

NOAA Climate Science & Services

Monthly Climate Update



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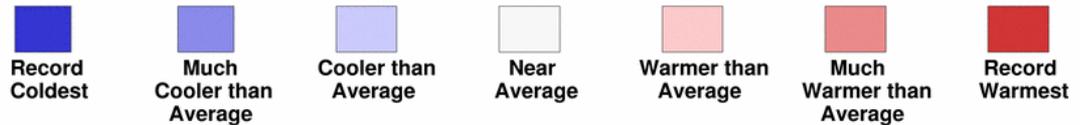
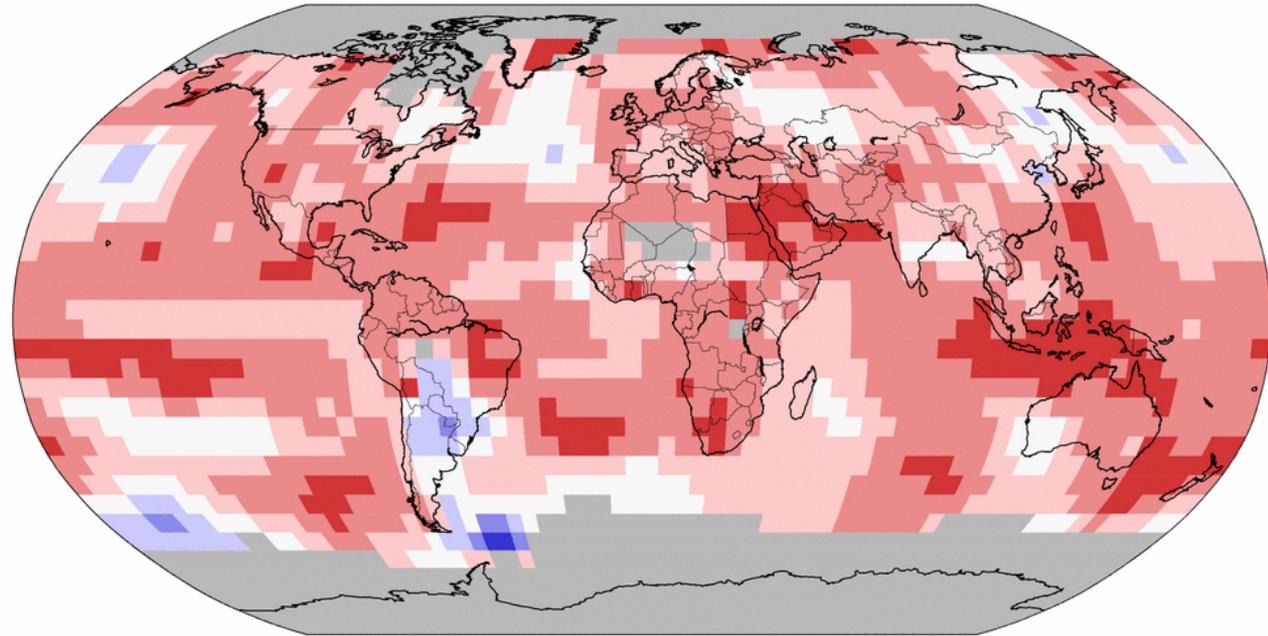
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Arizona State University

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NOAA's Climate Prediction Center

Global Temperature: June 2016

Land and Ocean Temperature Percentiles
June 2016



Wed Jul 13 07:05:52 EDT 2016

The global temperature record dates to 1880 (137 years)

- June: +0.90°C above 20th century average

- Warmest June on record
- 14th consecutive record warm month
- 9th largest monthly departure from average

- Land: +1.24°C

- Tied warmest June on record (2015)

