



Spring Flood Outlook #3

March 9, 2023

8:34 AM

Early March 2023 Update

Key Messages

- Most river basins have an **above normal amount of water in the snowpack**, increasing the risk for spring flooding
- **Spring Flooding is highly dependent on weather conditions in March and April** - slower melt reduces the risk of flooding, faster melt and rainfall events increase the risk of flooding

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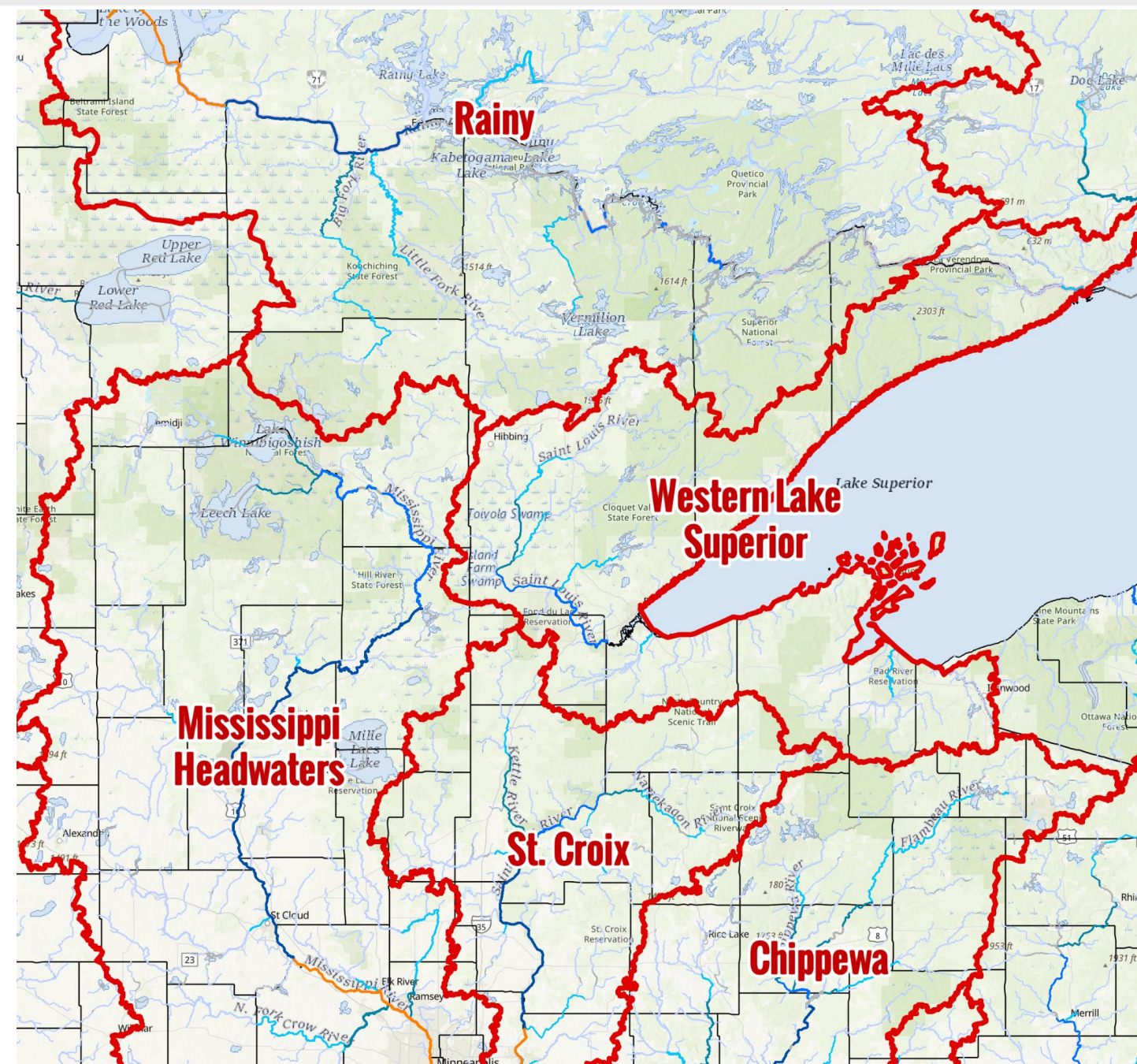
What Has Changed

- No major changes - continued above normal risk for spring flooding in most basins



Next Scheduled Update

- March 23, 2023



National Oceanic and
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U.S. Department of Commerce

