NOAA Climate Science & Services Monthly Climate Update



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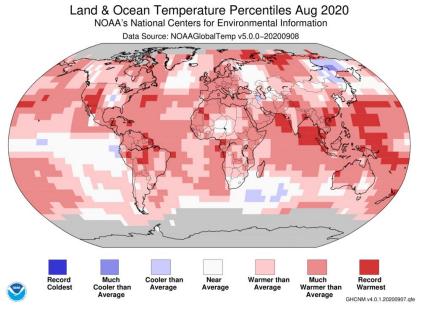
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Global Temperature

The global temperature record dates back to 1880 (141 years)



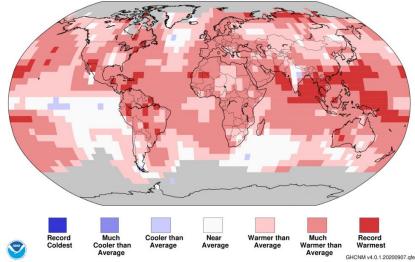
August 2020

- Global Land & Ocean: +0.94°C / +1.69°F; the 2nd warmest Aug on record.
- Global Land: +1.26°C / +2.27°F; 3rd warmest Aug on record.
- **Global Ocean:** +0.82°C / +1.48°F; tied with 2016 as the 2nd warmest Aug on record.

June-August 2020

- Global Land & Ocean: +0.92°C / +1.66°F; the 3rd warmest Jun-Aug on record.
- Global Land: +1.26°C / +2.27°F; 2nd warmest Jun-Aug on record.
- **Global Ocean:** +0.80°C / +1.44°F; 3rd warmest Jun-Aug on record.

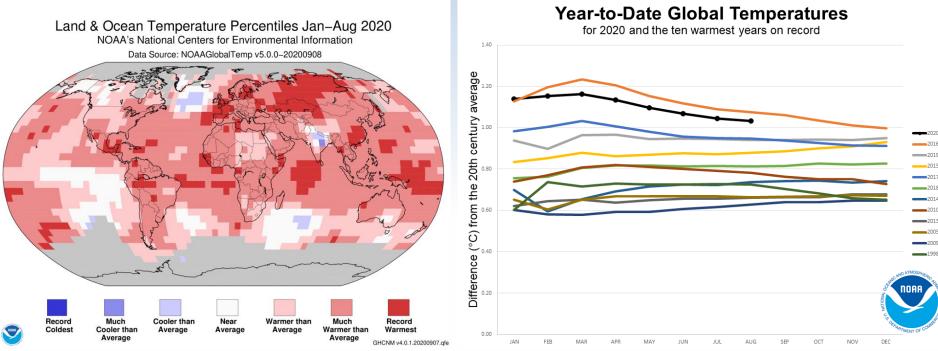
Land & Ocean Temperature Percentiles Jun 2020–Aug 2020 NOAA's National Centers for Environmental Information Data Source: NOAAGlobalTemp v5.0.0–20200908





Global Temperature

The global temperature record dates back to 1880 (141 years)



2020 Probability Ranking Outlook

- Virtually certain (>99.9%) top 5 year
- 39.6% chance of warmest year
- 95% confidence interval of 1st to 3rd warmest year on record.

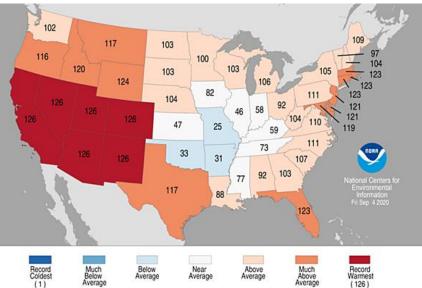
 Global Land & Ocean: +1.03°C / +1.85°F; the 2nd warmest Jan-Aug on record.



