

NOAA Climate Science & Services

Monthly Climate Update



Jake Crouch

Climate Scientist, Climate Monitoring Branch, NOAA
National Centers for Environmental Information

Anthony Artusa

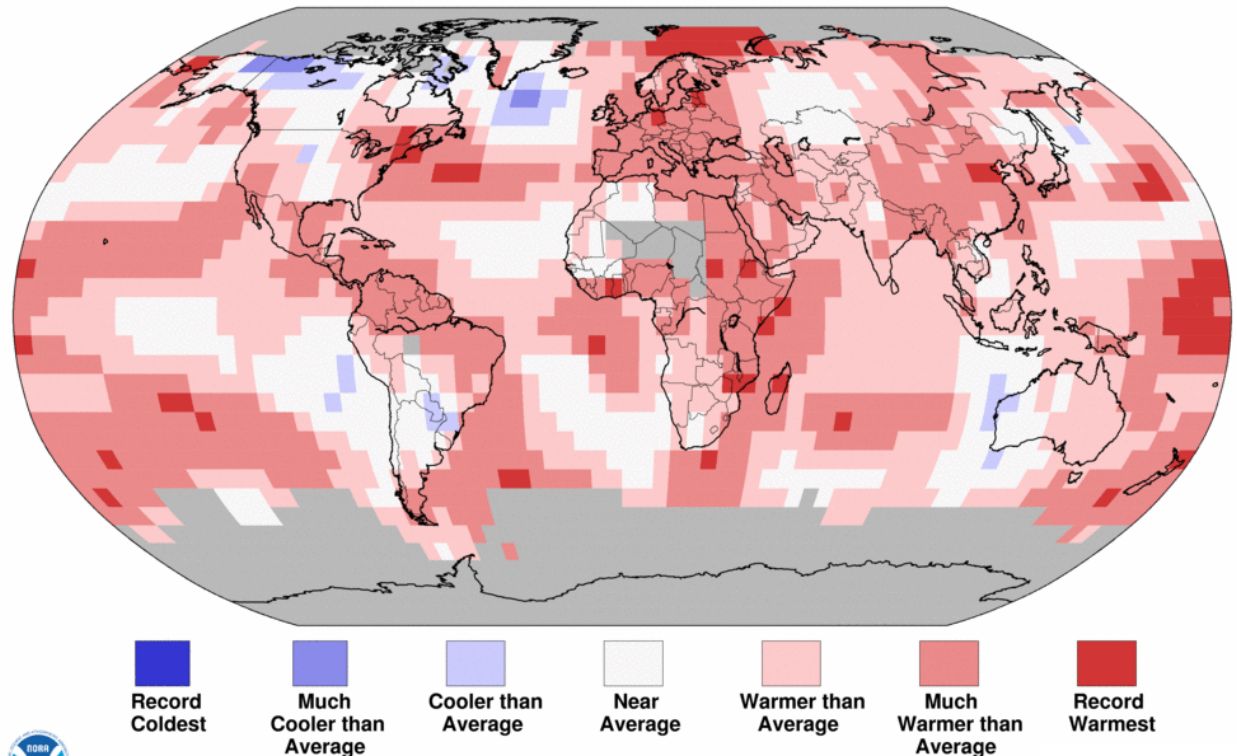
Meteorologist & Seasonal Forecaster , NOAA Climate
Prediction Center

Global Temperature: August 2018

- August: $+0.74^{\circ}\text{C}$ above 20th century average
 - 5th warmest August on record
 - 404th consecutive month above the 20th century average
- Land: $+0.94^{\circ}\text{C}$
 - 6th warmest August on record
 - Coolest since 2013
 - Noteworthy regional warmth
- Ocean: $+0.67^{\circ}\text{C}$
 - 5th warmest August on record

