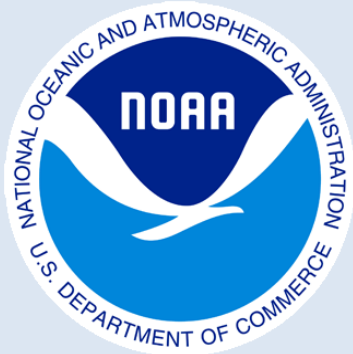


NOAA Climate Science & Services

Monthly Climate Update



Deke Arndt

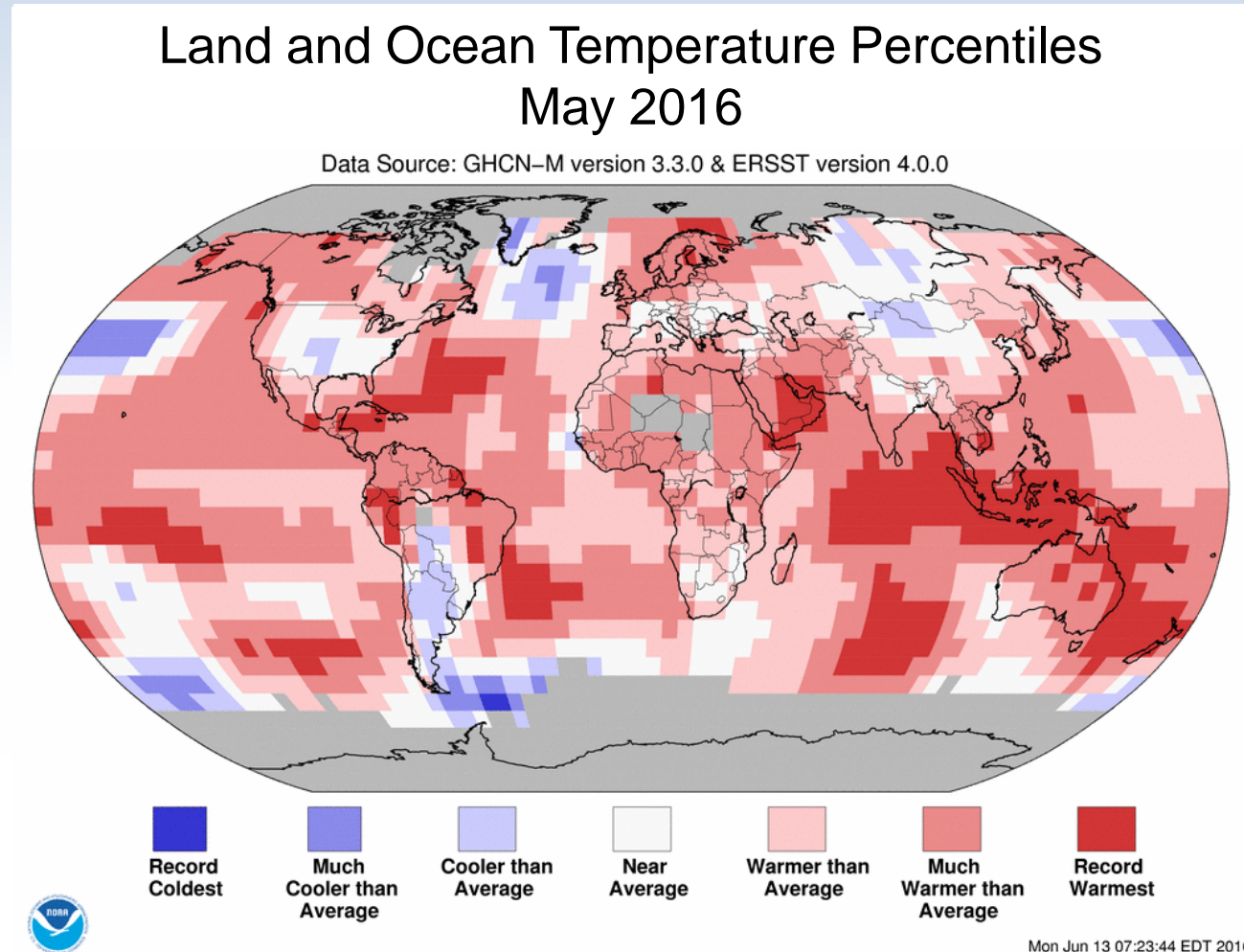
Chief, NOAA's National Centers for Environmental Information, Asheville, NC

Brad Pugh

Meteorologist and Seasonal Forecaster
NOAA's Climate Prediction Center, College Park, MD