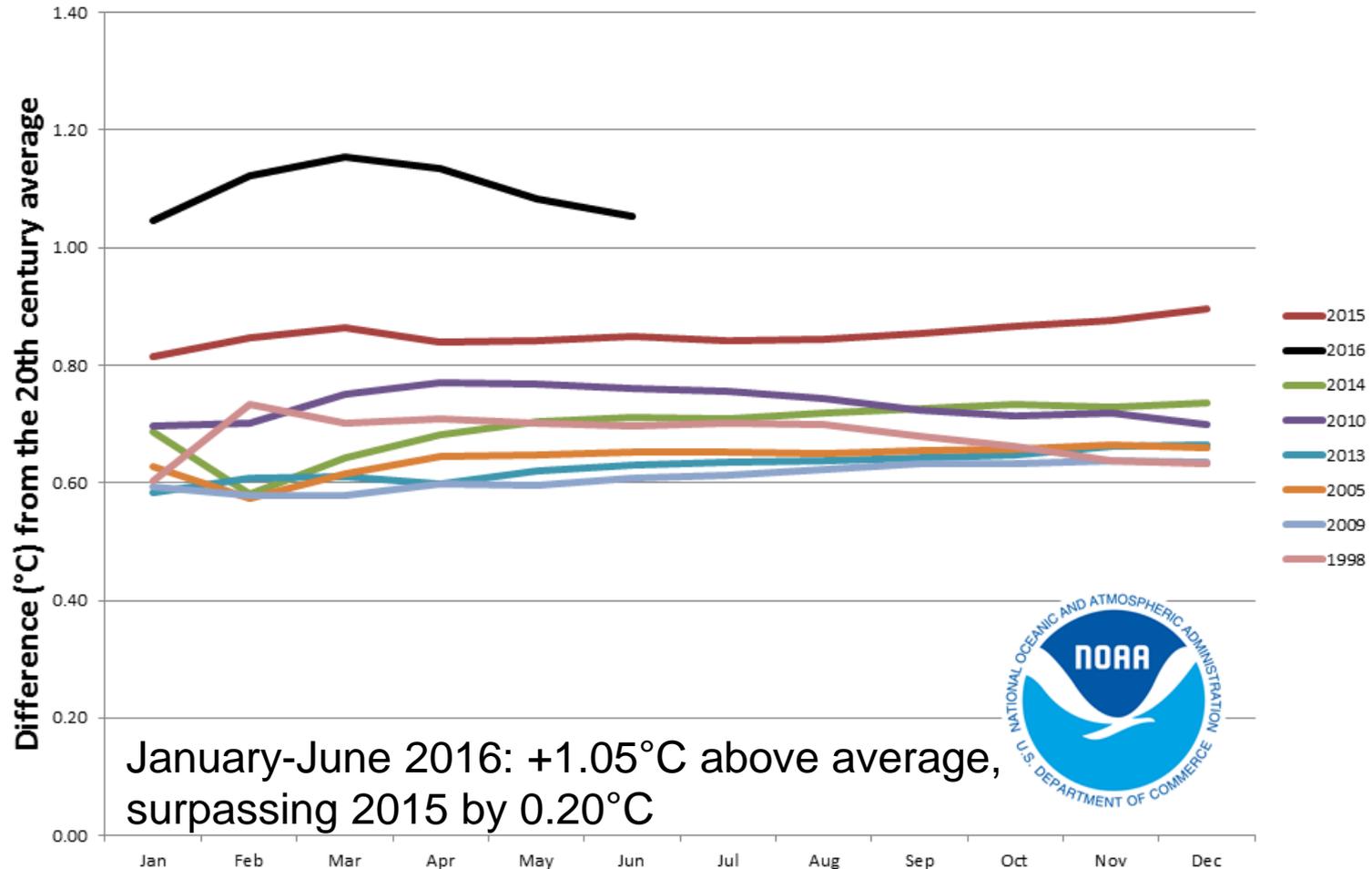
- Ocean: +0.77°C

- Warmest June on record
- 10th largest monthly departure from average

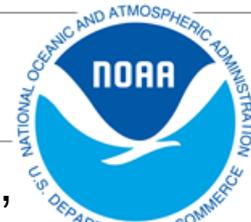


Global Temperature: Jan-Jun 2016

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



January-June 2016: +1.05°C above average,
surpassing 2015 by 0.20°C



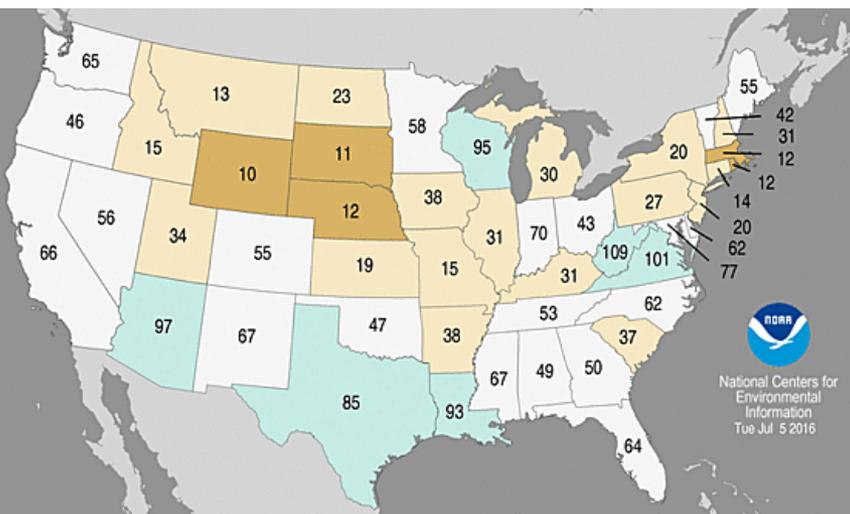
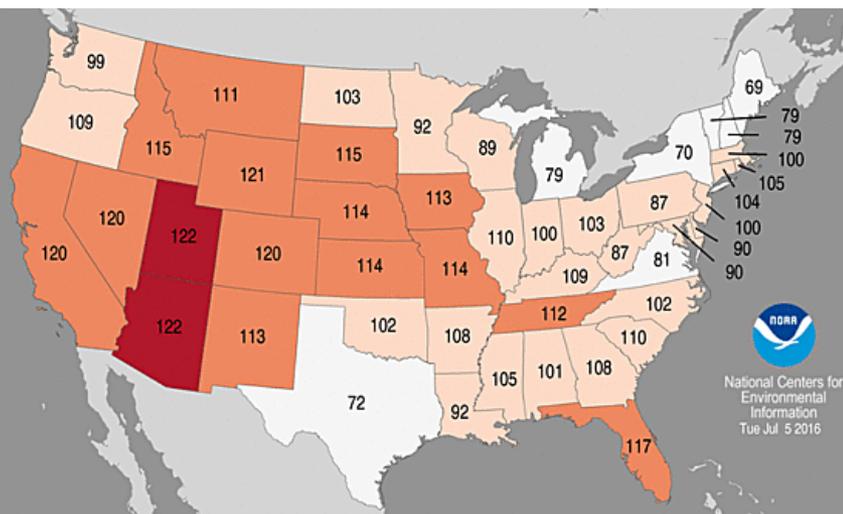
Contiguous U.S. June 2016

Temperature: 71.8°F, +3.3°F, record warmest June on record

Precipitation: 2.46", -0.47", 14th driest June

Statewide Temperature Ranks, Jun 2016
Period: 1895-2016 (122 years)

Statewide Precipitation Ranks, Jun 2016
Period: 1895-2016 (122 years)



- Bested previous record of 71.6°F in 1933
- Record and near-record warmth in the West and Central-Northern Plains. Near-average in Northeast and Southern Plains.
- Arizona and Utah were record warm.

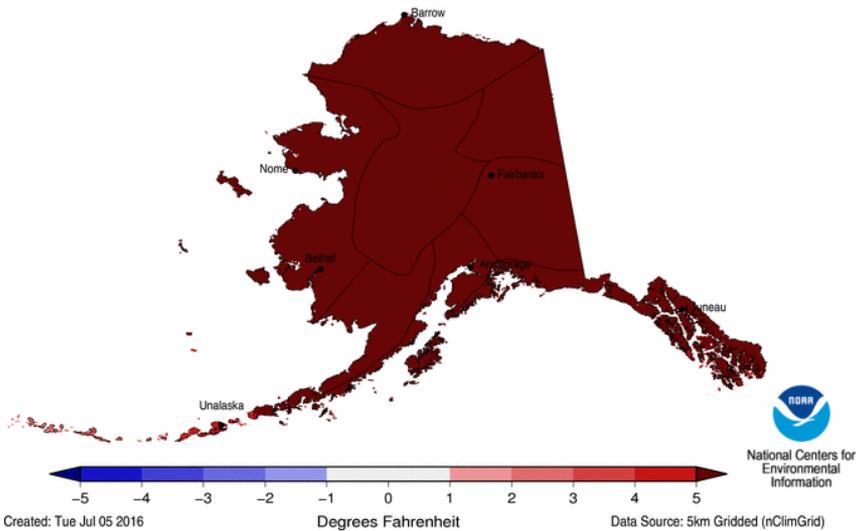
- Below-average precipitation in the Central-Northern Plains and Northeast.
- Above-average precipitation in Southwest, Southern Plains, Upper Midwest, and Mid-Atlantic
- Record flooding observed in parts of West Virginia. At least 23 fatalities (15 in Rainelle) and over 1,500 homes destroyed.



