



Rainy River/Rainy Lake Basin Spring 2024

Sunday May 26, 2024 Briefing

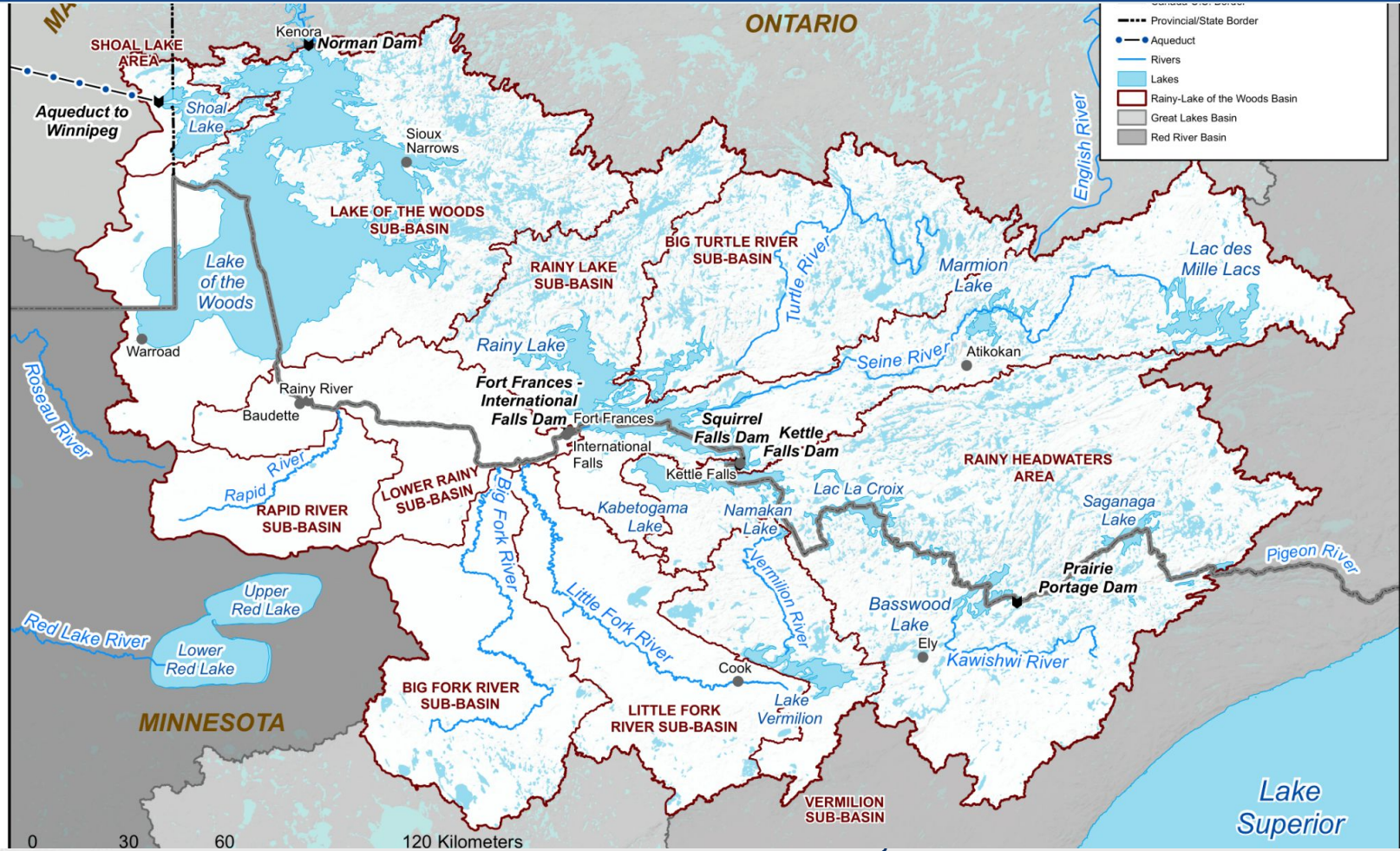
This information is provided for situational awareness on river and lake levels. No update scheduled at this time.

Recent Past Weather	Forecast Weather Next 1-14 Days	River and Lake Levels - Current and Future	Impacts Observed So Far	Key Messages to stakeholders and the public
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Basin Overview - What are we focusing on?





Recent Past Weather



National Oceanic and
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U.S. Department of Commerce