National Weather Service
Duluth, MN

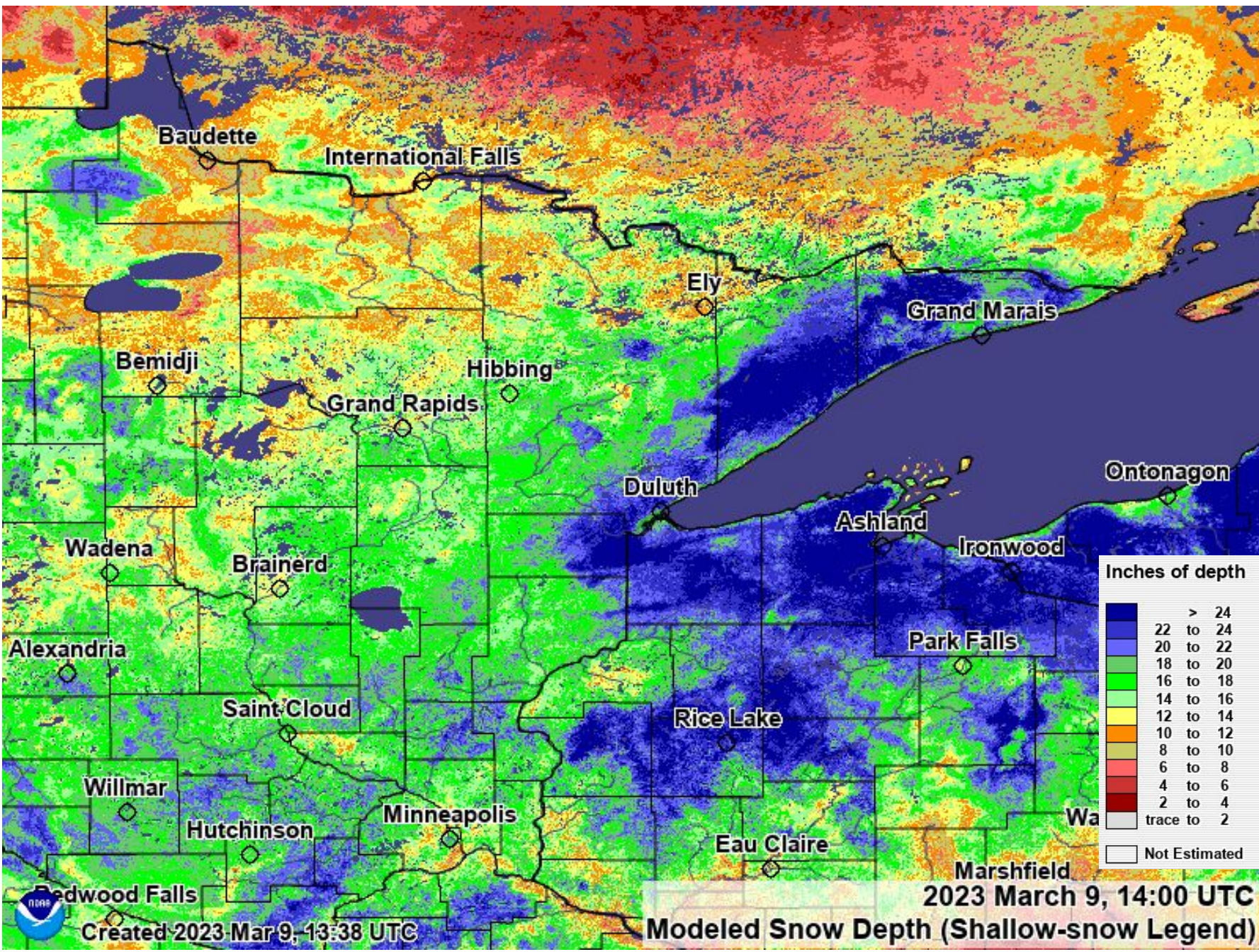