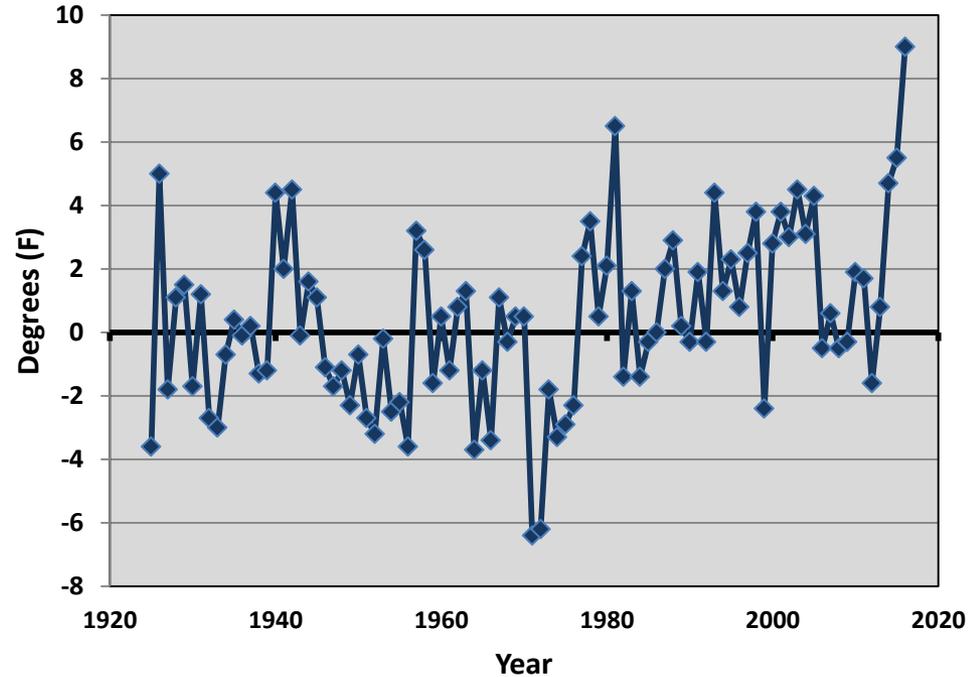
Baked Alaska

January-June: 30.4°F, +9.0°F, warmest Jan-Apr on record
Surpassed previous record of 27.9°F in 1981.

Alaska Temperature Departures from Average
January-June 2016



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



*1925-2000 base period

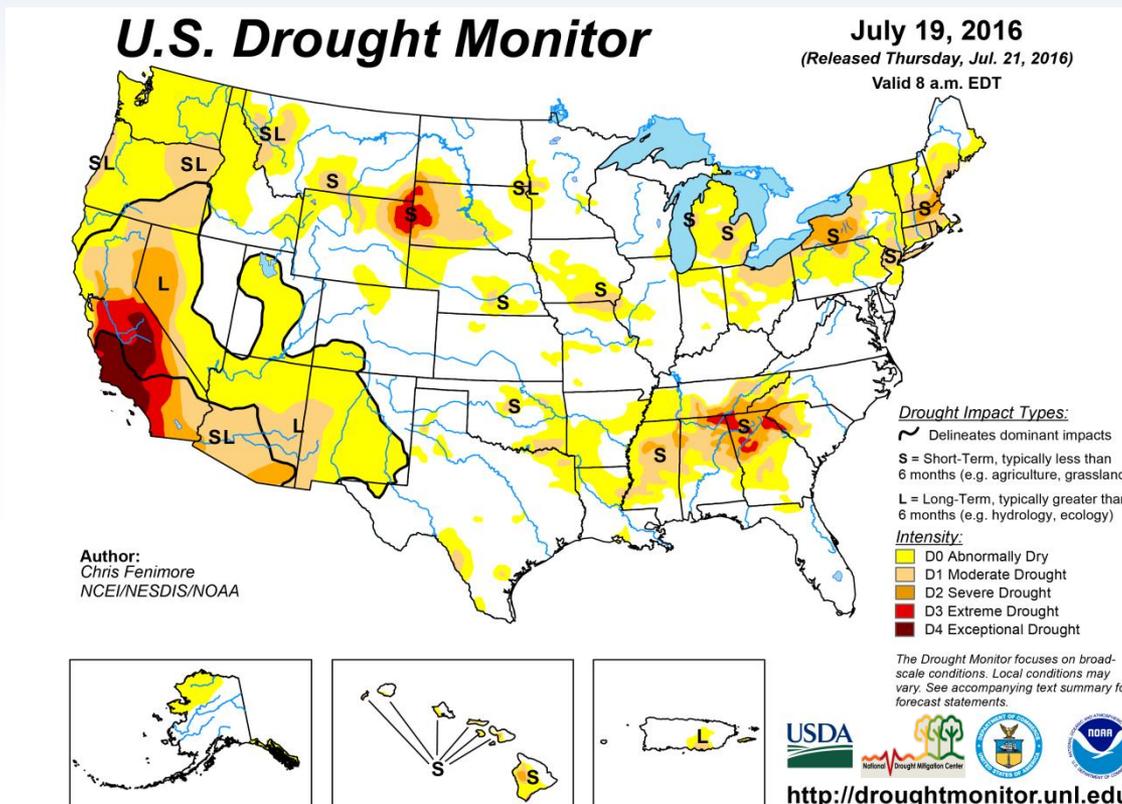


Current U.S. Drought

18.8% of Contiguous U.S. in Drought

(↑ 6.1 percentage points since late May)

- Improvement: Parts of Great Basin and Mid-Atlantic
- Degradation: Northwest, Northern Plains, Southeast, and Northeast
- Outside CONUS: Improving drought for parts of Hawaii



July 2016

Monthly Climate Webinar

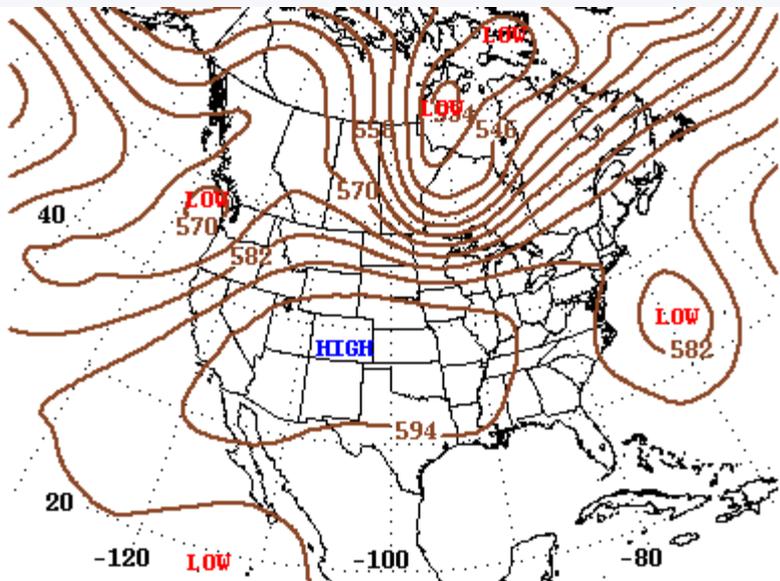
Southwest Heatwave

June 20-21, 2016 High temperature records were set or tied across the Southwest from Burbank to Santa Fe, from Yuma to Pueblo, CO.