Land and Ocean Temperature Percentiles August 2018

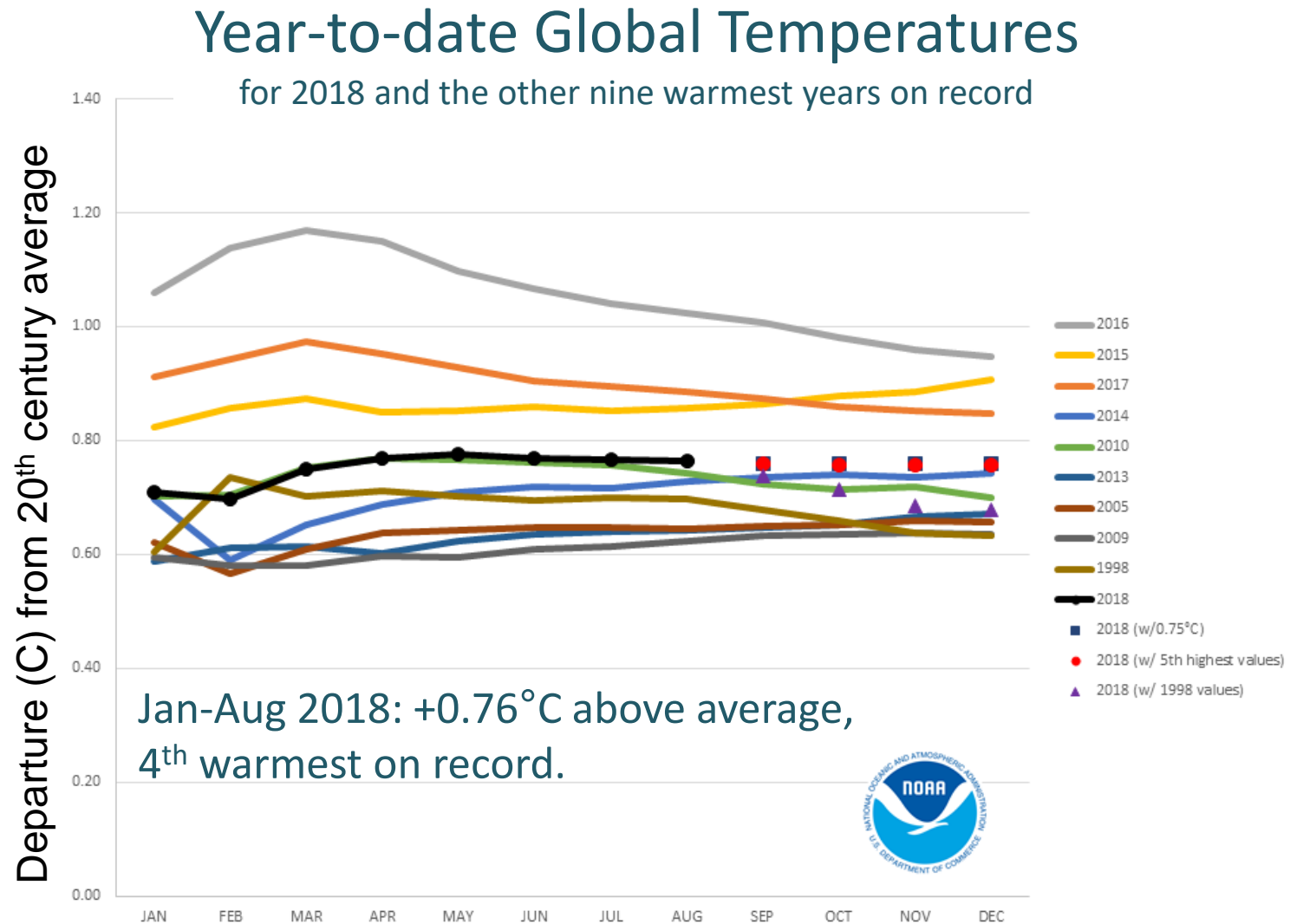
Data Source: GHCN-M version 3.3.0 & ERSST version 4.0.0



Thu Sep 13 04:20:16 EDT 2018

The global temperature record dates to 1880 (139 years)

Global Temperature: Jan-Aug 2018



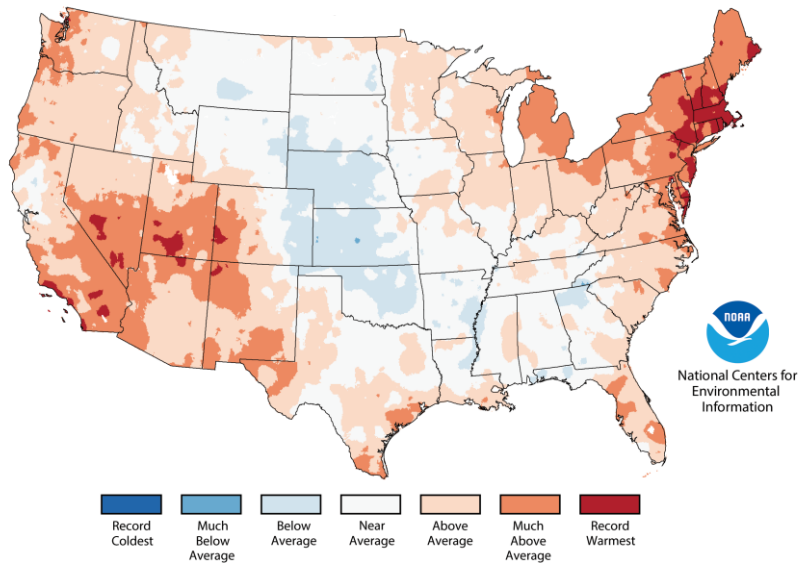
Contiguous U.S. August 2018

Temperature: 73.6°F, +1.5°F, 17th warmest August

Precipitation: 2.99", +0.37", 20th wettest August

Temperature Percentiles August 2018

Period: 1895-2018 (124 years)



