



Regional Drought & Climate Update July 7, 2017

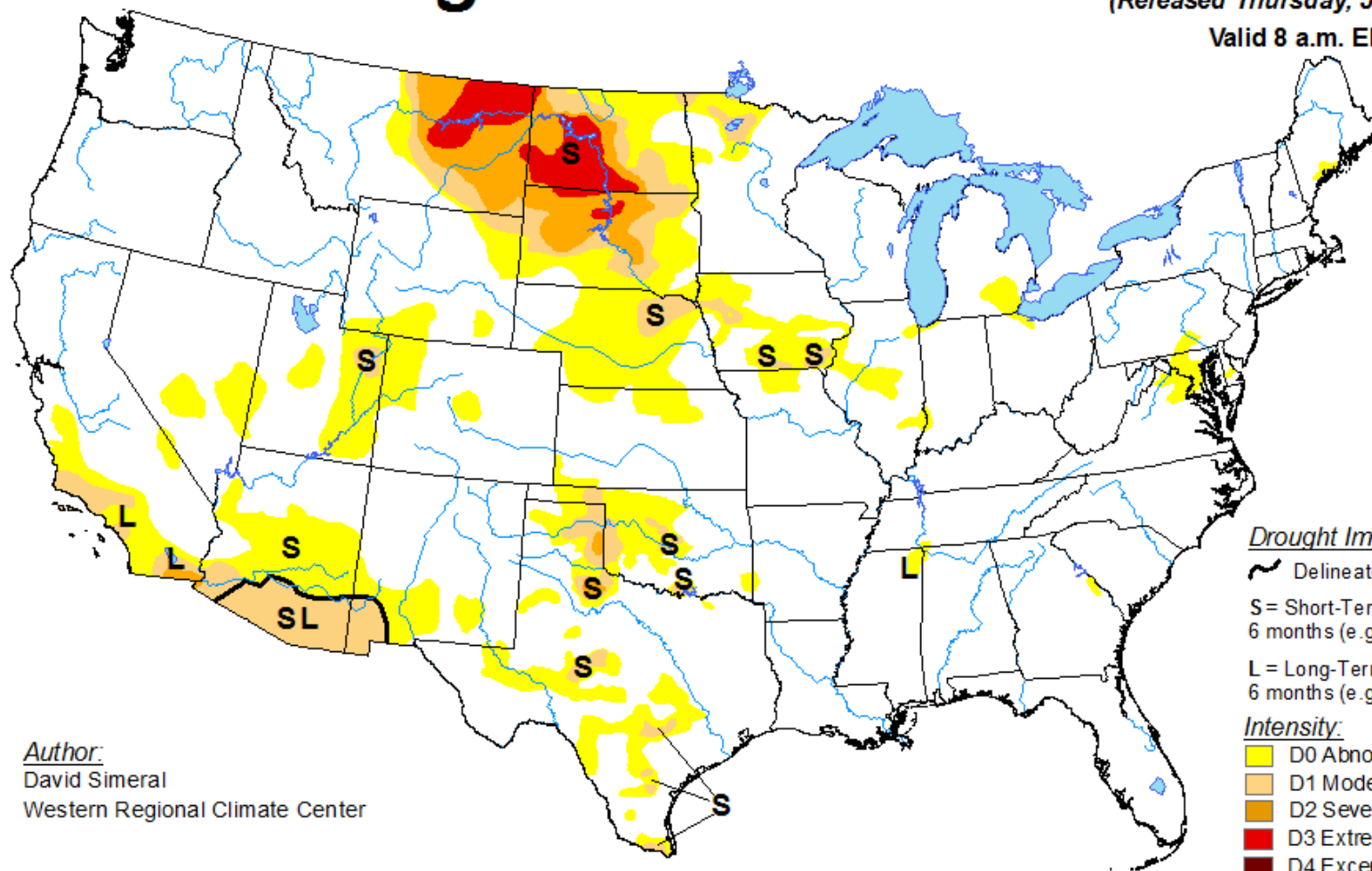
Laura Edwards
State Climatologist

U.S. Drought Monitor

July 4, 2017

(Released Thursday, Jul. 6, 2017)

Valid 8 a.m. EDT



Author:

David Simeral

Western Regional Climate Center

Drought Impact Types:

~ Delineates dominant impacts

S = Short-Term, typically less than 6 months (e.g. agriculture, grasslands)

L = Long-Term, typically greater than 6 months (e.g. hydrology, ecology)

Intensity:

Yellow D0 Abnormally Dry

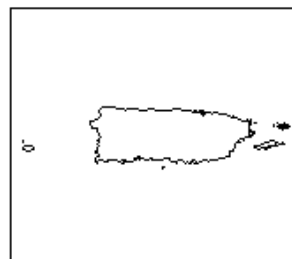
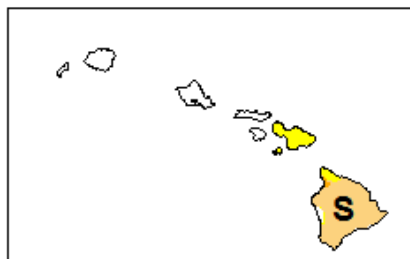
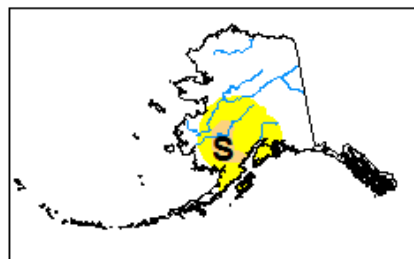
Orange D1 Moderate Drought

Brown D2 Severe Drought

Red D3 Extreme Drought

Dark Red D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.



<http://droughtmonitor.unl.edu/>

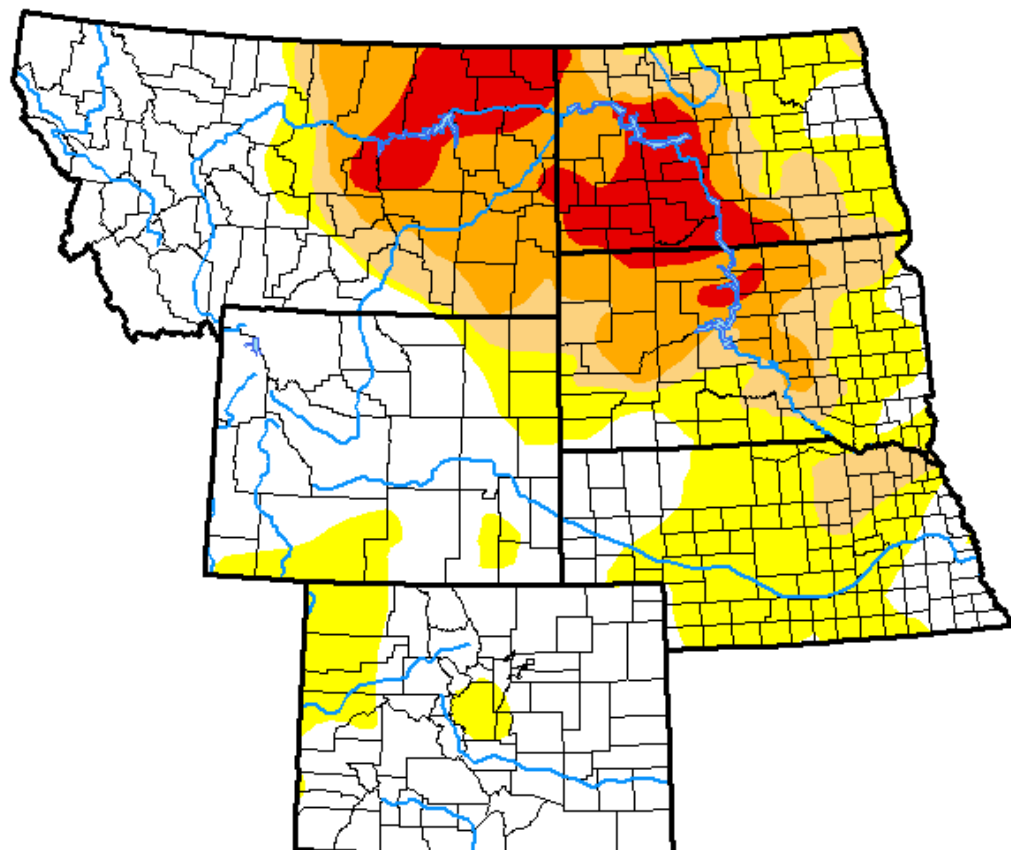
U.S. Drought Monitor

USDA Northern Plains Climate Hub

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Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	48.76	51.24	28.65	19.32	7.49	0.00
Last Week 06-27-2017	51.26	48.74	26.99	16.44	5.10	0.00
3 Months Ago 04-04-2017	77.04	22.96	8.58	0.55	0.00	0.00
Start of Calendar Year 01-03-2017	61.47	38.53	15.95	1.47	0.00	0.00
Start of Water Year 09-27-2016	62.66	37.34	14.21	3.88	0.23	0.00
One Year Ago 07-05-2016	71.32	28.68	10.47	1.70	0.25	0.00

Intensity:



