



National Weather Service Spring Flood Outlook #3

Jeff Zogg, Senior Service Hydrologist
National Weather Service – Des Moines, IA
March 11, 2021



Spring Flood Outlook

As of 3/9



River	Spring Flood Risk
Mississippi River	Near Normal
Missouri River	Near Normal
Tributaries to Mississippi River in Iowa	Near Normal
Tributaries to Missouri River in Iowa	Below Normal

Ice jams are also a risk
Amount, frequency and extent of future precipitation will be very important

National Weather Service 2021 Spring Flood Outlook Schedule

Thursday, February 11, 2021; Thursday, February 25, 2021 & Thursday, March 11, 2020

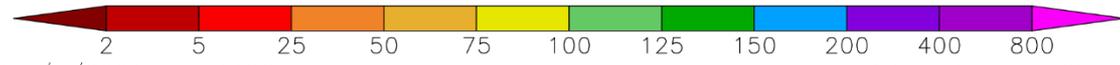
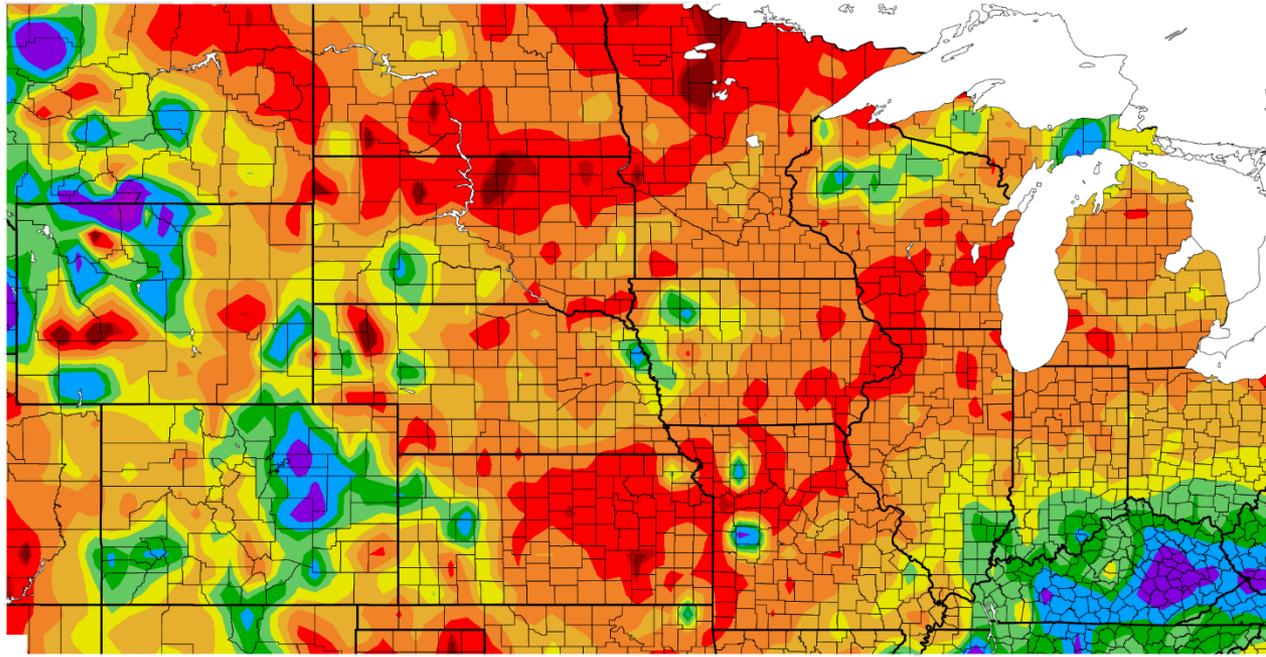




Precipitation % of Normal Past 30 Days



Percent of Normal Precipitation (%)
2/7/2021 - 3/8/2021



Generated 3/9/2021 at HPRCC using provisional data.

NOAA Regional Climate Centers

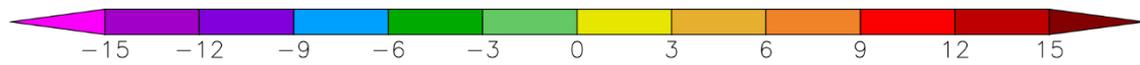
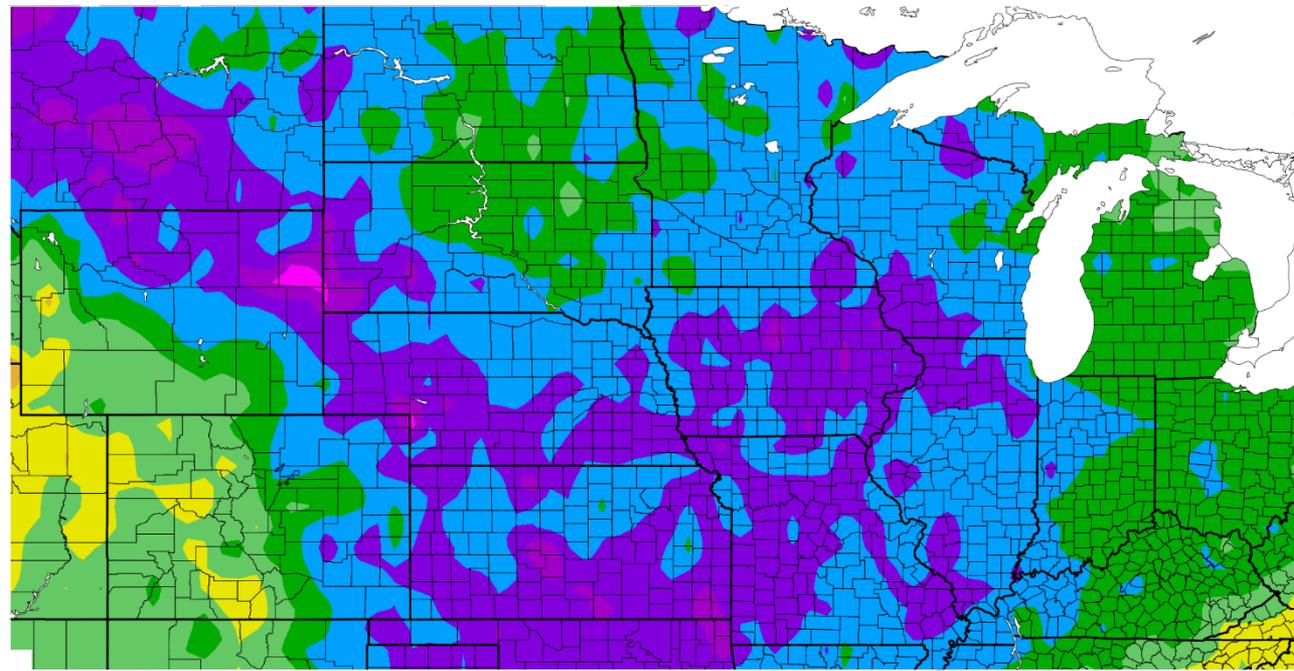




