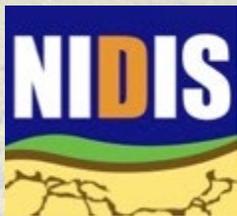


Extreme Heat & Dry Conditions Forecasted to Persist

Potential Impacts in the Missouri River Basin & Midwest



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Background

This Drought Early Warning Update covers the following states in the North Central U.S.: Colorado, Illinois, Indiana, Iowa, Kansas, Kentucky, Michigan, Minnesota, Missouri, Montana, Nebraska, North Dakota, Ohio, South Dakota, Wisconsin, and Wyoming.

This is issued in partnership between the National Oceanic and Atmospheric Administration (NOAA) and the U.S. Department of Agriculture (USDA) to communicate a potential area of concern for drought expansion and/or development within the North Central U.S. based on recent conditions and the upcoming forecast.

NIDIS and its partners will issue future Drought Early Warning Updates as conditions evolve.

Key Points

- Drought conditions have been recently deteriorating over areas of the North Central U.S. (Colorado, Kansas, Minnesota, Montana, North Dakota, South Dakota, Wyoming). Abnormally dry conditions have recently expanded as well.
- A recent increase in atmospheric demand (i.e., crop water use) is starting to cause some stress on rangeland, grassland, and crops as soil moisture availability is decreasing.
- Forecasts show the possibility for rainfall in some areas over the next week. However, it is not likely to be widespread. In addition, there is a greater chance for above-normal temperatures across much of the north central U.S. through the end of June into early July. Therefore, for those that do receive rainfall, hotter temperatures will likely continue to worsen conditions in some areas.

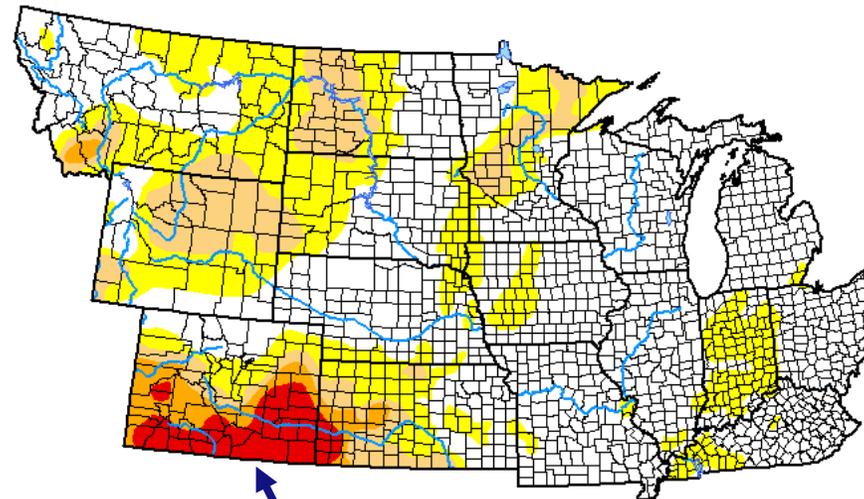
A scenic landscape featuring rolling green hills, a river, and a blue sky with scattered white clouds. The foreground shows a lush green field with a small stream or river winding through it. The middle ground consists of rolling hills covered in green grass and some trees. The background shows a clear blue sky with a few wispy clouds. The overall scene is bright and vibrant, suggesting a sunny day in a rural setting.

CURRENT CONDITIONS

Current U.S. Drought Monitor Conditions

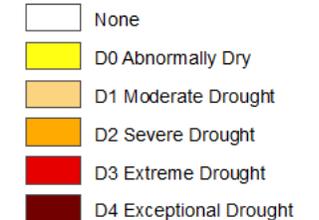
- Severe (D2) to extreme (D3) drought persists across much of Colorado and western Kansas.
- Moderate drought (D1) recently developed in portions of the Missouri River Basin and Midwest as well.
- Abnormally dry conditions (D0) also expanded this past week by around 10% in the Midwest and 8% in the Great Plains.

Current U.S. Drought Monitor Maps:
<https://droughtmonitor.unl.edu/>



June 16, 2020
(Released Thursday, Jun. 18, 2020)
Valid 8 a.m. EDT

Intensity:



The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to <https://droughtmonitor.unl.edu/About.aspx>