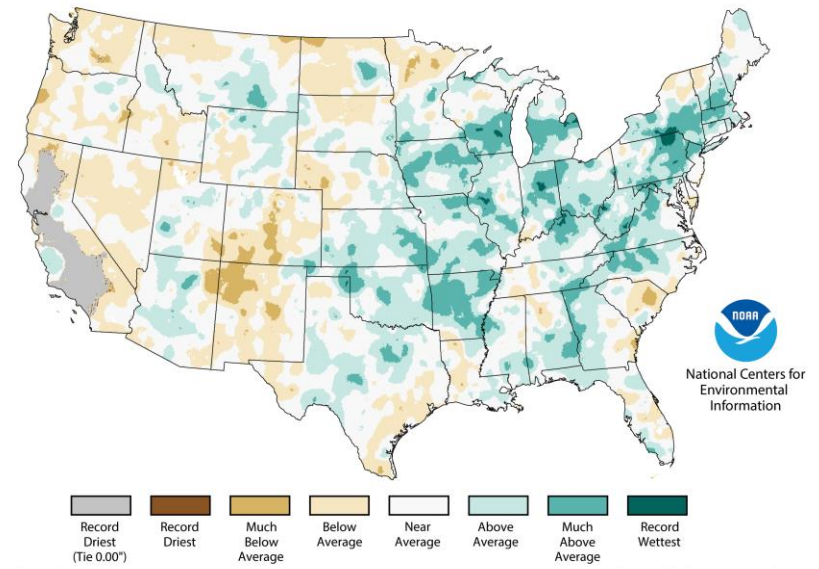
Created: Wed Sep 05 2018

Data Source: 5km Gridded Dataset (nClimGrid)

- Above-average temperatures in the Southwest and Northeast
 - CT, DE, MA, NH, and RI were record warm
- Below-average conditions in the Great Plains and parts of the Southeast

Precipitation Percentiles August 2018

Period: 1895-2018 (124 years)



Created: Wed Sep 05 2018

Data Source: 5km Gridded Dataset (nClimGrid)

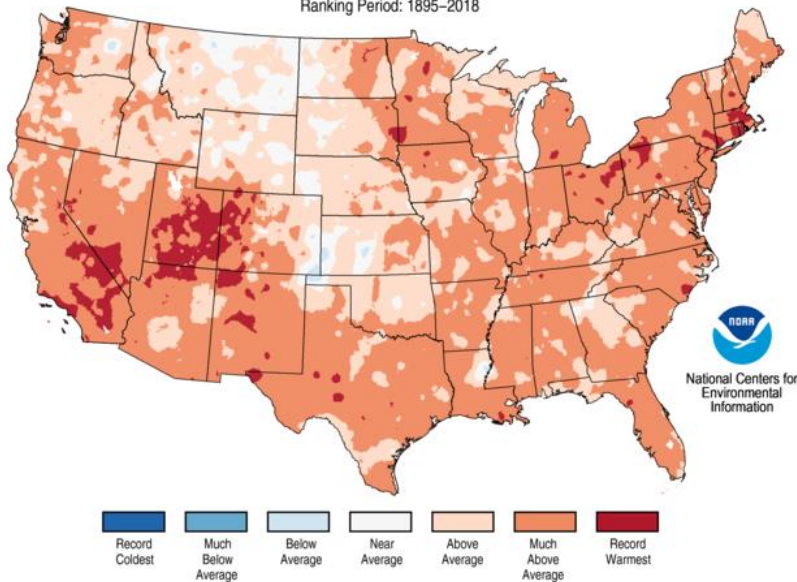
- Above-average precipitation from the Great Plains to East Coast
- Below-average precipitation from the West Coast to the Rockies
- Large and destructive wildfires continued to burn across the West

Contiguous U.S. Summer 2018

Temperature: 73.5°F, +2.1°F, tied 4th warmest summer

Minimum Temperatures Record warm: 60.9°F, +2.5°F.

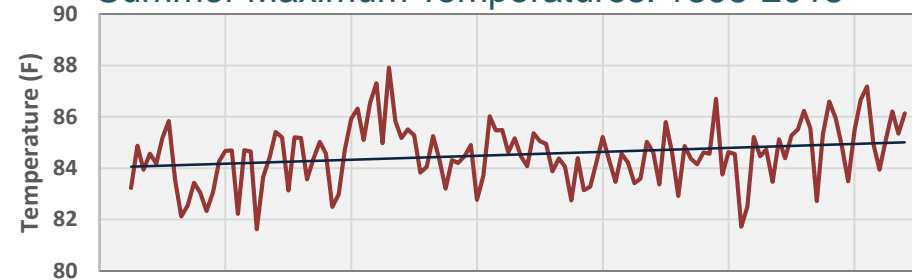
Minimum Temperature Percentiles
June–August 2018
Ranking Period: 1895–2018



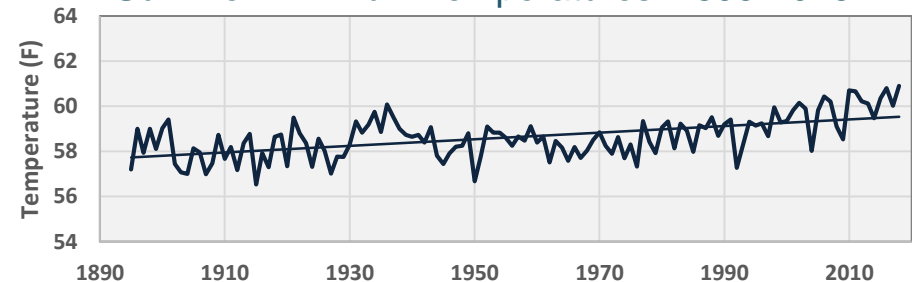
Created: Wed Sep 05 2018

Data Source: 5km Gridded Dataset (nClimGrid)