Temperature Dep from Normal Past 30 Days



Departure from Normal Temperature (F)
2/7/2021 - 3/8/2021



Generated 3/9/2021 at HPRCC using provisional data.

NOAA Regional Climate Centers





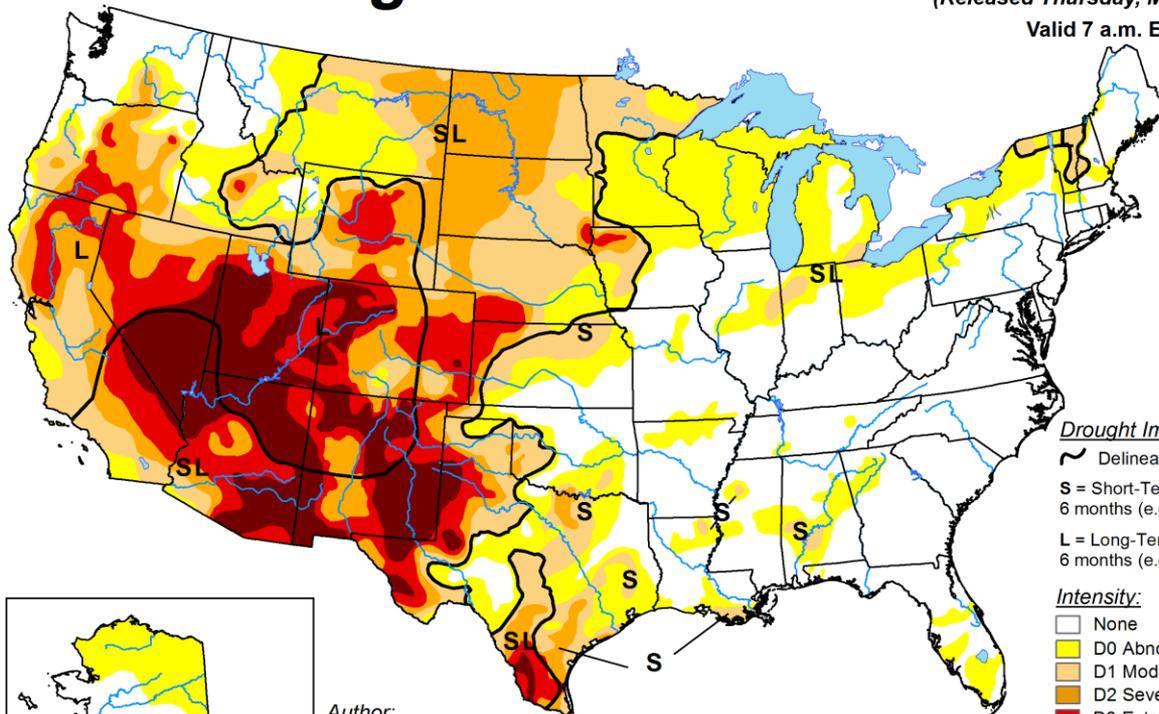
Drought Monitor—Current Status



As of 3/9

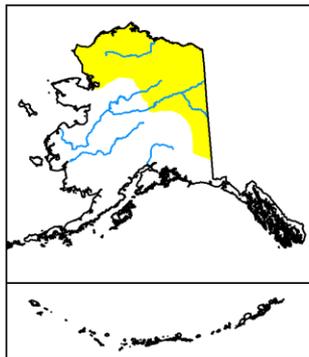
U.S. Drought Monitor

March 9, 2021
(Released Thursday, Mar. 11, 2021)
Valid 7 a.m. EST

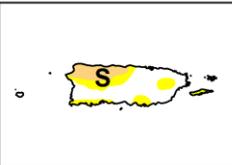
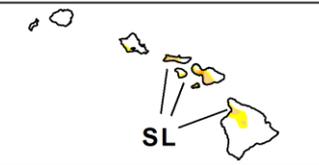


Drought Impact Types:
~ Delineates dominant impacts
S = Short-Term, typically less than 6 months (e.g. agriculture, grasslands)
L = Long-Term, typically greater than 6 months (e.g. hydrology, ecology)

Intensity:
None
D0 Abnormally Dry
D1 Moderate Drought
D2 Severe Drought
D3 Extreme Drought
D4 Exceptional Drought



