

Northern Plains 2017 Drought: Regional Services Response

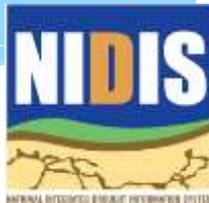


Lodgepole Complex , courtesy of BLM



Eastern Montana Wheat 2017

North American Drought Monitor Meeting
May 2018
Doug Kluck, NOAA/NCEI, Kansas City, MO
Regional Climate Services Director



Prior Engagements & Preparation



- * **Missouri Basin Focus: 2011 to present**
 - * **Formal NIDIS Kick-off 2014 – building relationships w/states, feds, tribes, universities, etc...**
 - * **Tribal Workshop 2014 (16 tribes)**
 - * **Lower and Upper Basin Workshops (early 2017)**
 - * **Basin-wide strategic plan (Basin, States, Tribes)**
 - * **Flood (2011) and Drought (2012) Assessments and Research**
 - * **Great Plains Tribal Water Alliance (GPTWA) Water Resources and Drought Capacity Building**
 - * **U.S. Army Corps Spring Constituent Webinars**



NOAA and Partners Response 2017

Sub-Regional Briefs (June & July 2018)

Quarterly Climate Impacts and Outlook

Missouri River Basin

September 2017

National - Significant Events for June - August 2017

U.S. Selected Significant Climate Anomalies and Events for August and Summer



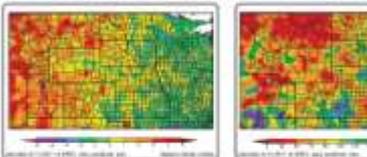
The average U.S. temperature during August was near the long-term average. The warmest temperature was 72.7°F, or 1.37 above average and the 10th highest on record. August precipitation was 1.34 inches, 0.7 inch above average, and seventh wettest. The summer total was 9.19 inches, the 10th wettest on record.

Please Note: Material provided in this map was compiled from NOAA's State of the Climate. For more information please visit: <http://climate.noaa.gov/>

Regional - Climate Overview for June - August 2017

Temperature and Precipitation Anomalies

Departure from Normal Temperature (°F) June 1 - August 21, 2017



Temperatures were, overall, above normal in the west and below normal in the east this summer. Although the season started off extremely hot and dry, July had the largest departures of the season, with much of the drought-affected areas of central and eastern Montana and western parts of the Dakotas in the 4-8°F above normal range. August, in stark contrast, was on the cool side for the majority of the Basin, with eastern areas having departures of 4-5°F below normal. Although the cool weather helped ease drought impacts, this was unlikely for crop development.

It was an extremely dry summer in the west and below normal in the south. July from a few areas, June was dry, with large regions receiving less than 50% precipitation. Dry conditions July, especially in the north, led to southern California, central and eastern South Dakota were up to 100% below normal. August was the wettest month on record for these drought-affected areas.

Source: National Weather Service (NWS) and NOAA

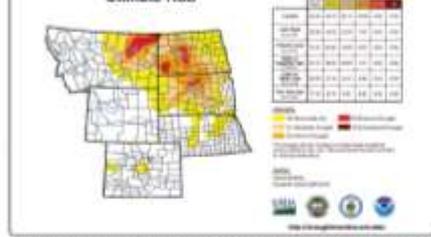
Drought Impacts and Outlook

Northern Plains

June 2017

Northern Plains - Current Drought Conditions

USDA Northern Plains Climate Hub

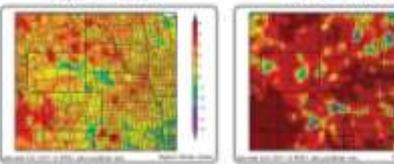


The U.S. Drought Monitor, established in 2009, is a weekly map of drought conditions that is produced jointly by the National Oceanic and Atmospheric Administration, the U.S. Department of Agriculture, and the National Drought Mitigation Center (NDMC) at the University of Nebraska-Lincoln. The U.S. Drought Monitor website is hosted and maintained by the NDMC. <http://www.drought.gov/>