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CPC/NOAA/NWS/NCEP



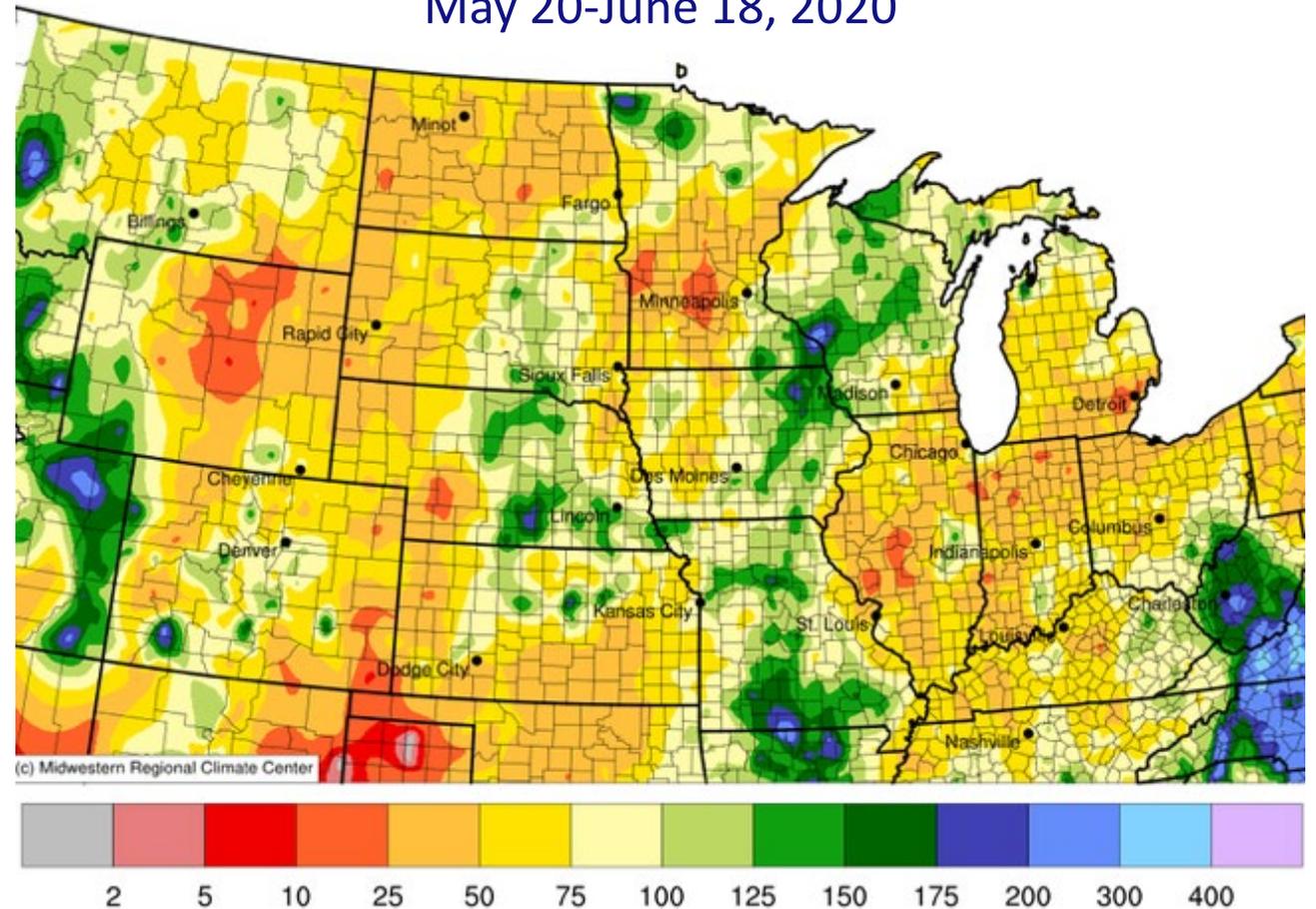
droughtmonitor.unl.edu

For more information on the drought in southern Colorado visit <https://climate.colostate.edu/~drought/>. Also visit the Intermountain West DEWS page for more information on the upcoming July 9th webinar: <https://www.drought.gov/drought/dews/intermountain-west>

30-Day Precipitation

- Despite Tropical Depression Cristobal bringing significant rain to some areas in the Midwest, many areas in the North Central region remain below normal for the past 30 days. Some areas only received 10-25% of normal for this time of year.