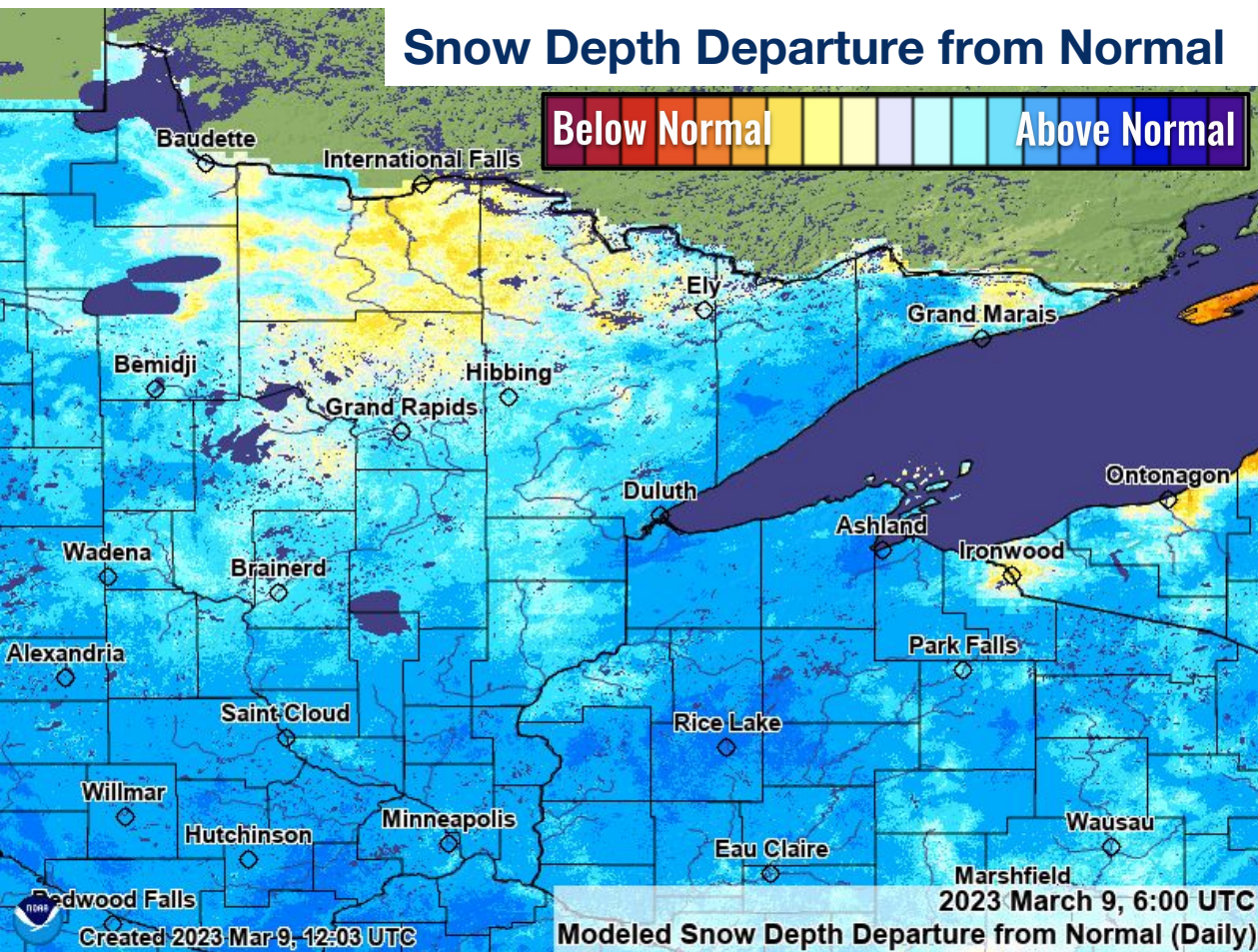