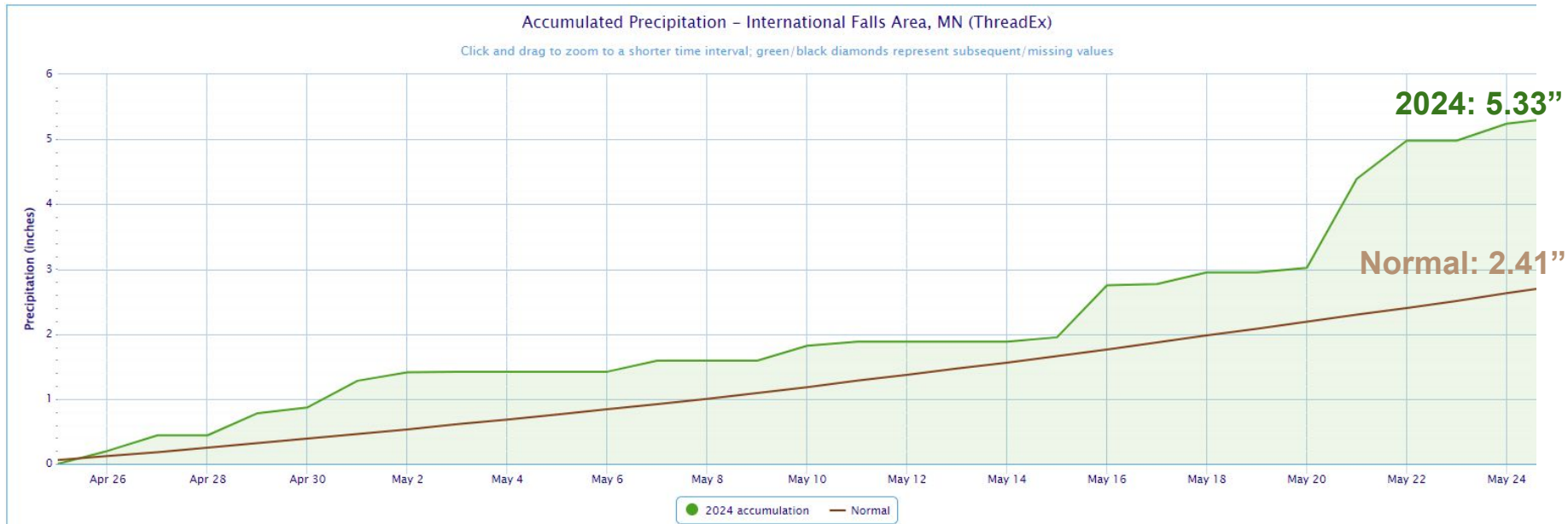
National Weather Service
Duluth, MN & North Central River Forecast Center



Recent Past Weather

Rainfall Last 30 Days At International Falls (Since April 25) **2024** and **Normal**

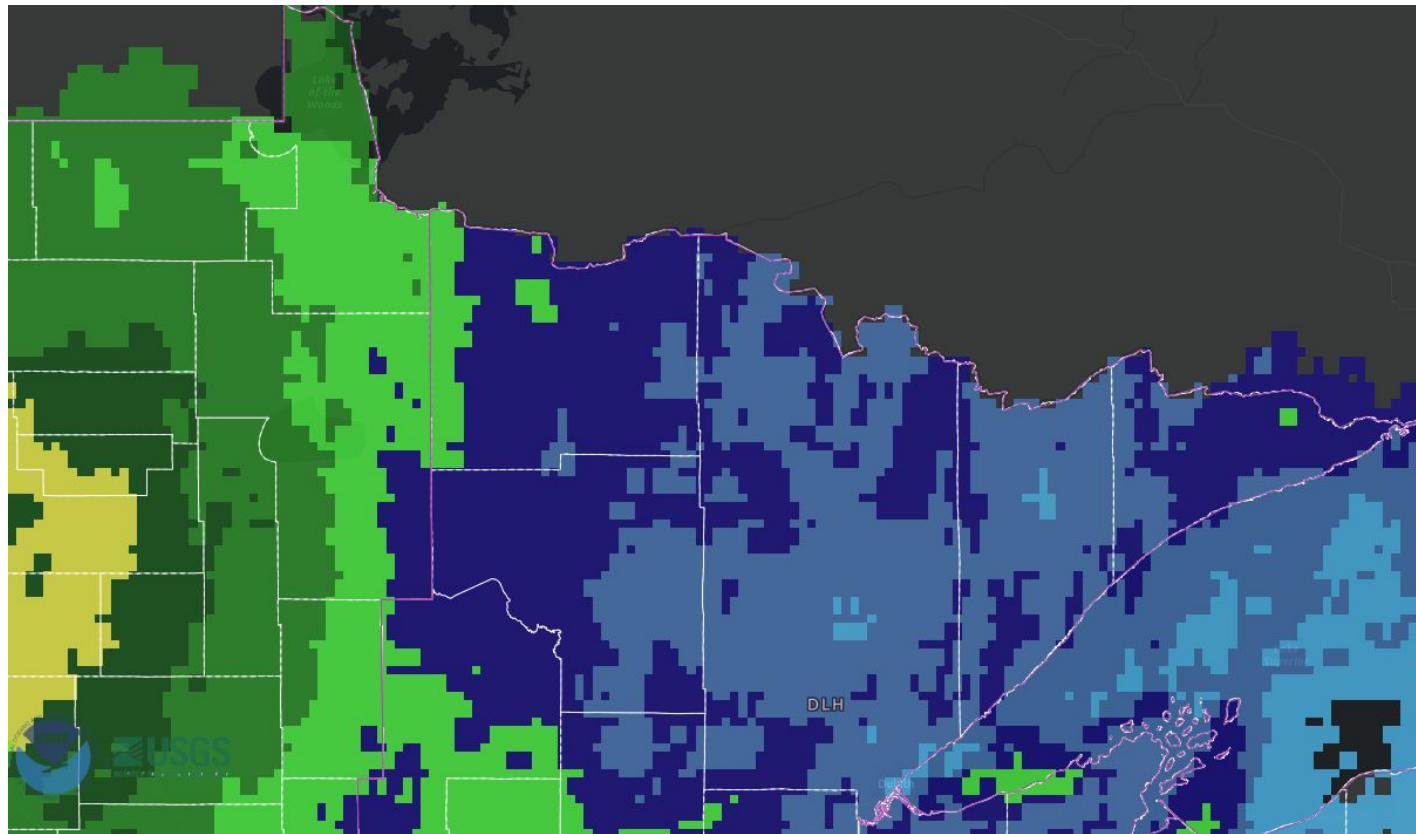
- Rain total April 25nd to May 25th was 4th highest for that period (2.2x more than normal)





