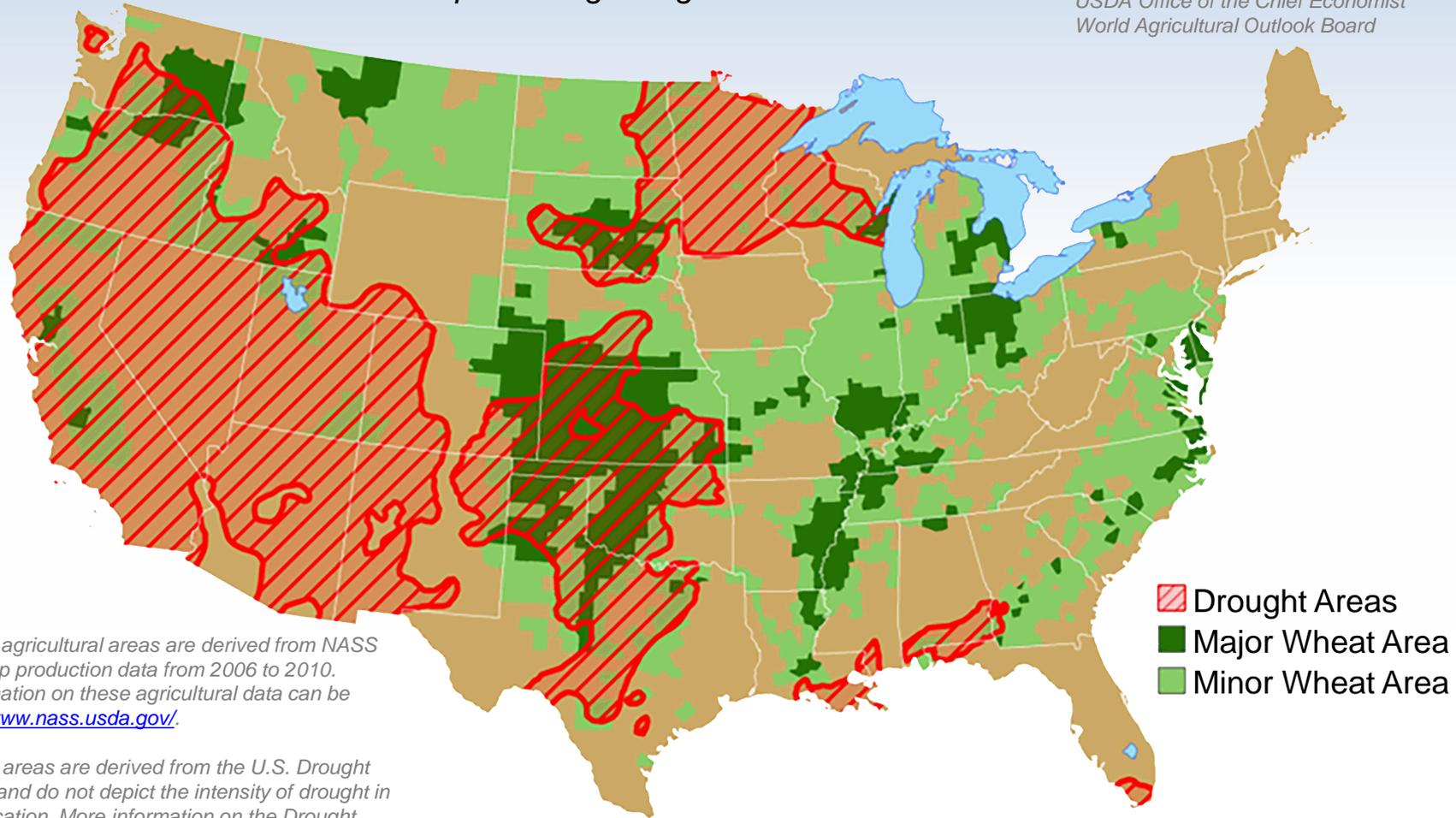
# U.S. Winter Wheat Areas Experiencing Drought

Reflects April 7, 2015  
U.S. Drought Monitor data

Approximately 43% of winter wheat  
production is within an area  
experiencing drought.