Author:
Brian Fuchs
National Drought Mitigation Center



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>



droughtmonitor.unl.edu

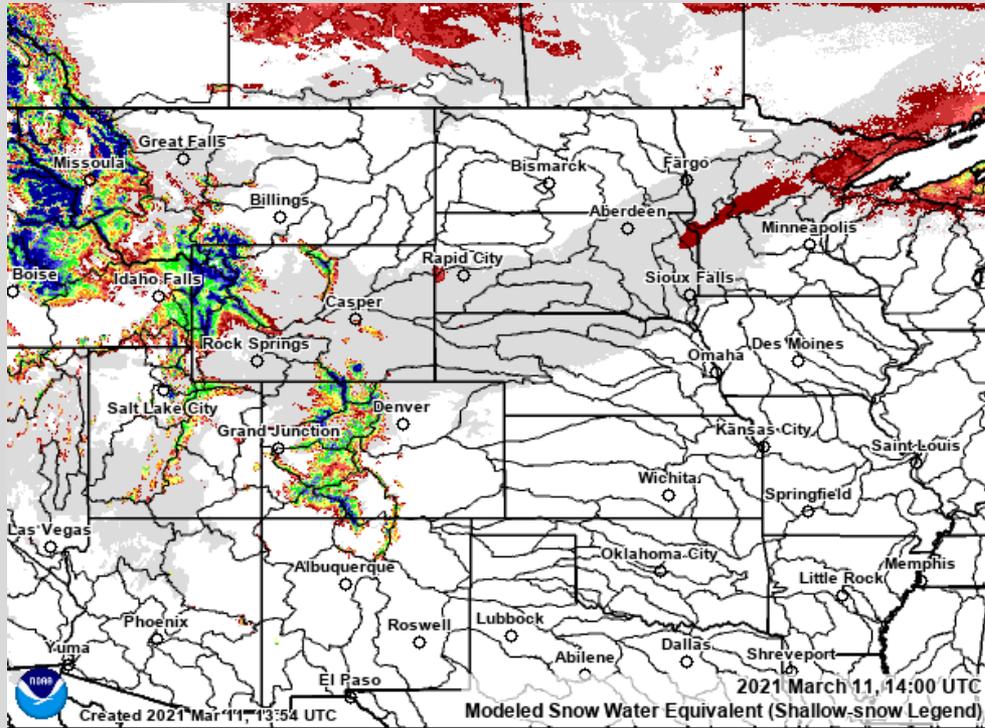




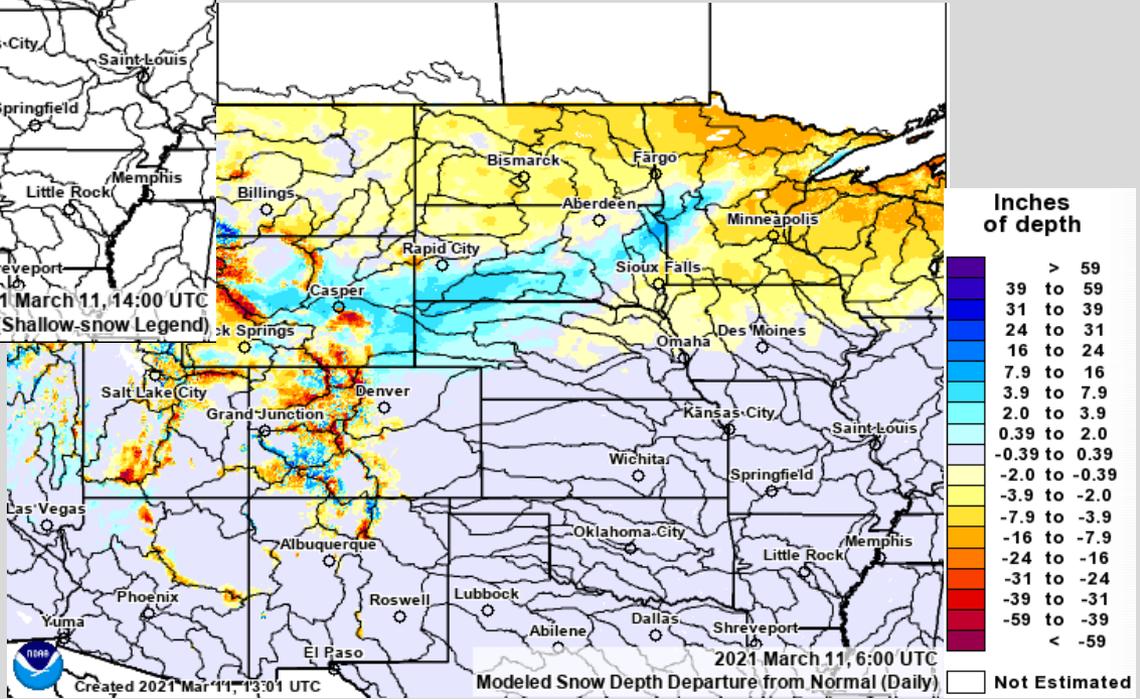
Snowpack



Water Equiv & Depth vs. Normal, 3/11



Snow Depth vs. Normal



Snow Water Equivalent





Snowpack

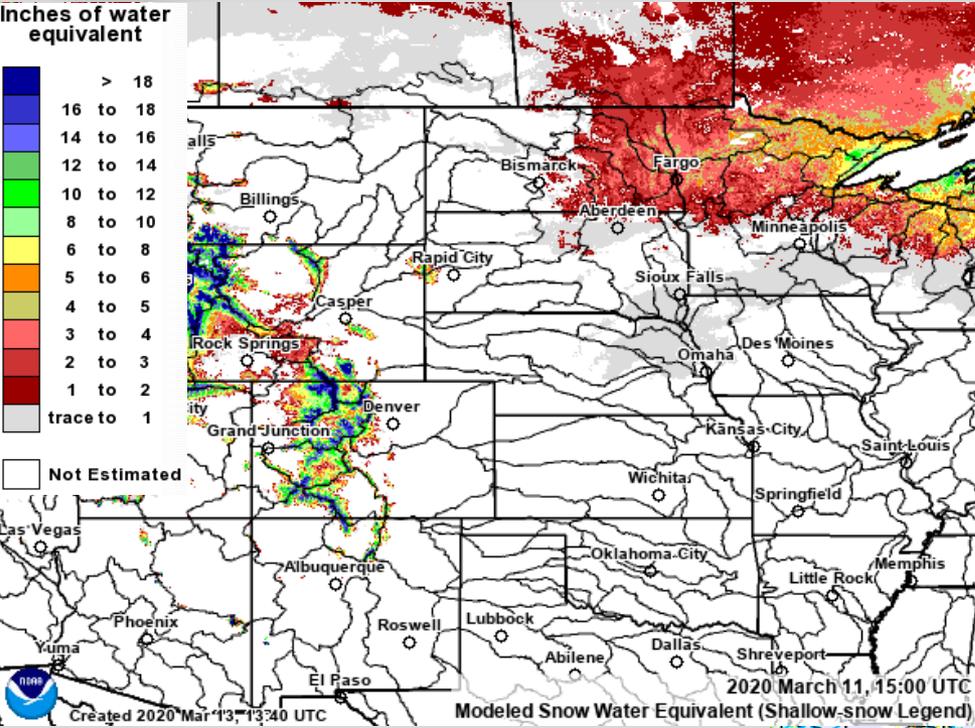