Global Temperature: May 2016

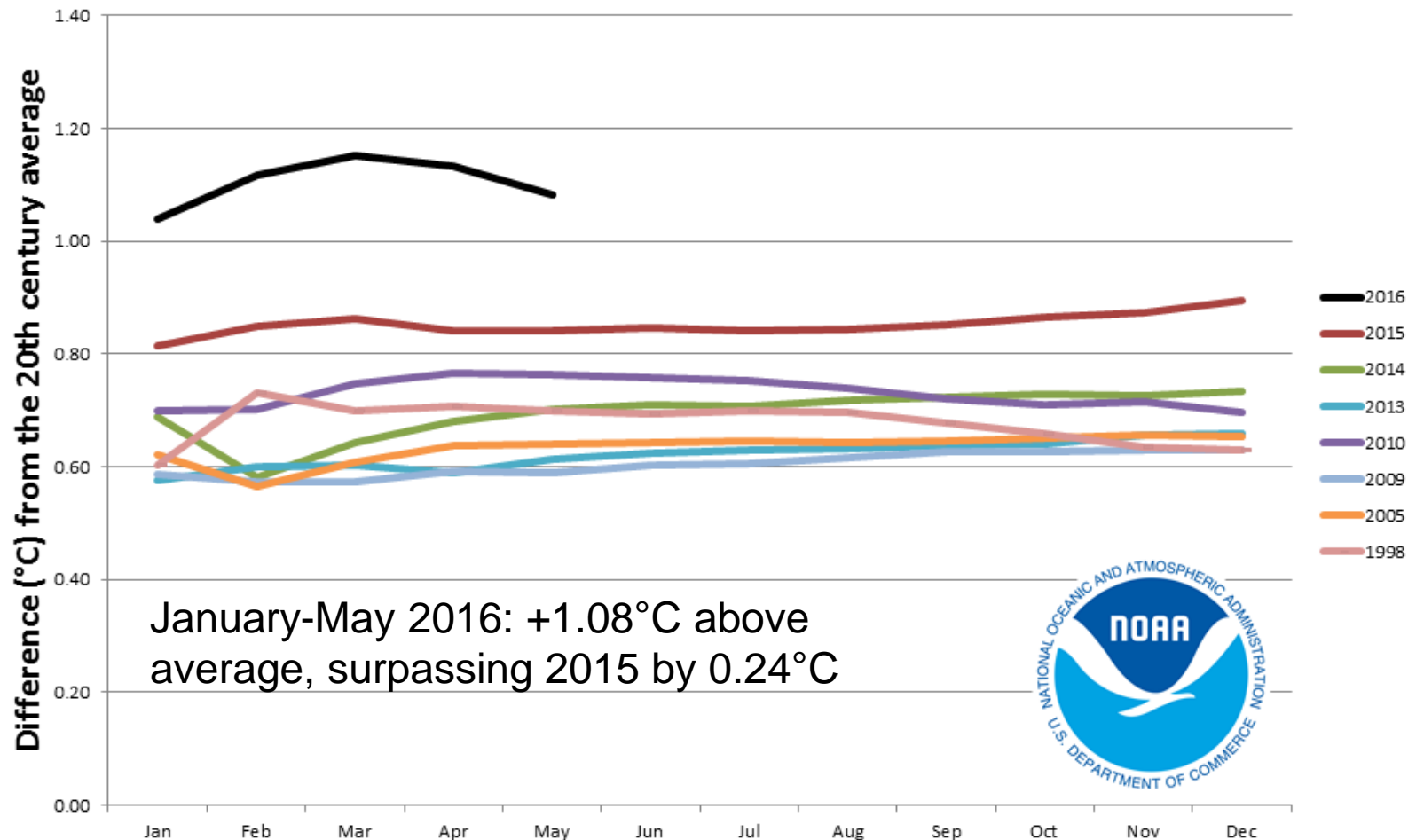
- May: $+0.87^{\circ}\text{C}$ above 20th century average
 - Warmest May on record
 - 13th consecutive record warm month
 - First month since Nov 2015 less than 1°C warmer than 20th century average
- Land: $+1.17^{\circ}\text{C}$
 - 3rd Warmest May on record
- Ocean: $+0.76^{\circ}\text{C}$
 - Warmest May on record
 - Smallest monthly departure since July 2015



The global temperature record dates to 1880 (137 years)

Global Temperature: Jan-May 2016

Year-to-Date Global Temperature
for 2016 and the other seven warmest years on record



Ten Warmest Months on Record:

as of Nov 2013 (left) **vs. current (right)**

Rank	Month	Anomaly °C	Anomaly °F	Rank	Month	Anomaly °C	Anomaly °F
1	Jan 2007	+0.88	+1.58	1	Mar 2016	+1.22	+2.20
2	Feb 1998	+0.86	+1.55	2	Feb 2016	+1.20	+2.16
3	Mar 2010	+0.84	+1.51	3	Dec 2015	+1.12	+2.02
4 (tie)	Apr 2010	+0.82	+1.48	4	Apr 2016	+1.07	+1.93
4 (tie)	Nov 2013	+0.82	+1.48	5	Jan 2016	+1.04	+1.87
6	Mar 2002	+0.79	+1.42	6	Oct 2015	+0.99	+1.78
7	Feb 2002	+0.78	+1.40	7	Nov 2015	+0.96	+1.73
8	Nov 2011	+0.77	+1.39	8	Sep 2015	+0.92	+1.66
9 (tie)	Dec 2006	+0.76	+1.37	9	Mar 2015	+0.89	+1.60
9 (tie)	Mar 2008	+0.76	+1.37	10 (tie)	Jan 2007	+0.88	+1.58
9 (tie)	May 2010	+0.76	+1.37	10 (tie)	Feb 2015	+0.88	+1.58