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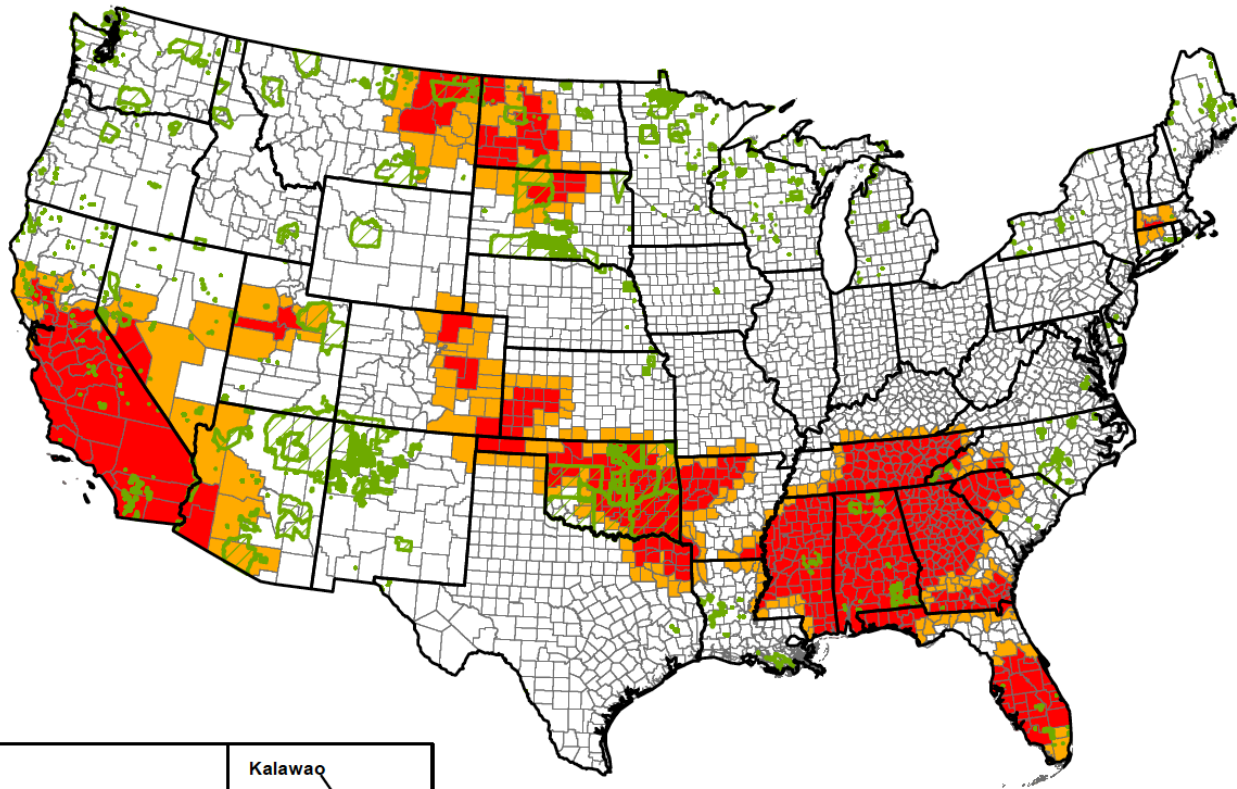
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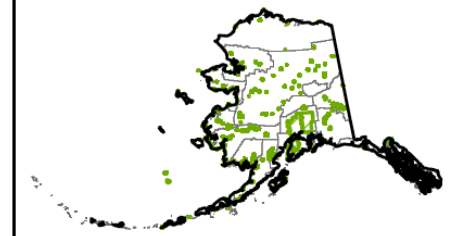
2017 Secretarial Drought Designations - All Drought



Secretarial Drought Designations for 2017

Disaster Incidents as of June 28, 2017

-  State Boundary
-  County Boundary
-  Tribal Lands
-  Primary Counties: 557
-  Contiguous Counties: 271



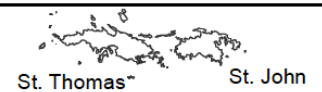
Alaska

1:60,000,000



Puerto Rico

1:4,000,000



St. Thomas

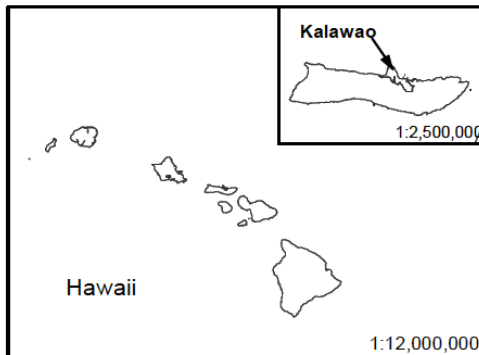
St. John

Virgin Islands of the U.S.



St. Croix

1:1,500,000



Hawaii

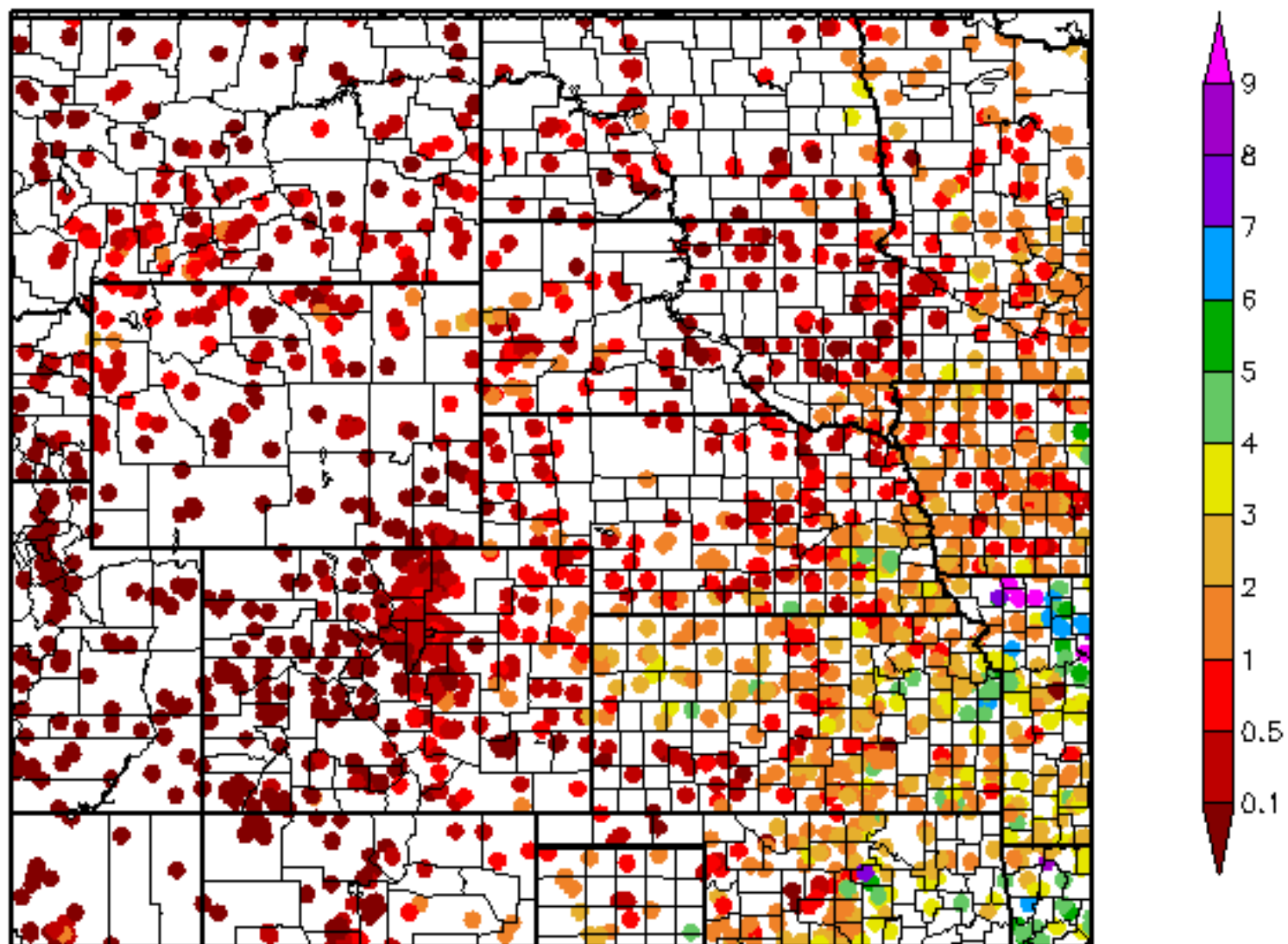
1:12,000,000

USDA Farm Service Agency
Production, Emergencies and Compliance Division
Washington, D.C.

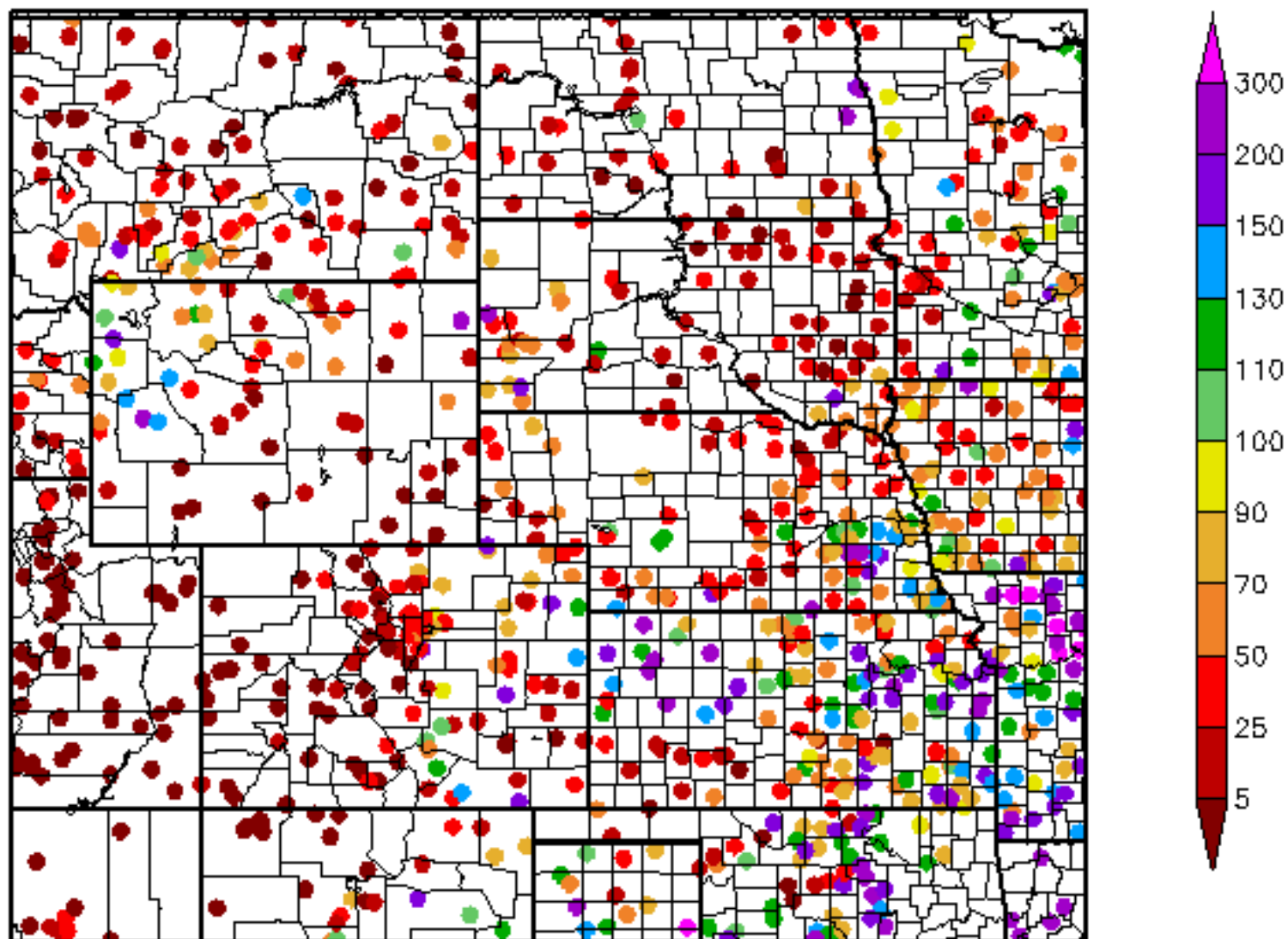
© 2017 Board of Regents, South Dakota State University iGrow.org
June 28, 2017