Current Snow Depth

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Current depth of the snowpack

- **Snow depth remains above normal in most basins**, except for the Rainy River Basin where the snow depth is below normal (Northern Itasca, Koochiching, and northern St. Louis County)



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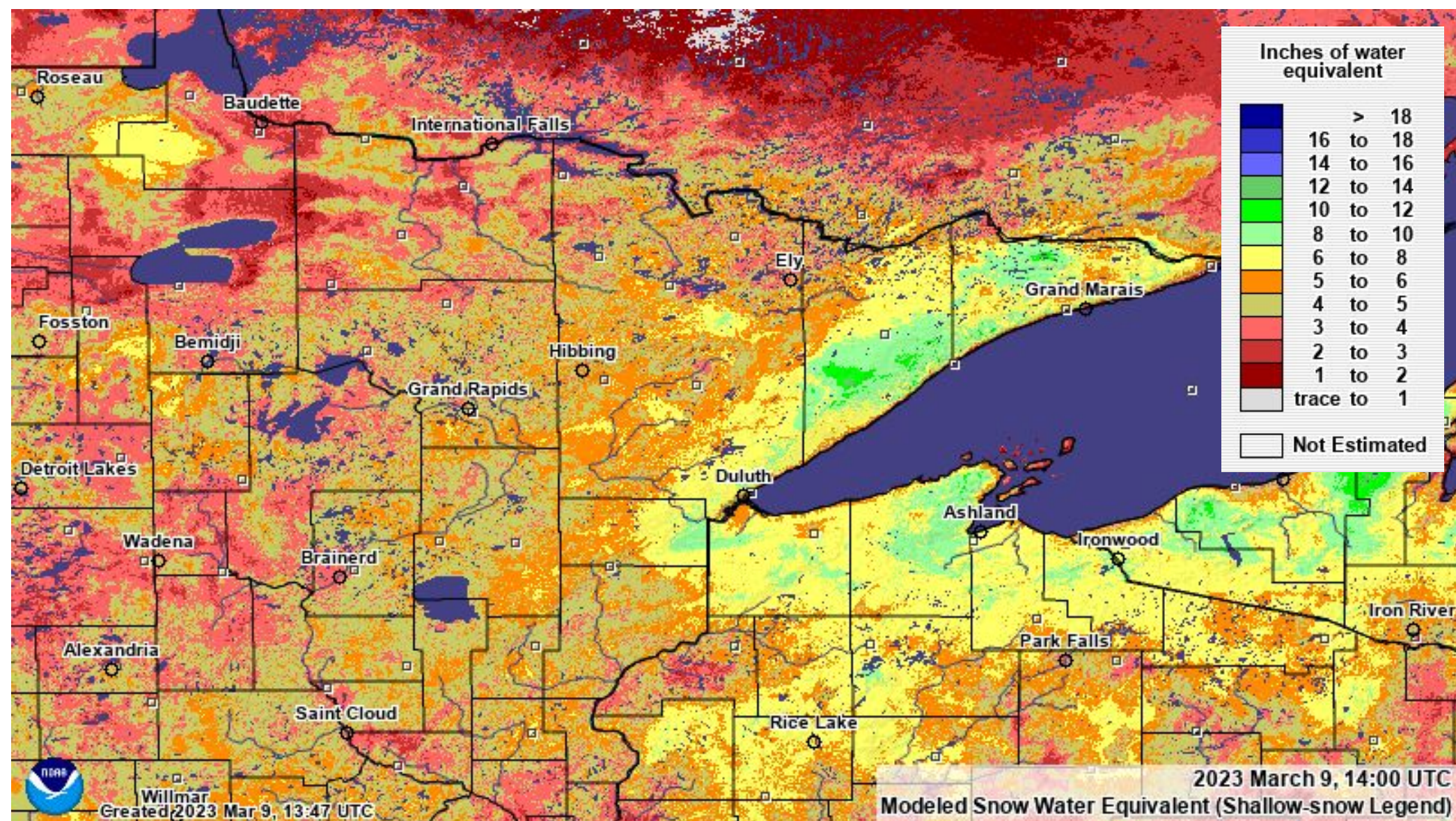


Current Snow Water Equivalent

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Map shows a modeled estimate of water in the snowpack

- Currently **3-6"** of water in the snowpack for most the region (Rainy, Mississippi Headwaters, St Croix, and Chippewa basins)
- **Western Lake Superior basin has 5-8"+ of water in the snowpack** for both the north and south shore, which is well above normal





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Latest Observations and Analysis

- 4-12" of Snow Water Equivalent (amount of water in the snowpack)
- Highest across Western Lake Superior





Current Regional Snow Water

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How much water is in the snow pack right now compared to normal?