Recent Past Weather

Last 72 Hours (Ending Sunday Morning, May 26)



RAINFALL (inches)



National Oceanic and Atmospheric Administration
U.S. Department of Commerce

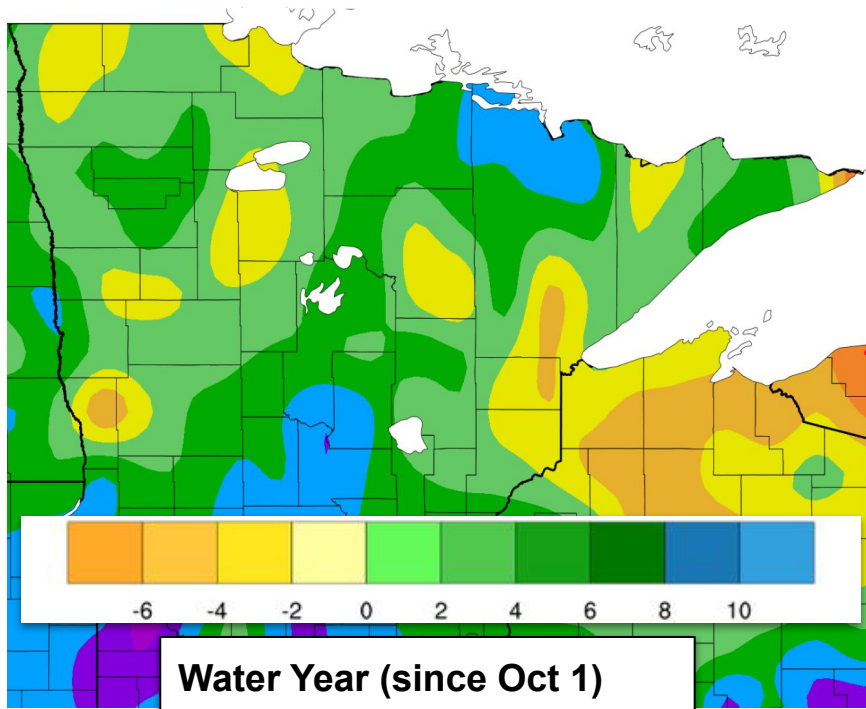
National Weather Service
Duluth, MN & North Central River Forecast Center



Precipitation Departure from 1991-2020 Normals

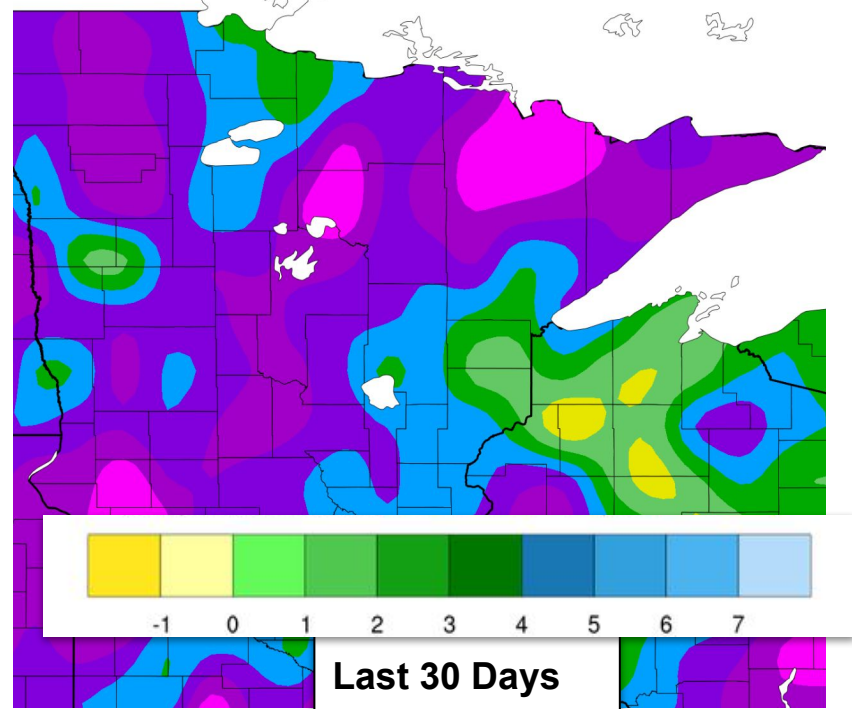
Inches above or below normal precipitation for the period.