Percent of Normal Rainfall
May 20-June 18, 2020

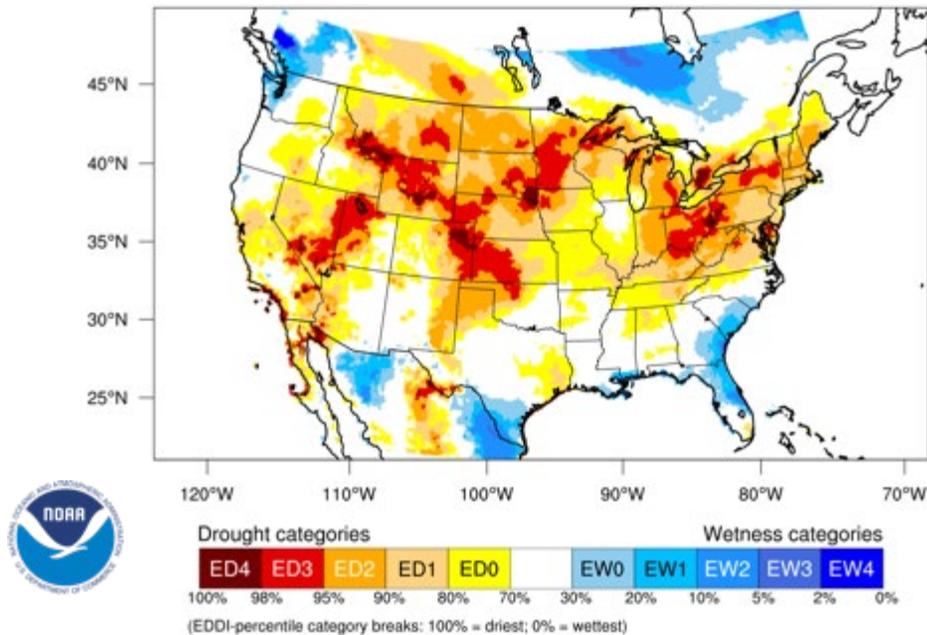


Midwestern Regional Climate Center cli-MATE:
<https://mrcc.illinois.edu/CLIMATE/>

Additional Drought Indicators

Evaporative Drought Demand Index (EDDI)

2-Week EDDI for June 12, 2020

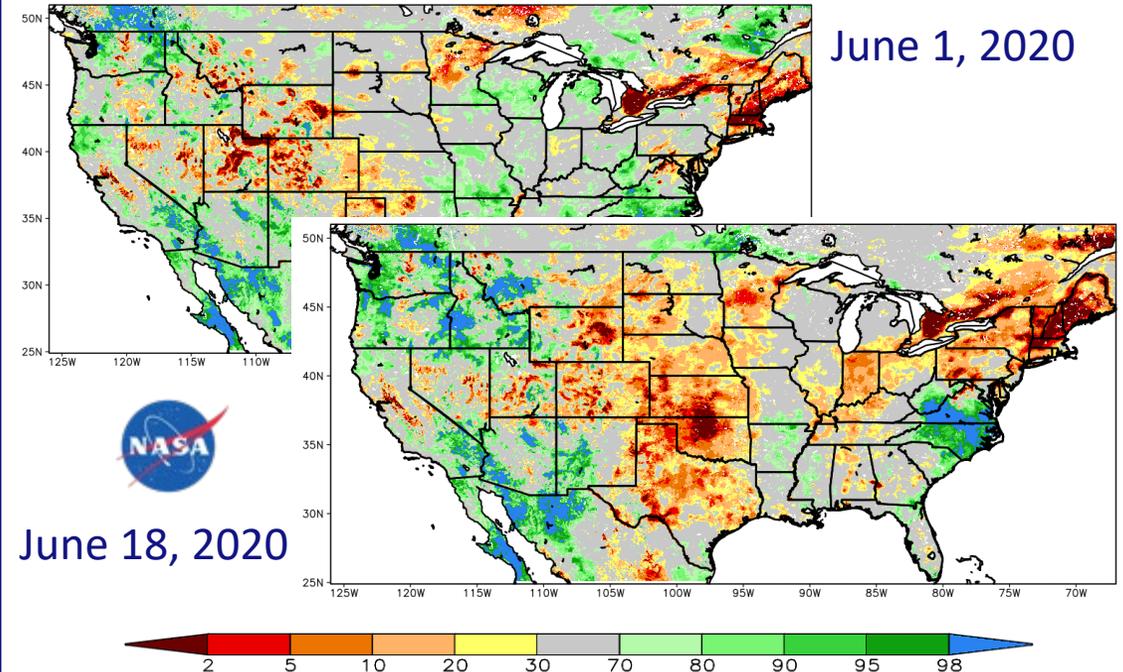


Increased heat, wind, low humidity and ample sun recently have greatly increased atmospheric demand, which is reflected by this 2-week EDDI map.