Water Equiv & Depth vs. Normal, 3/11/2020

Inches of water equivalent

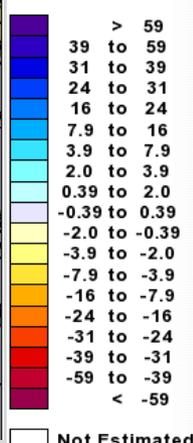


Not Estimated

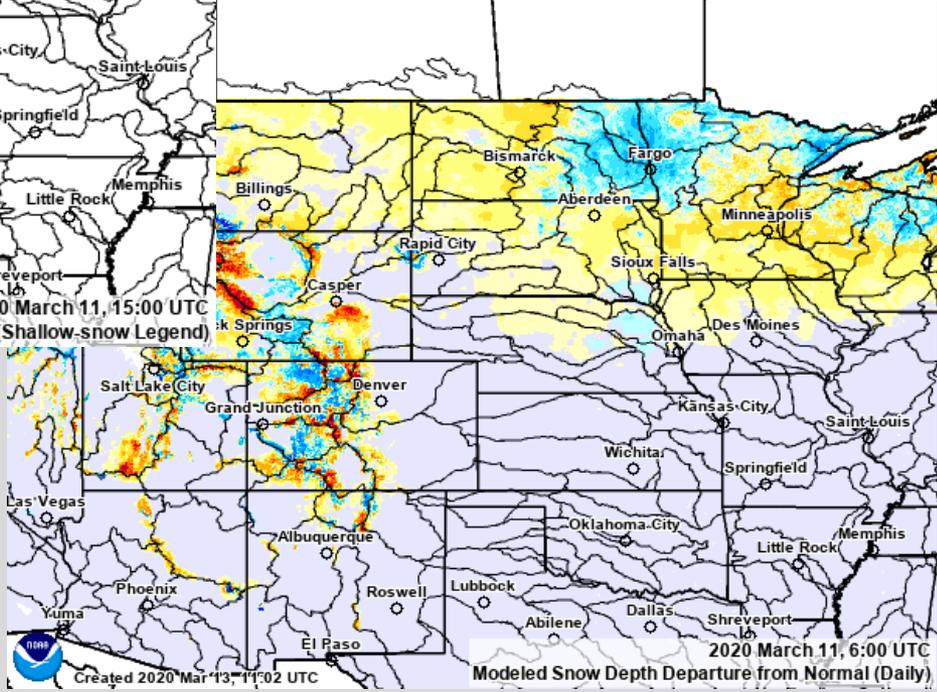


Snow Depth vs. Normal

Inches of depth



Not Estimated



Snow Water Equivalent



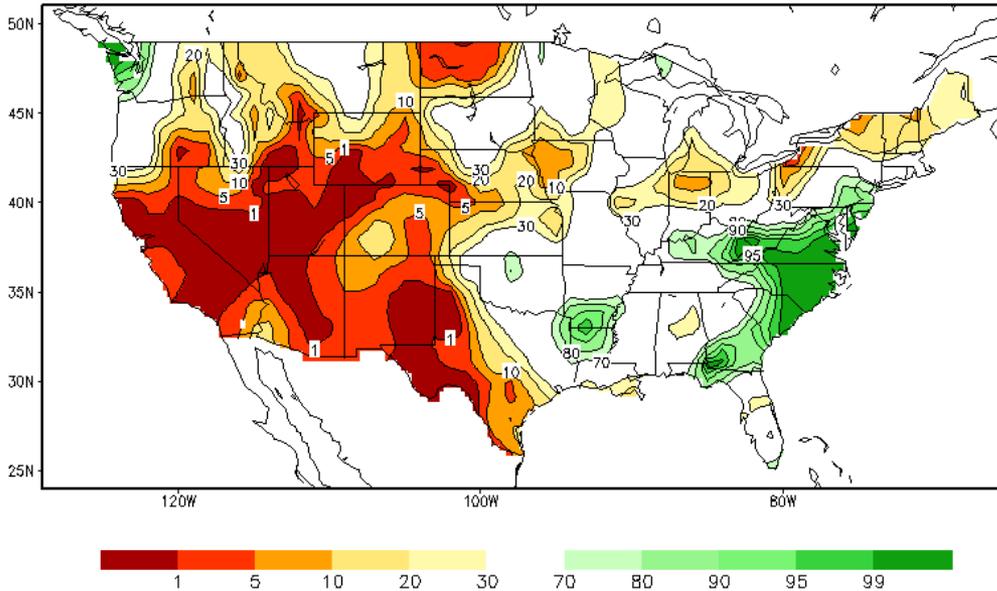


Soil Moisture Percentile

Current Values & Change, 3/8