1:25,000,000

Precipitation (in)
6/23/2017 – 7/6/2017



Percent of Normal Precipitation (%)
6/23/2017 – 7/6/2017



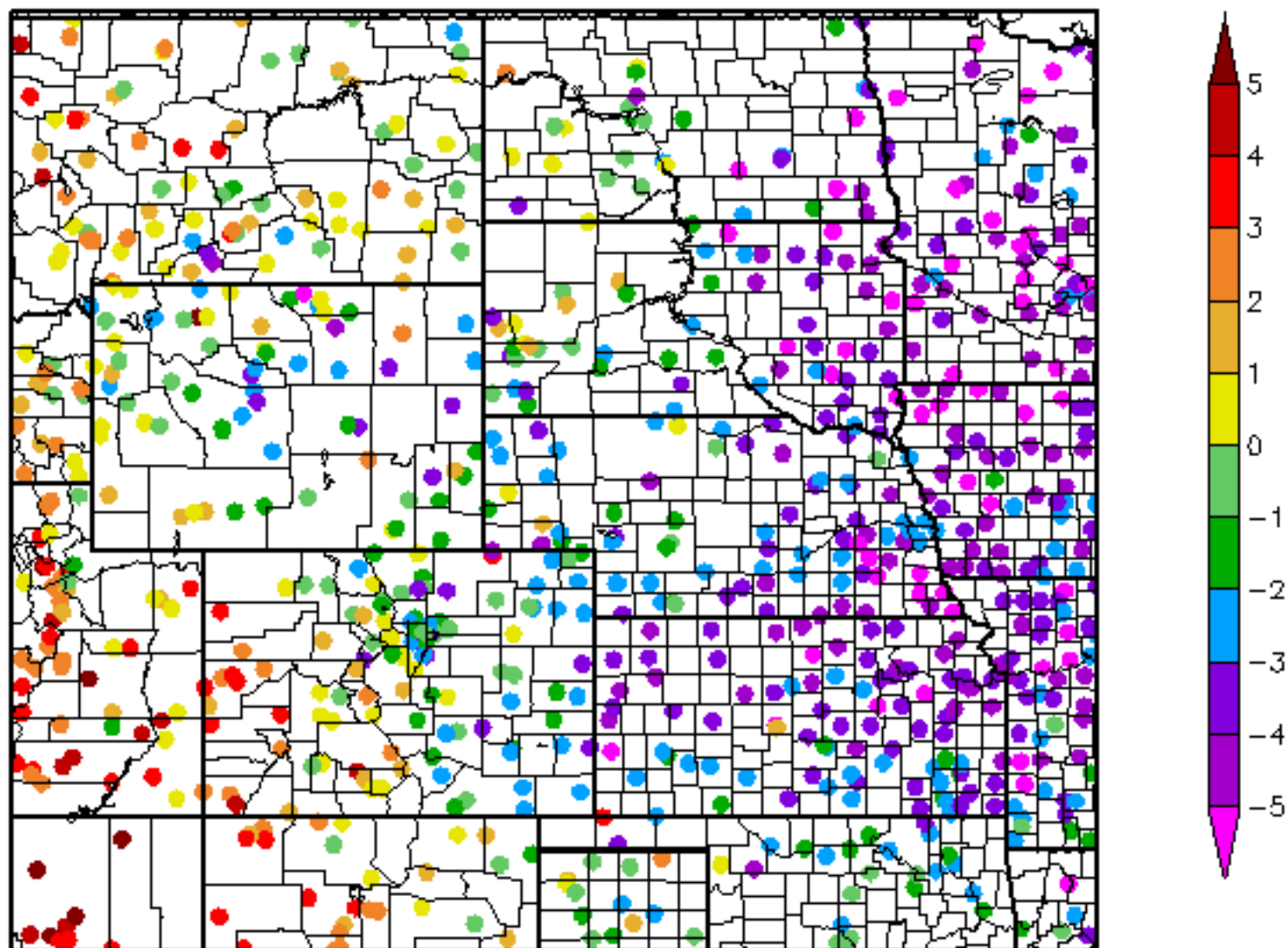
Northern Rockies & Plains region

MT, WY, ND, SD, NE

- June 2017: 8th driest on record, similar years 1936 and 1988
- May-June 2017: 8th driest on record, driest since 2006
- April-June 2017: 22nd driest on record, driest since 2006
- 6 northeast MT locations driest June on record. 12 locations driest April-June on record.

Departure from Normal Temperature (F)

6/23/2017 – 7/6/2017



Northern Rockies & Plains region

MT, WY, ND, SD, NE

- June 2017: 25th warmest. 2016 was warmer. Similar years: 1910, 1970
- April-June 2017: 26th warmest. 2016 was warmer. Similar years: 1926, 2001
- Feb-June 2017: 10th warmest on record. 2012 and 2016 were the record warmest in this region