Northern Plains - Climate Overview for Last 30 Days

Temperature and Precipitation Anomalies

Departure from Normal Temperature (°F) May 22 - June 20, 2017



Temperatures since late May have been above normal for the majority of the Northern Plains, with several areas experiencing temperatures of at least 2-3°F above normal. June started off quite hot with numerous stations in Montana and the Dakotas setting new daily records due to widespread temperatures in the 90-100°F range. Despite a cool down over the past week, month-to-date temperature readings indicate that this has been one of the top 15 warmest June three-weeks of June on record for these drought-affected areas.

Source: National Weather Service (NWS) and NOAA

High

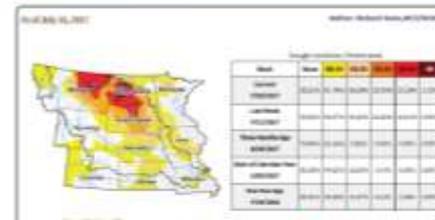
Over the past month, drought conditions have rapidly spread and intensified across the Northern Plains. According to the latest release of the U.S. Drought Monitor on July 28th, approximately 42% of the Missouri River Basin is now in drought. This impacts over a million people.

Drought Impacts and Outlook

Northern Plains

July 2017

Northern Plains - Current Drought Conditions

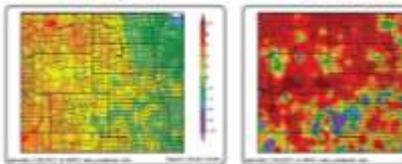


The U.S. Drought Monitor, established in 2009, is a weekly map of drought conditions that is produced jointly by the National Oceanic and Atmospheric Administration, the U.S. Department of Agriculture, and the National Drought Mitigation Center (NDMC) at the University of Nebraska-Lincoln. The U.S. Drought Monitor website is hosted and maintained by the NDMC. <http://www.drought.gov/>

Northern Plains - Climate Overview for Last 30 Days

Temperature and Precipitation Anomalies

Departure from Normal Temperature (°F) June 20 - July 18, 2017



Generally, temperatures since late June have been above normal for the much of the Northern Plains, with several areas having departures of at least 2-4°F above normal. After a brief cool-down at the end of June, July has been exceptionally warm, with month-to-date temperature departures of 6-10°F across portions of Montana and the Dakotas. Interestingly, during this time, several locations set new record lows with temperatures only in the 50s, while new record highs were set due to widespread temperatures above 90°F.

Highlights for the Region

Over the past month, drought conditions have rapidly spread and intensified across the Northern Plains. According to the latest release of the U.S. Drought Monitor on July 28th, approximately 42% of the Missouri River Basin is now in drought. This impacts over a million people.

The USDA recently approved emergency leasing of CRP acres, while the hardest hit states all have ways to connect producers in need of hay with those who have hay to sell.

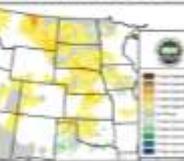
Montana: The Montana Department of Agriculture offers a Hay Hotline for producers looking to buy or sell hay. The site may be accessed here: <http://hay.mt.gov/hayHotline>.

North Dakota: The North Dakota Department of Agriculture offers an interactive map for producers to help them locate hay. This map may be accessed here: <http://jangr.dakota.gov>.