Summer Maximum Temperatures: 1895-2018



Summer Minimum Temperatures: 1895-2018



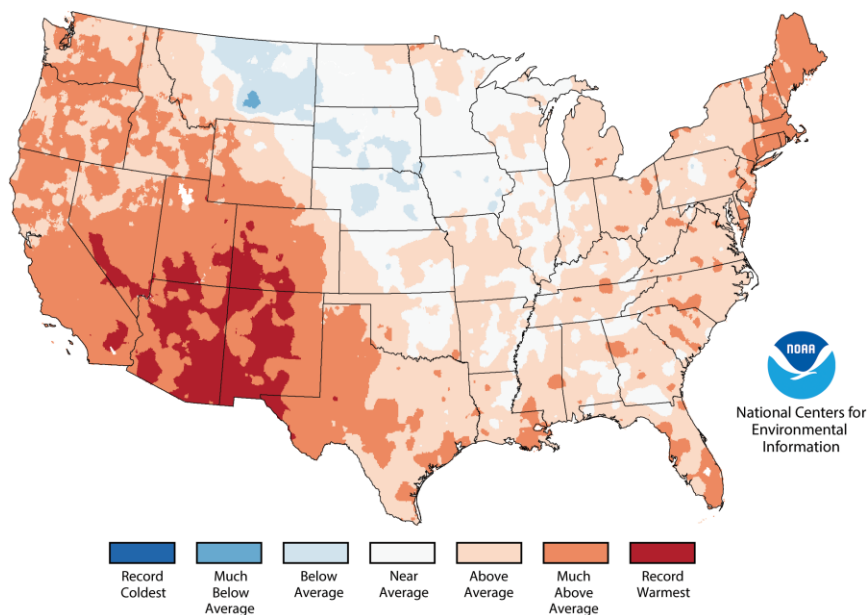
- Minimum temperatures were record warm for summer while maximum temperatures ranked as 11th warmest
- Cool maximum temperature and above-average precipitation in the central U.S. resulted in record high forecasts for many crops outputs

- Minimum temperatures are warming at a rate nearly twice as fast as maximum temperatures for summer
- Minimum temperatures are warming fastest in the West and across the northern tier
- Minimum warming rate since 1895: 1.46°F/century
- Maximum warming rate since 1895: 0.77°F/century

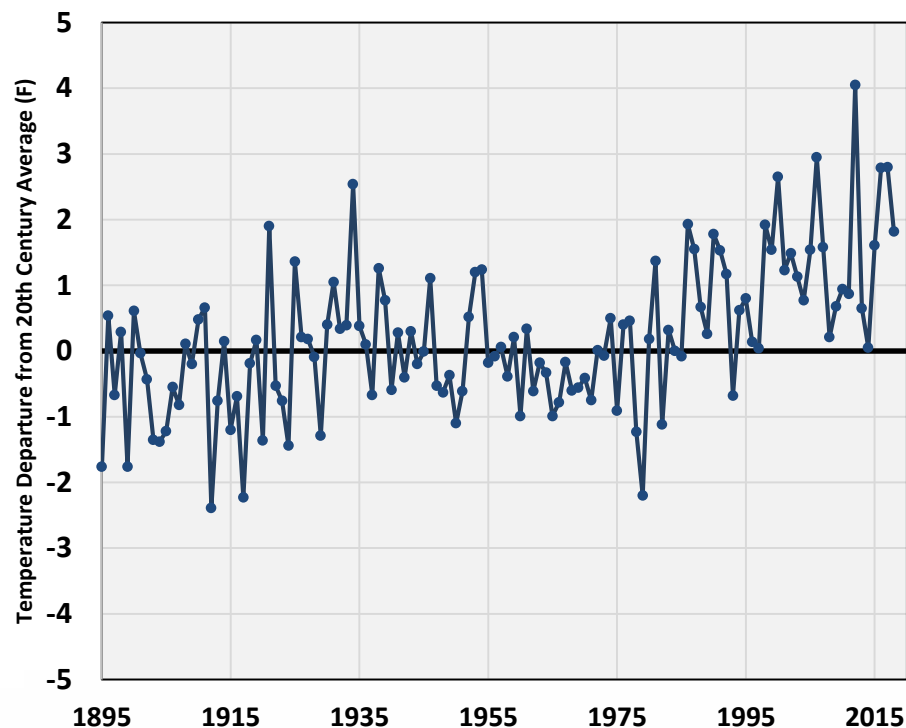
Contiguous U.S. Jan-Aug 2018

Temperature: 55.7°F, +1.8°F, 10th warmest year to date

Temperature Percentiles Jan-Aug 2018
Period: 1895-2017 (124 years)