VIC Soil Moisture Percentiles (wrt 1916-2004)
Central United States

Soil Moisture

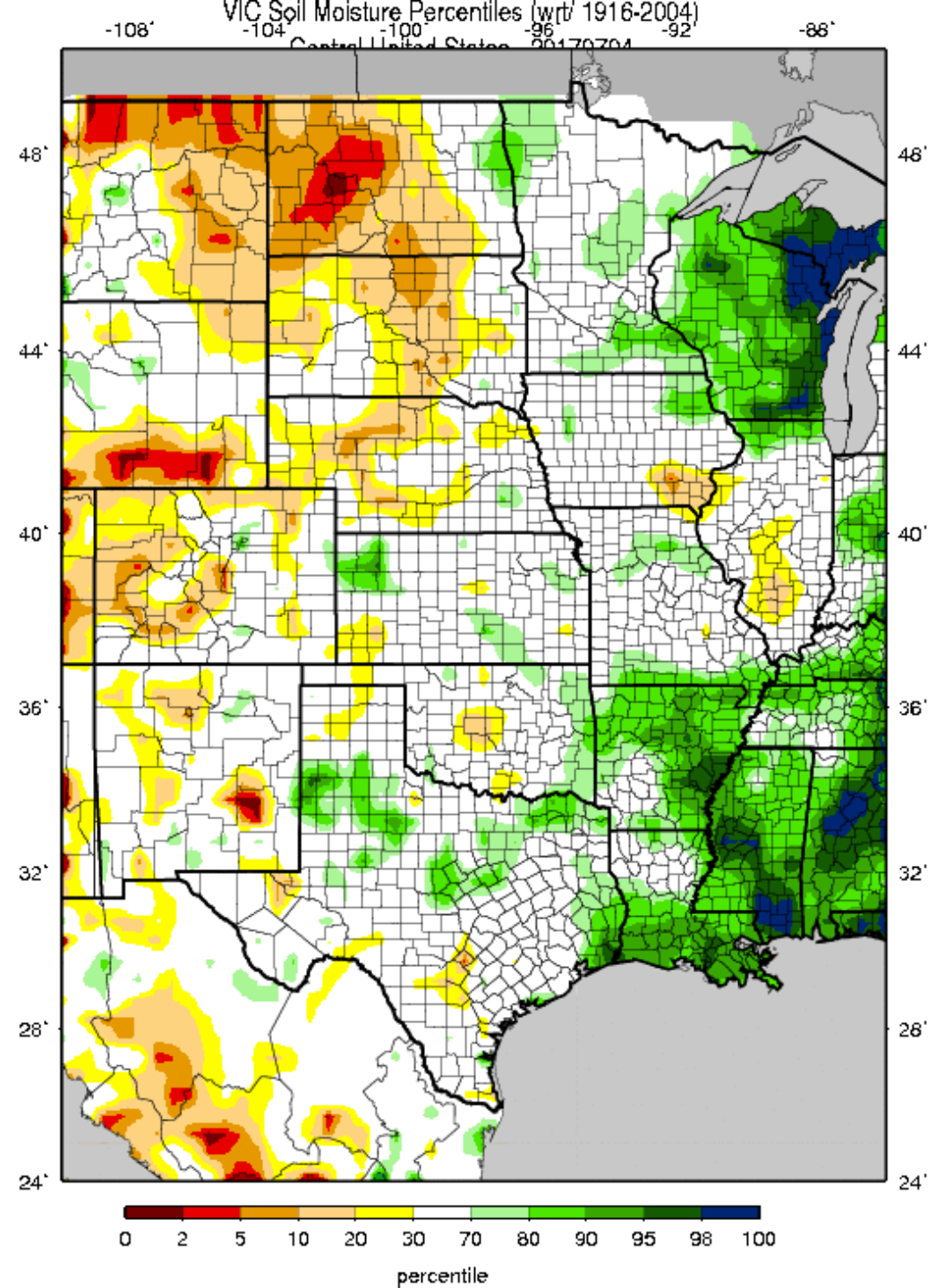


July 4, 2017

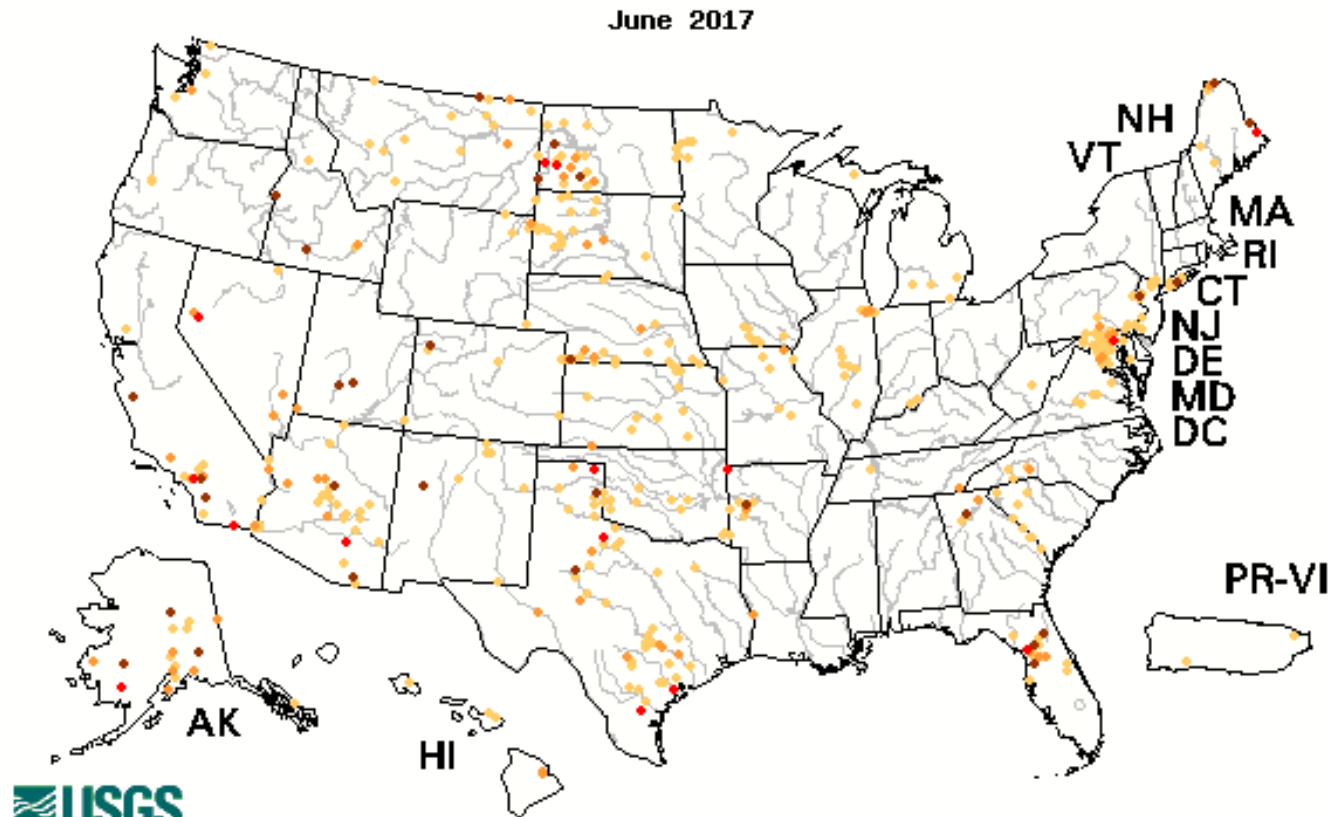
Percentile for this time of
year, compared to 1916-2004
average

Source:
University of Washington
[http://www.hydro.washington.edu/fo
recast/monitor/](http://www.hydro.washington.edu/forecast/monitor/)

iGrow.org



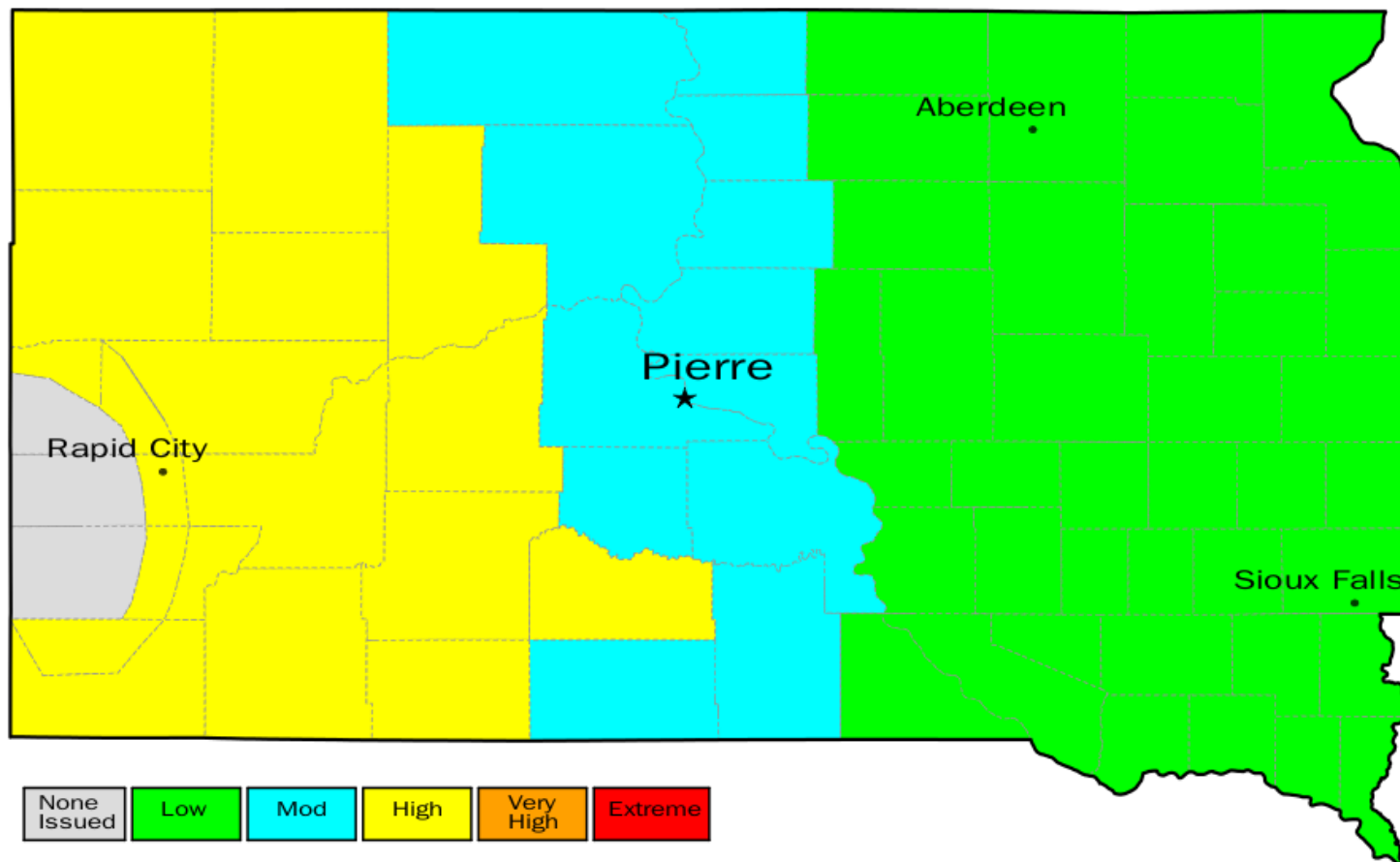
USGS Monthly Average Streamflow



Explanation - Percentile classes			
			
Low	≤ 5	6-9	10-24
Extreme hydrologic drought	Severe hydrologic drought	Moderate hydrologic drought	Below normal

https://waterwatch.usgs.gov/index.php?id=mv0ld_dry

SD Grassland Fire Danger: Sat, Jul 8, 2017

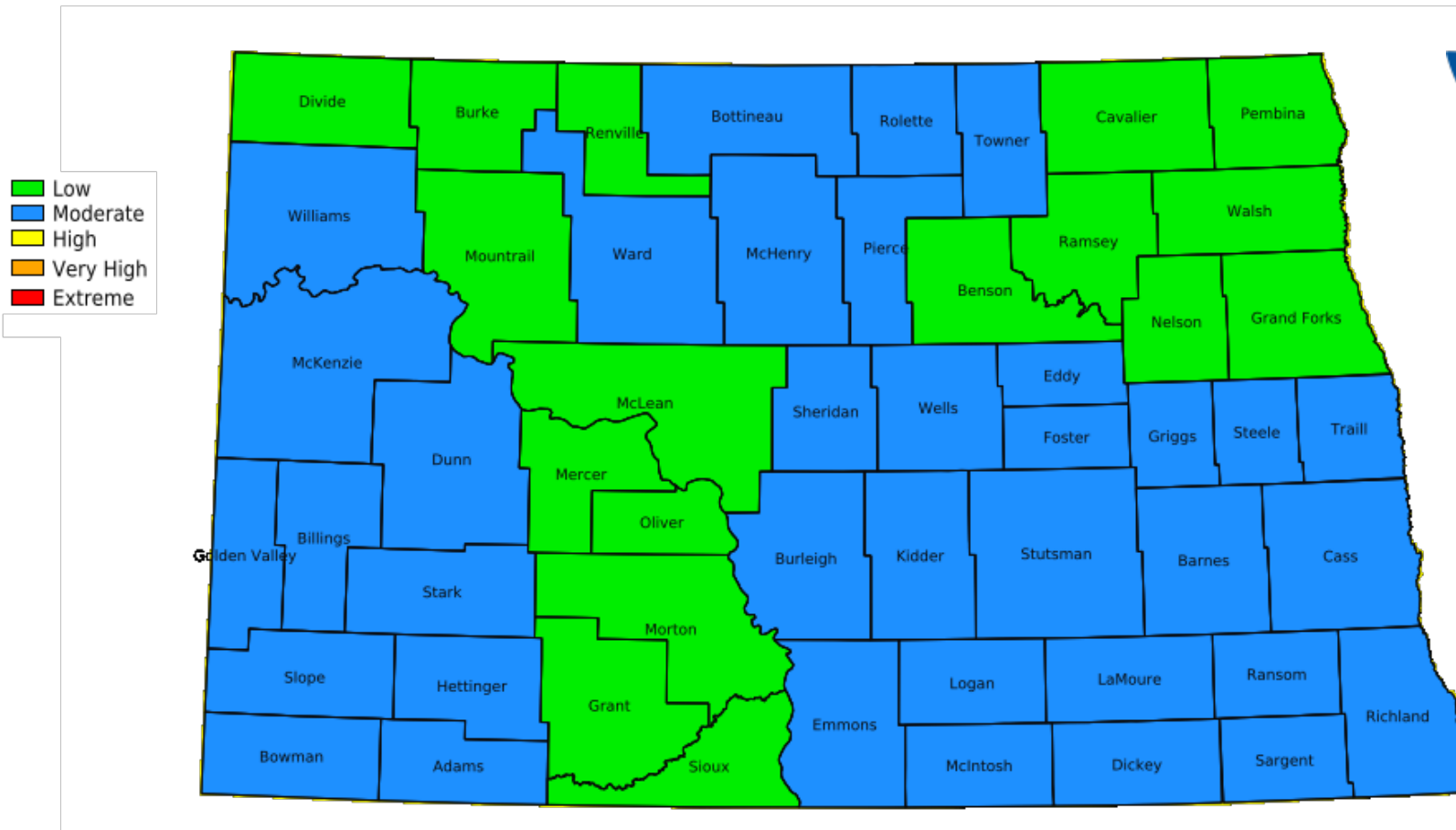


National Weather Service
Aberdeen/Rapid City/Sioux Falls, SD
7/7/2017 12:10pm MDT