10/1/2023 – 5/25/2024



Water Year (since Oct 1)

4/26/2024 – 5/25/2024



Last 30 Days



Basin Precipitation Climatology

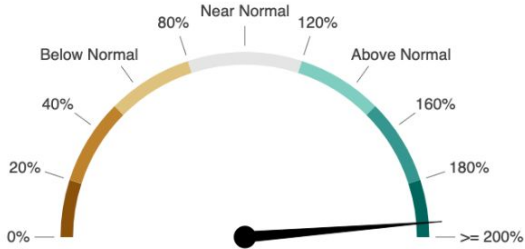
Near Normal to far above normal precipitation observed

International Falls

Month-To-Date: 5.09"

May 2024

May 1-26, 2024 (26 of 26 days covered by obs)



PRISM Normal

2.61"

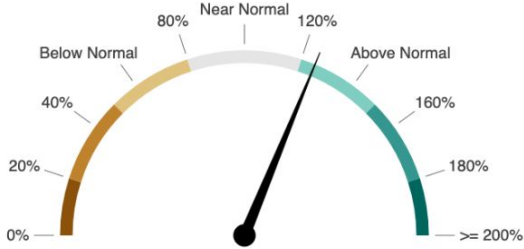
Departure from Normal

↑ 2.48" : 195% of Normal

Year-To-Date: 9.37"

2024

Jan 1 to May 26, 2024 (147 of 147 days covered by obs)



PRISM Normal

7.47"

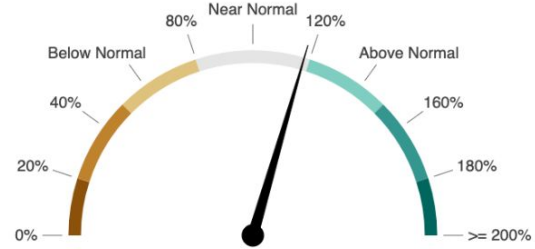
Departure from Normal

↑ 1.90" : 125% of Normal

Water Year-To-Date: 14.86"

Oct 2023 - Sept 2024

Oct 1, 2023 to May 26, 2024 (239 of 239 days covered by obs)



PRISM Normal

12.63"

Departure from Normal

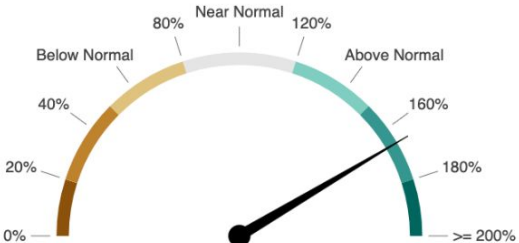
↑ 2.23" : 118% of Normal

Ely

Month-To-Date: 4.10"

May 2024

May 1-26, 2024 (25 of 26 days covered by obs)



NOAA Normal

2.47"

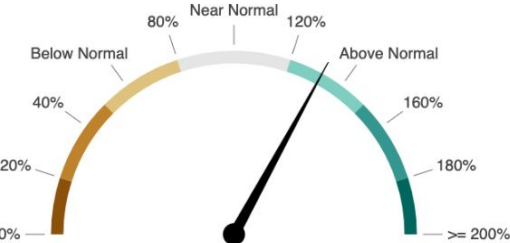
Departure from Normal

↑ 1.63" : 166% of Normal

Year-To-Date: 9.82"

2024

Jan 1 to May 26, 2024 (146 of 147 days covered by obs)



NOAA Normal

7.43"

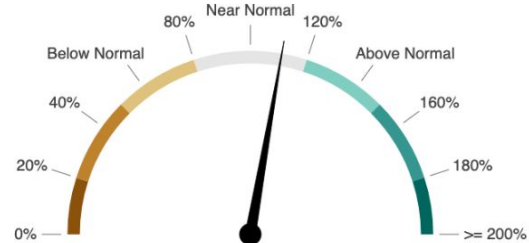
Departure from Normal

↑ 2.39" : 132% of Normal

Water Year-To-Date: 14.67"

Oct 2023 - Sept 2024

Oct 1, 2023 to May 26, 2024 (238 of 239 days covered by obs)



NOAA Normal

13.26"