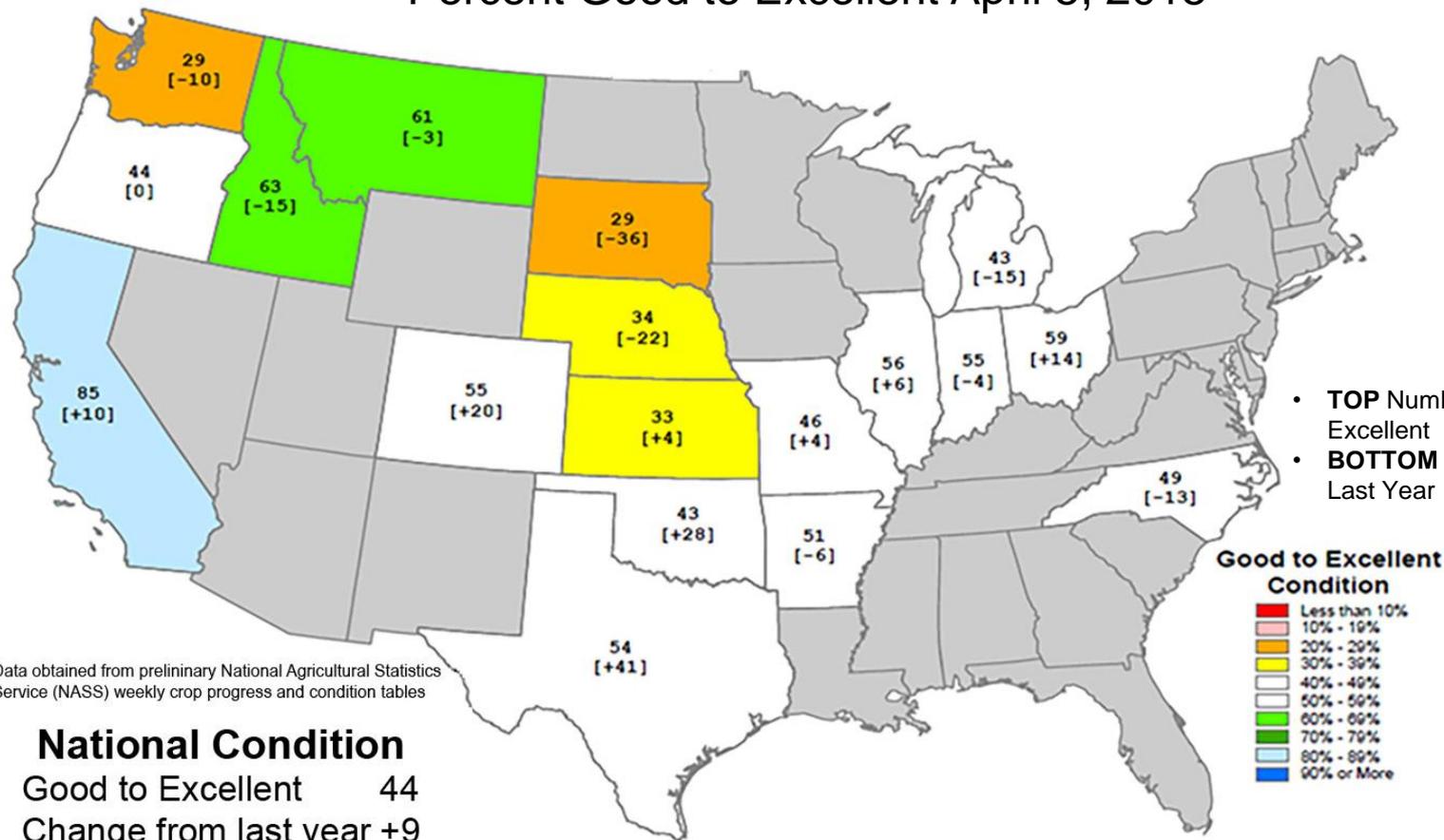


This product was prepared by the  
USDA Office of the Chief Economist  
World Agricultural Outlook Board