Contiguous U.S. Jan-Aug Temperatures 1895-2018



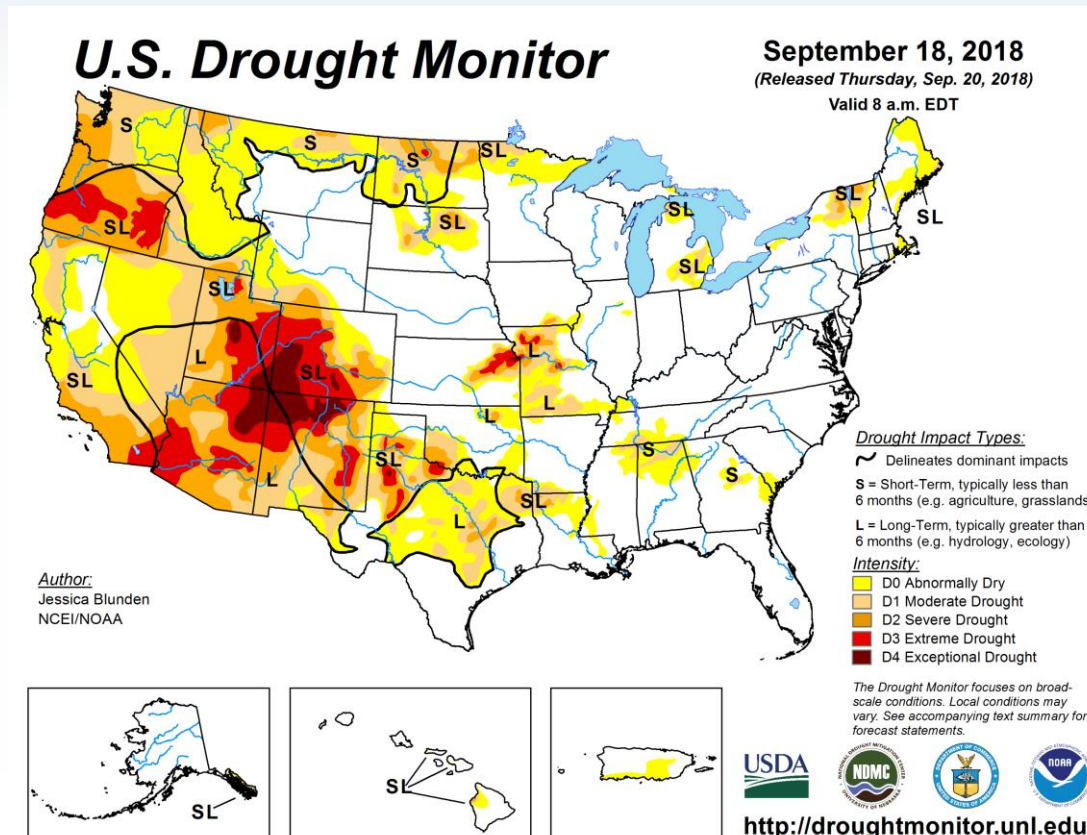
- Large swings in temperature month to month during early 2018 east of the Rockies.
- January-August was warmer than average for the West and along the East Coast.
- Below-average conditions in the north-central United States.
- 25th consecutive year with Jan-Aug temperature nominally above 20th century average.

Current U.S. Drought

30.9% of Contiguous U.S. in Drought

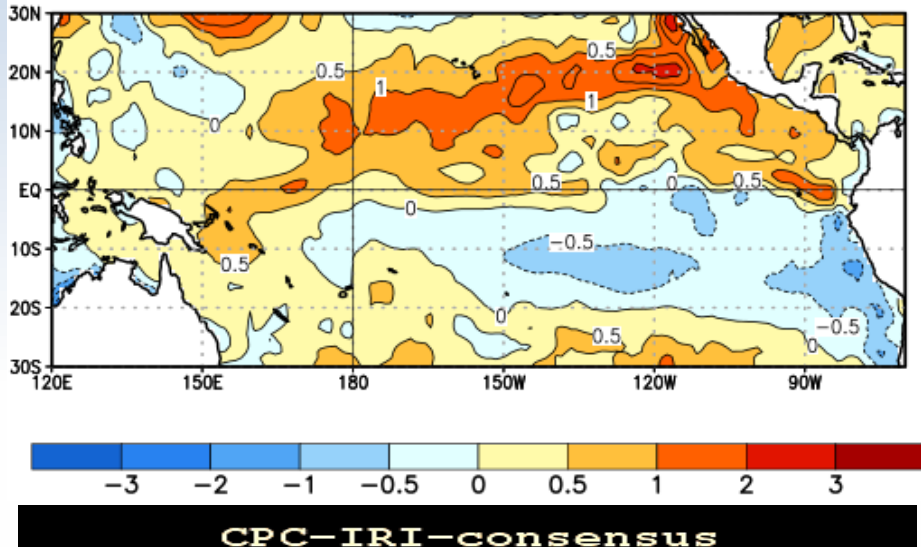
↓ 3.3 percentage points since late July)

- Improvement: Southwest, Central to Southern Plains, Lower Mississippi Valley and Northeast
- Degradation: Northwest, Central to Northern Rockies, Northern Plains
- Outside CONUS: Dry conditions expanded in Puerto Rico; improvement in Hawaii