- 126 Death Valley, CA
- 125 Needles, CA
- 120 Yuma, AZ
- 111 Burbank, CA
- 105 Pueblo, CO

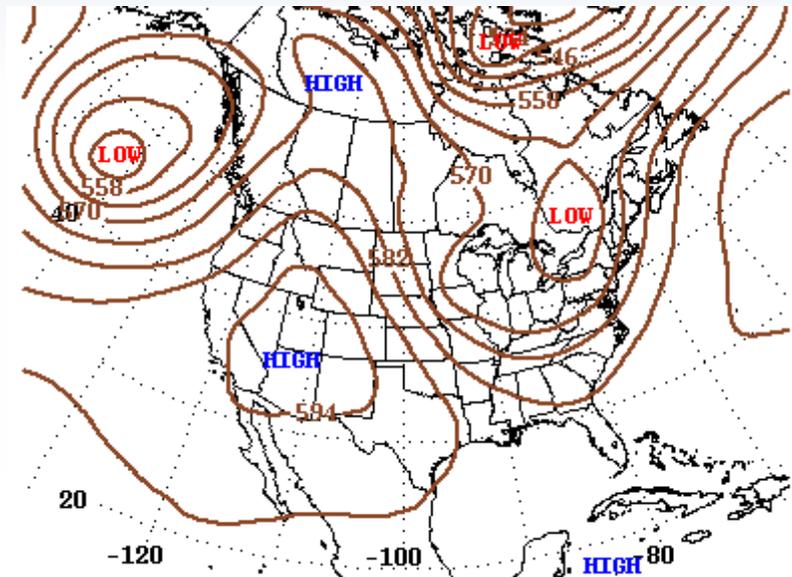
June High Temperature Records Arizona

	Max Temperature		High Min Temperature	
	Set	Tied	Set	Tied
Flagstaff	3	1	0	0
Phoenix	6	0	1	5
Tucson	4	1	3	2
Yuma	2	1	2	1



500-Millibar Height Contour at 7:00 A.M. E.S.T.

5940 m gph June 20, 2016 (118°F-PHX)
5th highest



500-Millibar Height Contour at 7:00 A.M. E.S.T.

5940 m gph June 29, 2013 (119°F-PHX)
4th highest

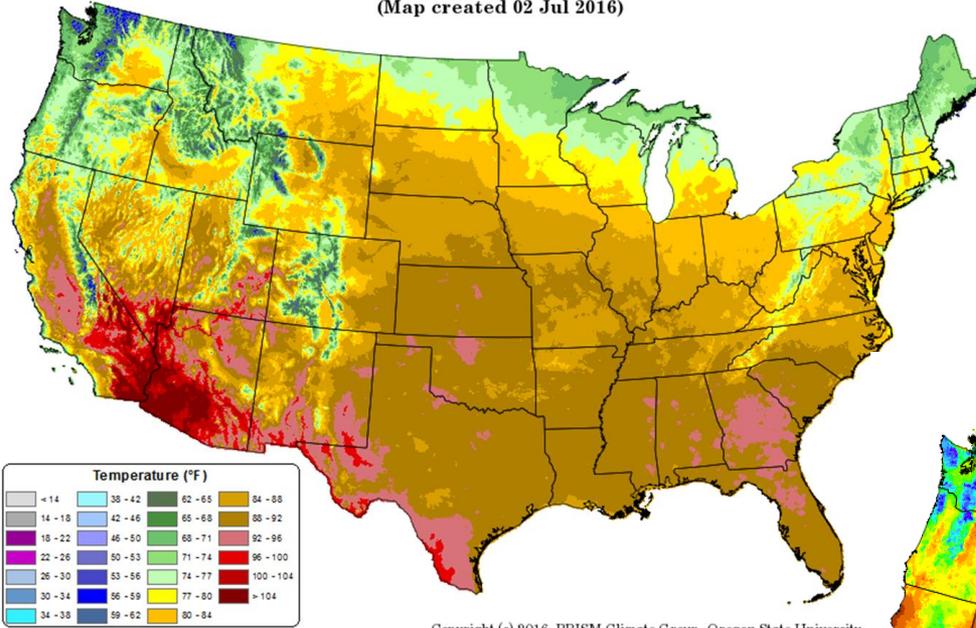


Southwest Heatwave/Monsoon

Average Daily Maximum Temperature: June 2016

Period ending 30 Jun 2016

(Map created 02 Jul 2016)



Pink = 92-96°F

Red > 104°F

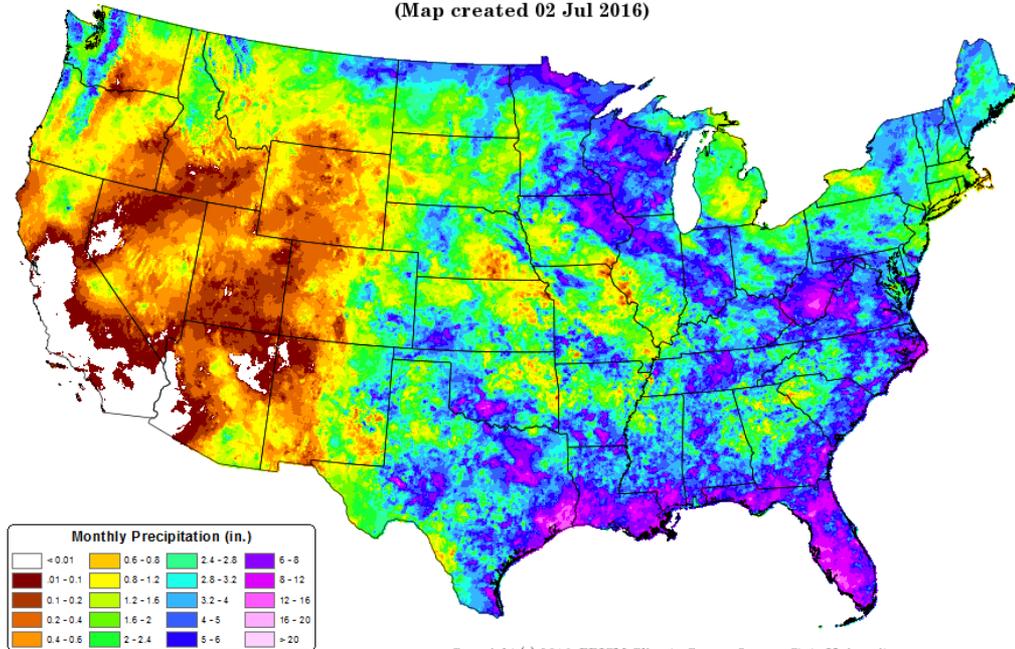
White <0.01"