Contiguous U.S. Spring 2016

Temperature: 53.7°F, +2.8°F, 6th warmest spring on record

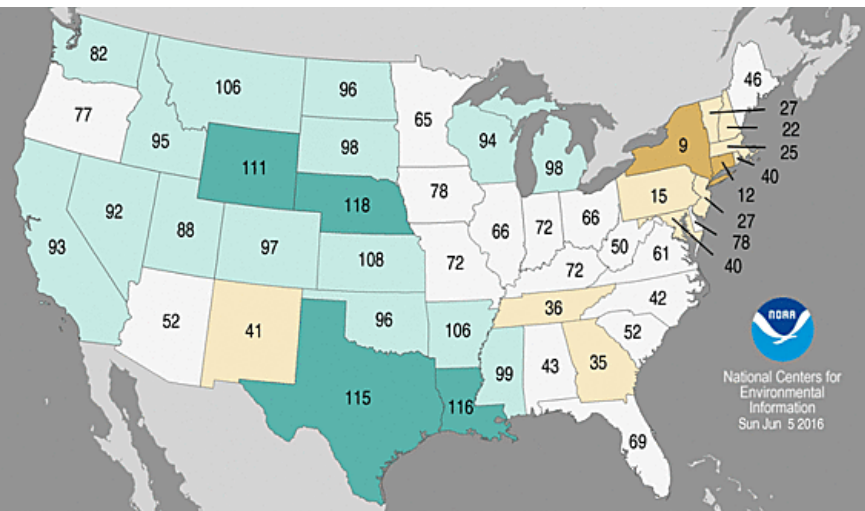
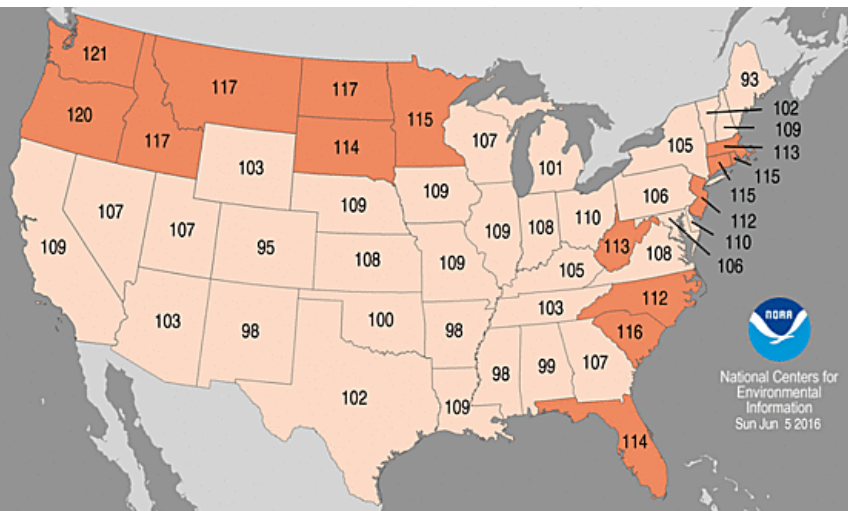
Precipitation: 9.03", +1.09", t-18th wettest spring on record

Statewide Temperature Ranks Spring 2016

Period: 1895-2016 (122 years)

Statewide Precipitation Ranks, Spring 2016

Period: 1895-2016 (122 years)



Record Coldest (1)
Much Below Average
Below Average
Near Average
Above Average
Much Above Average
Record Warmest (122)

Record Driest (1)
Much Below Average
Below Average
Near Average
Above Average
Much Above Average
Record Wettest (122)

- Every state categorized as, at least, “above average”
- Warmth was most focused, relatively speaking, in the Pacific NW; WA 2nd warmest spring
- Generally, morning lows were more unusually warm than afternoon highs

- Individually, May was near normal for CONUS
- Generally wetter than normal west of the Mississippi
 - Flooding in Texas several times during the season
- Drier than average in Northeast and Southeast
- Individually, May was near normal for CONUS