Departure from Normal

↑ 1.41" : 111% of Normal





Forecast Weather

Next 6-14 Days

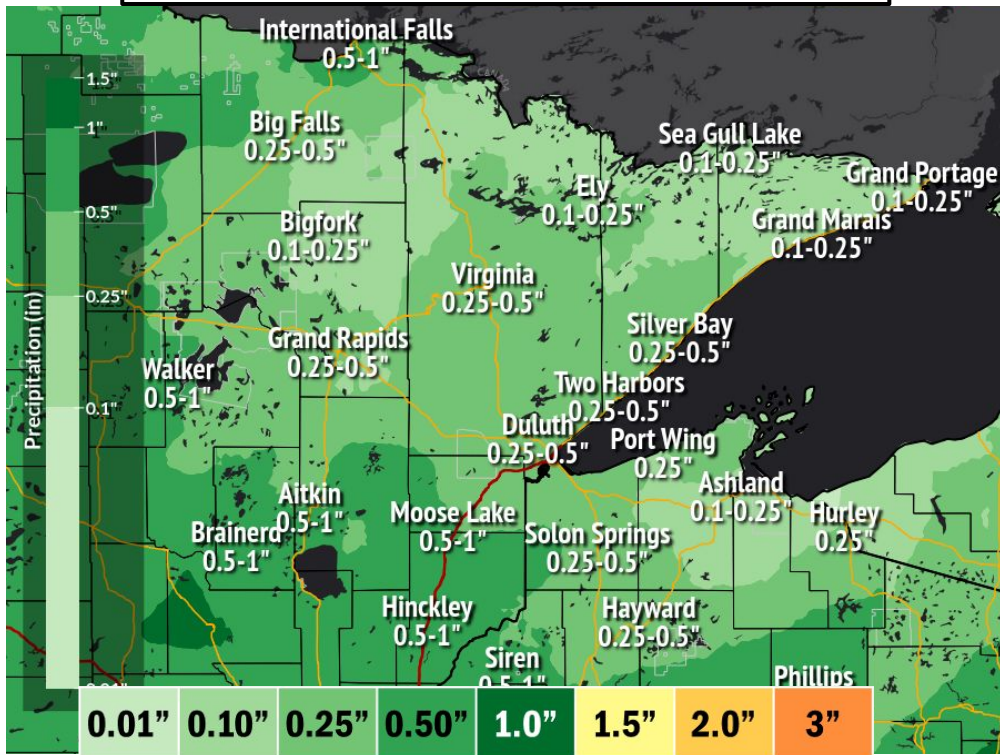




Precipitation Forecast - Current NWS Forecast

Basin Average Precipitation

Forecast Rainfall 5/26 to 6/2



- ➔ Lowest confidence for light precipitation early this week.
- ➔ Dry Wednesday into early Thursday.
- ➔ Highest chance and amounts Fri-Saturday

	5/26-5/29				5/30-6/2			
	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun
Big Falls	5	45	15	5	45	45	40	25
Crane Lake	15	20	35	0	20	45	40	30
Duluth Airport	80	40	30	0	20	45	40	25
Ely	40	25	40	0	10	40	40	30
Grand Marais	50	30	40	0	10	35	40	30
Grand Rapids	25	50	25	0	45	45	40	30
Hibbing	30	35	30	0	30	45	40	25
International Falls	5	30	25	5	40	45	40	30
Kabetogama	5	25	30	0	25	45	40	30
Orr	10	25	30	0	25	45	40	30
Seagull Lake	45	35	45	0	10	35	40	30
Silver Bay	50	30	40	0	10	35	40	30





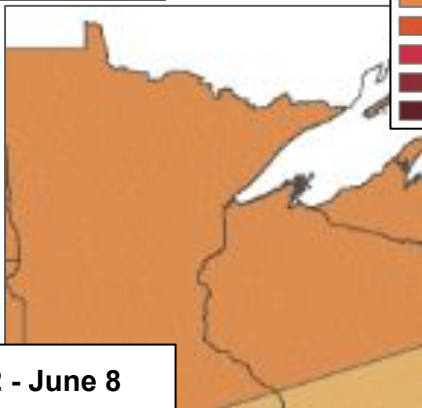
Temperature and Precipitation Outlooks Days 6-14

Pattern shifting from near-normal to warm and wet to warm and dry by the second week of June