Light Green 1.2-1.6"

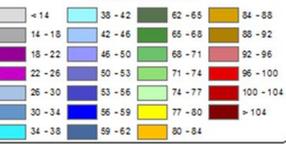
Total Precipitation: June 2016

Period ending 30 Jun 2016

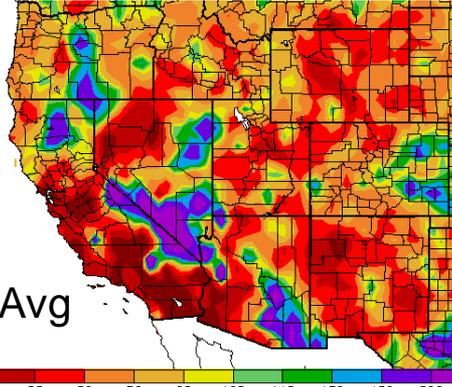
(Map created 02 Jul 2016)



Temperature (°F)



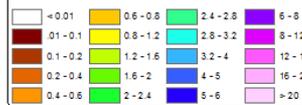
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Red < 5% of Avg
Purple > 150% of Avg

Generated 7/19/2016 at WRCC using provisional data.
NOAA Regional Climate Centers

Monthly Precipitation (in.)



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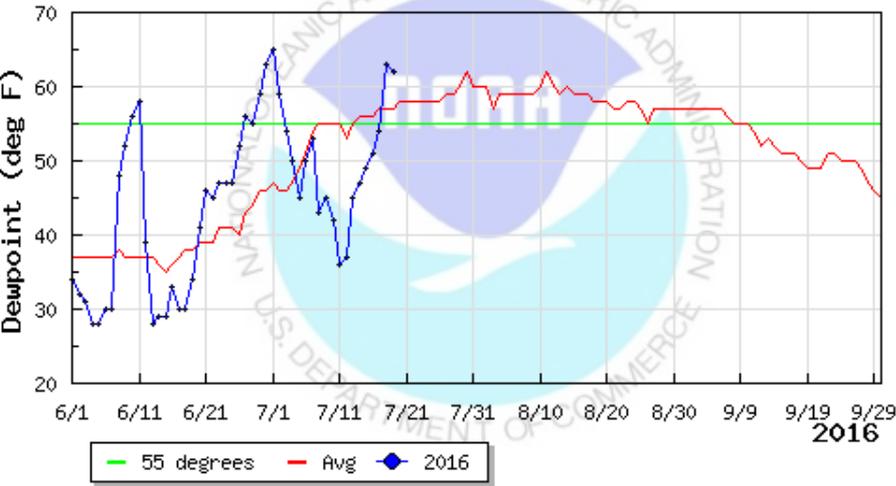
July 2016

Monthly Climate Webinar

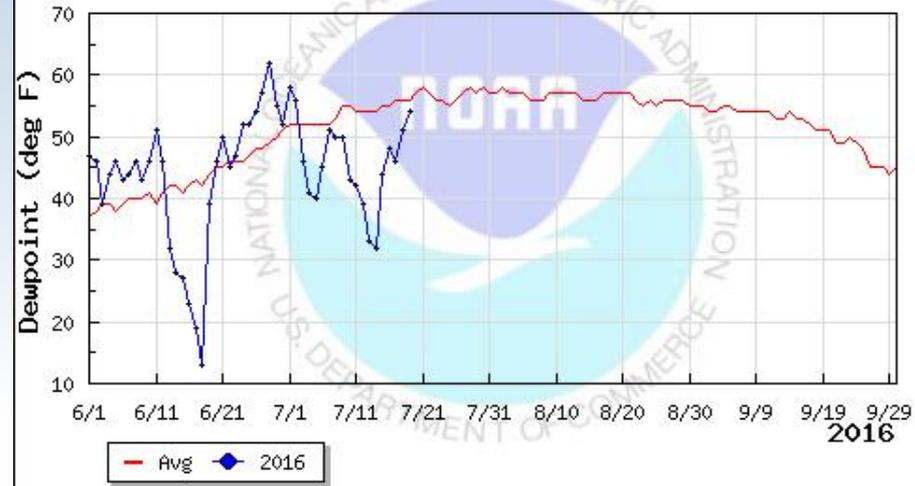


Southwest Monsoon

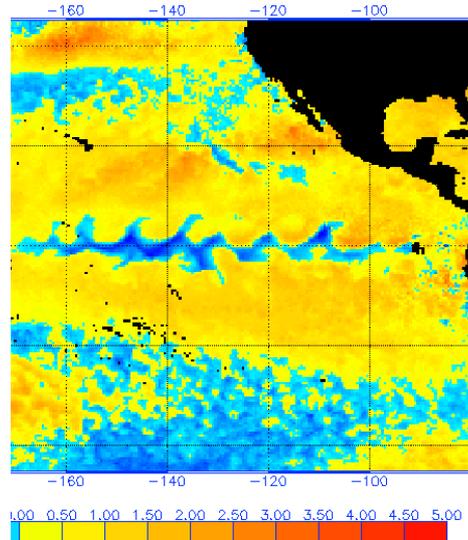
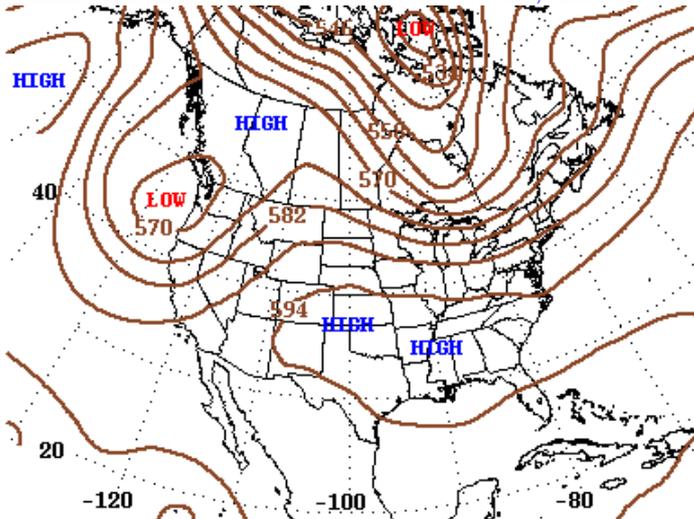
Phoenix Sky Harbor Avg. Daily Dewpoint Tracker