# U.S. Winter Wheat Conditions

Percent Good to Excellent April 5, 2015



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

## National Condition

Good to Excellent 44  
Change from last year +9

- April – 12 Percent Poor – Very poor
- NE – 30%, KS – 28%, SD – 27%, OK – 26%

- **TOP** Number: Percent Food to Excellent
- **BOTTOM** Number Change from Last Year

- Multiple wheat issues
- Overall actually better than last year

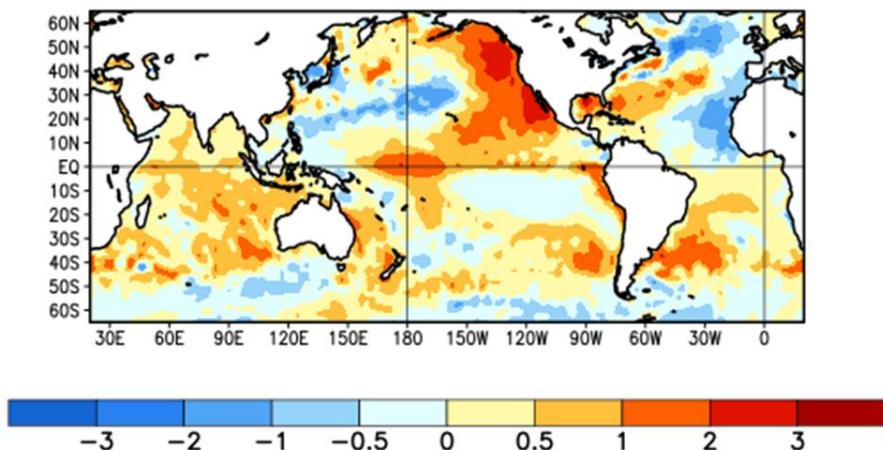
# Overall Midwestern Ag Issues

- Wetter eastern Corn Belt/dry plains northern Midwest
- Wetter areas planting activity slowed (S. IN, S. IL)
- Drier areas more activity
  - Drier soils
  - Field access
  - Earlier planting than avg.  
(particularly small grains, NE, SD)
- Some winter kill specialty crops in Michigan
- Corn planting currently 2%; avg. is 5%



# Sea Surface Temperatures and ENSO

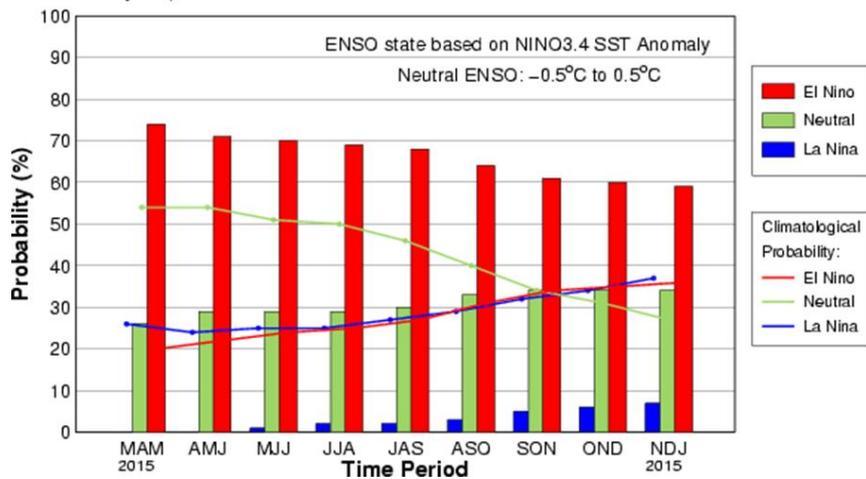
**Average SST Anomalies**  
15 MAR 2015 – 11 APR 2015



- Sea surface temperatures
  - Above normal SSTs across the equatorial Pacific
  - Above normal SSTs along the west coast of North America
  - El Nino Advisory remains in place