Follow Us:   
weather.gov

<https://www.weather.gov/unr/rfd>

North Dakota Adjective Fire Danger

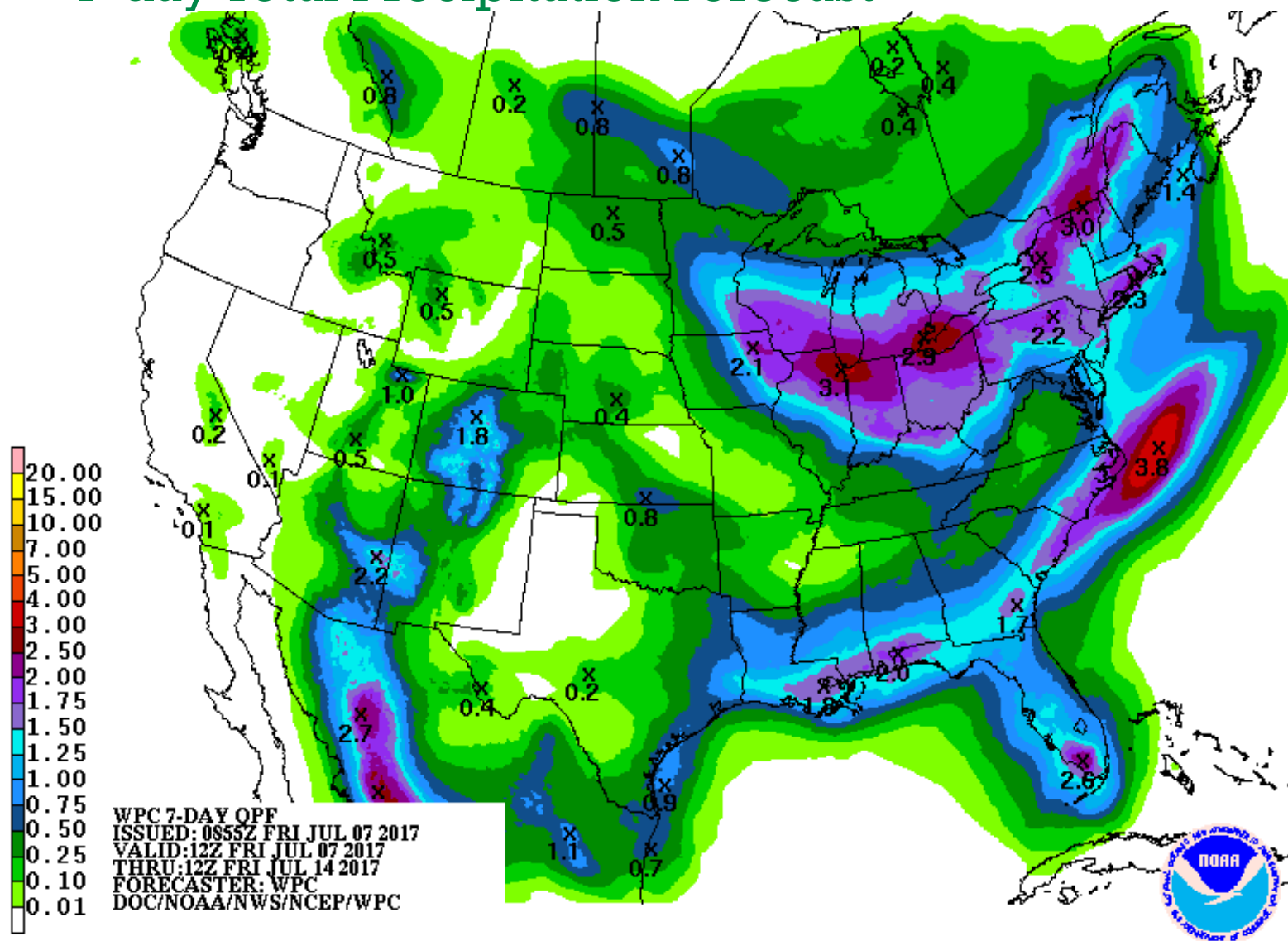


0100 PM Fri Jul 07 2017

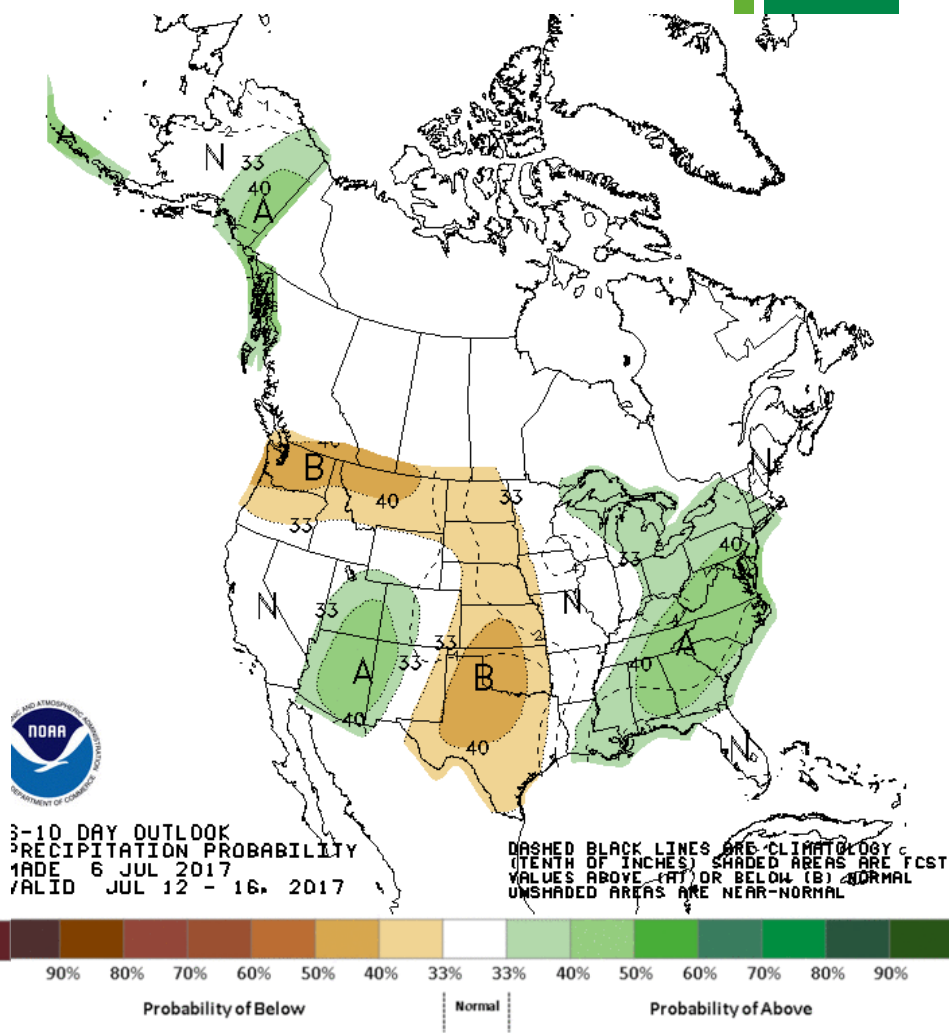
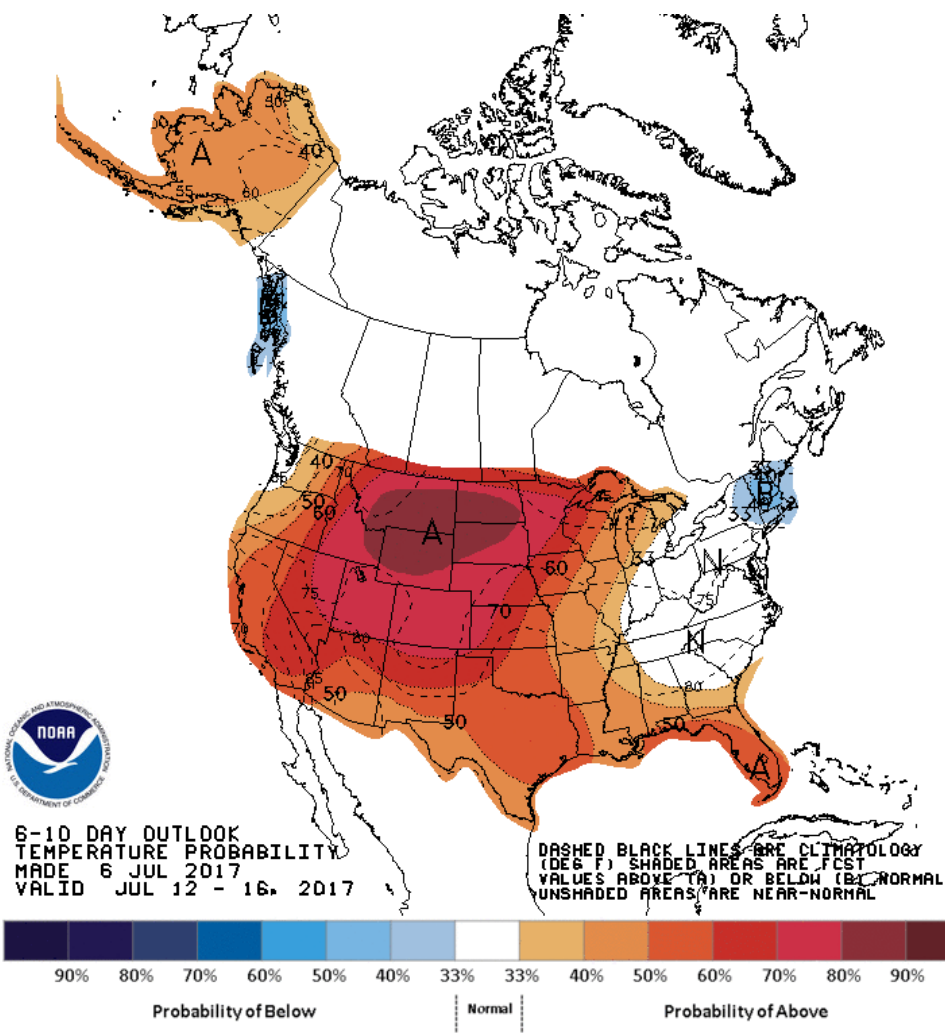
Wildland Fire Assessment System (WFAS)