EDDI Maps from NOAA ESRL: <https://psl.noaa.gov/eddi/>

Soil Moisture Percentile

June 1, 2020



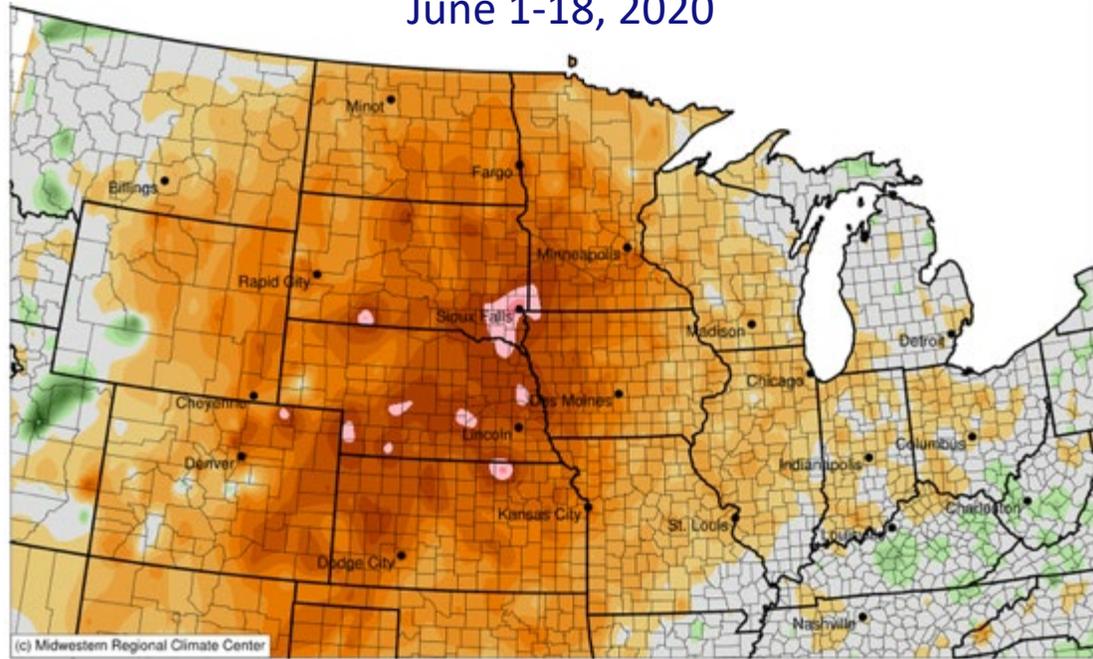
Soil moisture has decreased over broad areas of the Missouri River Basin and Midwest over the last couple of weeks. It is near- to below-normal in many areas.

Current Soil Moisture from NASA:

https://weather.msfc.nasa.gov/sport/case_studies/lis_CONUS.html

Additional Drought Indicators

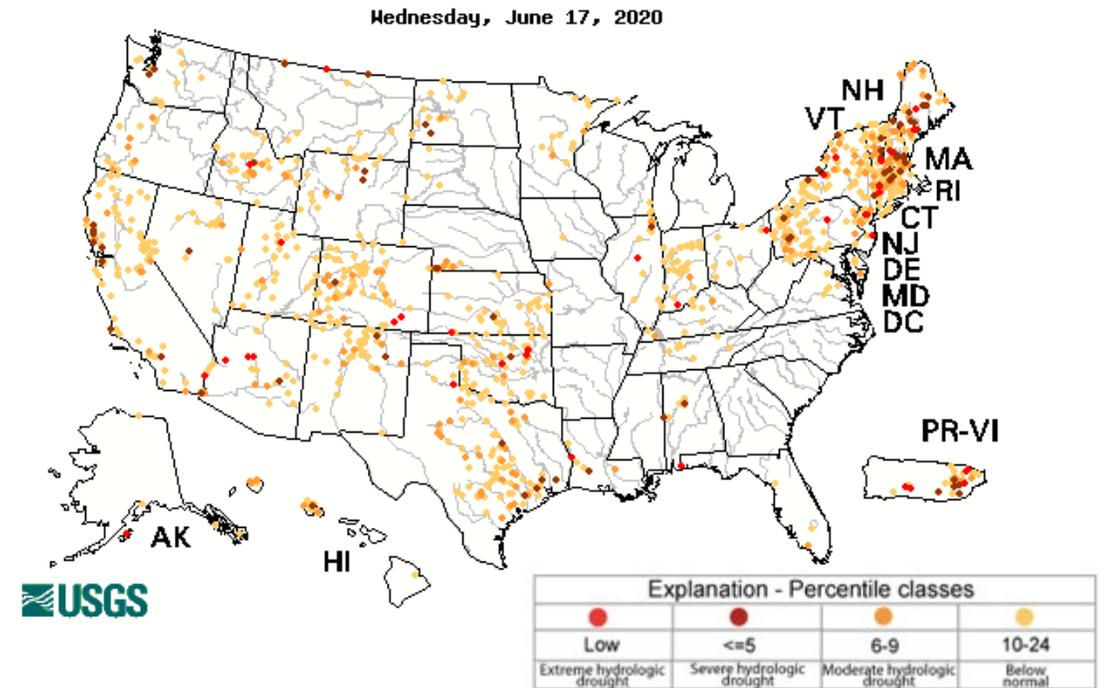
Temperature Departure from Normal (°F)
June 1-18, 2020



Temperatures during the first half of June were significantly above-normal for many areas.

Midwestern Regional Climate Center cli-MATE:
<https://mrcc.illinois.edu/CLIMATE/>

USGS Streamflow
Below Normal 7-Day Average Streamflow



Some areas have indication of hydrologic drought or below-normal streamflow, but it is not a widespread issue across the central U.S. currently.