## Early April CPC/IRI Consensus Probabilistic ENSO Forecast

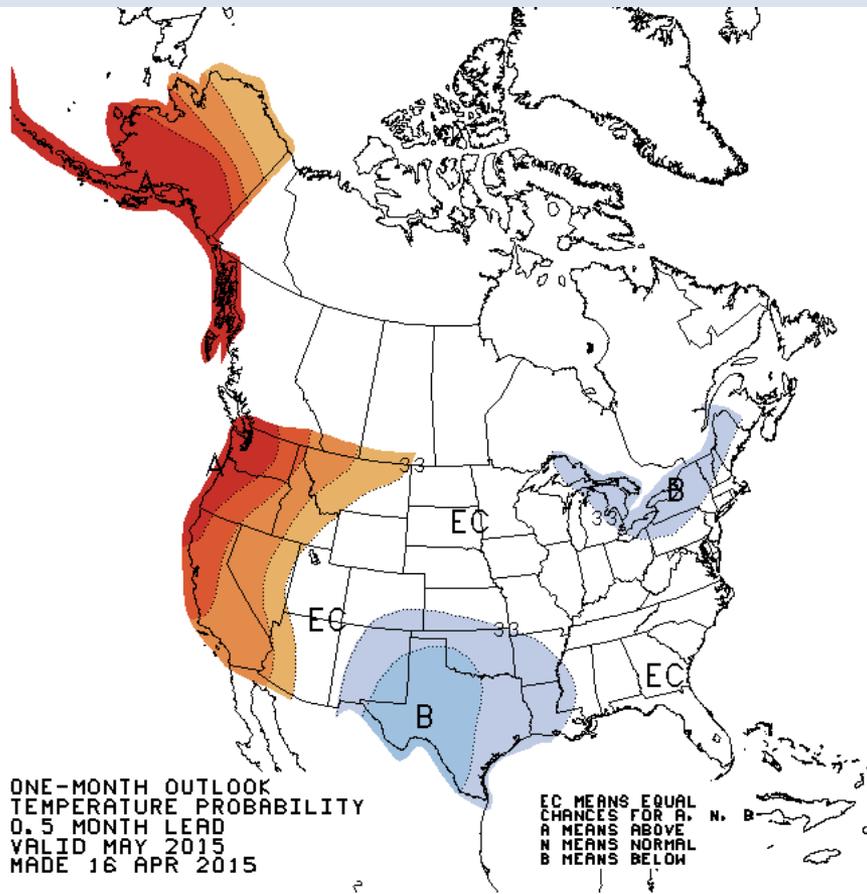
Early-Apr CPC/IRI Consensus Probabilistic ENSO Forecast



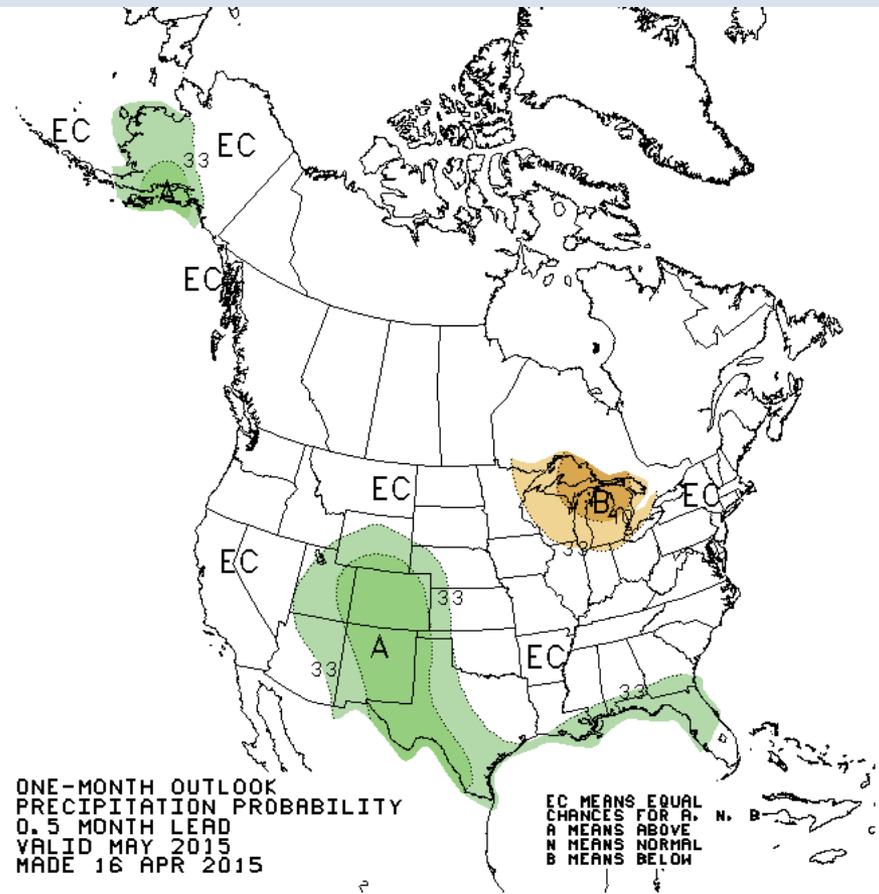
- ENSO forecast
  - The chance of El Nino is 60-70% through 2015
  - Forecast anomalies for later this year currently have a large range