<http://wfas.net/index.php/north-dakota-fire-danger-rating>

7-day Total Precipitation Forecast



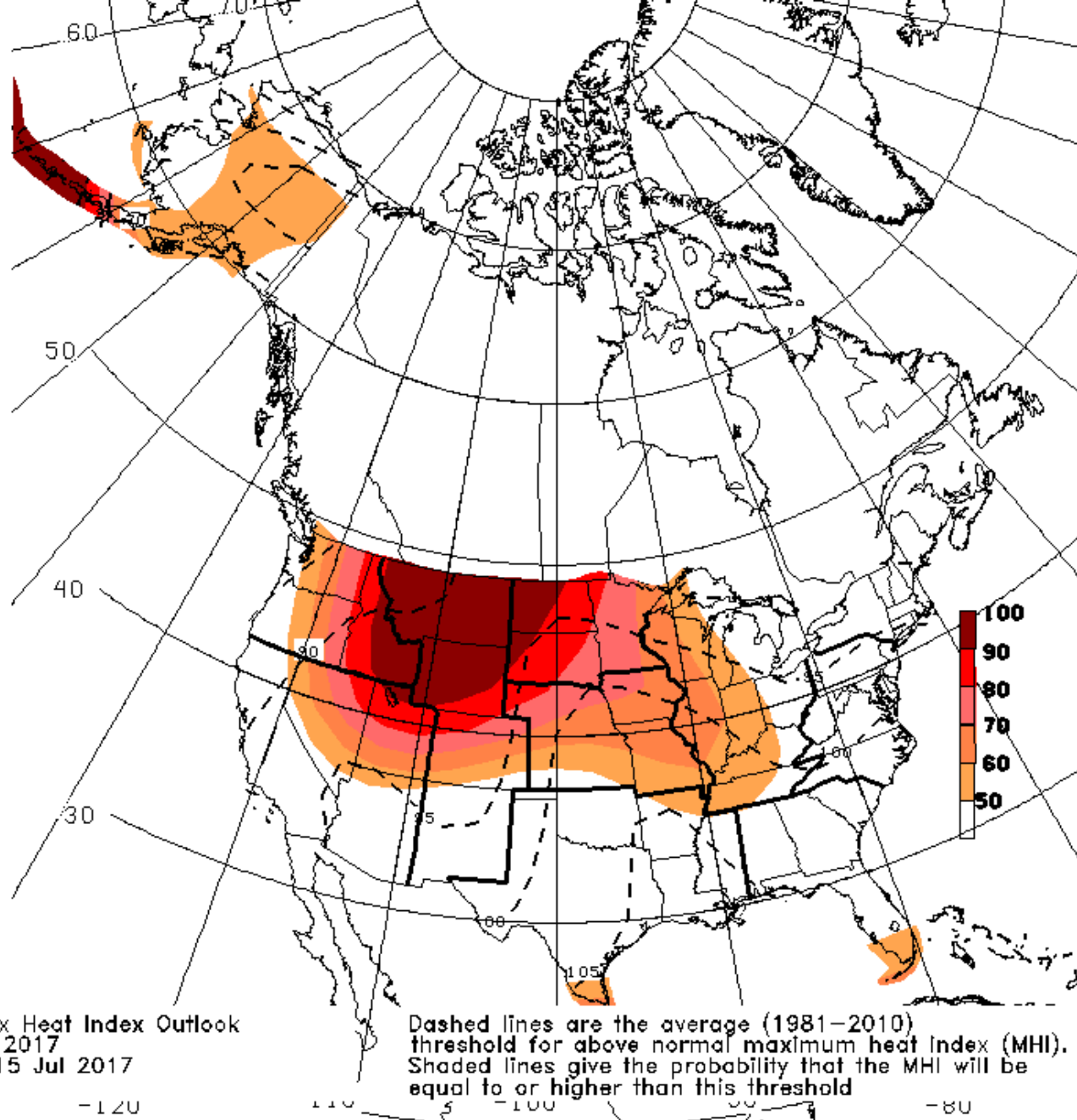
6-10 Day Outlook



<http://www.cpc.ncep.noaa.gov/products/predictions/610day/>

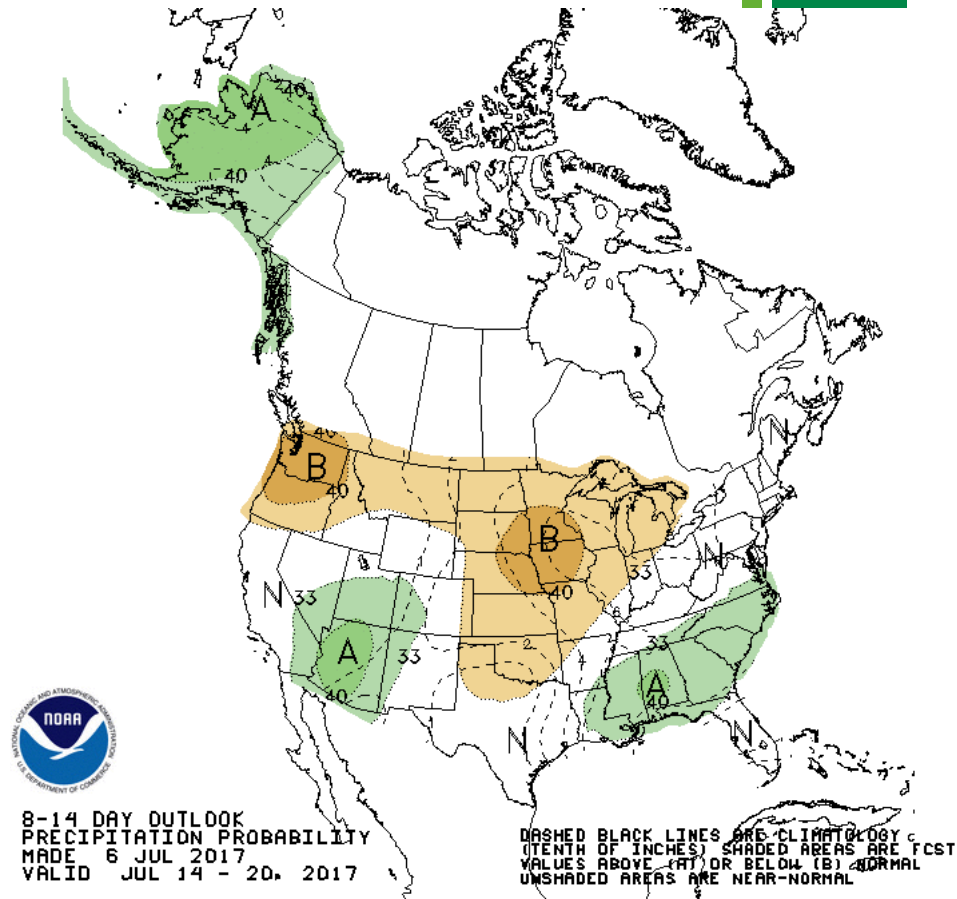
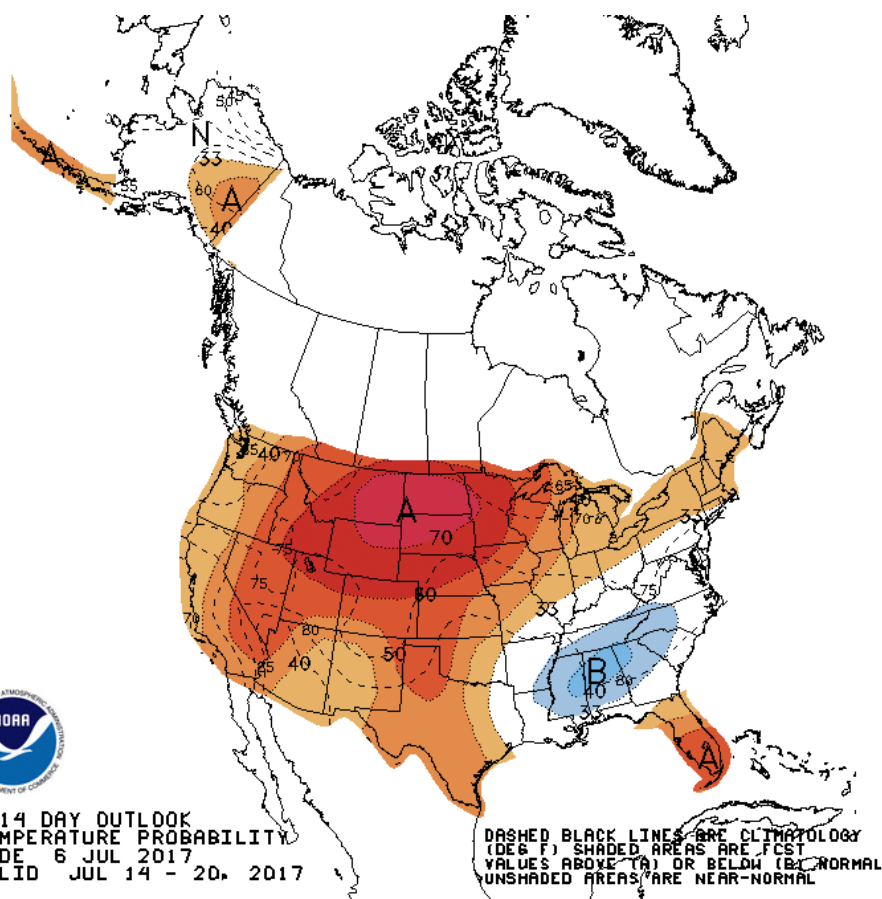
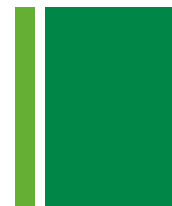