June 16, 2016

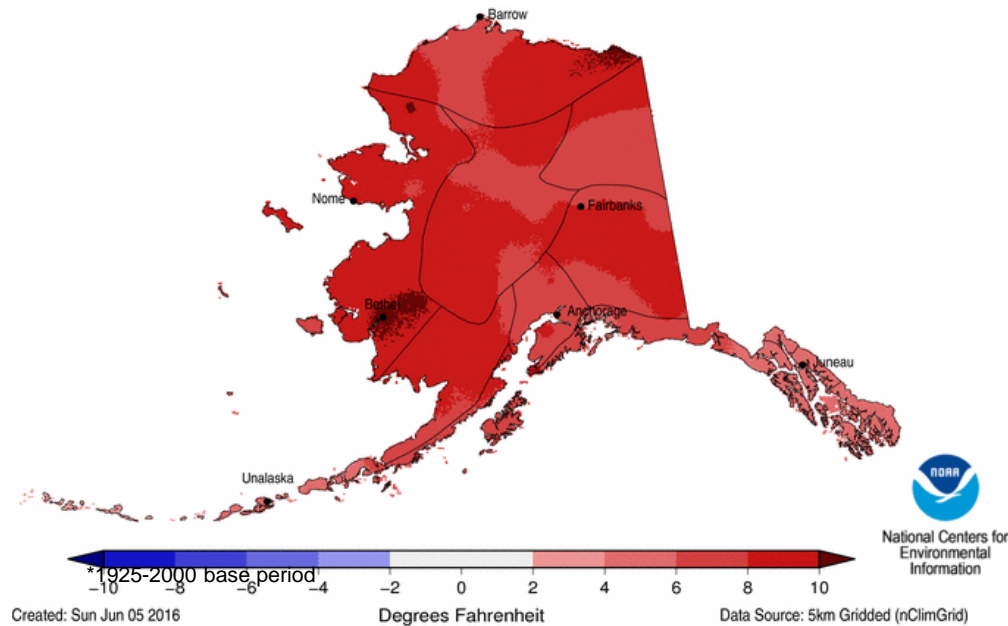
Monthly Climate Webinar

Record Warm Alaska Spring

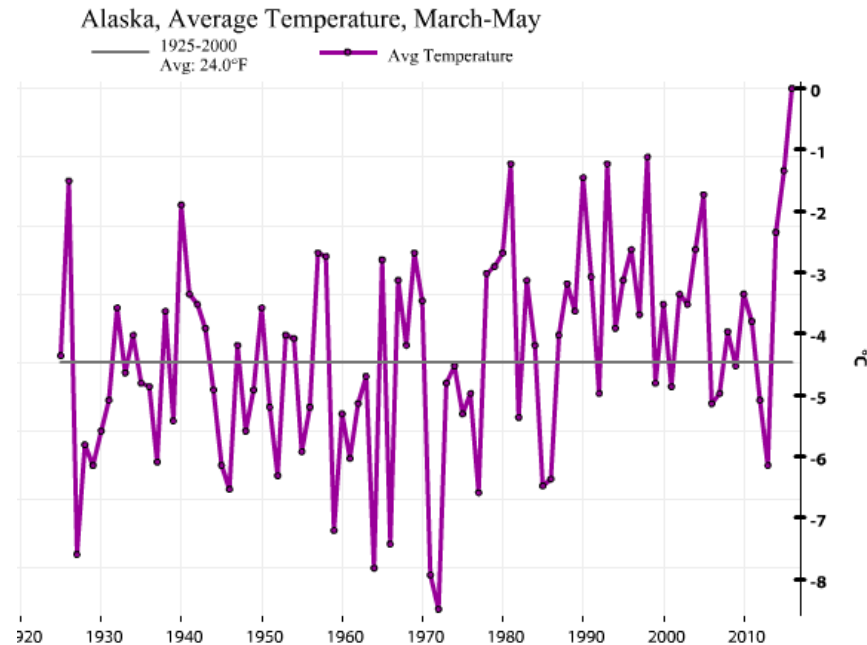
May: 44.0°F, +6.2°F, 2nd warmest May on record

Spring: 32.0°F, +8.0°F, warmest spring on record

Alaska Temperature Departures from Average Spring 2016



Alaska Statewide Temperature Departures Spring: 1925-2016 (92 years)



Current U.S. Drought

13.8% of Contiguous U.S. in Drought

(↓1.6 percentage points since late April)

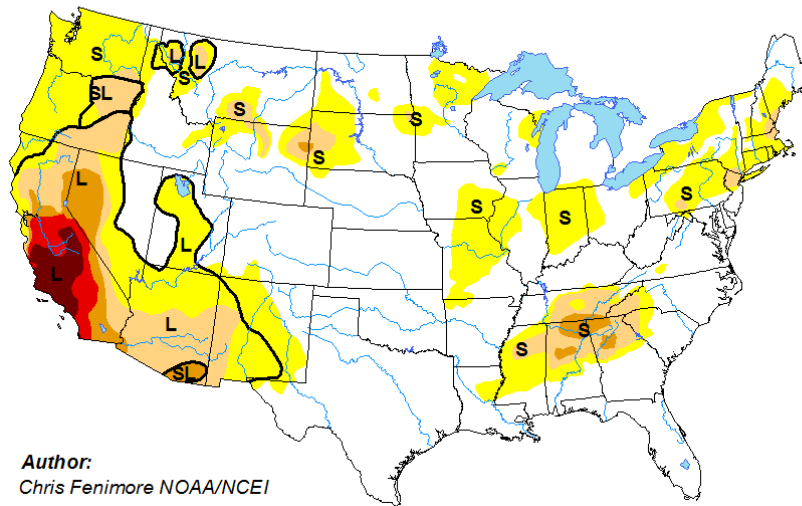
- Improvement: Great Basin, Northern California
- Degradation: Southeast
- Outside CONUS: Modest improvement in Hawaii

U.S. Drought Monitor

June 14, 2016

Valid 8 a.m. EDT

Released Thursday, June 16, 2016



Author:
Chris Fenimore NOAA/NCEI

Drought Impact Types:

~ Delineates dominant impacts

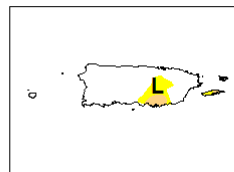
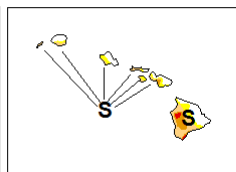
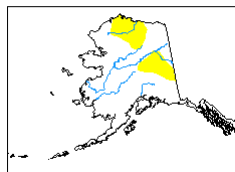
S = Short-Term, typically <6 months
(e.g. agriculture, grasslands)

L = Long-Term, typically >6 months
(e.g. hydrology, ecology)

Intensity:

Yellow D0 Abnormally Dry
Orange D1 Drought - Moderate
Dark Orange D2 Drought - Severe
Red D3 Drought - Extreme
Dark Red D4 Drought - Exceptional

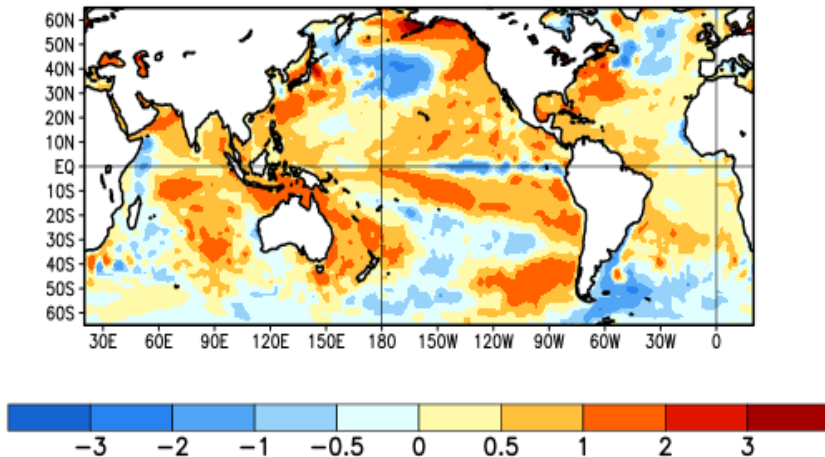
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.



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

Sea Surface Temperatures and ENSO

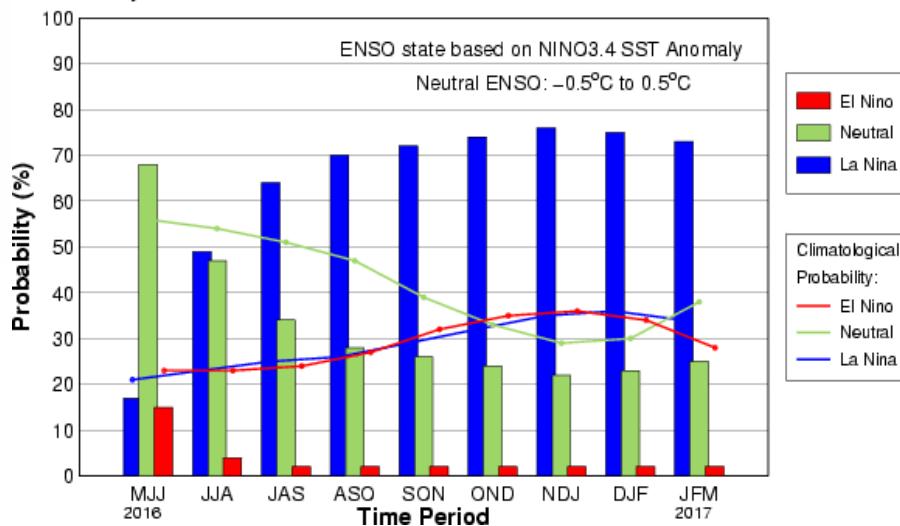
Average SST Anomalies
15 MAY 2016 – 11 JUN 2016



- Sea surface temperatures

- Below normal SSTs beginning to develop across the equatorial Pacific
- Above normal SSTs along the west coast of North America
- ENSO neutral conditions present with a La Niña watch issued