# Monthly Forecast (May)

## May Average Temperature Probability

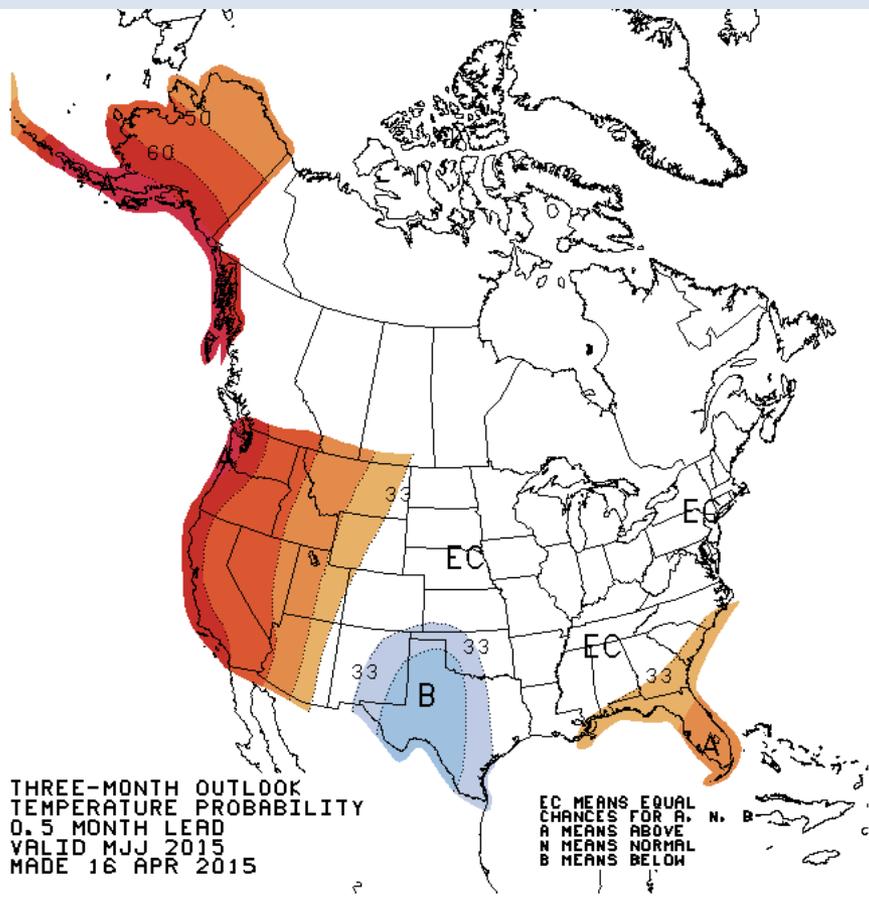


## May Total Precipitation Probability

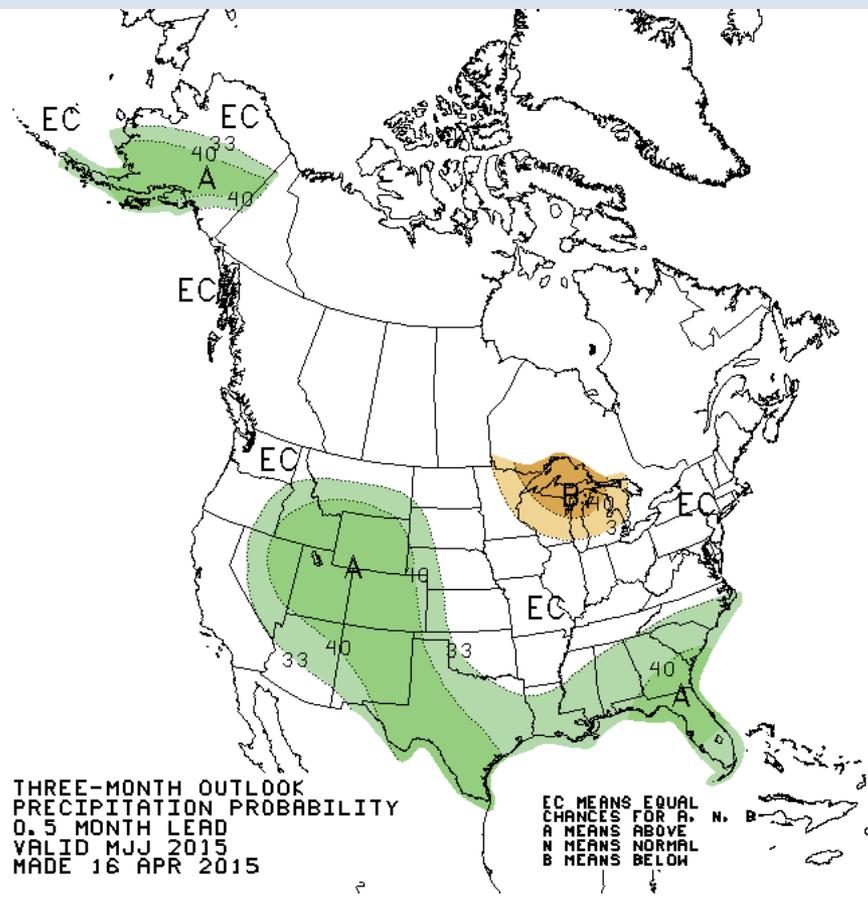


# Seasonal Forecast (May-June-July)

## May-July Average Temperature Probability

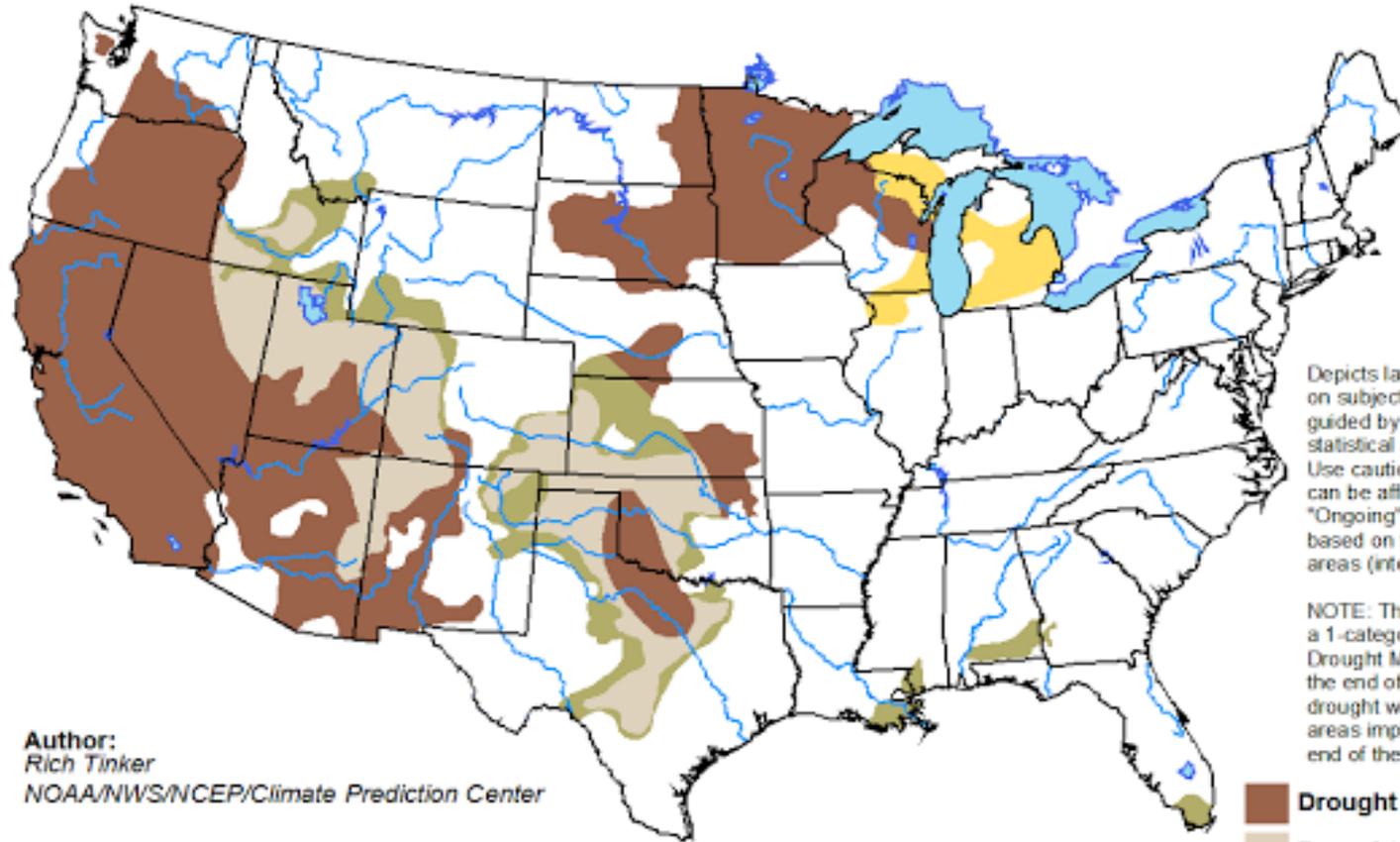


## May-July Total Precipitation Probability



# U.S. Drought Outlook

Drought Tendency During the Valid Period  
April 16 – July 31, 2015; Released April 16, 2015



Depicts large-scale trends based on subjectively derived probabilities guided by short- and long-range statistical and dynamical forecasts. Use caution for applications that