

# Increased Spring Flood Threat Continues

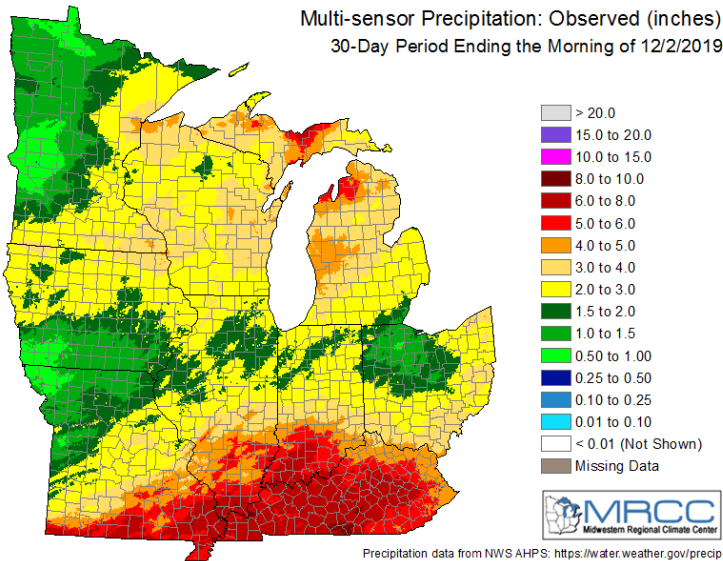
- Current conditions suggest spring flooding will be more likely than in a typical year, particularly on the Mississippi River. Yet, significant flooding is not certain.
- Additional contributing factors to flood potential must be evaluated over the winter months.

## What's New?

### A Wet and Snowy November

Active weather brought significant rain and snow to parts of the region. Some areas received up to 4" of liquid precipitation keeping soils wet.

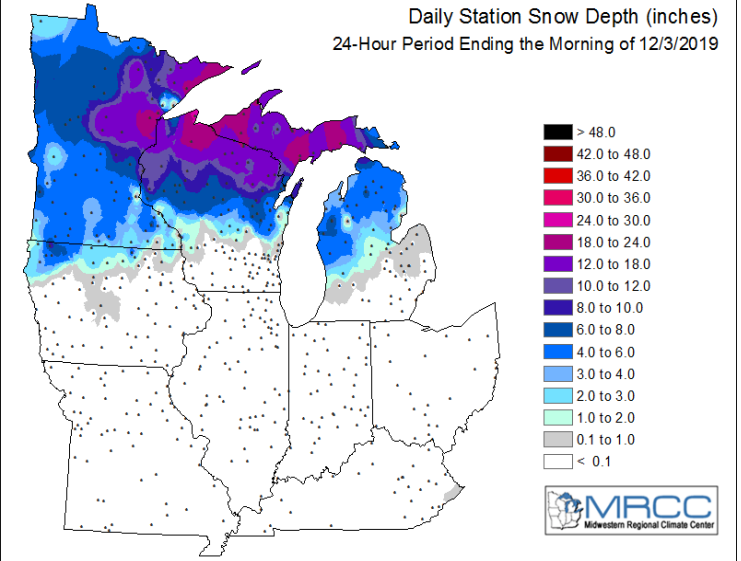
Multi-sensor Precipitation: Observed (inches)  
30-Day Period Ending the Morning of 12/2/2019



### Beginning of the winter snowpack?

As of December 3, snow cover analysis indicated a range from 2" to 20" over much of Minnesota and the northern half of Wisconsin.

Daily Station Snow Depth (inches)  
24-Hour Period Ending the Morning of 12/3/2019



## What does this mean?

### How does snowmelt timing affect spring floods on the Mississippi River?

**Sooner:** prolongs high rivers → keeps elevated flood threat, but does get water out of the system

**Later:** snowpack develops → increase in threat for more impactful flooding in the spring

### December Temperature forecast:

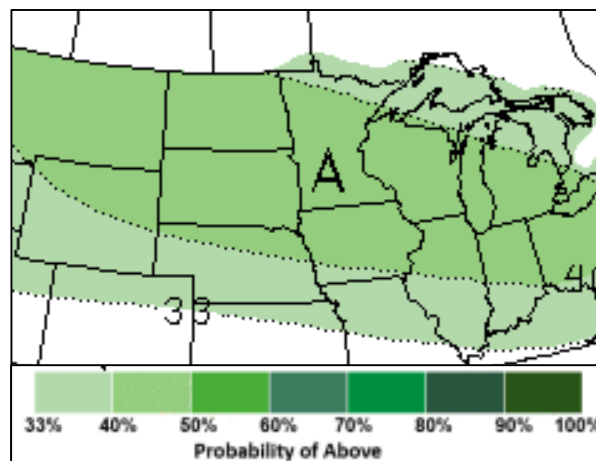
Some warmer days are likely through mid-month, but a few potential cold snaps trend the forecast below normal. Mid to late December trends show the potential for above normal temperatures.

### Winter 2019: *Precipitation Outlook*

Odds remain in favor for near to above normal precipitation for the winter months.

These same areas are still observing wet conditions, with nearly saturated soils and higher than normal river levels for early winter. The wet signal remains concerning for spring flood potential.

**Even a normal amount of precipitation this winter season could bring an elevated risk for flooding this upcoming spring.**



The updated Winter Outlook for Dec 2019 – Feb 2020 indicates odds favoring wetter than normal precipitation. (Find the Latest Outlook at: [www.cpc.ncep.noaa.gov](http://www.cpc.ncep.noaa.gov))

### Spring Flood Threat Checklist (as of early Dec)

Threat	Impact to Potential Spring Flooding	Change Since Last Outlook	Link to Image
High river levels	<b>Increased Threat</b>	Unchanged	<a href="#">USGS WaterWatch</a>
High soil moisture	<b>Increased Threat</b>	Unchanged	<a href="#">CPC Soil Moisture</a>
Winter Precipitation	<b>Unknown</b>	Unchanged	<a href="#">Winter Outlook</a>
Snowpack/Liquid Equivalent	<b>Unknown</b>	Unchanged	<a href="#">Snow Analysis</a>
Rate of Snowmelt	<b>Unknown</b>	Unchanged	<a href="#">24, 48, &amp; 72 hr Snowmelt</a>
Frost Depth	<b>Unknown</b>	Unchanged	<a href="#">Frost Depth Map</a>
Spring Precipitation	<b>Unknown</b>	Unchanged	

Next Update Planned for Early January

**2020 Probabilistic Spring**

**Flood Outlook Dates:**

**February 13, 2020**

**February 27, 2020**

**March 12, 2020**

### **Potential Flooding Impacts For Winter/Spring**

- Rivers freezing at high levels
- Widespread ice jams
- Widespread flooding again for Spring 2020
- Agricultural impacts

*The National Weather Service urges those with interests in flooding to stay tuned to additional communications going through the winter and early spring seasons.*