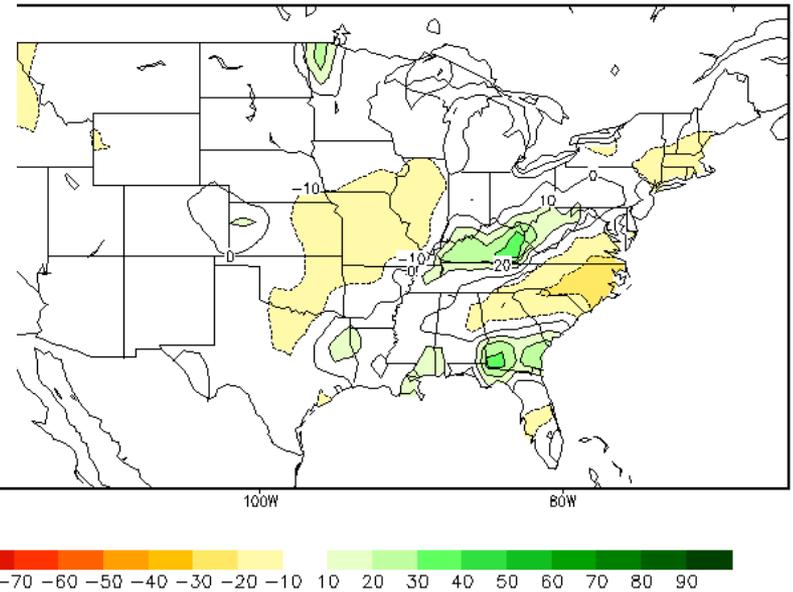
Calculated Soil Moisture Ranking Percentile
MAR 08, 2021



Current Percentiles

Weekly Change

Calculated Soil Moisture Anomaly Change
MAR 08, 2021 from FEB.28





Soil Temperatures/Ground Frost

Temperatures in F, 3/9



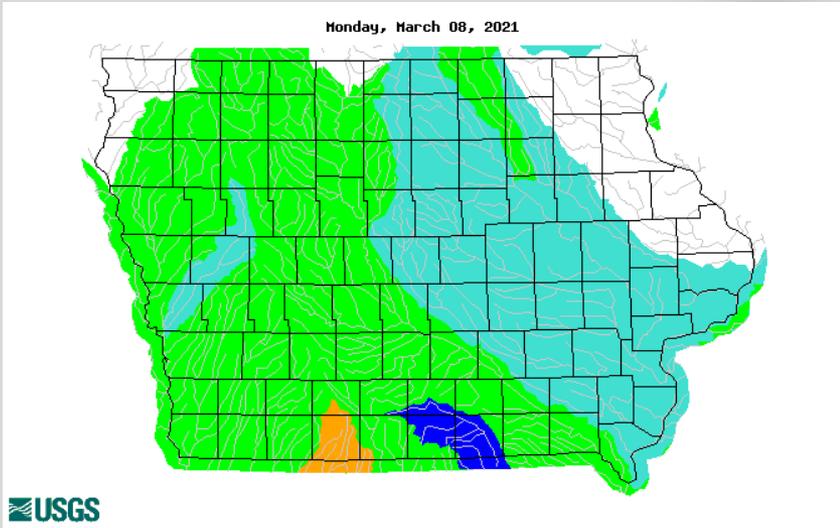
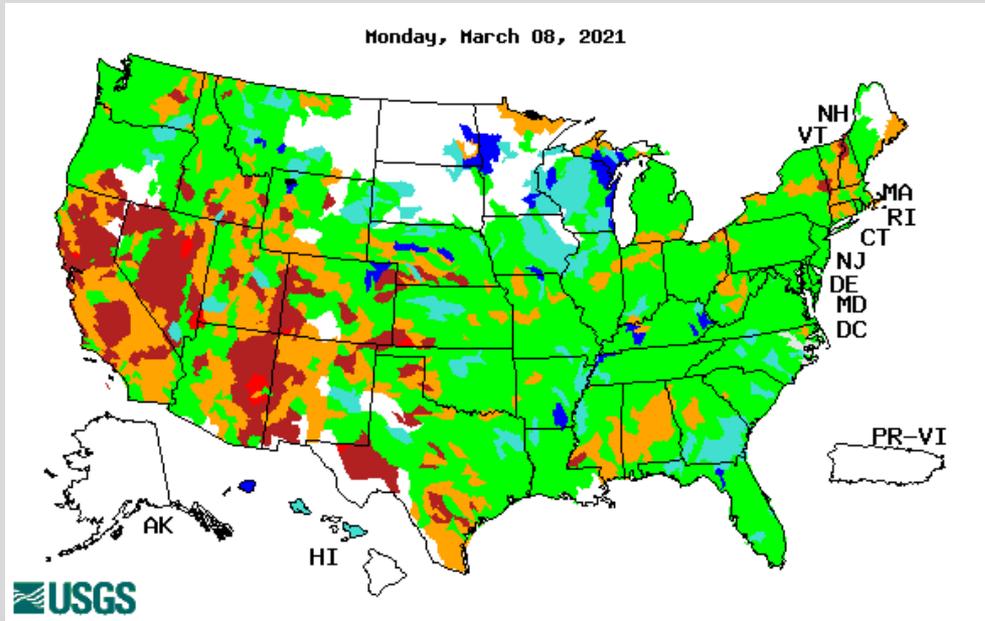
FrostDepth