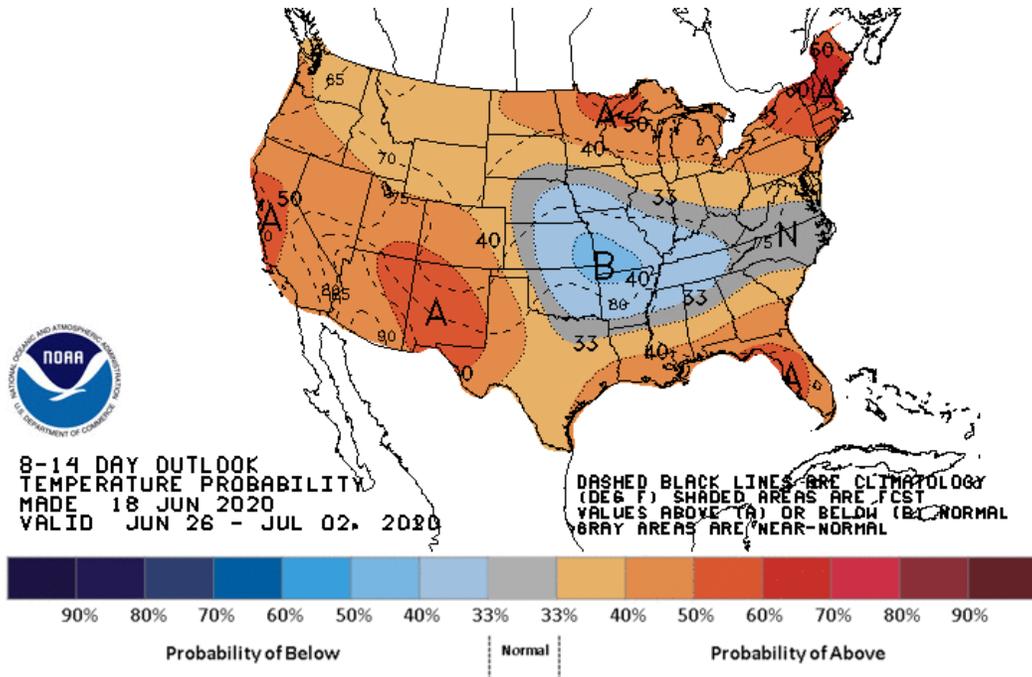
Current USGS Streamflow: <https://waterwatch.usgs.gov/index.php>

A scenic landscape featuring rolling green hills, a river, and a blue sky with scattered clouds. The foreground shows a river flowing through a lush green valley. The middle ground consists of rolling hills covered in green grass and some trees. The background shows a clear blue sky with a few white clouds. The overall scene is bright and vibrant, suggesting a sunny day in a rural setting.

OUTLOOK & IMPACTS

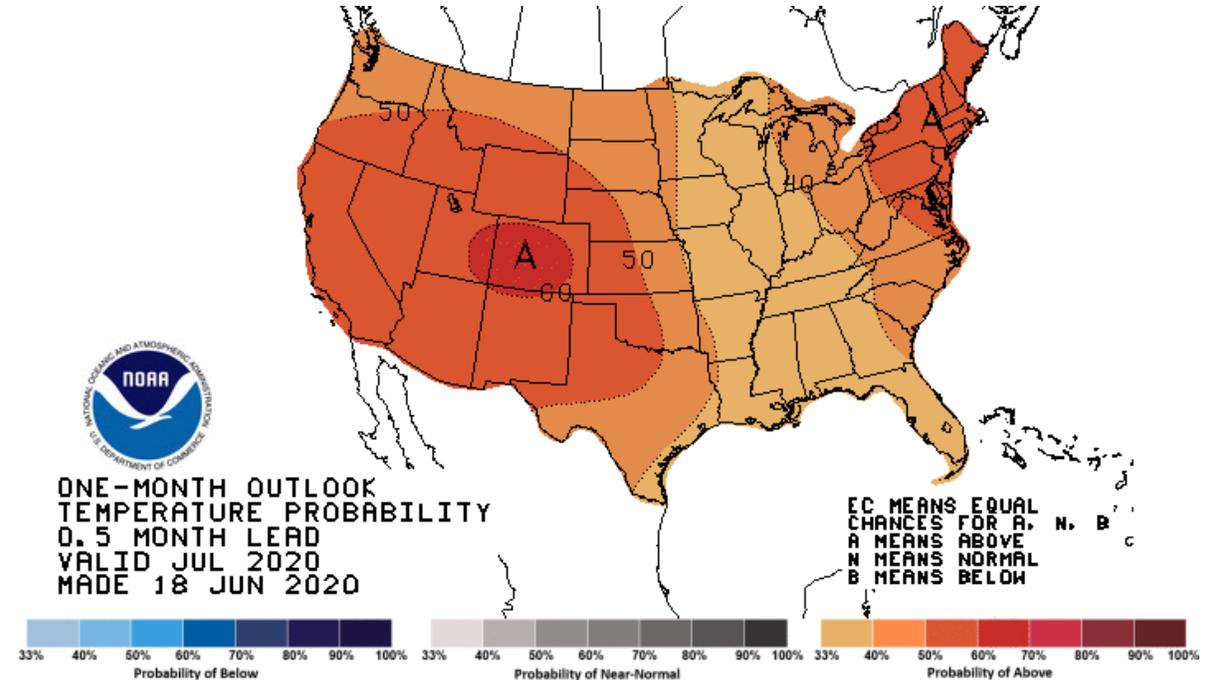
Temperature Outlooks

8-14 Day Outlook: Valid June 26-July 2, 2020



There is a greater chance for above-normal temperatures across much of the North Central U.S. over the period of June 26-July 2.