Early-Jun CPC/IRI Official Probabilistic ENSO Forecast

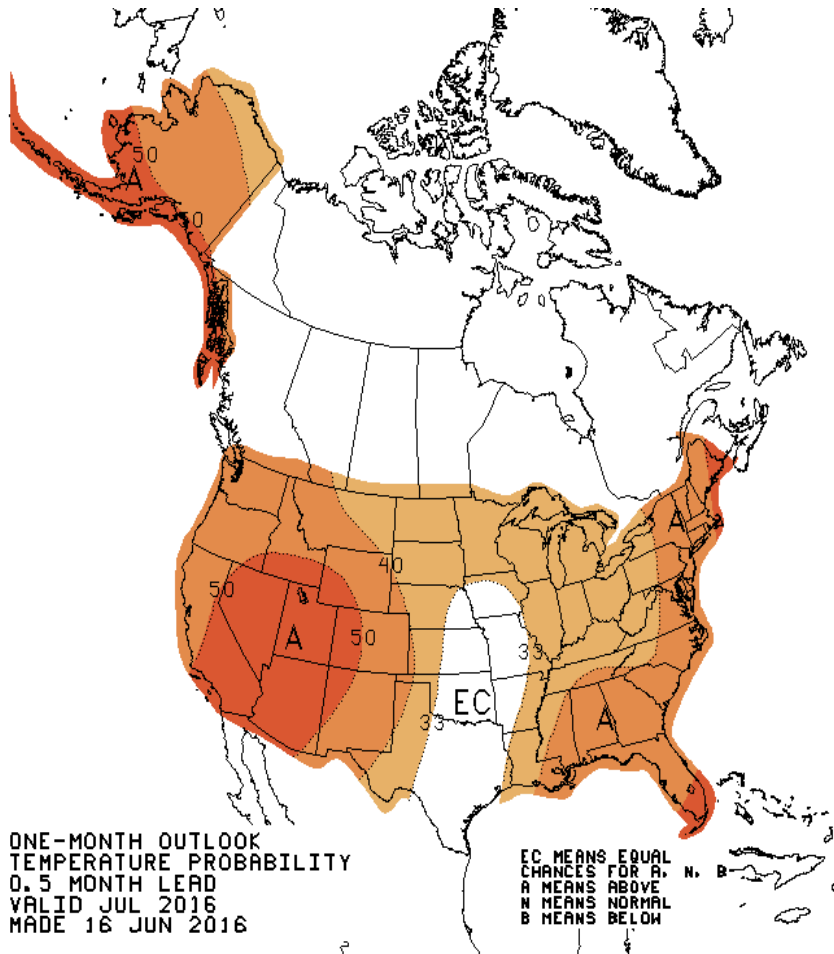


- ENSO forecast

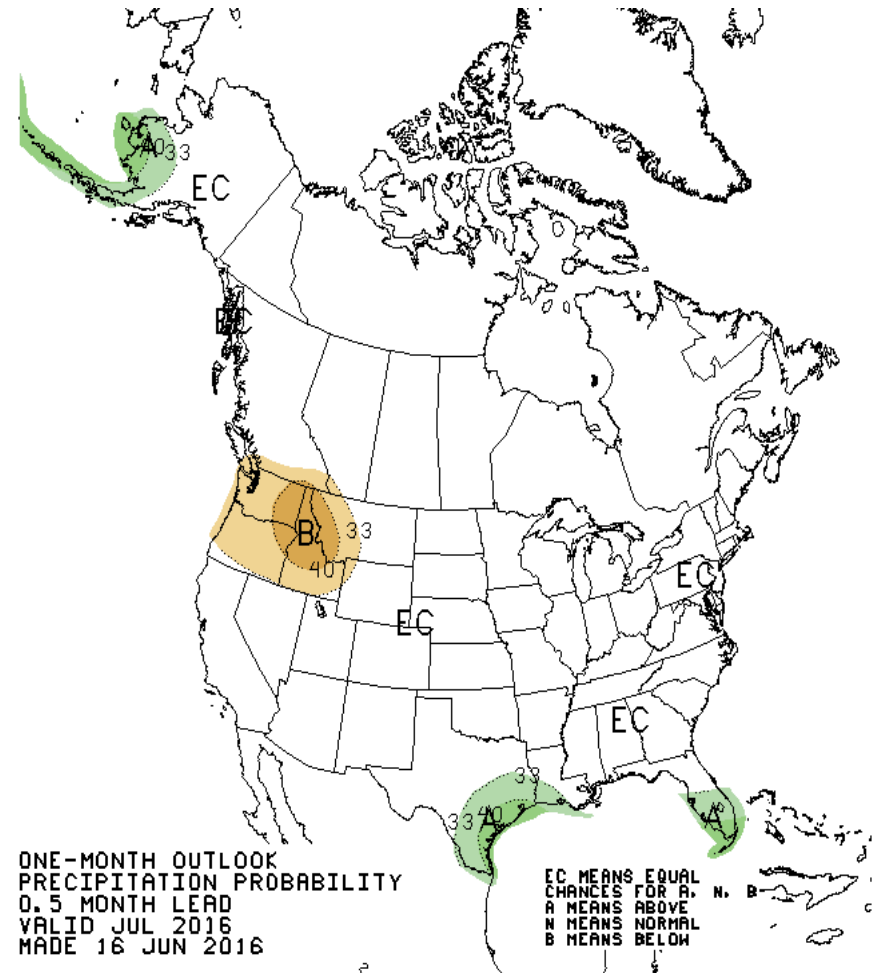
- A transition to La Niña anticipated during the summer 2016
- Enhanced odds of La Niña persisting through the winter 2016-17

Monthly Forecast (July)