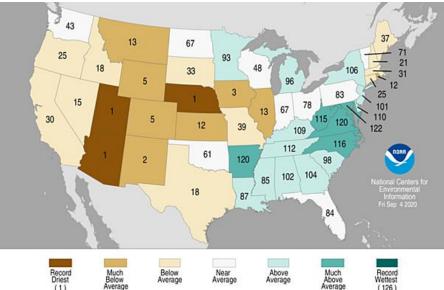
Contiguous U.S. August 2020

Temperature: 74.7°F or 2.6°F above average; 3rd warmest Aug on record **Precipitation:** 2.35″ or 0.27″ below average; driest Aug since 2011

Temperature Percentiles August 2020 Period: 1895-2020 (126 years)



Precipitation Percentiles August 2020 Period: 1895-2020 (126 years)



- CA, NV, AZ, UT, NM, and CO had a record warm Aug. No state had a record cold Aug.
- Below-average statewide temperatures were limited to MO, OK, and AR.
- Above-average statewide precipitation was present across the southeast, Mid-Atlantic, and across the Great Lakes.
- Below-average statewide temperatures was present across much of the western

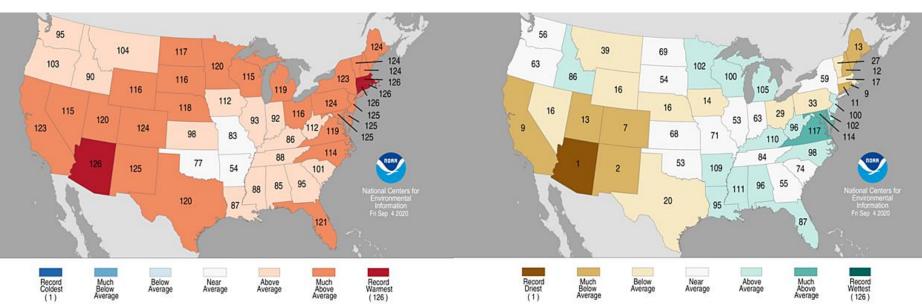


Contiguous U.S. Jun-Aug 2020

Temperature: 73.6°F or 2.2°F above average; 4th warmest Jun-Aug on record

Precipitation: 7.99" or 0.33" below average; driest Jun-Aug since 2012

Temperature Percentiles Jun-Aug 2020 Period: 1895-2020 (126 years) Precipitation Percentiles Jun-Aug 2020 Period: 1895-2020 (126 years)

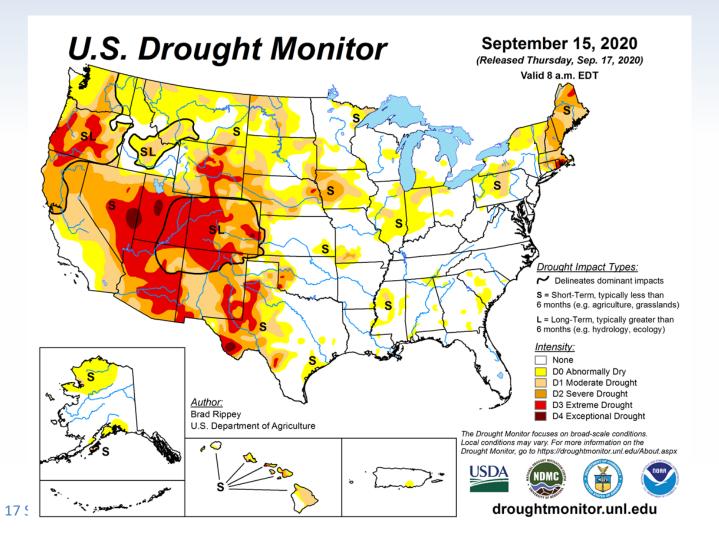


- Warmer-than-average conditions engulfed much of the U.S.
- AZ, CT, RI, and MA had a record warm Jun-Aug statewide temperatures
- Below-average precipitation was present across parts of the Northeast and the West.
- Above-average conditions were present across the Southeast, Great Lakes and Northwest.



Current U.S. Drought

38.9% of Contiguous U.S. in Drought (2.3 percentage points since mid-August)