July 2020 Temperature Outlook



There is a chance for widespread above-normal temperatures into July as well, with most of the Great Plains having a greater than 40% chance.

Current CPC Outlooks: <https://www.cpc.ncep.noaa.gov/>

Risk of Hazardous Temperatures

Valid June 26-July 2, 2020

Slight risk (20% chance) of excessive heat across much of the Great Plains. Daily high temperatures may exceed the 85th percentile.

Current NOAA CPC Hazards Outlook:
<https://www.cpc.ncep.noaa.gov/products/predictions/threats/threats.php>

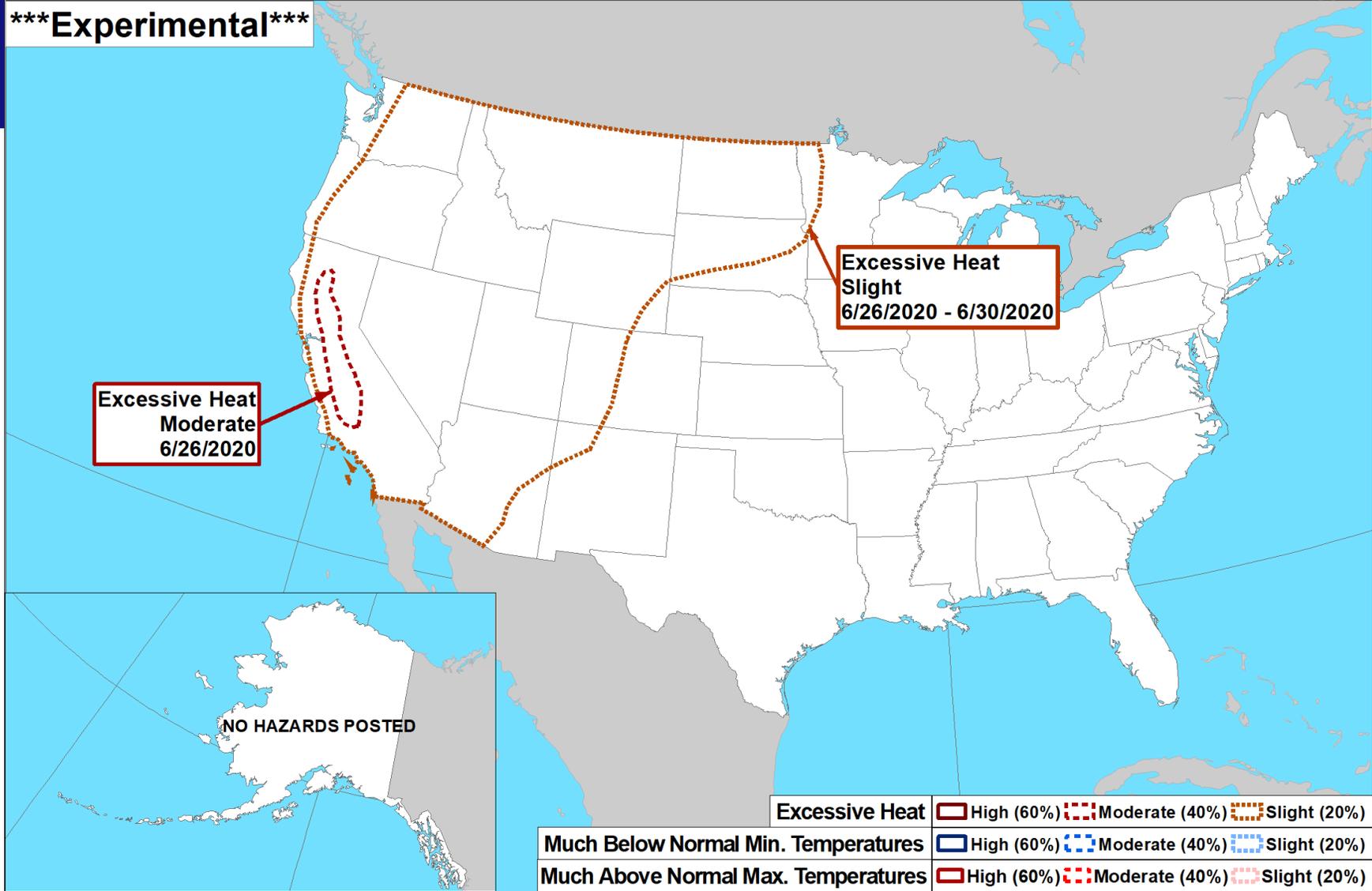


Risk of Hazardous Temperatures

Valid: 06/26/2020-07/02/2020



Experimental



Climate Prediction Center

Made: 06/18/2020 3PM EDT

Follow us:

