

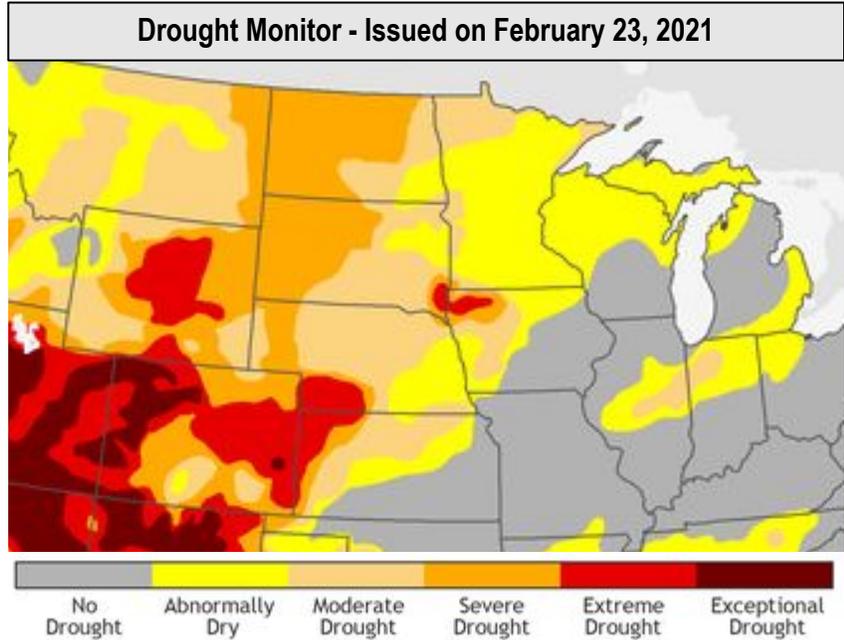


Missouri Basin Spring Hazard Outlook: Dry conditions lead to less flooding but an increased fire threat

Setting the Stage: *Precipitation and Temperature*

Most of the Missouri Basin, especially the Northern Plains, had experienced a drier-than-normal meteorological winter (Dec-Feb), which is coming on the heels of a dry summer and fall. Temperatures have also been a factor, as many locations across the Northern Plains have been experienced a top 10 warmest meteorological winter. Snow depth is well below normal across the northern half of the region, and while areas such as Nebraska and Iowa have received above-normal snowfall, there is not a lot of moisture associated with it.

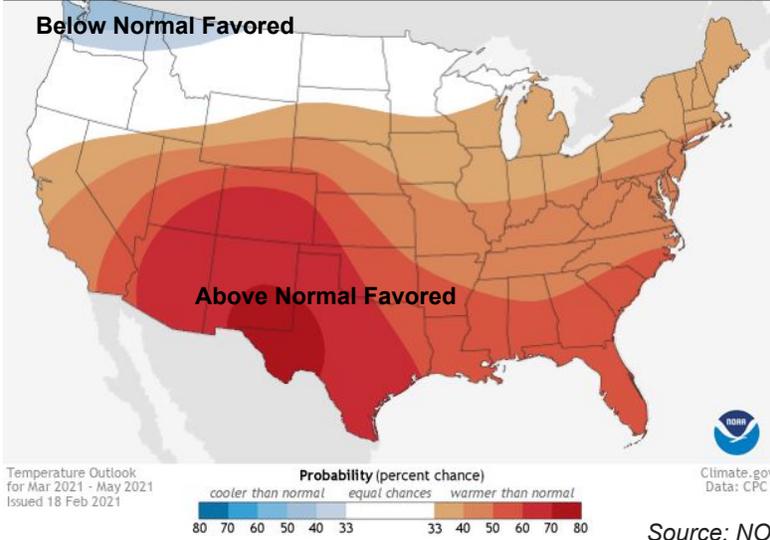
Therefore, portions of the Plains and Missouri Basin region will remain in moderate to extreme drought.



ABOVE: Combination of dry soils and lack of precipitation across most of the Missouri River Basin has led to the development of moderate to extreme drought.
Source: NDMC/NOAA/USDA

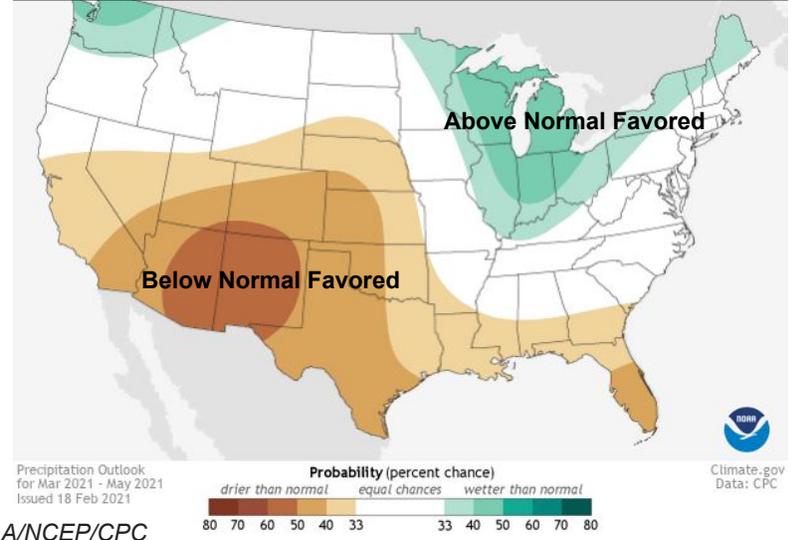
Spring Climate Outlooks (March-May):

Temperature Outlook



Source: NOAA/NCEP/CPC

Precipitation Outlook



We are heading into the spring with mainly **drier-than-normal** soils, weak moisture in the snowpack and the latest guidance shows that several rivers and streams are running at or below normal for this time of year.