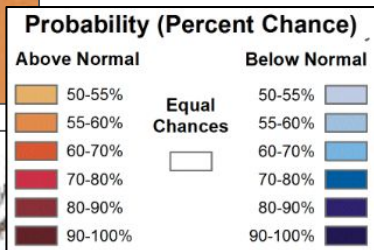
Temperature Outlooks



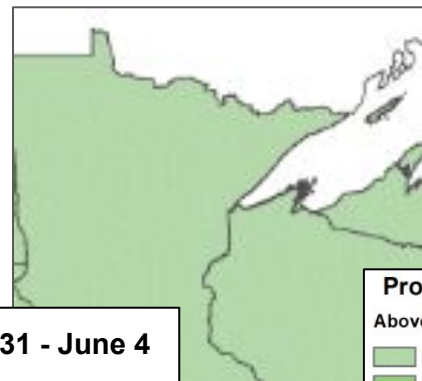
May 31 - June 4



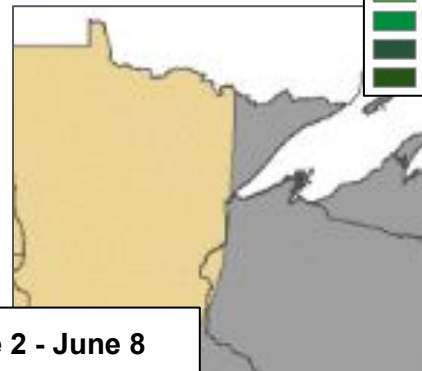
June 2 - June 8



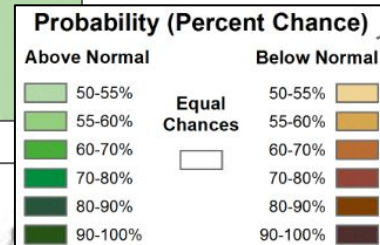
Precipitation Outlooks



May 31 - June 4



June 2 - June 8





Current & Expected River/Lake Levels

Next 6-10 Days and Beyond





Rainy Headwaters

South Kawishiwi River near Ely

HEFS - 10 Day River Level Probabilities

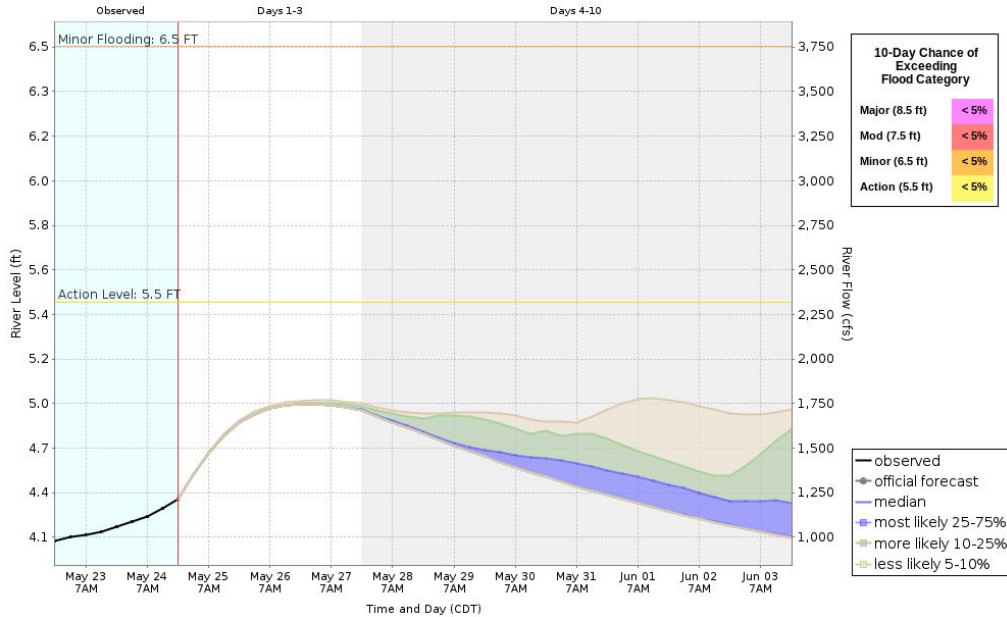
Based on Hydrologic Ensemble Forecast Service Model Simulations Used to Estimate the Range of Possible River Levels

Ensemble Forecast for South Kawishiwi near Ely

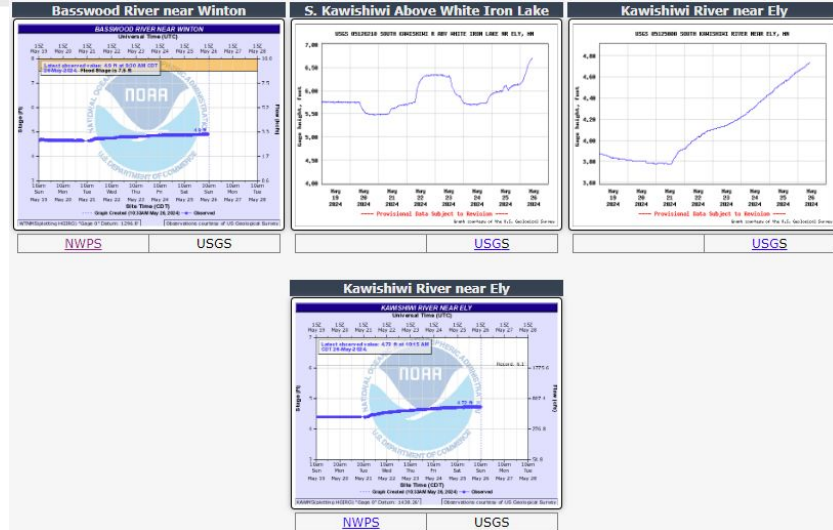


May 25 - Jun 04, 2024

South Kawishiwi River at Ely 9SE (SKRM5)



Model runtime: 07:00 PM CDT May 24 2024
North Central River Forecast Center



- Moderate river rises may continue in the headwaters rivers through early week.
- 150-200% normal precipitation over the last 30 days. 2 to 3.5" of rain May 20th - 26th.