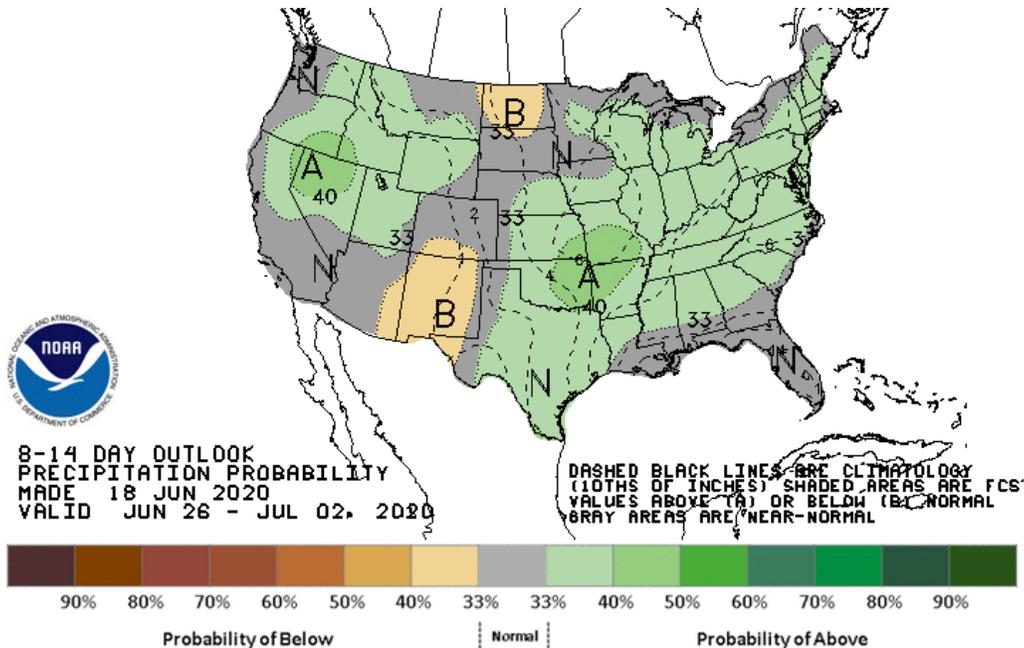
www.cpc.ncep.noaa.gov

7-Day Precipitation Outlook

- Forecasts show the possibility for decent rainfall in some areas over the next week. However, precipitation is not typically widespread this time of year.
- Due to this, while some areas may receive some relief from rainfall, there will likely be areas that do not receive enough rainfall to help alleviate conditions.
- In addition, for those areas that do receive rainfall, issues will likely still persist due to hot temperatures and therefore increased atmospheric demand.

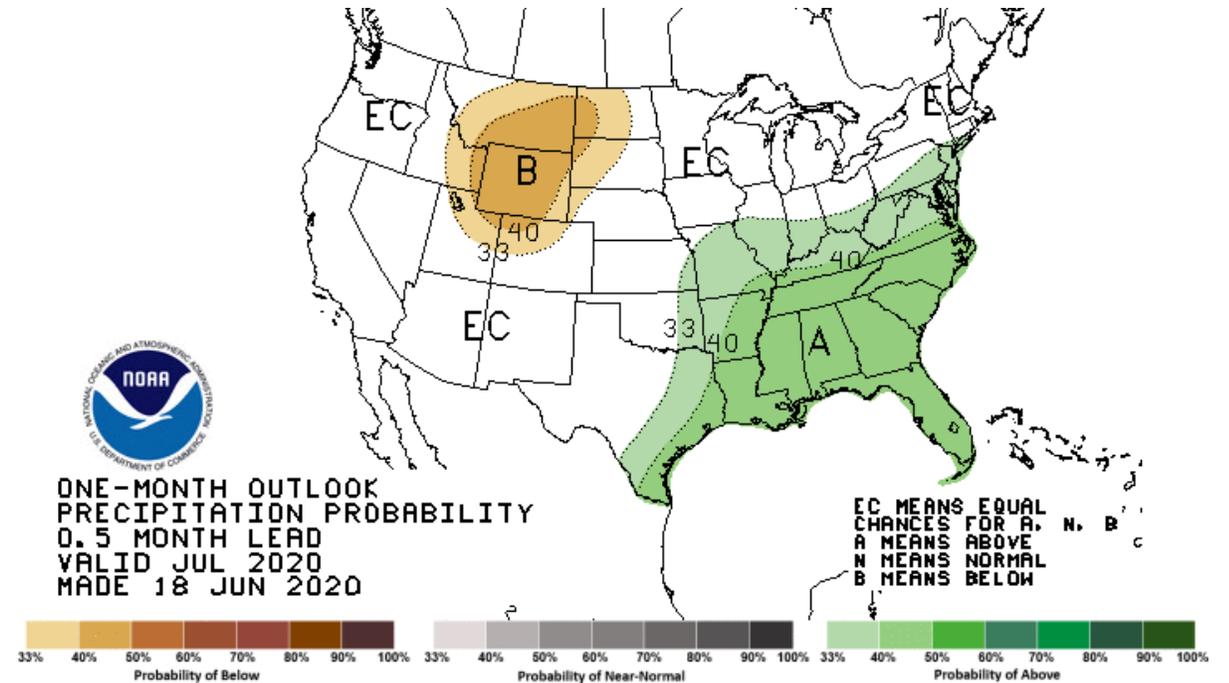
Precipitation Outlooks

8-14 Day Outlook: Valid June 26-July 2, 2020



There is a greater chance for below-normal or near-normal precipitation in the Great Plains over the period of June 26-July 2.