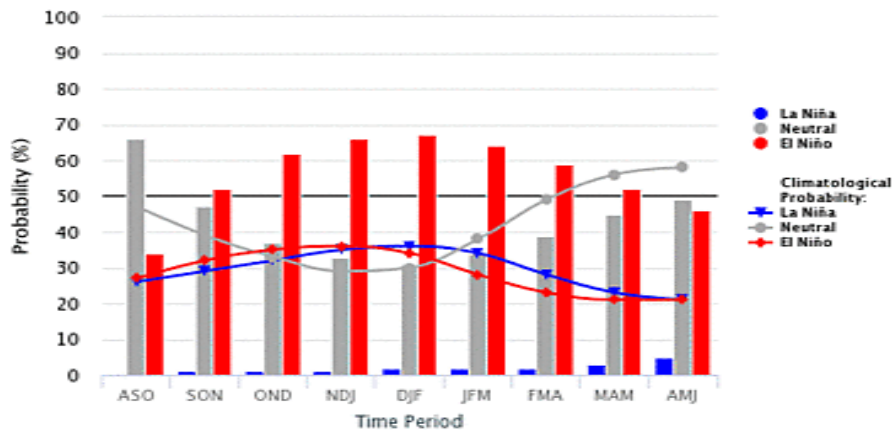
Sea Surface Temperatures & ENSO

Average SST Anomalies
19 AUG 2018 – 15 SEP 2018



Early-Sep CPC/IRI Official Probabilistic ENSO Forecasts

ENSO state based on NINO3.4 SST Anomaly
Neutral ENSO: -0.5 °C to 0.5 °C



• Sea surface temperatures

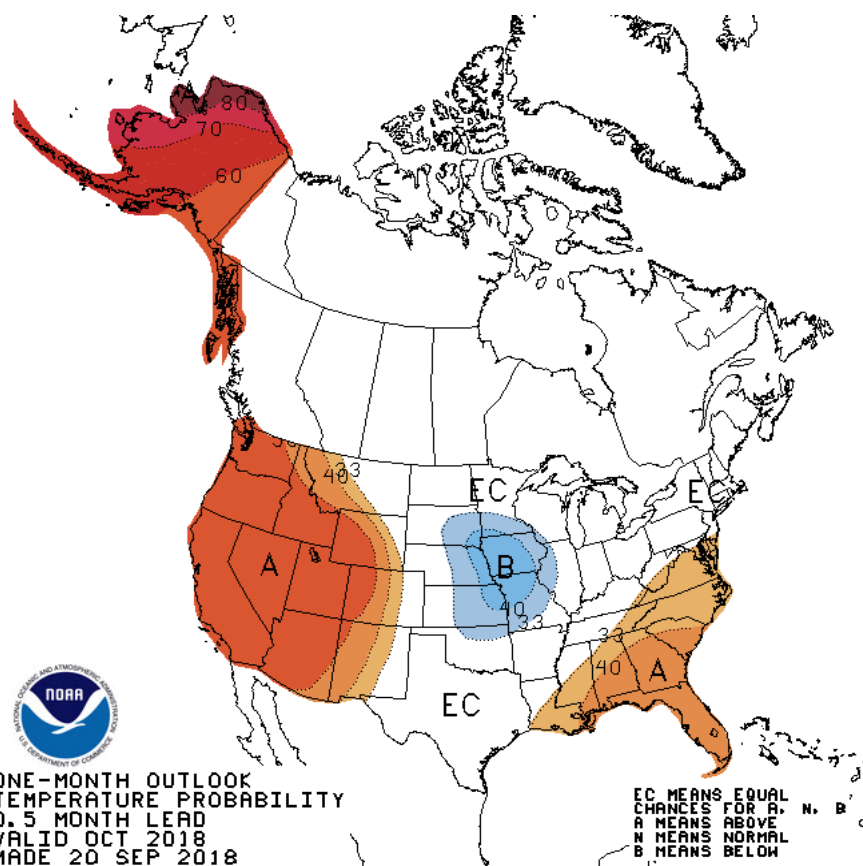
- Near to Above normal SSTs across most of equatorial Pacific
- Away from the equator, above normal SSTs across the east Pacific and the Gulf of Mexico
- ENSO neutral conditions are present

• ENSO forecast

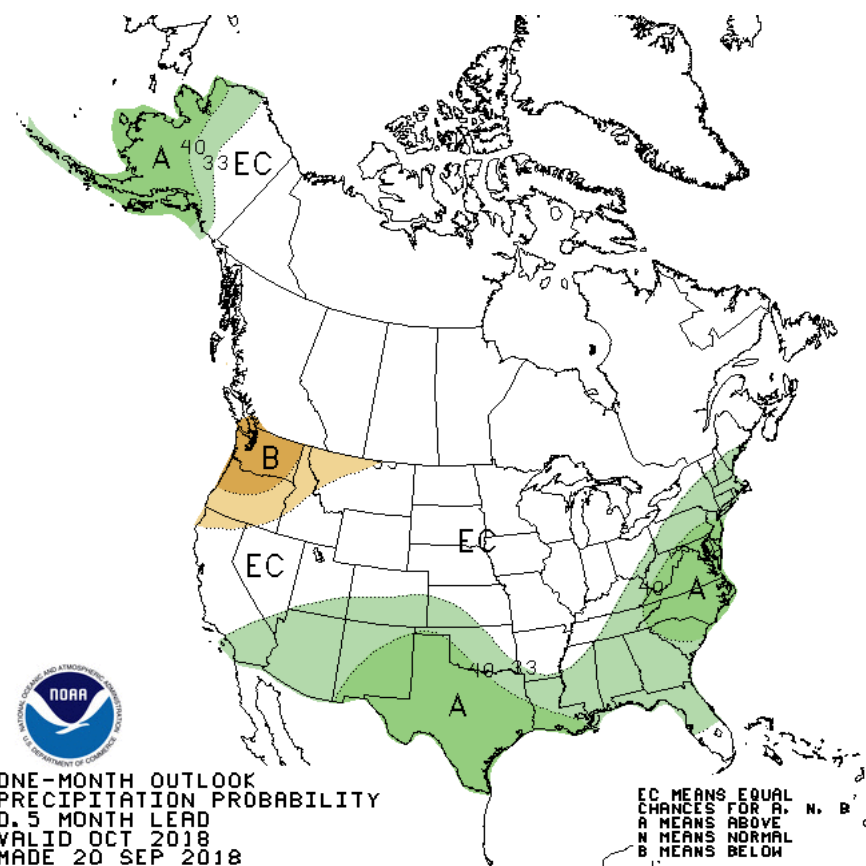
- ENSO neutral is favored to give way to weak El Niño during autumn
- The chances of El Niño increase to 65-70% by NDJ and DJF 2018-19
- Diminished impacts possible for U.S.