◆	> 60 - 80 (in)
◆	> 48 - 60 (in)
◆	> 36 - 48 (in)
◆	> 24 - 36 (in)
◆	> 18 - 24 (in)
◆	> 12 - 18 (in)
◆	> 6 - 12 (in)
◆	> 3 - 6 (in)
◆	0 - 3 (in)



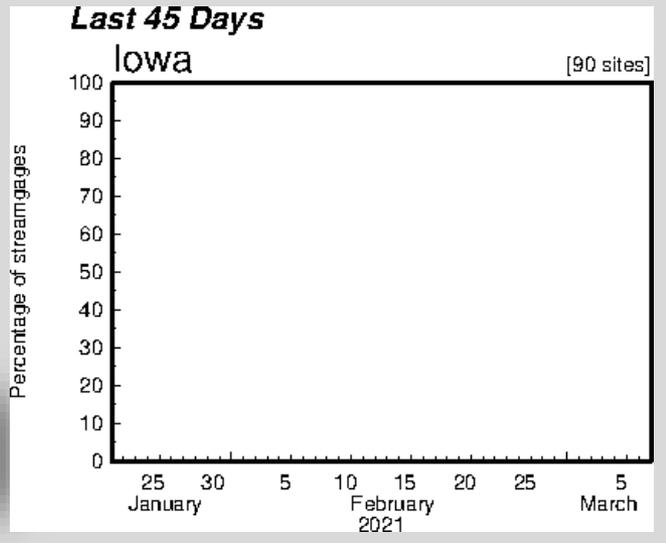


Current Streamflow Values vs. Normal (Percentiles), 2/22



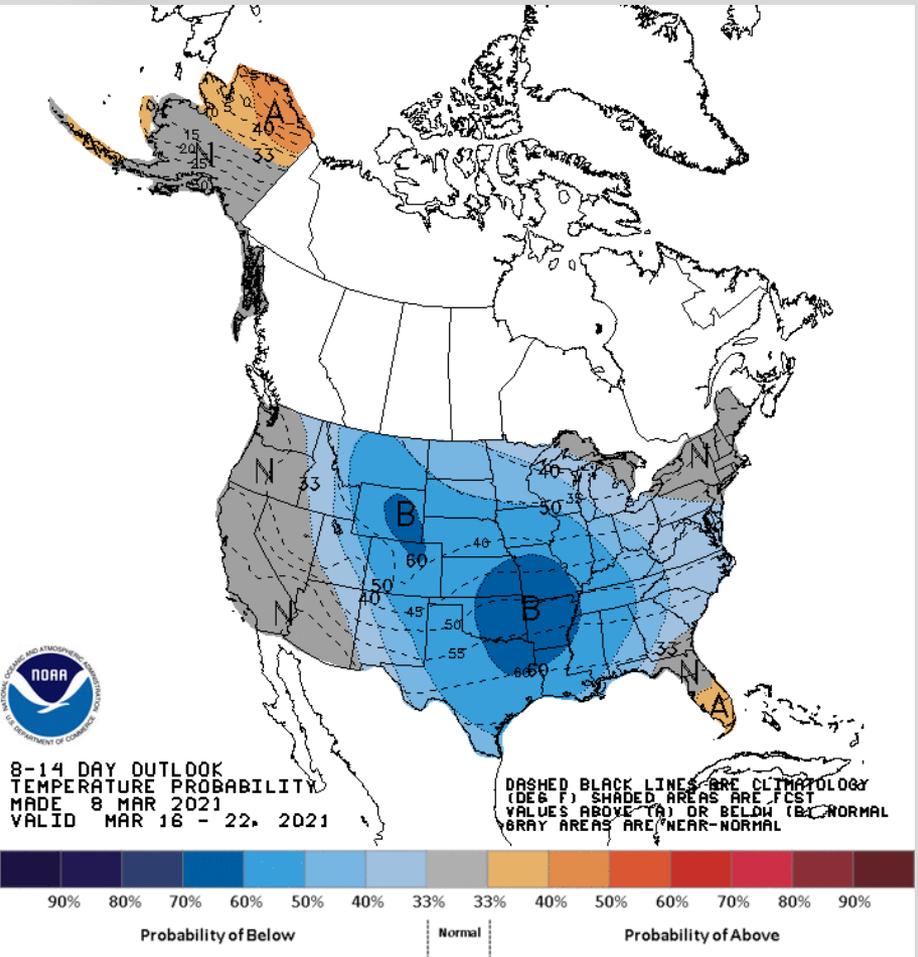
Explanation - Percentile classes

Low	<10	10-24	25-75	76-90	>90	High
	Much below normal	Below normal	Normal	Above normal	Much above normal	