July 2020 Precipitation Outlook

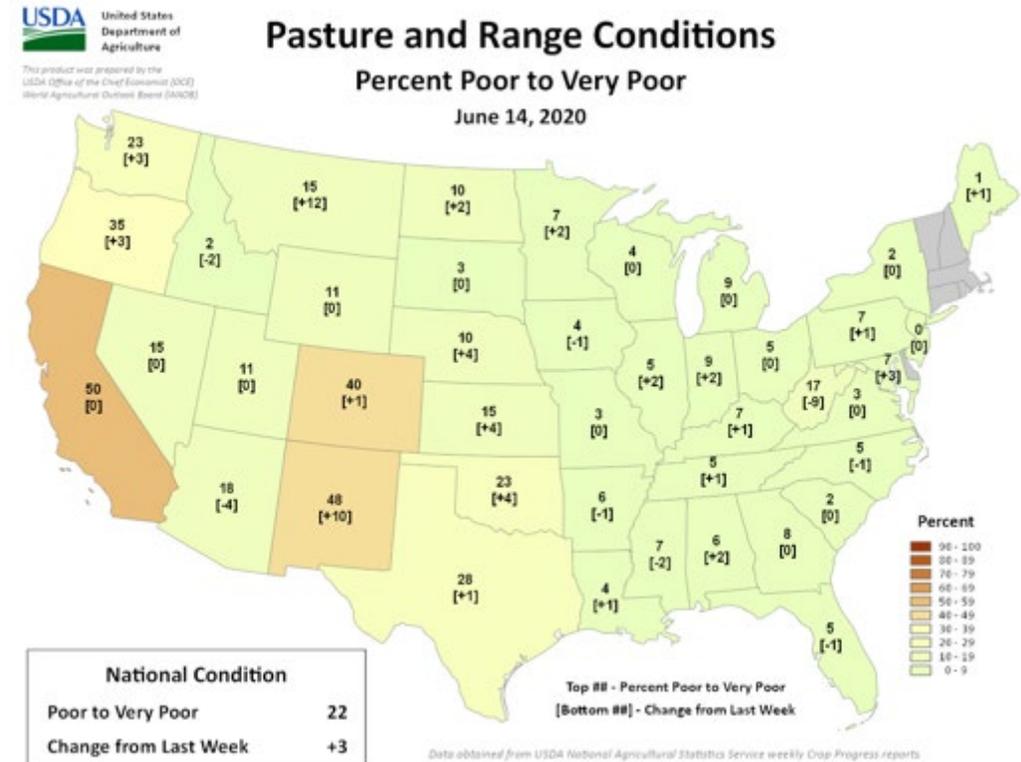


Portions of the Missouri River Basin have greater chances for below-normal precipitation in July, while areas near the Ohio River Valley have greater chances for above-normal precipitation. Other areas have equal chances for above-, below-, or near-normal precipitation.

Current CPC Outlooks: <https://www.cpc.ncep.noaa.gov/>

Agricultural Impacts

- A recent increase in atmospheric demand (i.e., crop water use) is starting to cause some stress on crops and rangeland as soil moisture deficits are increasing.
- Over the last couple of weeks, crop conditions have worsened according to USDA-NASS. The biggest impact will continue to be on rangeland and grassland. Crops are still early enough in growth stage to limit damage (except winter wheat).
- Heat continuing into early July would start to harm corn reaching reproductive stages (i.e., tasseling).
- Without timely and widespread precipitation, conditions will continue to deteriorate.



USDA-NASS Crop Progress Reports:
<https://usda.library.cornell.edu/concern/publications/8336h188j?locale=en>

For More Information...

- NIDIS and its partners will issue future Drought Early Warning Updates as conditions evolve.
- More local information is available from the following resources:
 - Your state climatologist: https://stateclimate.org/state_programs/
 - Your local National Weather Service office: <https://www.weather.gov/srh/nws/offices>
- There are also upcoming webinars that will offer more information:
 - North Central U.S. Climate and Drought Summary & Outlook Webinars (offered monthly): <https://register.gotowebinar.com/register/7528179497868100876>
 - Archived webinars are available here: <https://hprcc.unl.edu/webinars.php>
 - July 9th – Colorado Drought Webinar from the Intermountain West Drought Early Warning System (DEWS): <https://register.gotowebinar.com/register/3806410706977308171>