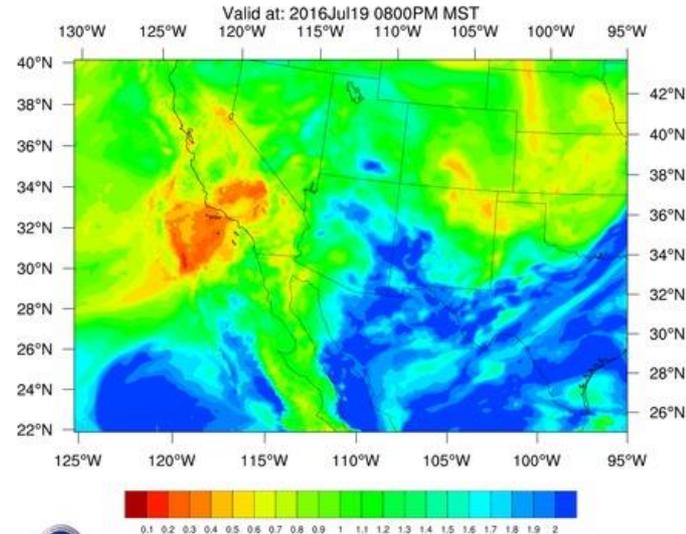
El Paso Airport Avg. Daily Dewpoint Tracker



NOAA/NESDIS SST Anomaly (degrees C), 7/18/2016



Total Precipitable Water (in)

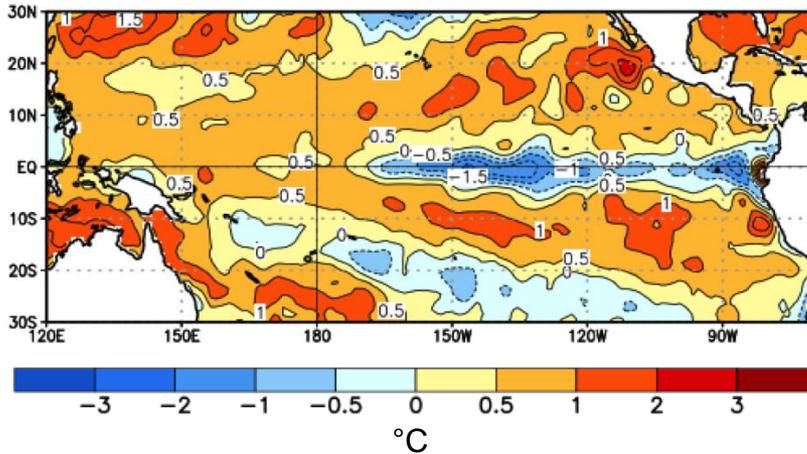


500-Millibar Height Contour at 7:00 A.M. E.S.T.



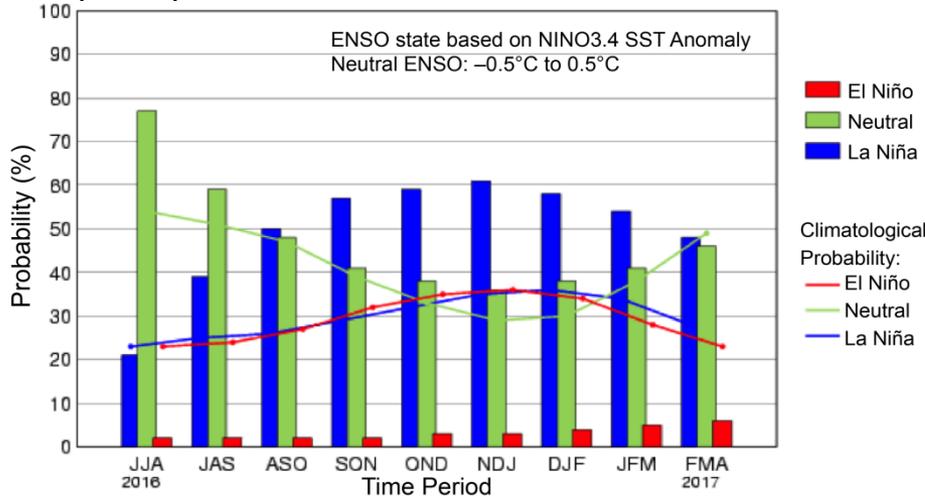
Sea Surface Temperatures and ENSO

Average SST Anomalies
19 JUN 2016 – 6 JUL 2016



- Sea surface temperatures
 - Below normal SSTs were observed in the last two months across the eastern equatorial Pacific
 - Above normal SSTs continue over most of the Tropical Pacific Ocean
 - Cooler waters below the surface may lead to development of a La Niña

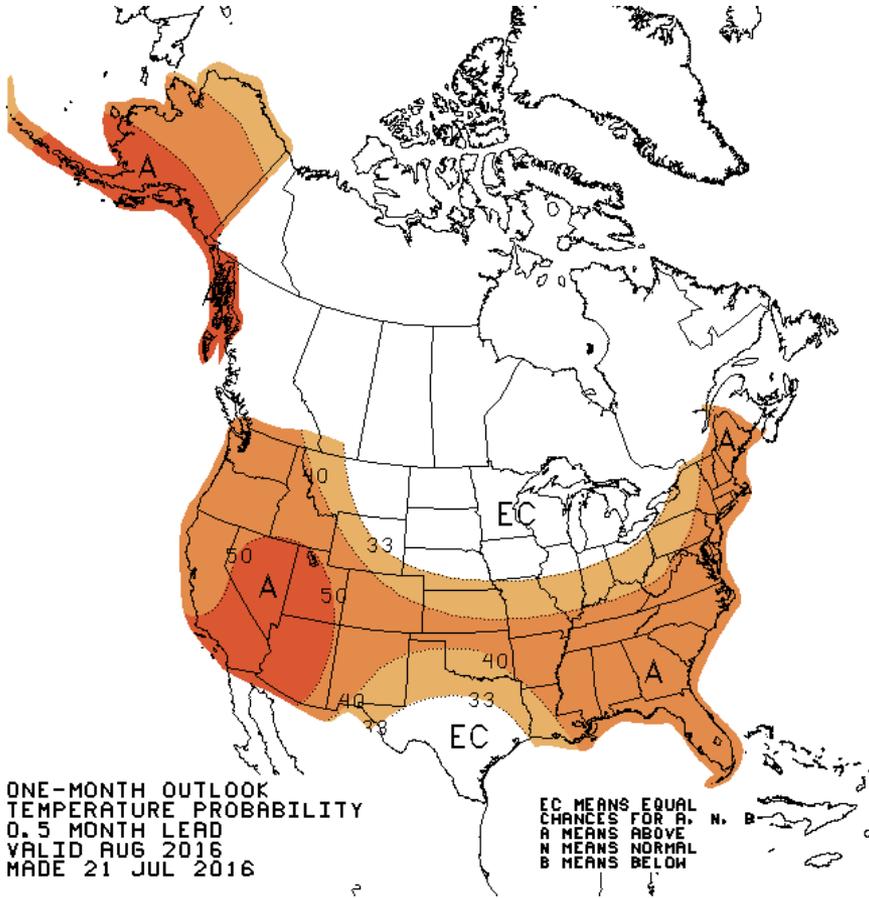
Early – July CPC/IRI Official Probabilistic ENSO Forecast