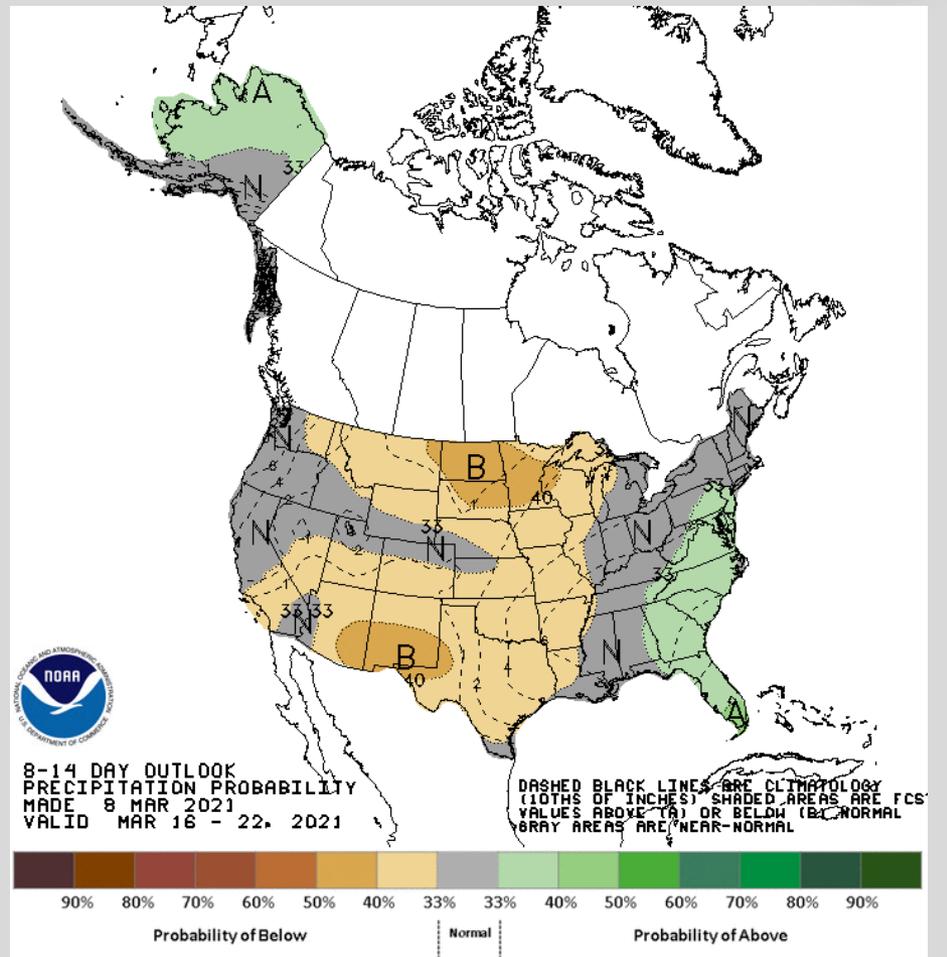




2-Week Temp/Precip Outlooks



Temperature



Precipitation



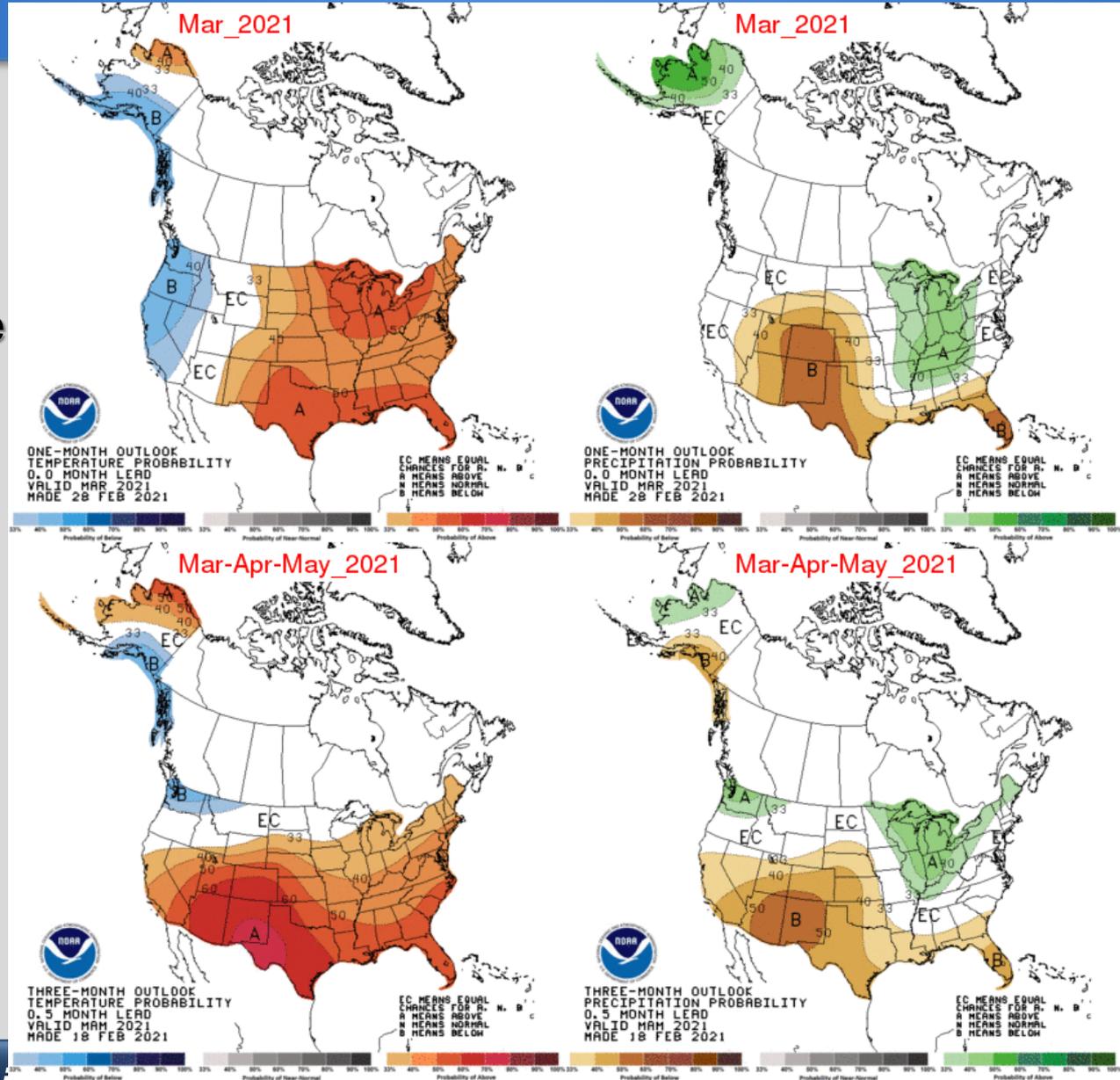


Temp/Precip Outlooks



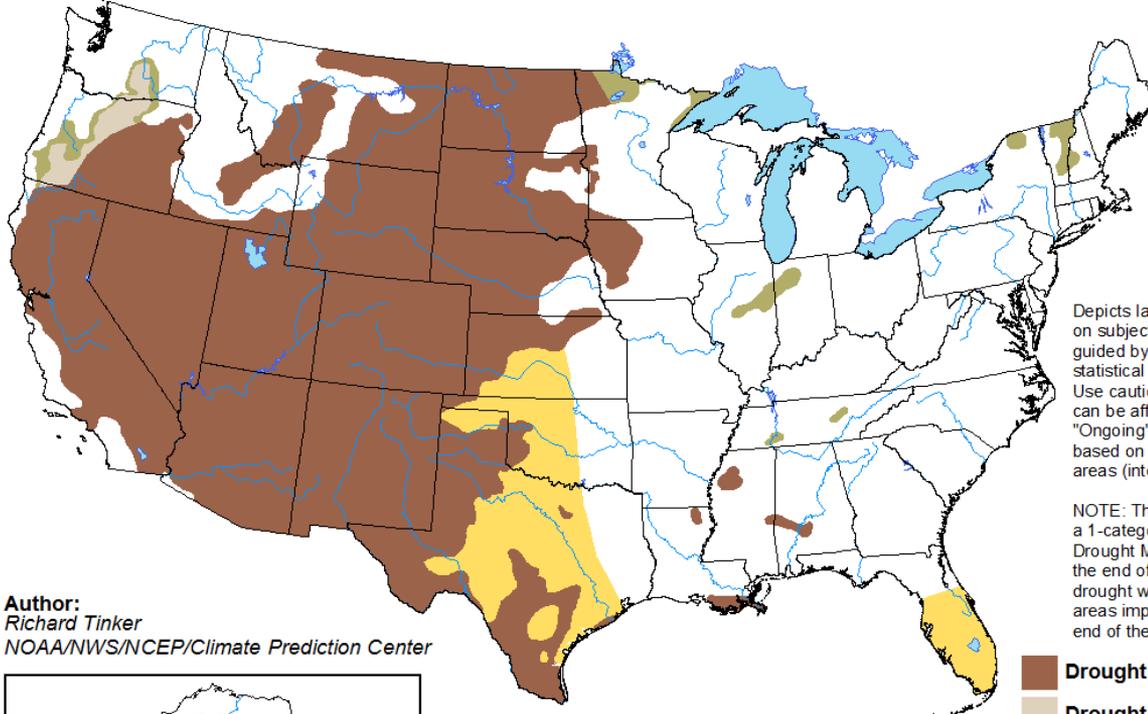
Temperature
on Left

Precipitation
on Right



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

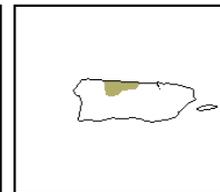
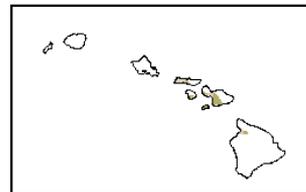
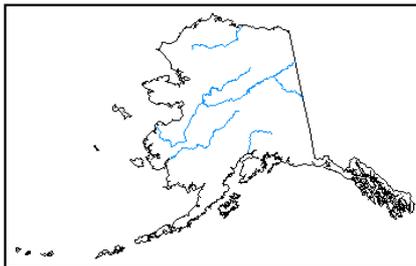
Valid for February 18 - May 31, 2021
Released February 18



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).

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



- Drought persists
- Drought remains but improves
- Drought removal likely
- Drought development likely



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



Spring Flood Outlook Factors



As of 3/2

Factor	Contribution to Flood Risk
Snowpack	Lowered Risk
Soil Moisture	Neutral
Frost Depth	Neutral
Streamflow/Stream Levels	Neutral
Precipitation Outlook	Neutral



Spring Flood Outlook

As of 3/9



River	Spring Flood Risk
Mississippi River	Near Normal
Missouri River	Near Normal
Tributaries to Mississippi River in Iowa	Near Normal