July Average Temperature Probability

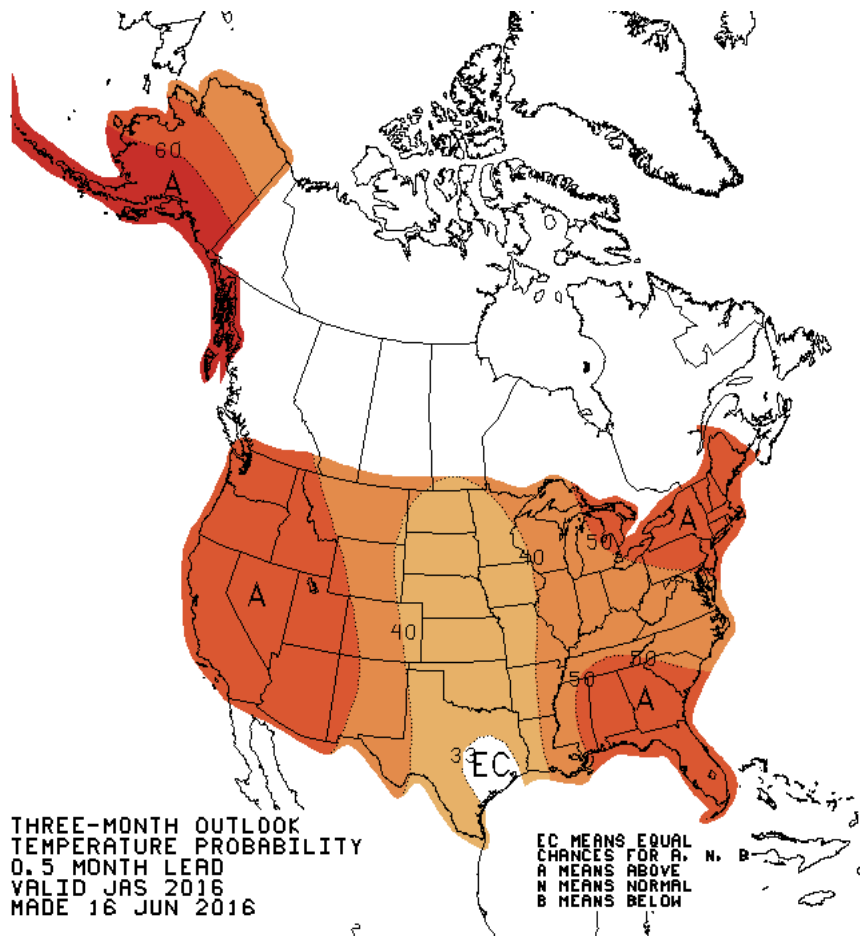


July Total Precipitation Probability

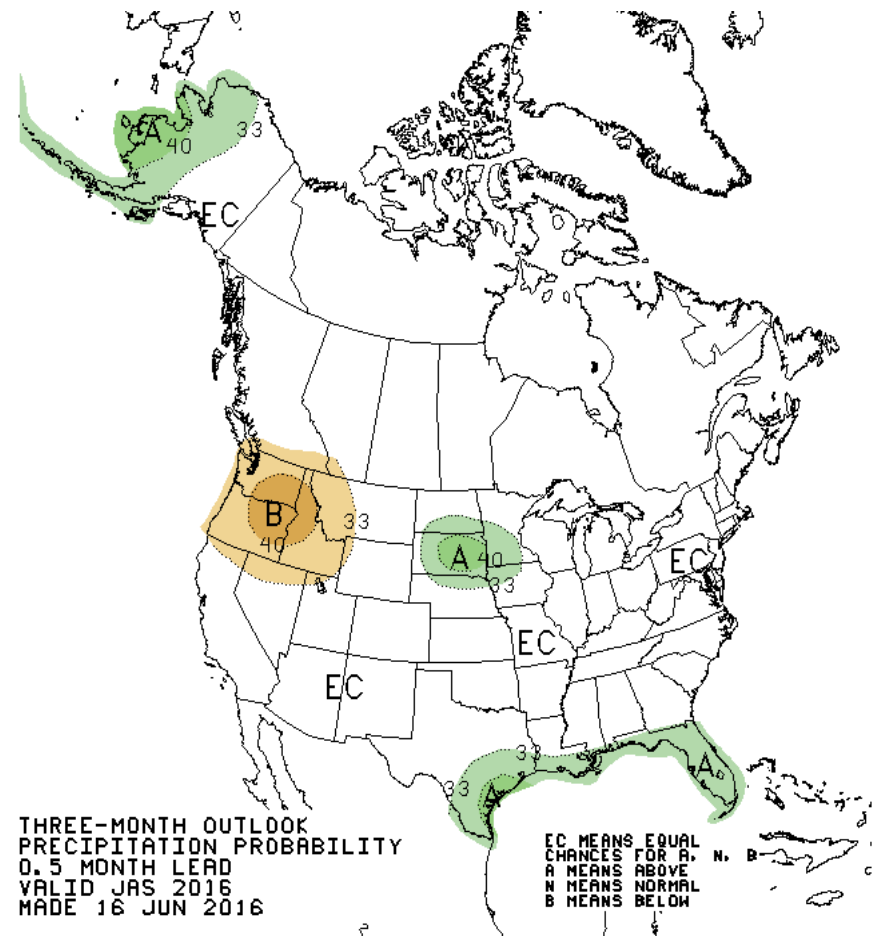


Seasonal Forecast (Jul-Aug-Sep)