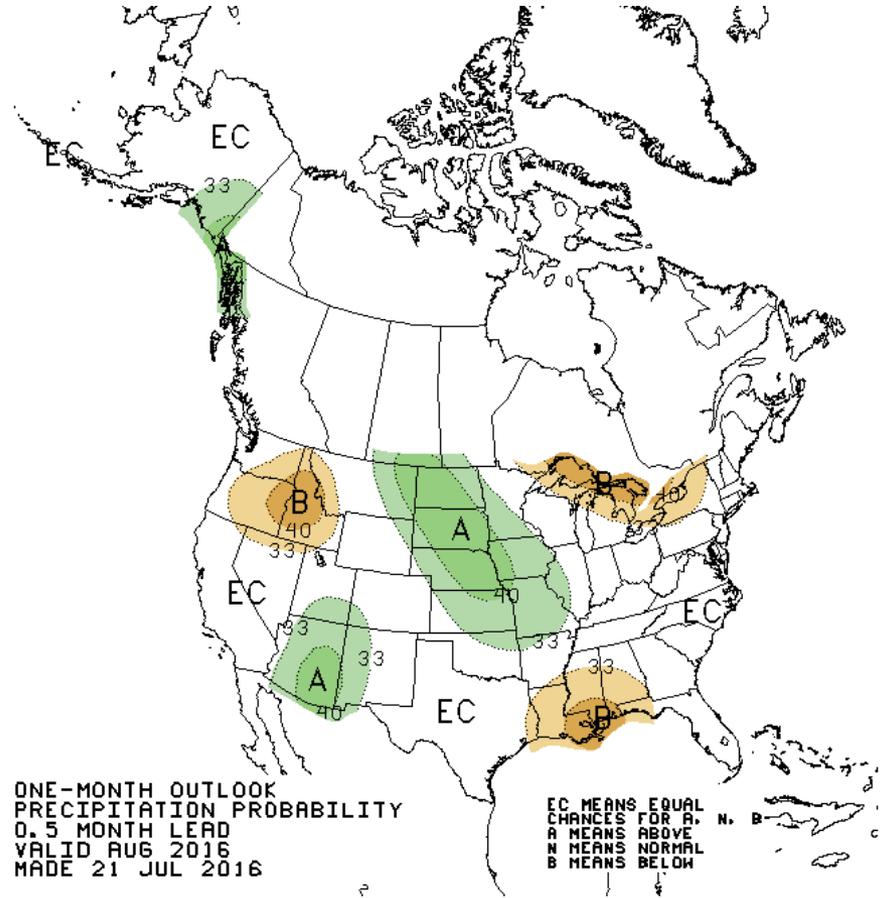
- ENSO forecast
 - The El Niño of 2015 and 2016 is ended and neutral ENSO conditions are present
 - A transition to La Niña is likely between the late summer and the beginning of winter 2016
 - Greater than 50% chance of La Niña to develop by late summer and early fall, increasing to over 60% by winter

Monthly Forecast (August)