Rainy River

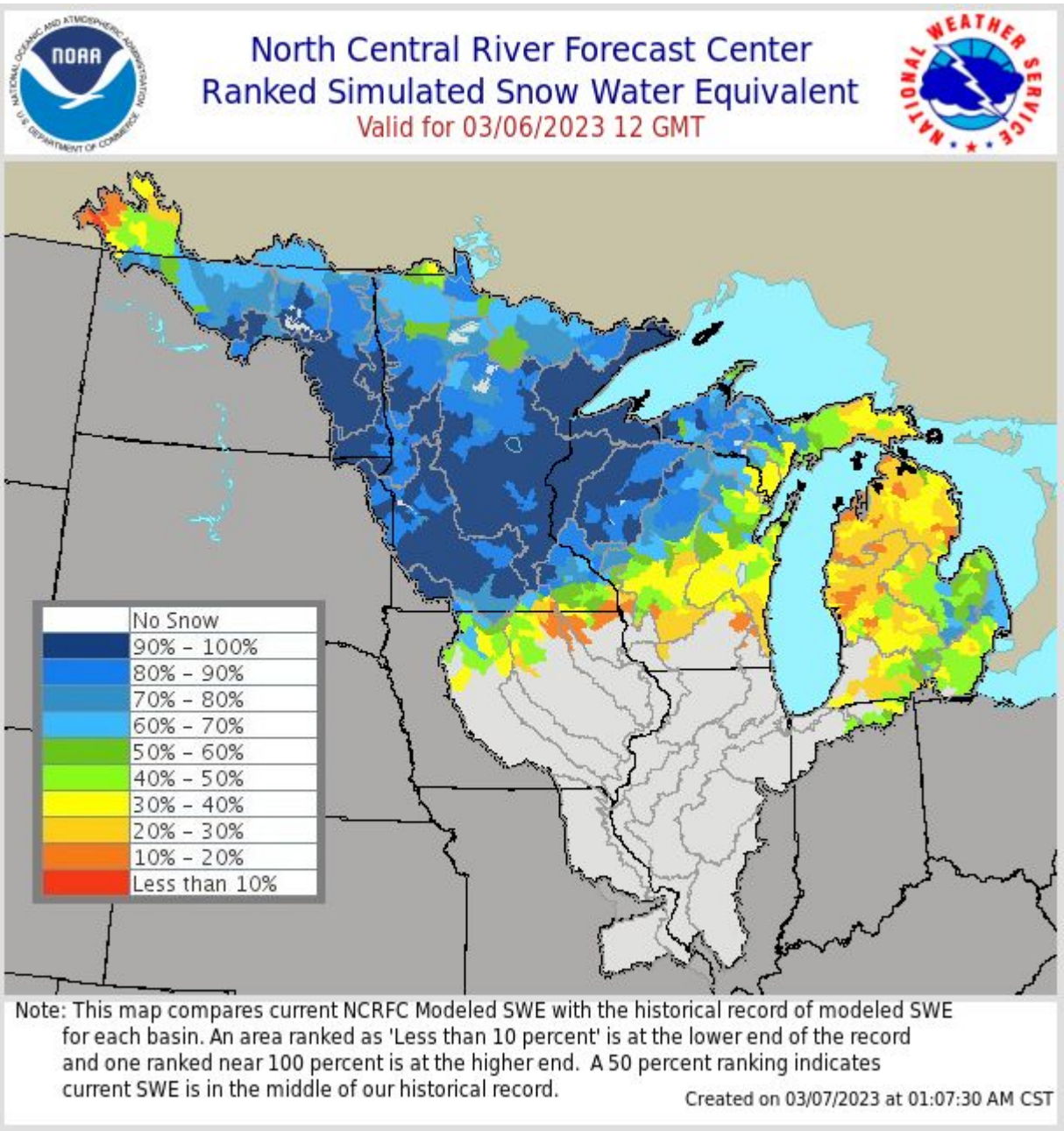
→ Slightly Above Normal

Mississippi Headwaters

→ Much Above Normal

St Croix River

→ Much Above Normal



Western Lake Superior North Shore (MN)

→ Much Above Normal

Western Lake Superior South Shore (WI)

→ Much Above normal

Chippewa

→ Much Above Normal

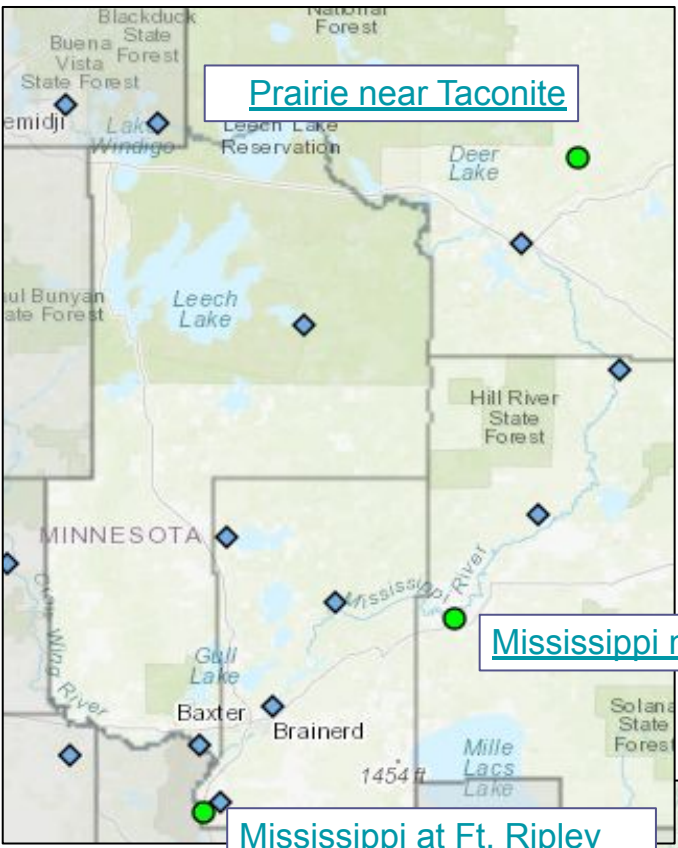




Upper Mississippi Basin Outlook

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Spring Flood Outlook



Point	Flood Stage	Chance of Minor Flood	Chance of Moderate Flood	Chance of Major Flood
St. Croix nr. Danbury	7 ft.	36%	12%	<5%
Snake at Pine City	9 ft.	56%	24%	<5%
Prairie near Taconite	10 ft.	5%	<5%	<5%
Miss. near Aitkin	13 ft.	>95%	74%	28%
Miss. at Ft. Ripley	10.5 ft.	84%	48%	<5%