Tributaries to Missouri River in Iowa	Below Normal

Ice jams are also a risk
Amount, frequency and extent of future precipitation will be very important

National Weather Service 2021 Spring Flood Outlook Schedule

Thursday, February 11, 2021; Thursday, February 25, 2021 & Thursday, March 11, 2020





Thank You



➤ NWS Office Contacts

- Des Moines – 515-270-4501
 - Jeff Zogg (Hydrologist): jeff.zogg@noaa.gov
 - Chad Hahn (Warning Coordination Meteorologist): chad.hahn@noaa.gov
- La Crosse, WI – 608-784-8275
 - John Wetenkamp (Hydrologist): john.wetenkamp@noaa.gov
 - Todd Shea (Warning Coordination Meteorologist): todd.shea@noaa.gov
- Quad Cities, IA/IL – 563-391-6729
 - Jessica Brooks (Hydrologist): jessica.brooks@noaa.gov
 - Rich Kinney (Warning Coordination Meteorologist): rich.kinney@noaa.gov
- Sioux Falls, SD – 605-330-4247
 - Mike Gillispie (Hydrologist): michael.gillispie@noaa.gov
 - Peter Rogers (Warning Coordination Meteorologist): peter.rogers@noaa.gov
- Omaha, NE – 402-359-5732
 - Dave Pearson (Hydrologist): david.pearson@noaa.gov
 - Brian Smith (Warning Coordination Meteorologist): brian.e.smith@noaa.gov