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Vermillion River near Crane Lake

[Click here for hydrograph](#)

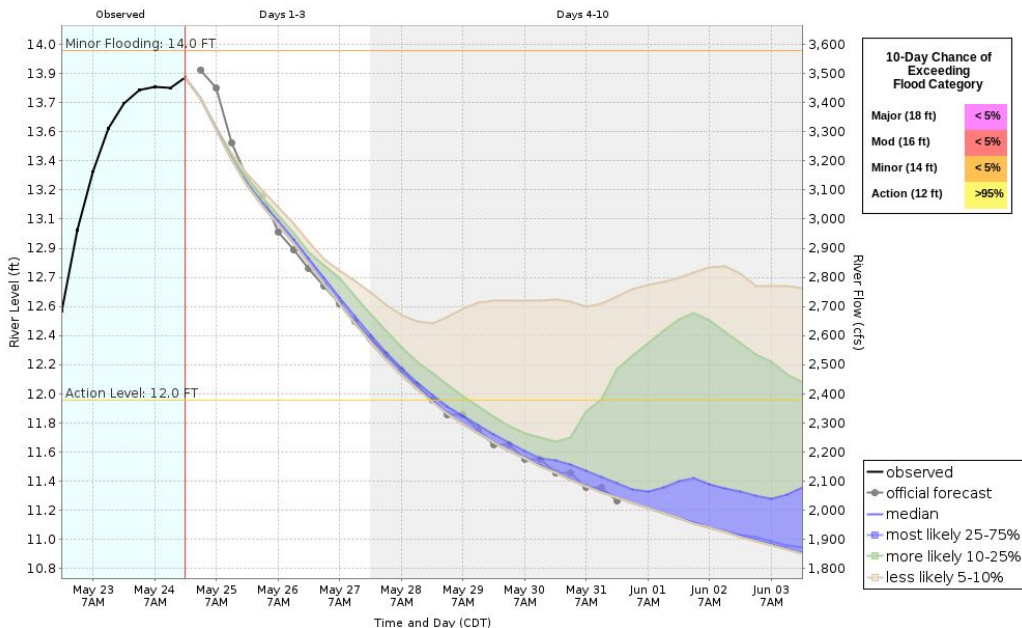
HEFS - 10 Day River Level Probabilities

Based on Hydrologic Ensemble Forecast Service Model Simulations
Used to Estimate the Range of Possible River Levels



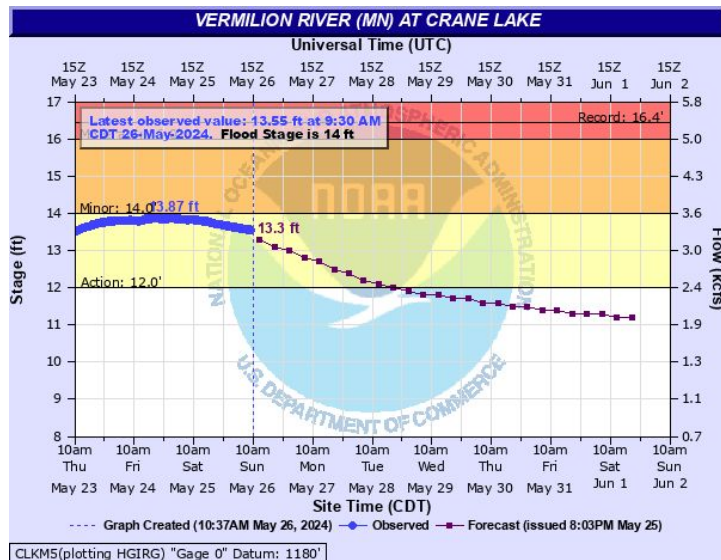
May 25 - Jun 04, 2024

Vermillion River at Crane Lake 4W (CLKM5)



Model runtime: 07:00 PM CDT May 24 2024
North Central River Forecast Center

Rises from recent rain caused strong river response. **Stabilizing to decreasing levels in the mid basin expected this week.**





Namakan Lake (and Kabetogama Lake)