View Interactive Map:

- [River Observations](#)
- [Short-Term River Forecasts](#)
- [Long-Range River Flood Risk](#)

*Click river labels to view latest individual river point forecasts

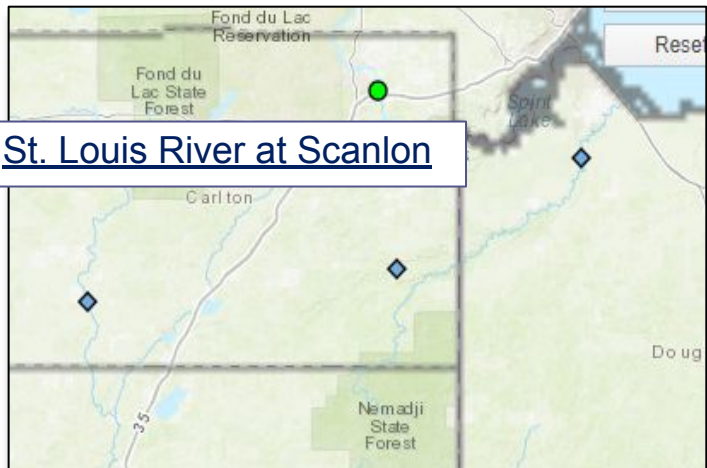




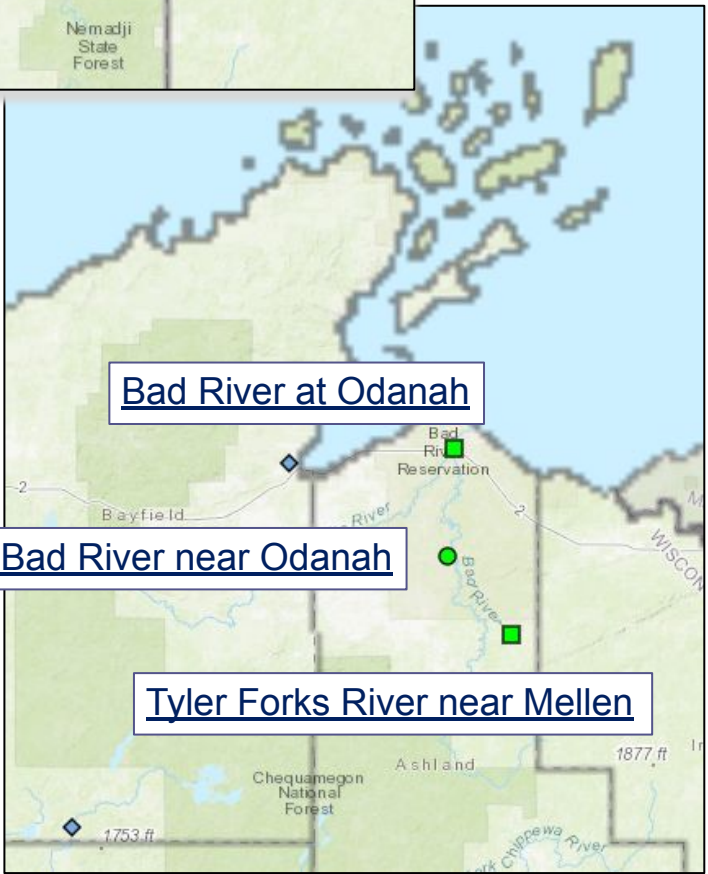
W. Lake Superior Basin Outlook

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Spring Flood Outlook



St. Louis River at Scanlon



Bad River at Odanah

Bad River near Odanah

Tyler Forks River near Mellen

Point	Flood Stage	Chance of Minor Flood	Chance of Moderate Flood	Chance of Major Flood
St. Louis at Scanlon	10.5 ft.	47%	34%	<5%
Bad River at Odanah	8.5 ft.	31%	9%	<5%
Bad River nr. Odanah	16.0 ft.	9%	6%	<5%
Tyler Forks River nr. Mellen	9.0 ft.	87%	72%	17%

