Central Region
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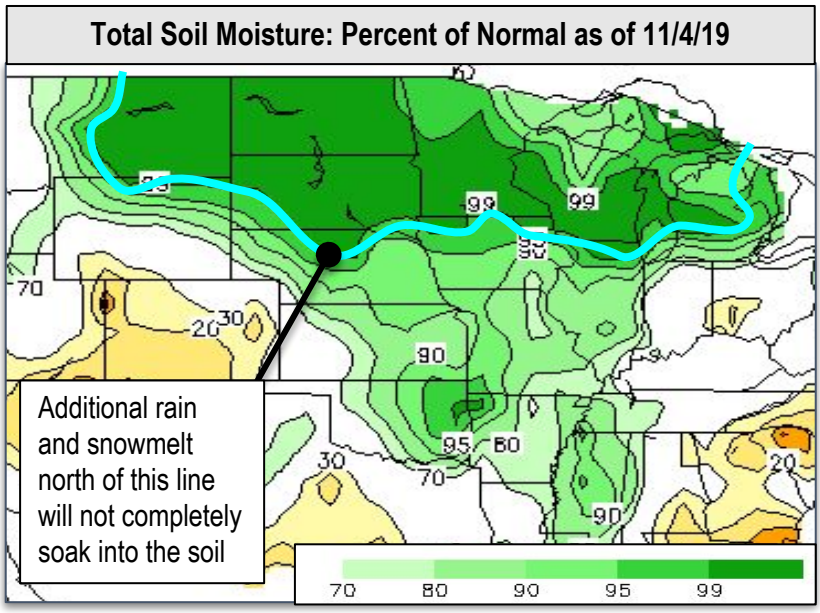
Extremely Wet Conditions Heading into the late Fall and Winter Sets the Stage for a Difficult Spring Flood Season

Setting the Stage:
Precipitation and Soil Moisture

Well above normal rain and snowfall throughout 2019 has led to unprecedented flooding, record high river levels, and abnormally wet ground ***for the fall season*** across the region.

Through the end of October, nearly every state in the Upper Midwest and Northern Plains was within its top five wettest years-to-date.

The precipitation since mid-October has been near normal across the Dakotas, Minnesota, and Iowa. Areas farther south and east in Illinois, Indiana, and Michigan have been approximately 1-2 inches above normal during this time.



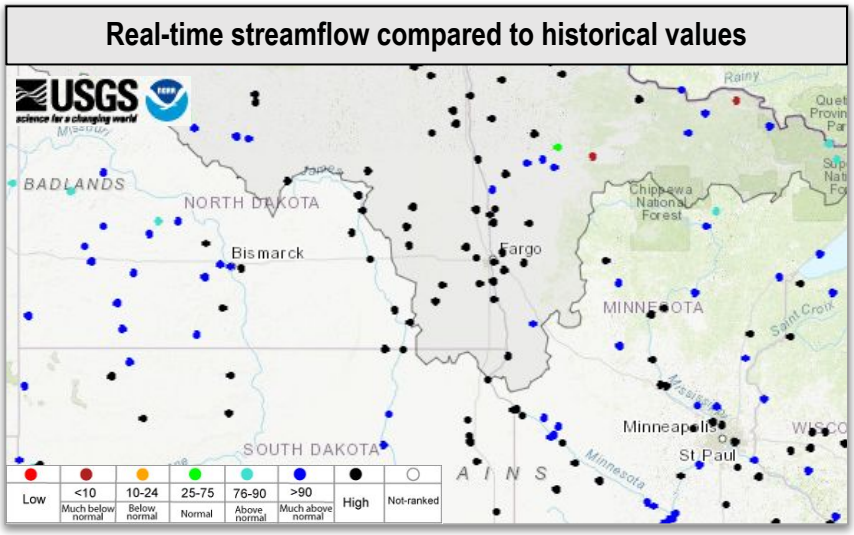
ABOVE: Wet soils across most of the region can accept very little to no more water.

Setting the Stage:
River Conditions

Many regional rivers are seeing higher water levels than any on record *for the fall season*.

Floods of record along the mainstem Red River of the North typically occur in the months of March through August. **Current river levels are within a few feet of the top 5 record spring and summer flood crests in some locations**.

Record to near-record streamflow is occurring across much of the region, extending as far south as northern Illinois along the Mississippi River.



"Imagine putting a soaking wet sponge in the freezer, taking it out, and then trying to pour water on it. The water is going to immediately run off. This accurately describes our soils heading into winter and what we can expect in the spring."

- Laura Edwards
South Dakota State Climatologist

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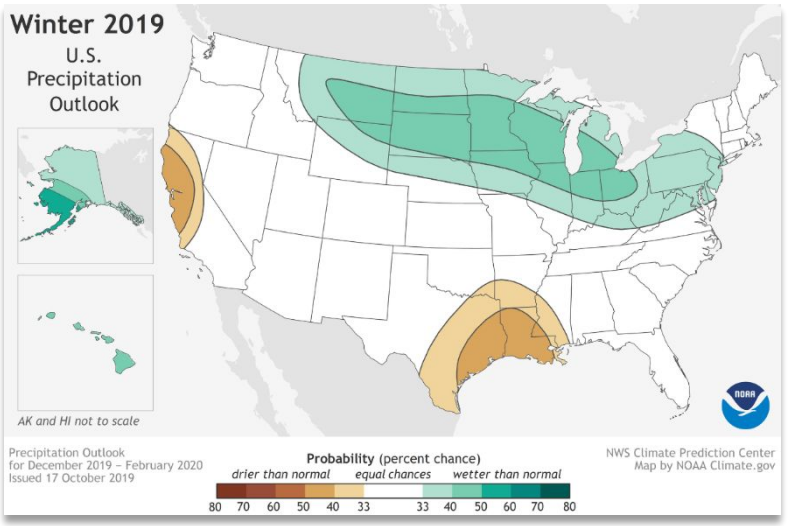
Precipitation Outlook and Potential Impacts this Winter and Spring

Winter 2019:
Precipitation Outlook

We have established that we are going into the winter with wetter than normal soils, higher than normal river and reservoir levels. The Official Winter 2019 outlook suggests that odds favor a normal to wetter than normal December through February across much of the Upper Midwest and Northern Plains region as well.

While wintertime precipitation makes up a relatively small amount of the overall yearly precipitation for many locations, the amount of snow that falls over the span of a winter has a significant impact on spring flood potential. This is because the water held in that snow tends to be released over a relatively short period of time during the spring thaw.



ABOVE: The Winter 2019 Outlook indicates odds favor wetter than normal precipitation from December through February across areas that already have wet soil and high river levels.
(Latest outlook: www.cpc.ncep.noaa.gov)

Winter 2019: *Outlook Confidence*

Confidence in the Winter Outlook is considered to be "**low to moderate**." Often you will hear climate forecasters talk about the presence of an "El Niño" or "La Niña" – these are names of common conditions that change the weather pattern one way or another.

Low to Moderate

This year, those conditions do not exist and are not factors into the current outlooks. Thus, we will be subject to less predictable weather patterns this year, which will likely include large swings in temperature and precipitation.

Potential Impacts This Winter and Spring

Unusually high streamflow, water levels, and abnormally wet soil suggest the **following potential impacts** for the upcoming winter and spring seasons:

- **Rivers freezing above flood stage**
- **Freezing of overland flooding**
- **Long-term soil damage**
- **Widespread ice jams, including on some rivers that are not usually affected by ice jams**
- **Widespread record flooding again next spring**
- **Delay or prevention of crop planting**

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