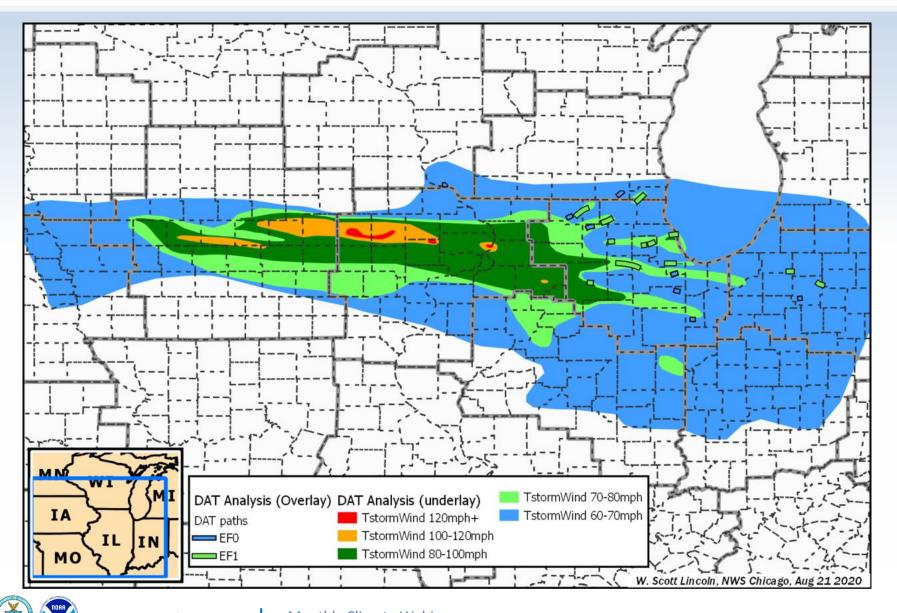
Midwest Derecho – August 10



- Intense derecho traveled from southeast South Dakota to Ohio, a path of 770 miles in 14 hours and widespread winds >100 mph
- "More than 10 million acres, or 43 percent, of the state's crops were affected."
 Corn most affected. Field work continues on crop damage totals
- Cedar Rapids, IA was heavily damaged by wind gusts in excess of 100 mph
- 15 weaker (EF0-EF1) tornadoes in northeastern Illinois, also affecting the Chicago metropolitan area.



Midwest Derecho – cont.



Western Wildfires - California Firestorms

- California's August Complex began as 37 separate wildfires within the Mendocino National Forest that began Aug. 17 after storms created >10,000 lightning strikes across Northern California.
- In August this was the 5th largest CA wildfire on record; it has since grown and is now largest CA wildfire on record (800,000 acres)
- Also during August: the LNU Lightning Complex near Santa Rosa (>375,000 acres) & SCU Lightning Complex near San Jose burned (>380,000 acres) - the 2nd and 3rd largest wildfires on record dating back to 1932. Thousands of homes and other structures have been destroyed
- All 5 of the largest California wildfires on record have occurred since
 2017. <u>Historic wildfires also burning in Oregon, Washington and Colorado.</u>



Hurricane Isaias

- Cat. 1 Isaias (85 mph) made landfall August 3 at Ocean Isle Beach, NC
- It accelerated up the East Coast, resulting in widespread damage and power outages across New York, New Jersey and Pennsylvania.
- 34 tornadoes developed across North Carolina, Virginia, Maryland, Delaware and New Jersey due to Isaias.
- Many tornadoes were weaker (EF-0 and EF-1) producing scattered damage to agriculture, structures and residences. Several EF-2 tornadoes and one EF-3 tornado across coastal North Carolina and Virginia from Isaias.





Hurricane Laura

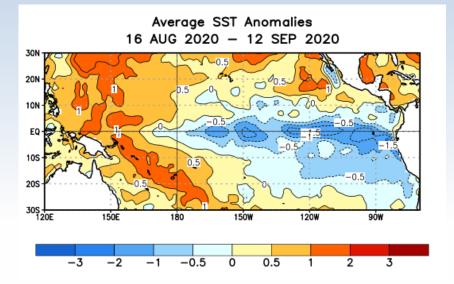
- Strong Cat. 4 Hurricane Laura
- (150 mph at landfall) on August 27 near Cameron, LA.
- Damage focused in southwestern Louisiana along coast and well inland.
- Many broken water systems and severely damaged electrical grid in southern Louisiana will slow the recovery process.
- Strongest hurricane to hit Louisiana since 1861.
- Laura also had highest landfall wind speed to make landfall in the U.S. since Hurricane Michael in 2018.



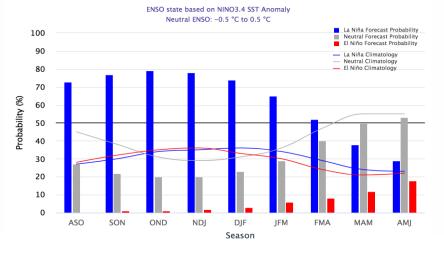


Monthly Climate Webinar

Sea Surface Temperatures & ENSO



Early-September 2020 CPC/IRI Official Probabilistic ENSO Forecasts



- Sea surface temperatures
 - Equatorial SSTs are below average from the Date Line east to South America
 - The oceanic and atmospheric observations currently reflect La Nina conditions
 - Positive SST anomalies are present in the Gulf of Mexico and Caribbean Sea

ENSO forecast

- La Nina conditions are likely to persist (75 percent chance) through this winter
- The most likely outcome into early next spring is La Nina



Monthly Forecast (Oct.)