South Dakota: South Dakota State University Extension provides a Feed & Forage Finder, which is available via Facebook group. Simply click the "Join Group" button to join in the conversation. www.facebook.com/groups/524612671044122

Drought Expansion

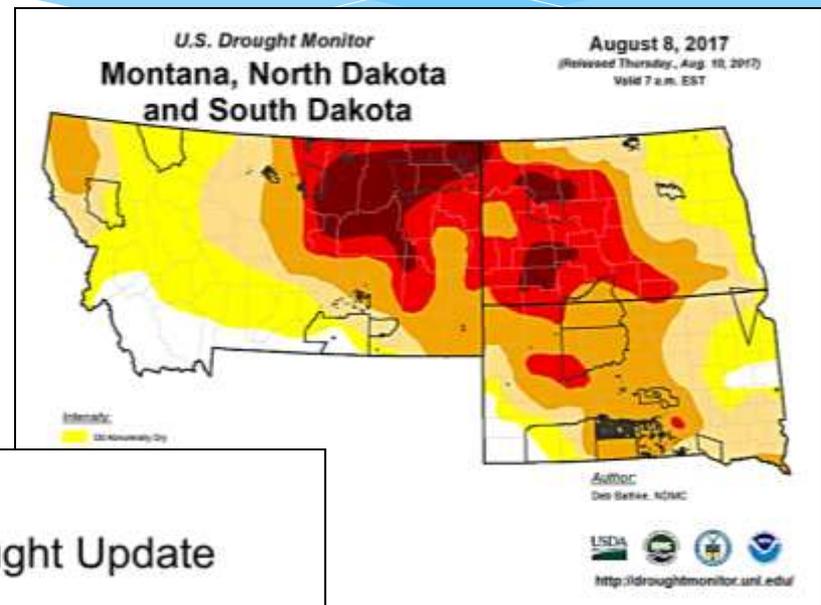
U.S. Drought Monitor Class Change 1 Month: June 20 - July 18, 2017



Since the June 20th release of the U.S. Drought Monitor, drought conditions have continued to expand and intensify across the region. Some of the largest gains occurred in South Dakota where drought now encompasses 62% of the state, which is a 20% increase in coverage since the end of last month. Recent storms brought rainfall to some areas, however this was not enough to provide relief to drought conditions. Exceptional Drought (EX) was introduced to areas of eastern Montana and western North Dakota just this week.

NOAA and Partners Response 2017

- * Regional Webinars (June, July & August)
 - * From Monthly to bimonthly
 - * Tribally focused Webinar
 - * Agriculture & Ecosystems



© D. Martin

SDSU Extension

2017 Northern Plains Drought on Tribal Lands

Laura Edwards
SD State Climatologist

© 2017 Board of Regents, North Dakota State University
www.ndsu.edu

Regional Drought Update

Upper Northern Plains
July 20, 2017

Adnan Akyuz, ND State Climatologist
North Dakota State University

Drought conditions – impacts on wildlife health

Samantha Gibbs, DVM PhD
Wildlife Health office, U.S. Fish and Wildlife Service
Samantha_Gibbs@fws.gov

NDSU NORTH DAKOTA AGRICULTURAL EXPERIMENT STATION

NOAA Response and Support

- * FEMA Drought Task Force
 - * ND Request for Disaster Assistance
- * Montana State Drought and Climate Summit
 - * Advising Drought Monitor protocol
- * Risk Management Agency (USDA RMA) & ND Ag.
- * NOAA internal drought outlook consistency discussions
 - * National + Regional + Local



<https://www.drought.gov/drought/calendar/events/north-central-us-monthly-climate-and-drought-summary-and-outlook-april-19-2018>

Coming Soon

- * **NIDIS Updated Strategic Plan for the MO Basin**
 - * State, Tribal & basin wide needs/gaps
- * **N. Plains Drought Attribution Study**
 - * Late 2018
- * **N. Plains Drought Assessment – NOAA + many partners**
 - * June 2018
- * **Upper Basin Drought System w/Montana State Climate Office (proposed)**
- * **SD, ND & MT Technical Workshops on Drought and Seasonal Forecasting Tools (proposed)**
- * **RMA – NOAA Data Discussions (ongoing)**
- * **Continuing:**
 - * **Great Plains Tribal Water Alliance: BIA grants for drought resiliency**
 - * **Plains soil moisture and snow water equivalent monitoring**

Thank You