The latest 2021 Spring Outlook suggests that odds favor **slightly drier-than-normal** conditions across much of the Missouri Basin, with higher confidence across the Southern Plains. We are also expecting **warmer-than-normal temperatures** as you head further south, which could continue to exacerbate already dry conditions.



Potential Impacts this Spring

Flooding Risk:

Flooding events are still possible across the Missouri Basin. However, with the current soils as well as the general lack of precipitation, it appears that there is a low to medium risk of widespread significant flooding through the spring. There is the potential for episodic minor-to-moderate level flooding in the lower portion of the basin due to spring-time thunderstorm activity.

Drought Potential:

The lack of snowpack, above average temperatures, and an overall dry pattern has increased the drought potential across the much of the Plains. The dry and warm temperature trends look to continue into spring with Moderate to Severe Drought continuing to spread across the Northern Plains with the development of drought possible in the Southern Plains.

Fire Risk:

Warmer than normal conditions have occurred across the Plains this winter, but enough precipitation has kept the significant fire risk in the normal range. Any fires that did occur were short-lived and wind driven across the Plains. However, drought conditions are expected to continue and even worsen for a large portion of the Plains into the spring months. This could cause an early and active fire season for the southern High Plains leading into spring.

Water Resources Information:

At or below streamflow, water levels, and abnormally drier soil suggest the following potential impacts for water resources:

- Stress on water resources for communities
- Potential Impacts for water recreation and/or tourism
- Increase water quality issues, including the development of harmful algal blooms (HABs)

For more information visit:

Local Forecast – weather.gov

Long-Range Outlooks – cpc.ncep.noaa.gov

River Forecasts – water.weather.gov/ahps/forecasts.php

Weather & Climate Data – ncei.noaa.gov

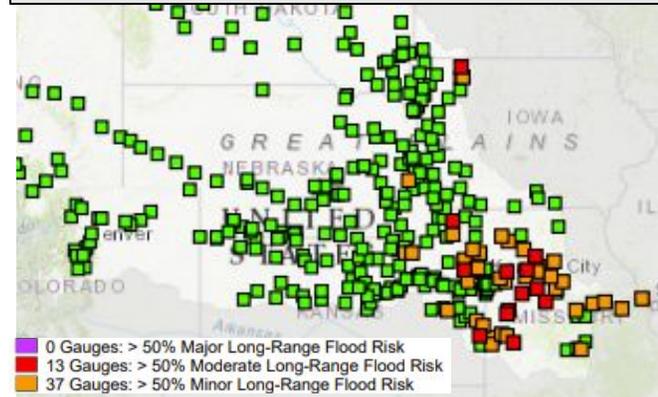
Fire Outlook – nifc.gov/nicc

Drought Information – Drought.gov

Agricultural Outlook – usda.gov/oce/ag-outlook-forum

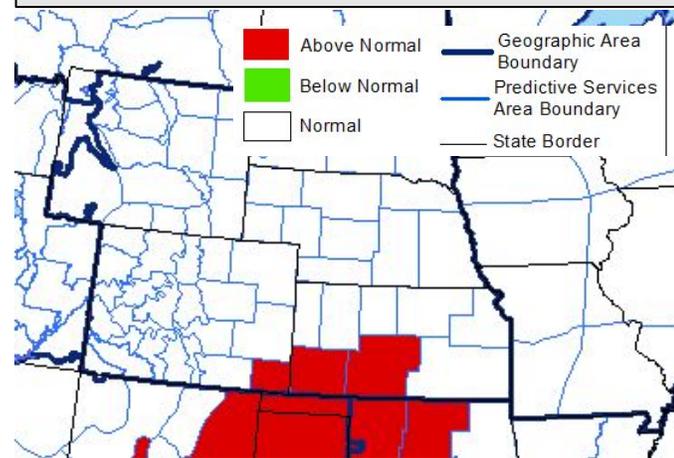
Streamflow Data - <https://waterwatch.usgs.gov/index.php?id=ww>

Spring Flood Outlook (March-May)



Source: NOAA/NWS/AHPS

Significant Wildland Fire Potential April Outlook



Source: NIFC/Predictive Services

Agricultural Information:

The abnormally dry soil and lack of snowpack suggest the following potential impacts for those with agricultural interest:

- Earlier than average crop planting may be possible
- Winter wheat damage possible from ongoing drought and cold
- Rangeland will likely be stressed by a lack of water for another year
- Lack of water possible for livestock or irrigation