October Total October Average Temperature Probability Precipitation Probability en si ЕC Care and a second FΛ ΕC ĘС ٦. 50 Δ ONE-MONTH OUTLOOK TEMPERATURE PROBABILITY 0.5_MONTH LEAD ONE-MONTH OUTLOOK PRECIPITATION PROBABILITY 0.5 MONTH LEAD HANCES FOR A. MEANS ABOVE MEANS NORMAL MEANS ABOVE MEANS NORMAL VALID OCT 2020 VALID OCT 2020 MEANS

50% 60% 70%

Probability of Near-Norma

Probability of Abov

Probability of Abo

50% 60%

Probability of Near-Norm

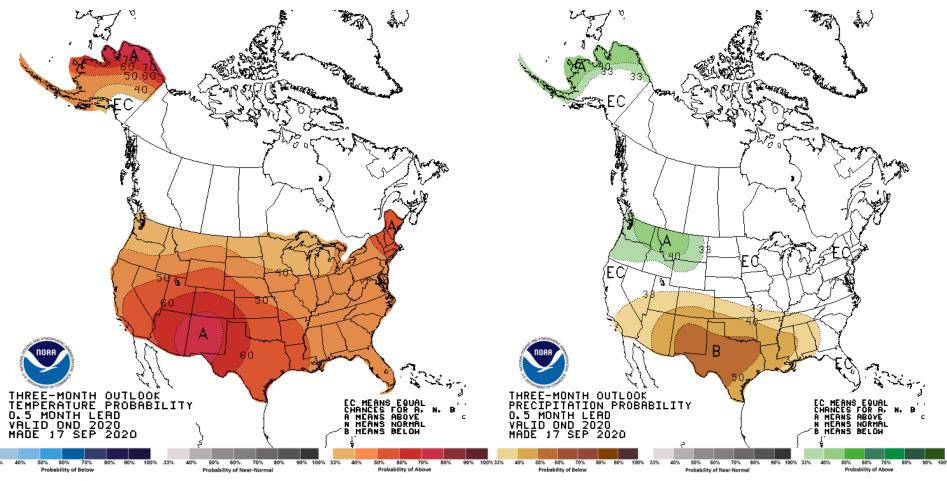
Probability of Below

\$ V

Seasonal Forecast (Oct.-Nov.-Dec.)

Oct-Nov-Dec Average Temperature Probability

Oct-Nov-Dec Total Precipitation Probability





17 September 2020

U.S. Drought Outlook

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

Valid for September 17 - December 31, 2020 Released September 17

> 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

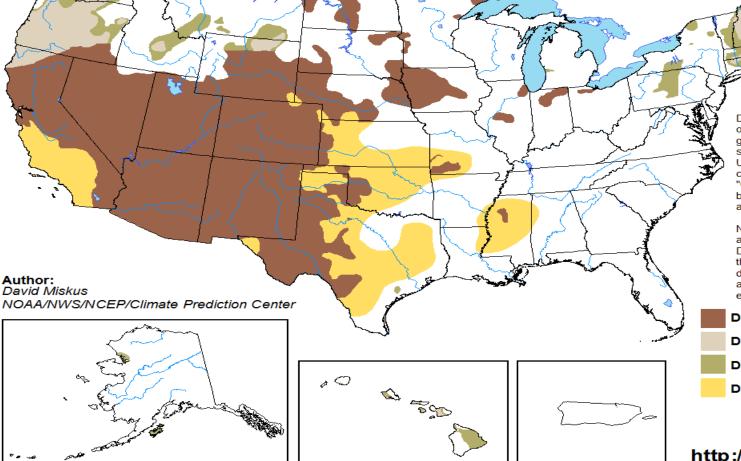
Drought remains but improves

Drought removal likely

Drought development likely



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





Monthly Climate Webinar

For More Information

TODAY'S PRESENTATION:

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

NOAA's National Centers for Environmental Information: <u>www.ncdc.noaa.gov</u>

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

NOAA's Climate Prediction Center: <u>www.cpc.ncep.noaa.gov</u>

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

Climate Portal: www.climate.gov

NOAA Media Contacts: john.jones-bateman@noaa.gov, 301-713-9604 (NOAA/NESDIS PAO)