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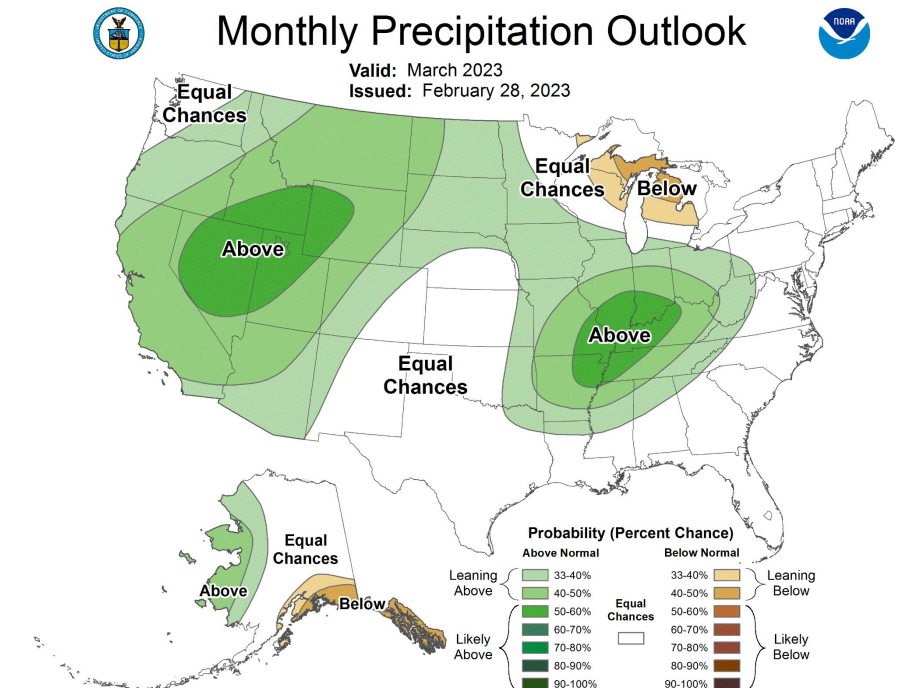
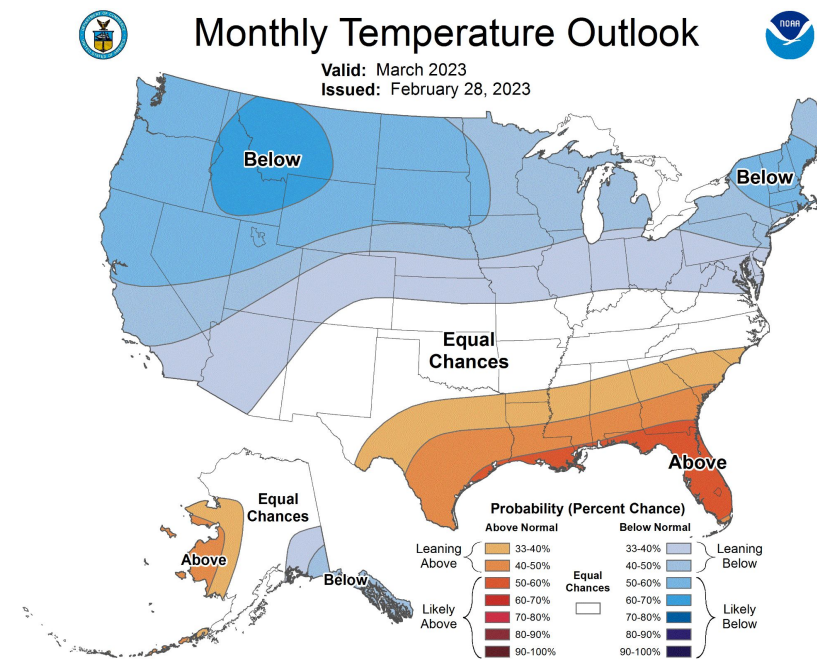
Spring Weather Outlook

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These are general outlooks that depict broad trends for the weeks and months ahead