can be affected by short lived events. "Ongoing" drought areas are based on the U.S. Drought Monitor areas (intensities of D1 to D4).

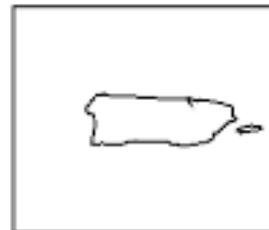
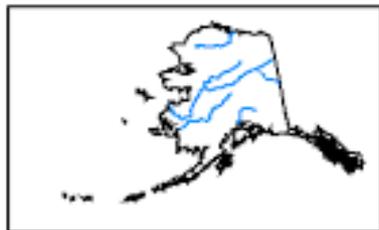
NOTE: The tan areas imply at least a 1-category improvement in the Drought Monitor intensity levels by the end of the period, although drought will remain. The green areas imply drought removal by the end of the period (D0 or none).

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



<http://go.usa.gov/hHTe>

Author:  
Rich Tinker  
NOAA/NWS/NCEP/Climate Prediction Center



# For More Information



## TODAY'S PRESENTATION:

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

## NOAA's National Centers for Environmental Information:

[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/)
- Dates for upcoming reports: <http://www.ncdc.noaa.gov/monitoring-references/dyk/monthly-releases>

**South Dakota State Climatologist:** [http://climate.sdstate.edu/climate\\_site/climate.htm](http://climate.sdstate.edu/climate_site/climate.htm)

**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)

## Media Contacts:

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- [Brady.Phillips@noaa.gov](mailto:Brady.Phillips@noaa.gov), 202-482-2365 (NOAA Office of Communications)