Monthly Forecast (October)

October Average Temperature Probability

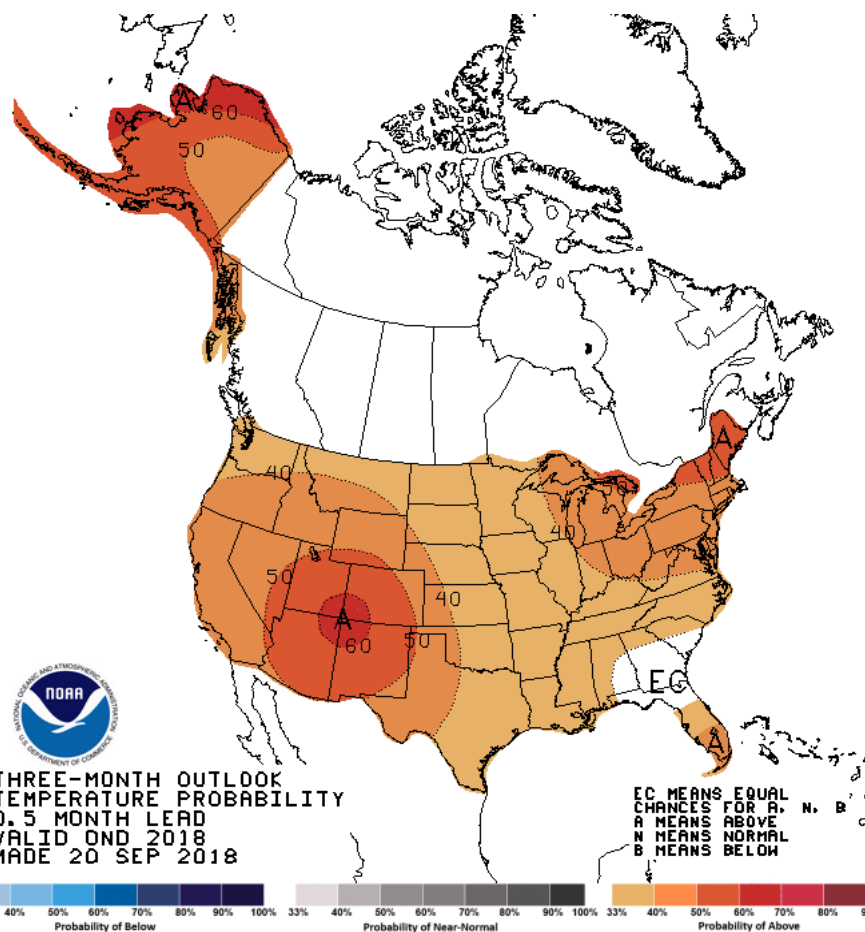


October Total Precipitation Probability

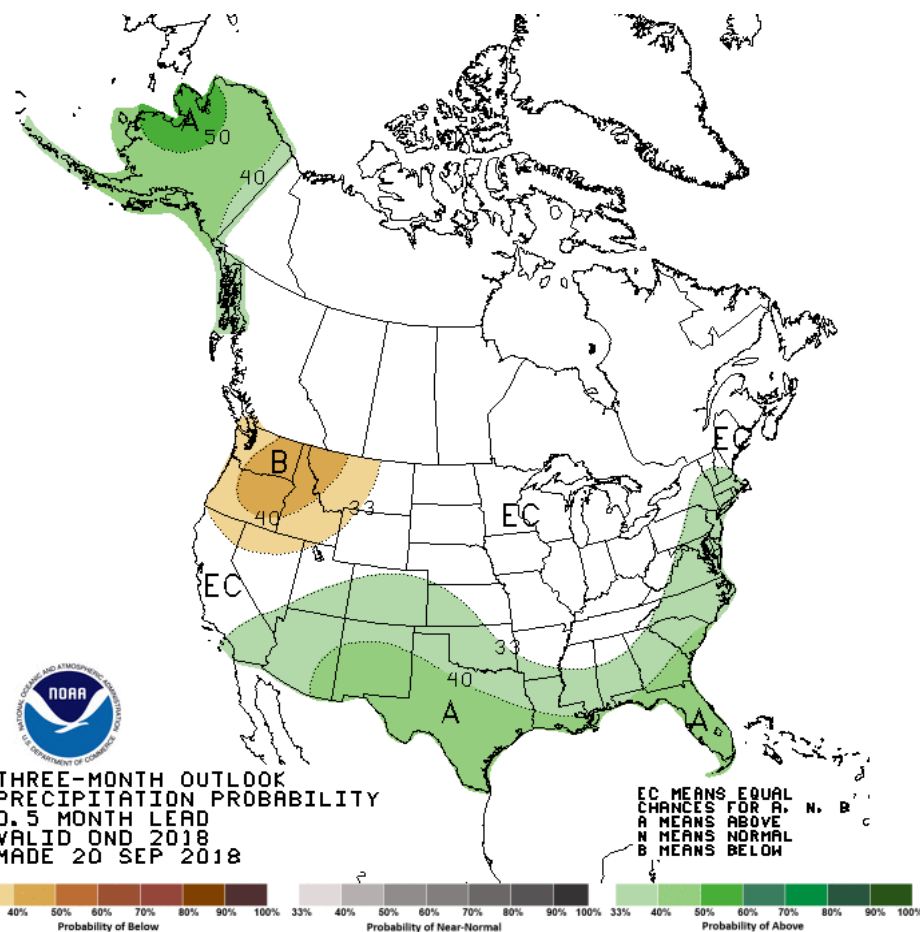


Seasonal Forecast (Oct-Nov-Dec)

Oct-Nov-Dec Average Temperature Probability



Oct-Nov-Dec Total Precipitation Probability

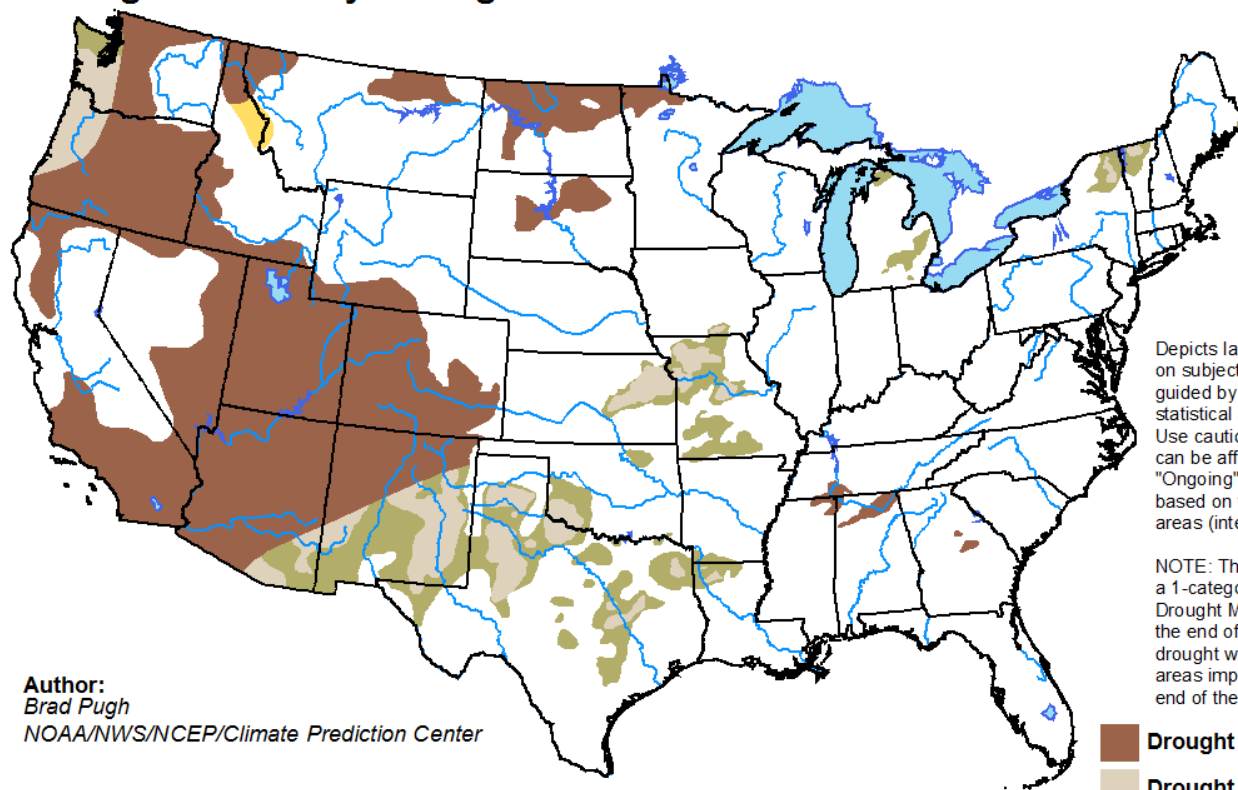


U.S. Drought Outlook

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

Valid for September 20 - December 31, 2018

Released September 20, 2018

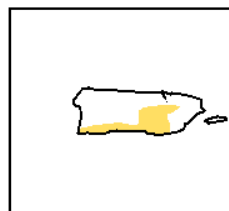
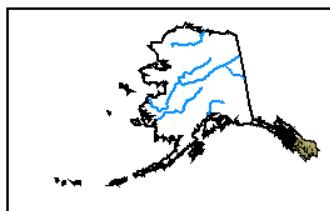


Author:
Brad Pugh
NOAA/NWS/NCEP/Climate Prediction Center

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

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

Climate Portal: www.climate.gov

NOAA Media Contacts:

- Lauren.Gaches@noaa.gov, 301-683-1327, (NOAA Communications/HQ)