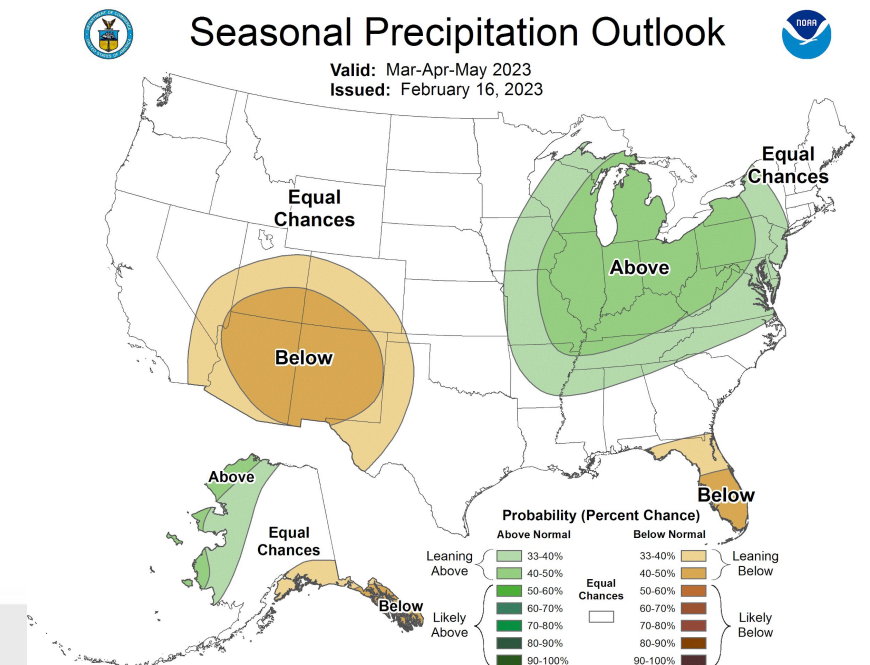
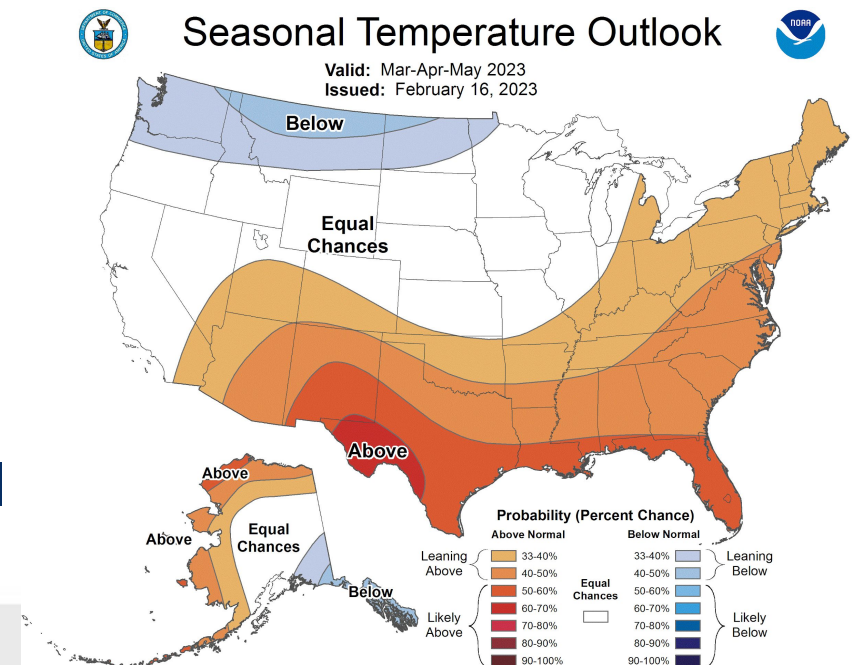
March Outlook

- Temperatures slightly leaning Below Normal
- Precipitation no strong signal, but late March Outlook trending drier
- Impact to Spring Flooding: **Neutral**



Seasonal Outlook (March-April-May)

- No strong signals for temperatures
- Precipitation equal chances to slightly above normal
- Impact to Spring Flooding: **Neutral**





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Potential for Spring Flooding across Northeast Minnesota and Northwest Wisconsin



Key Messages

- The spring flooding potential across the Northland is above normal
- Increased risk for Moderate to potentially Major Flooding on the Mississippi River at Aitkin, Ft Ripley
- Increased risk of Minor flooding to Moderate flooding for the Bad River and the St. Louis River.
- Limited frost which will allow snowmelt to infiltrate the soil



Next Scheduled Briefings

- March 23

Threat	Impact to Potential Spring Flooding	Link to Image(s)
High river levels	Neutral	USGS WaterWatch MN WI
High soil moisture	Above normal in NE Minnesota Neutral in NW Wisconsin	CPC Soil Moisture
Winter Precipitation	Above normal in NE Minnesota and in NW Wisconsin	Climate Prediction Center 6 to 10 Day 8 - 14 Day
Snowpack/ Liquid Equivalent	Elevated	Snow Analysis Snow Depth Ranking
Rate of Snowmelt	To Be Determined	24, 48, & 72 hr Snowmelt
Frost Depth	Lower	Frost Depth Map
Spring Precipitation	Above Normal	Precip Forecast (3-Month)