6-10 Day Max Heat Index Outlook
MADE: Jul 05 2017
VALID: 11 - 15 Jul 2017



http://www.cpc.ncep.noaa.gov/products/predictions/short_range/heat/hi_610.php

8-14 Day Outlook



90% 80% 70% 60% 50% 40% 33% 33% 40% 50% 60% 70% 80% 90%

Probability of Below | Normal | Probability of Above

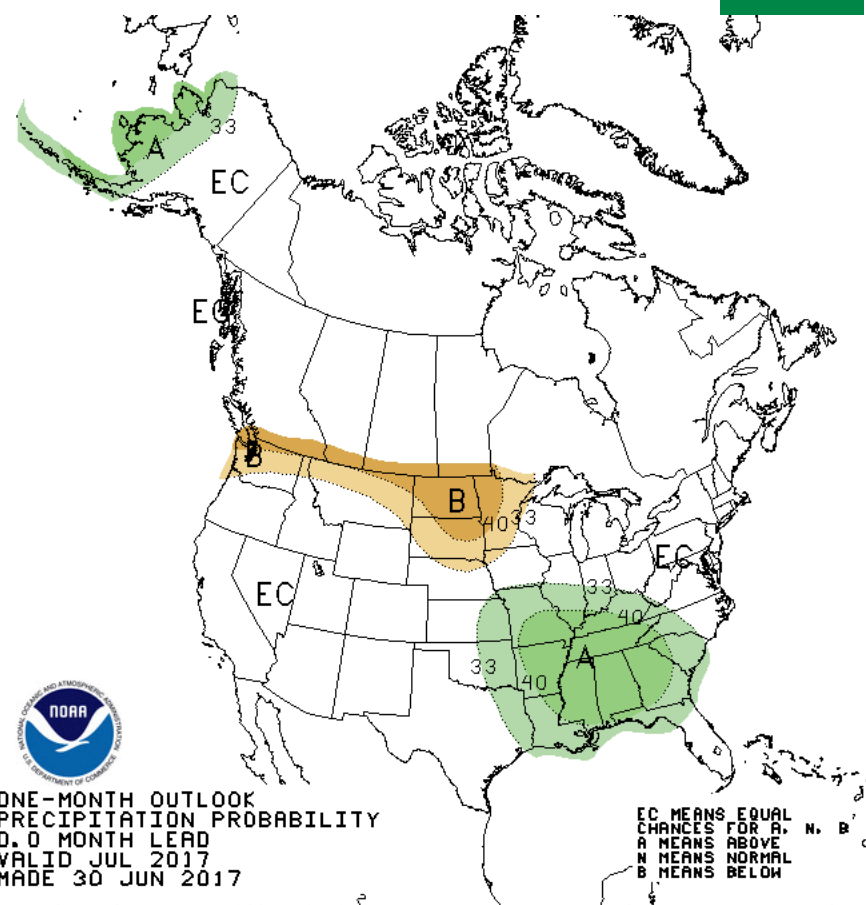
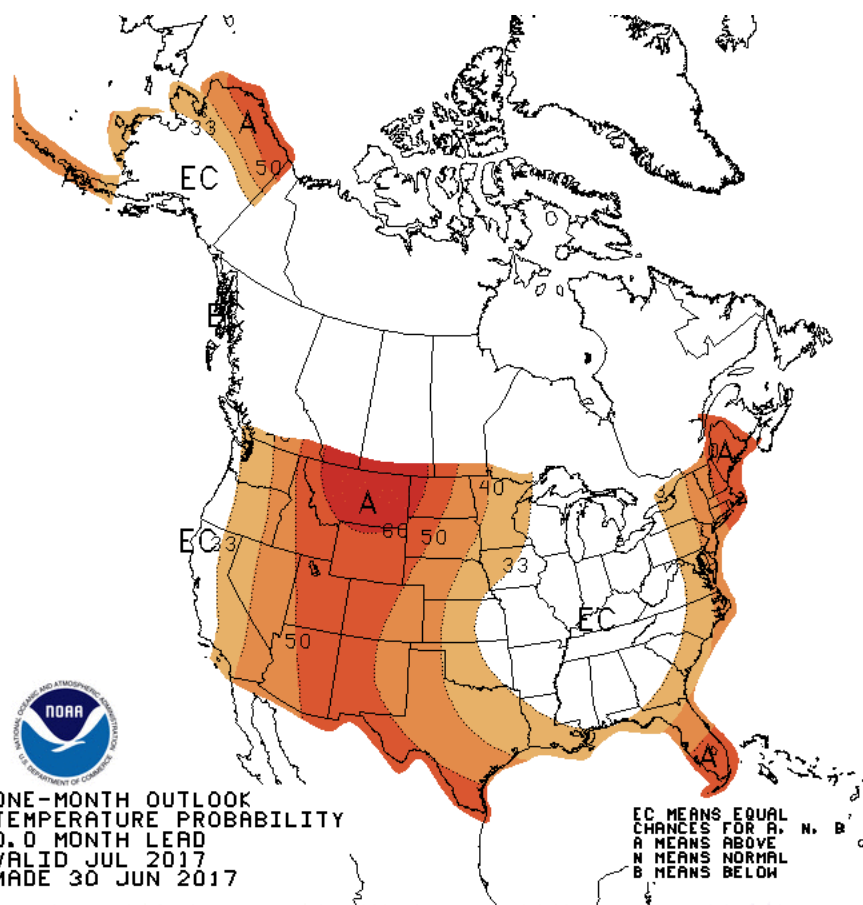
90% 80% 70% 60% 50% 40% 33% 33% 40% 50% 60% 70% 80% 90%

Probability of Below | Normal | Probability of Above

<http://www.cpc.ncep.noaa.gov/products/predictions/814day/>

July Climate Outlook

As of 6/30/17

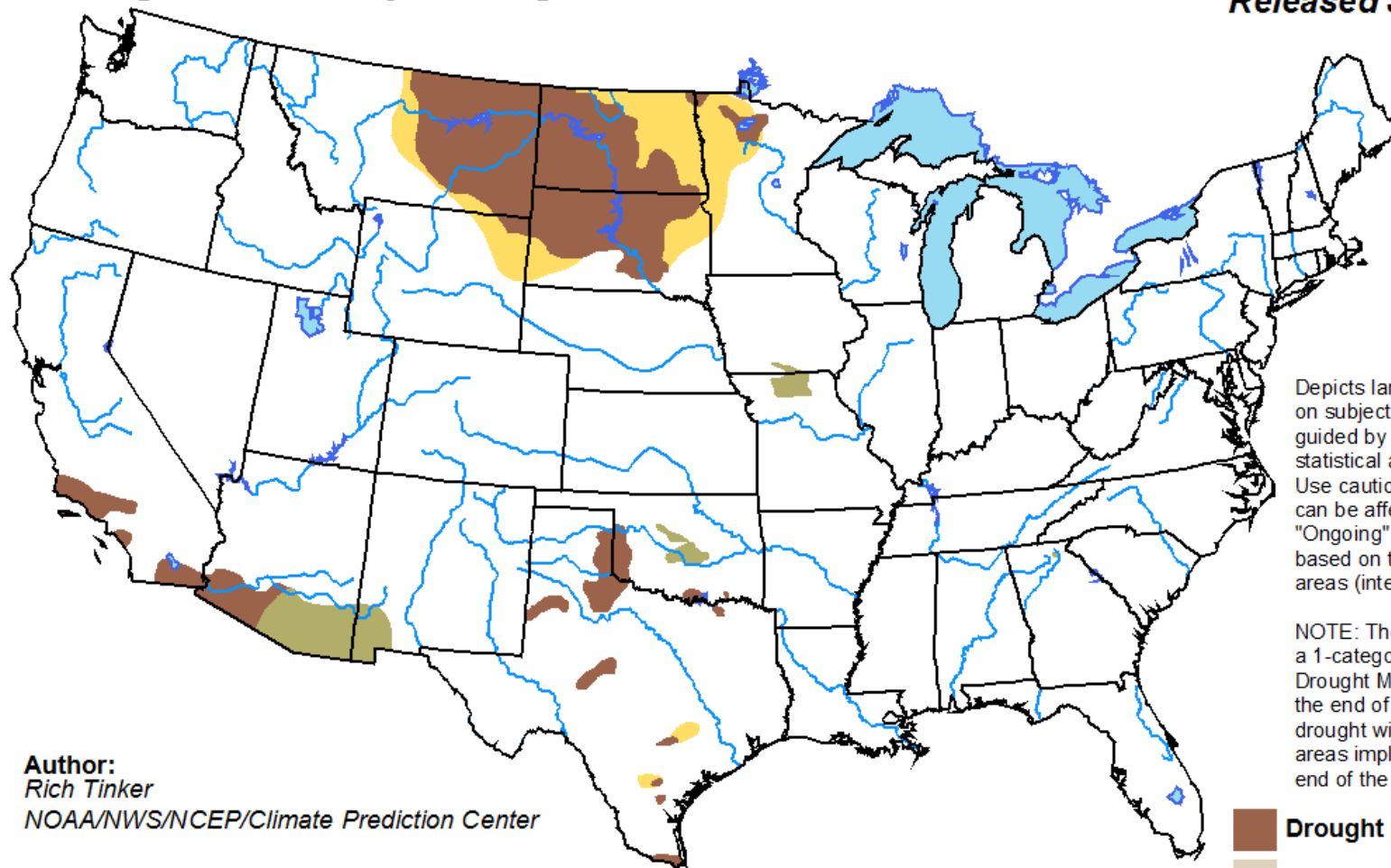


http://www.cpc.ncep.noaa.gov/products/predictions/long_range/lead14/

U.S. Monthly Drought Outlook

Drought Tendency During the Valid Period

Valid for July 2017
Released June 30, 2017

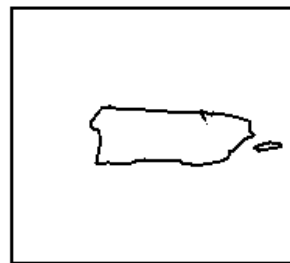
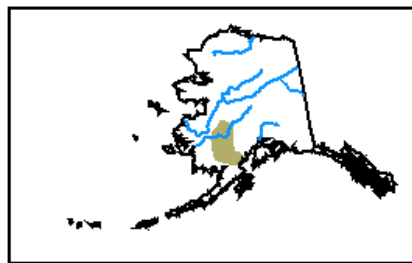


Author:
Rich Tinker
NOAA/NWS/NCEP/Climate Prediction Center

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/3eZGd>

For more information

- SDSU Extension: igrow.org
- NDSU Agriculture & Extension:
<https://www.ag.ndsu.edu/ndsuag/>
- SD Drought Dashboard:
climate.sdstate.edu/tools/dashboard
- US Drought Portal: drought.gov
- National Weather Service: weather.gov
- Climate Prediction Center:
<http://www.cpc.ncep.noaa.gov/>
- High Plains Regional Climate Center: hprcc.unl.edu
- This recording will be found at:
<https://www.drought.gov/drought/calendar/events/northern-plains-drought-webinar-july-7>