Jul-Aug-Sep Average
Temperature Probability



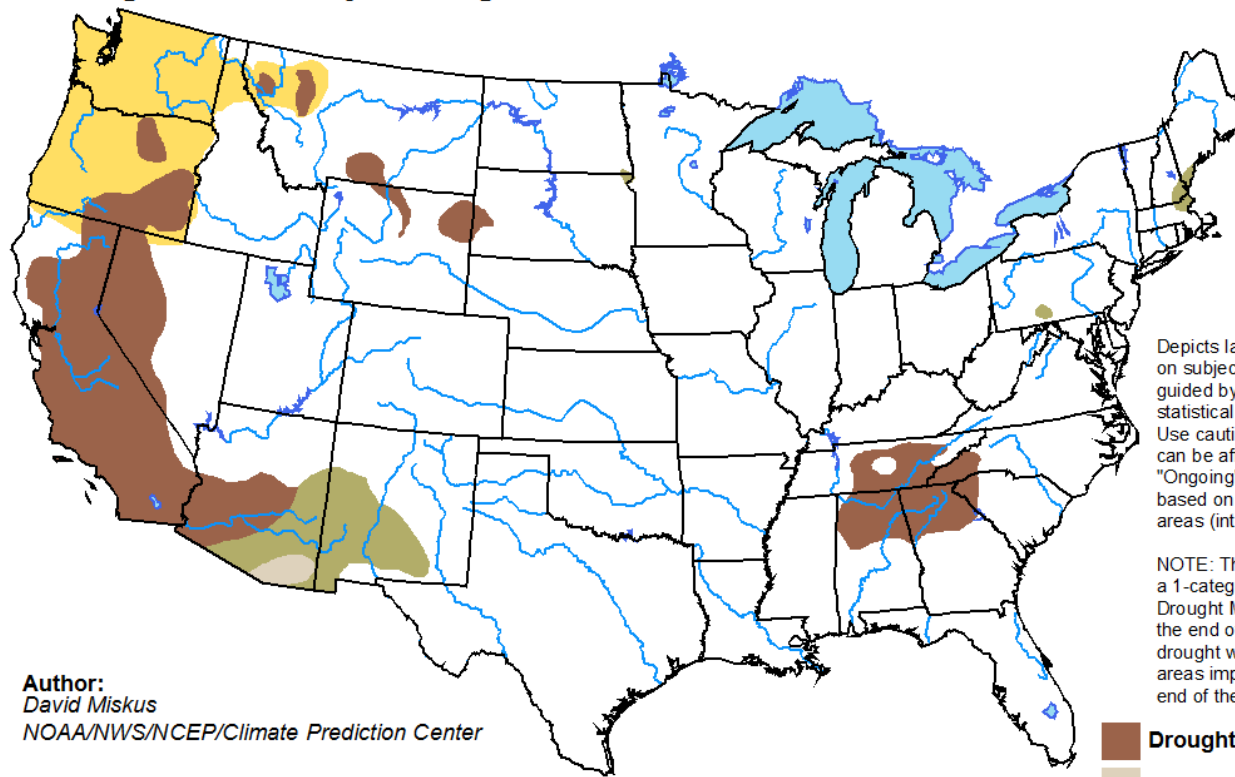
Jul-Aug-Sep Total
Precipitation Probability



U.S. Drought Outlook

U.S. Seasonal Drought Outlook Drought Tendency During the Valid Period





Valid for June 16 - September 30, 2016
Released June 16, 2016

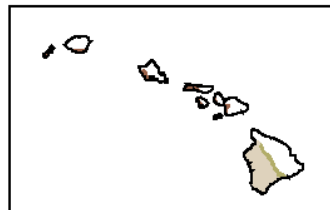
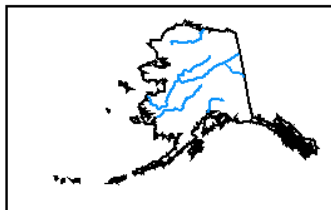


Depicts large-scale trends based on subjectively derived probabilities guided by short- and long-range statistical and dynamical forecasts. Use caution for applications that can be affected by short lived events. "Ongoing" drought areas are based on the U.S. Drought Monitor areas (intensities of D1 to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

Author:
David Miskus
NOAA/NWS/NCEP/Climate Prediction Center

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



<http://go.usa.gov/3eZ73>

For More Information



TODAY'S PRESENTATION:

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

NOAA's National Centers for Environmental Information:

www.ncdc.noaa.gov

- Monthly climate reports (U.S. & Global): www.ncdc.noaa.gov/sotc/
- Dates for upcoming reports: <http://www.ncdc.noaa.gov/monitoring-references/dyk/monthly-releases>

NOAA's Climate Prediction Center: www.cpc.ncep.noaa.gov

National Weather Service – Southern Region: <http://www.srh.noaa.gov/>

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

Climate Portal: www.climate.gov

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- Brady.Phillips@noaa.gov, 202-482-2365 (NOAA Office of Communications/HQ)