August Average Temperature Probability

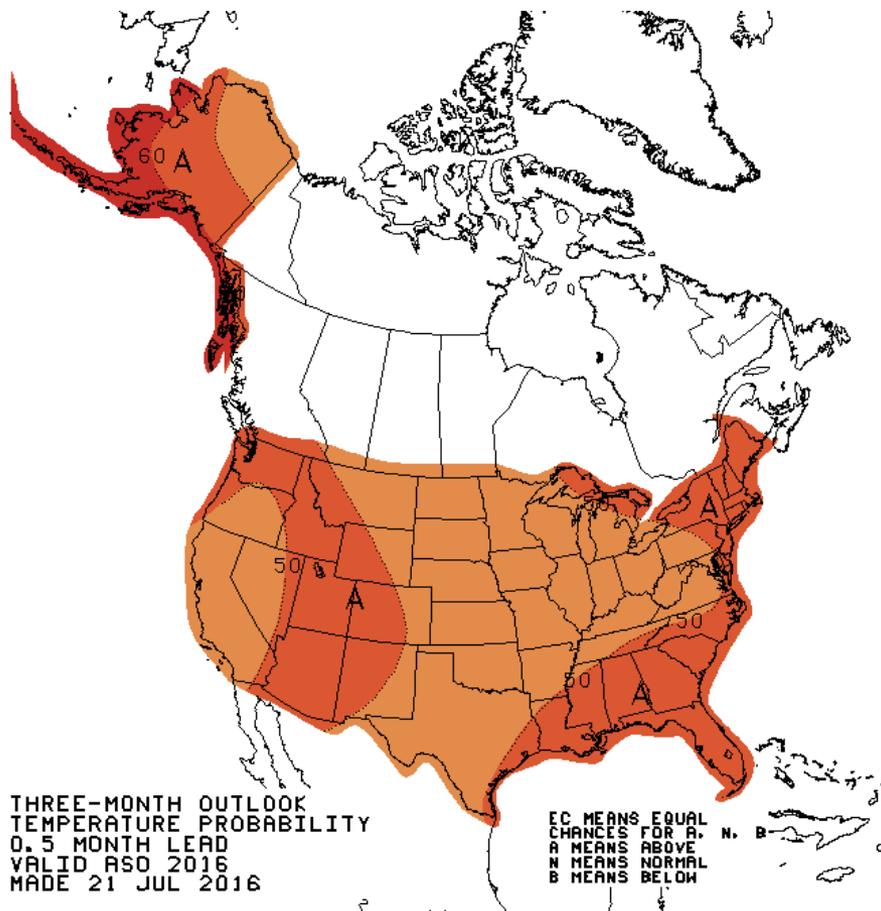


August Total Precipitation Probability

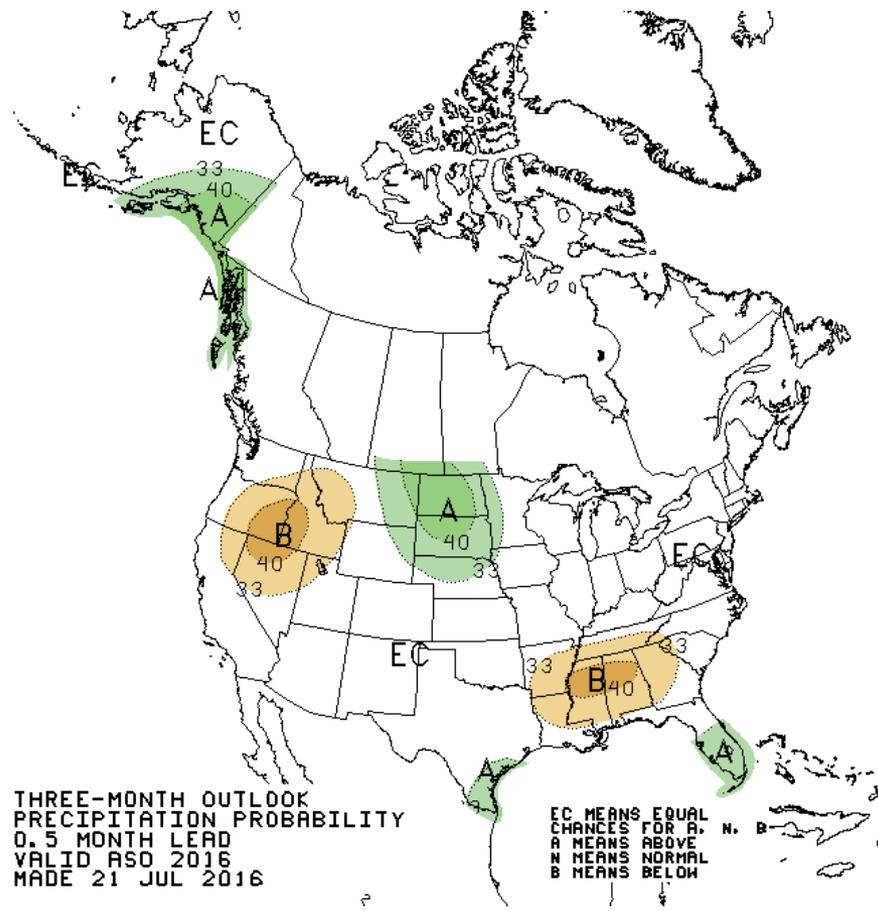


Seasonal Forecast (Aug–Sep–Oct)

Aug-Sep-Oct Average Temperature Probability



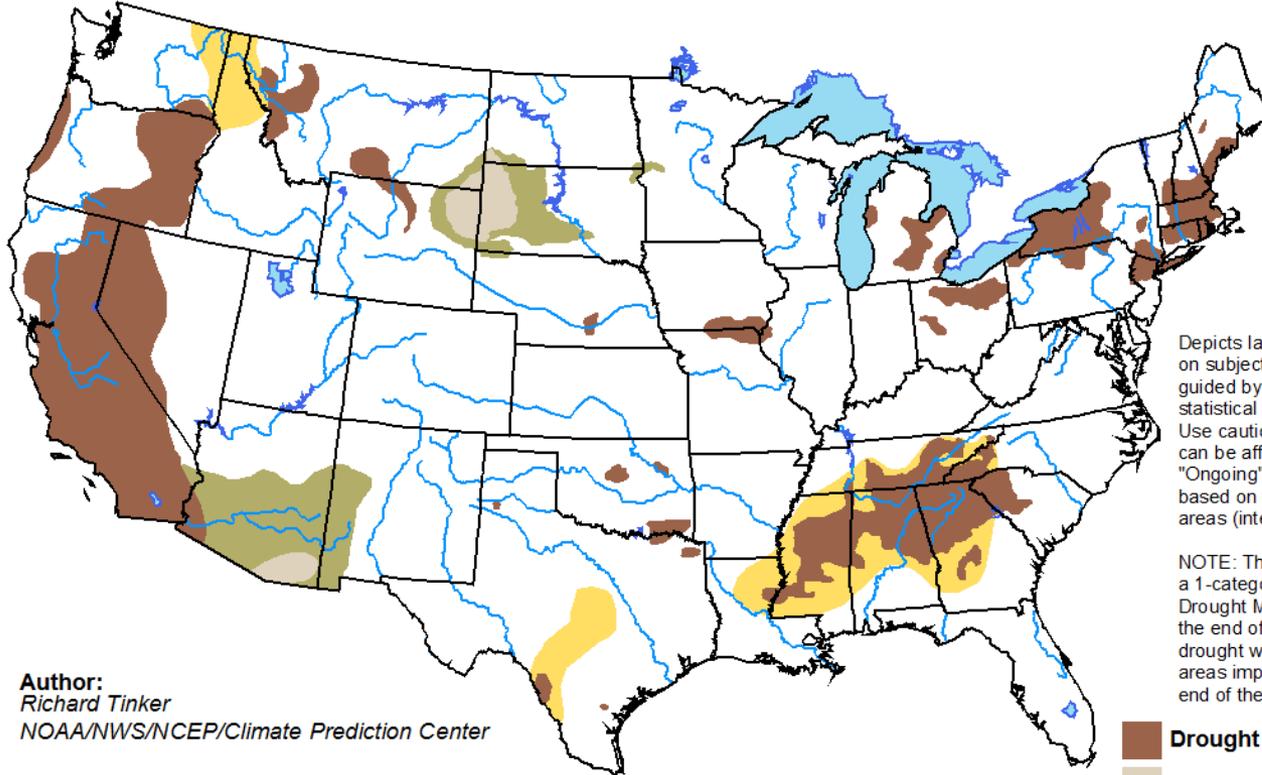
Aug-Sep-Oct Total Precipitation Probability



U.S. Drought Outlook

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

Valid for July 21 - October 31, 2016
Released July 21, 2016

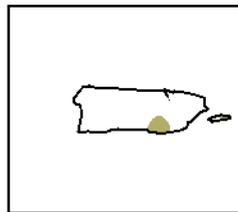
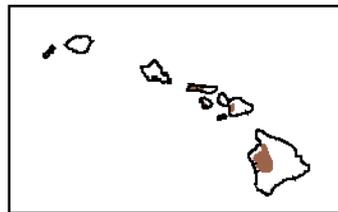
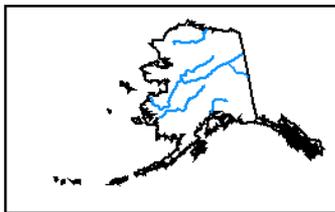


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NOAA/NWS/NCEP/Climate Prediction Center

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
-  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

Arizona State Climate Office: <https://azclimate.asu.edu/>

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

Climate Portal: www.climate.gov

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