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iGrow.org

SDSU iGrow

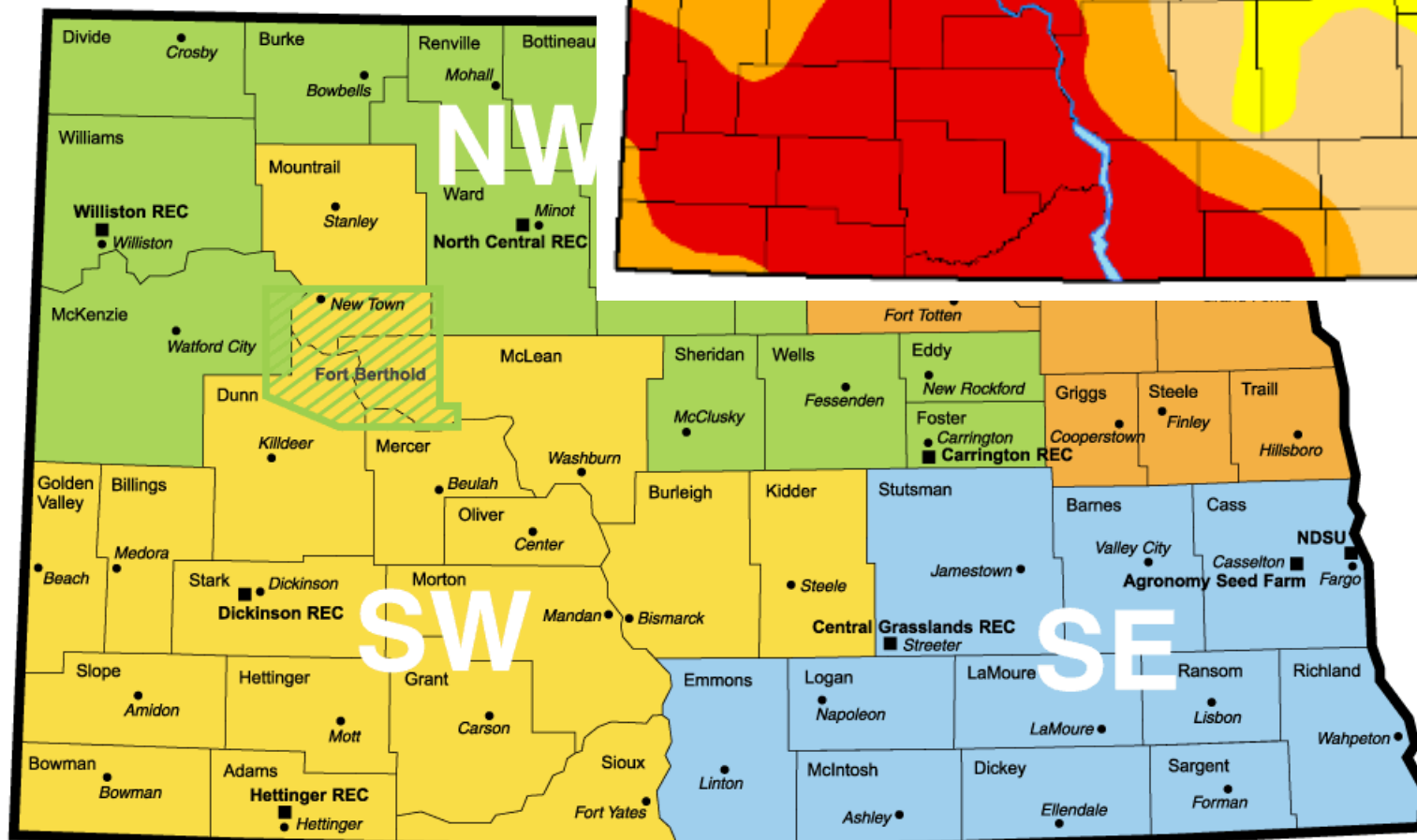
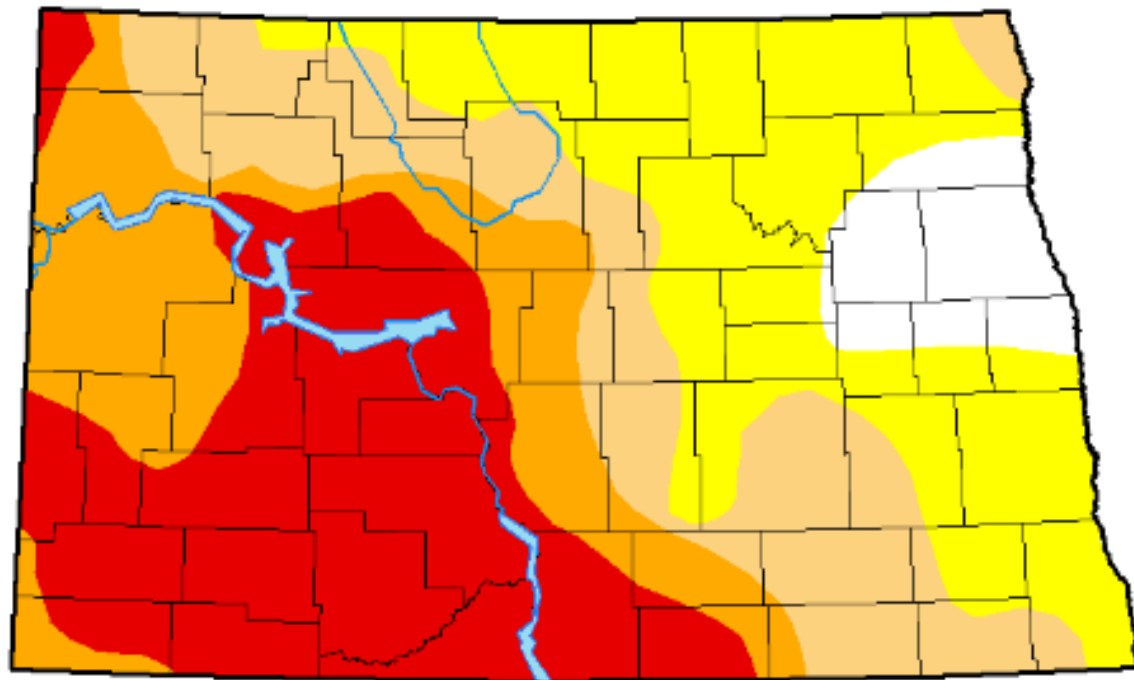


Ongoing and potential impacts from the drought conditions

Ryan Buetow

NDSU Area Extension Specialist/Cropping Systems



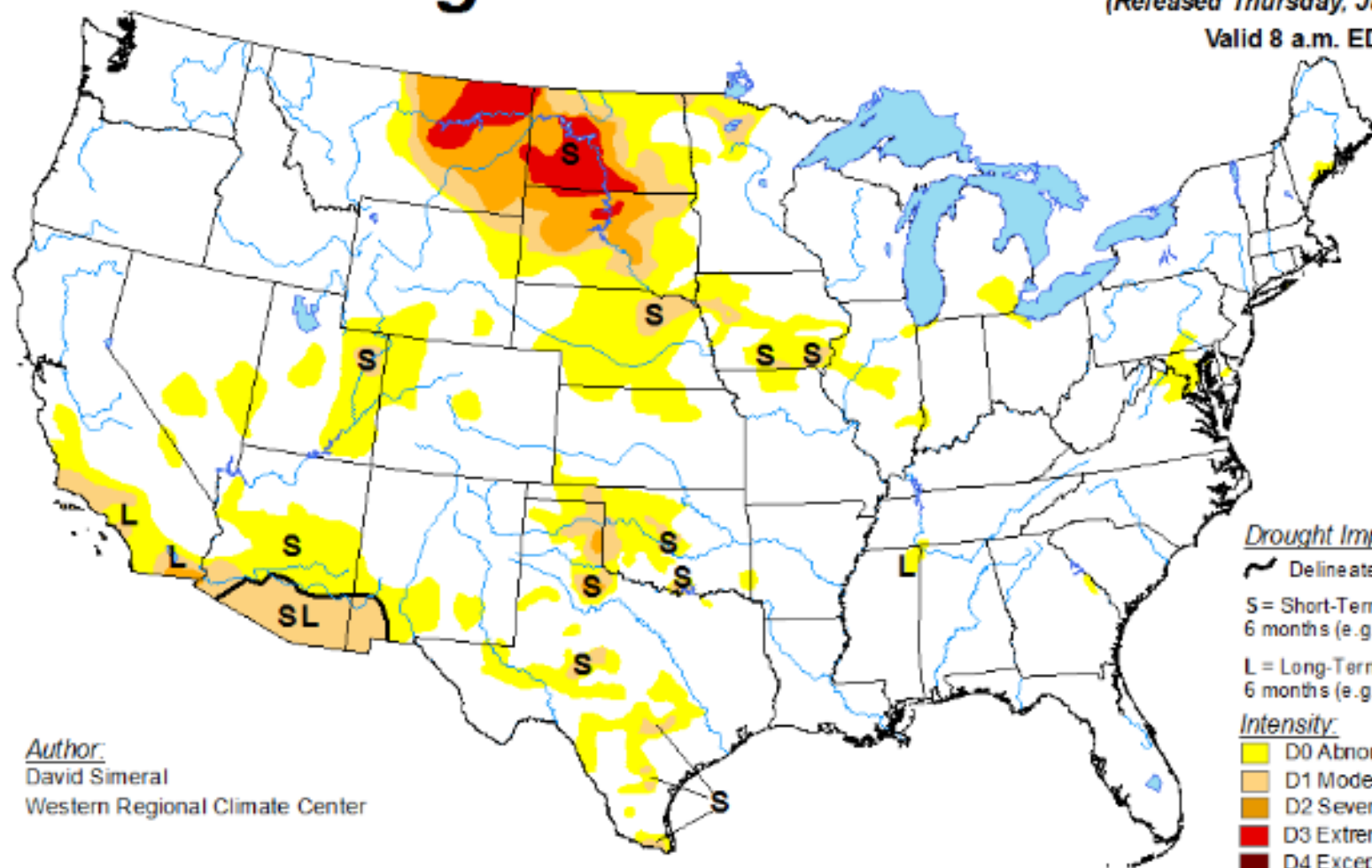


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Drought Impact Types:

— Delineates dominant impacts

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L = Long-Term, typically greater than 6 months (e.g. hydrology, ecology)

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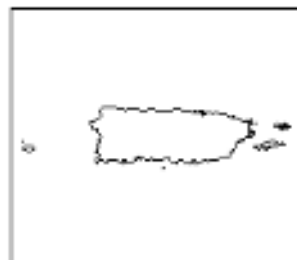
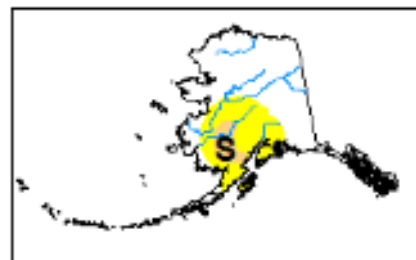
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<http://droughtmonitor.unl.edu/>

Weather conditions

- Very little rainfall
 - Extremely variable
 - Dickinson, ND has received 2.98 inches since April 15th
 - Some farmers nearby have received nearly 2 inches during single rain events
- Heavy winds
- Warm temperatures

Crop conditions

- Early planted crops were in soil for long time before receiving moisture
 - Contributed to inconsistency within fields
- Frost events
- Insect issues
- Some fields look surprisingly decent
 - Variable
- Crops matured faster than usual and are very short



Murphy's Law

- Anything that can go wrong, will go wrong



Frost-damaged corn near Zeeland

Greg Endres

Area Extension Specialist/Cropping Systems

NDSU Carrington Research Extension Center













Impacts

- Many small grain fields being baled or grazed
- Reduction in fertilizer and herbicide sales
- Ranchers in need of forages and fresh water
 - Issues with nitrates
 - Many selling off large portions of herd

Looking forward

- There are some crops that still look okay
 - Differing soil types and rainfall amounts
 - Early planting helped some
 - If we don't receive rain soon that optimism won't last long
- High heat in forecast and lack of moisture will result in heavy yield losses
- Shortage of forages come fall?
- This is not a new issue for this region

Questions?

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Area Extension Specialist/Cropping Systems

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Instagram: drec_agronomy