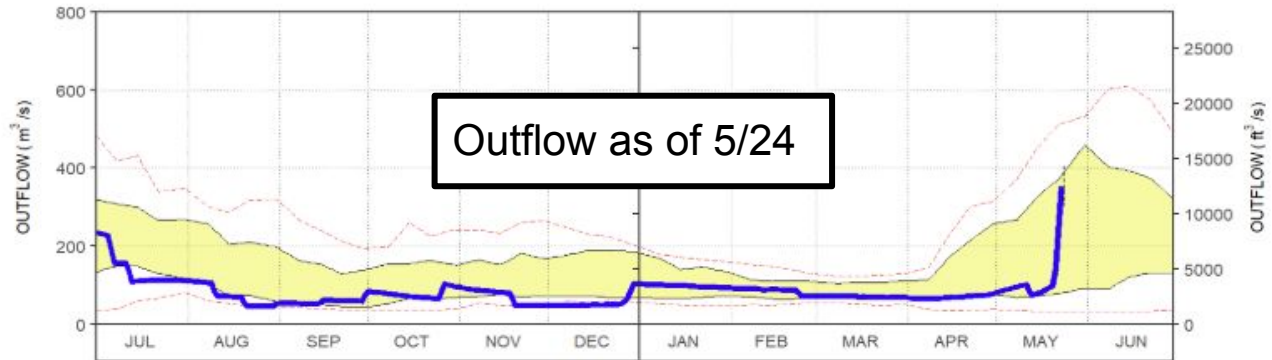
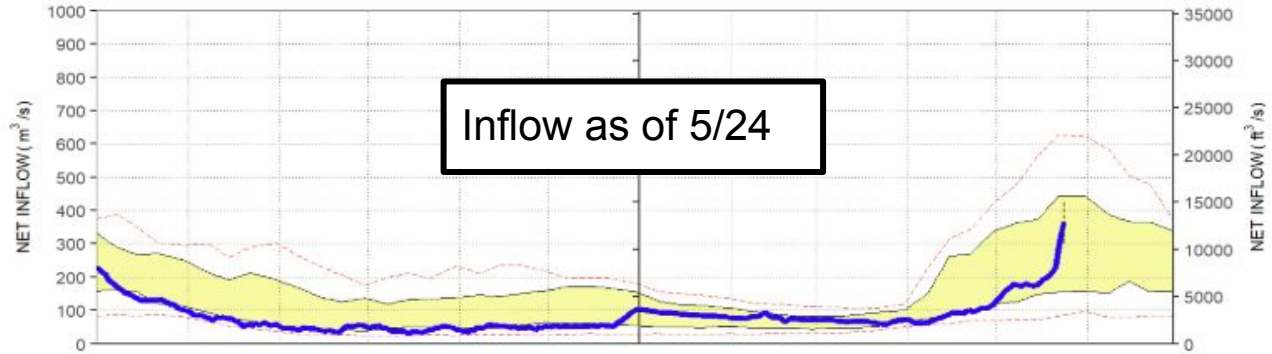
Namakan Lake Inflow / Outflow

Inflow

Increases will continue from headwater tributaries as recent rainfall runoff routes

Outflow

Outflow meeting inflow, so expect slowly stabilizing levels. Lake levels are being managed to be brought back to rule curve levels so outflows will remain high, per [latest water level notices](#).

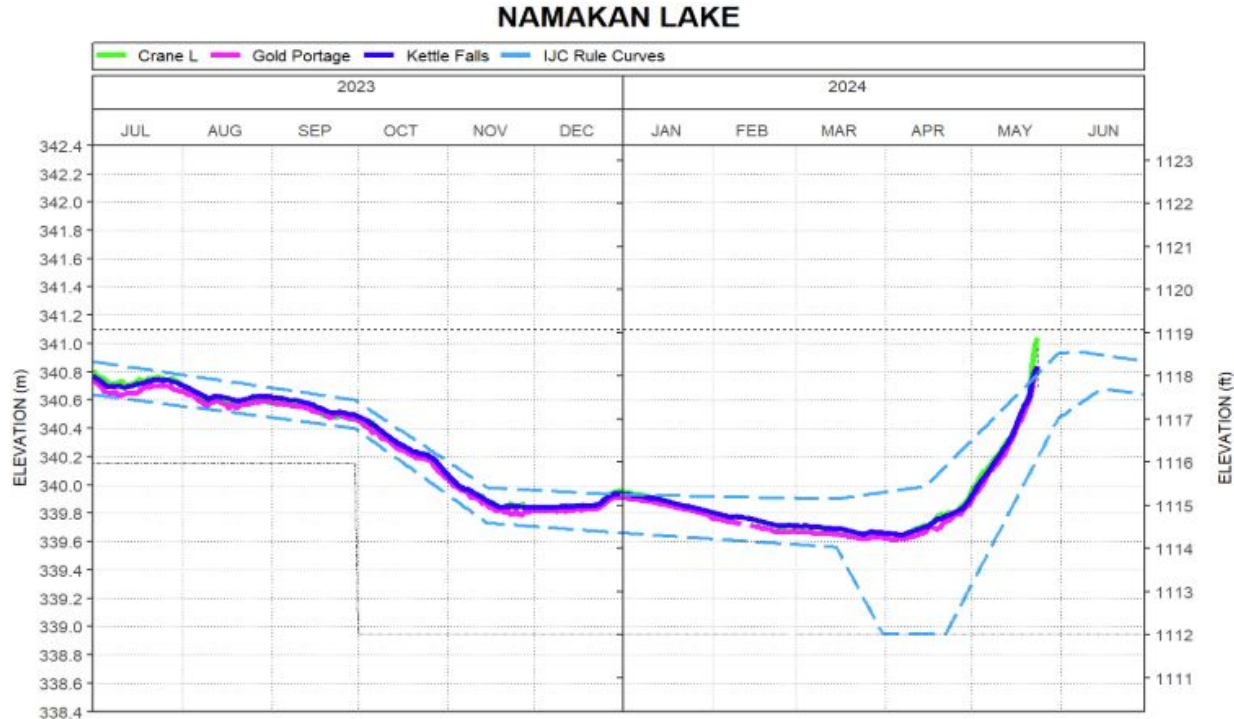


[Link to Plot Legend](#)



Namakan Lake (& Kabetogama Lake)

Namakan Lake Levels



Data as of 5/24

Lake levels just exceeding the rule curve.

Headwater increases continue as water slowly moves through the system.

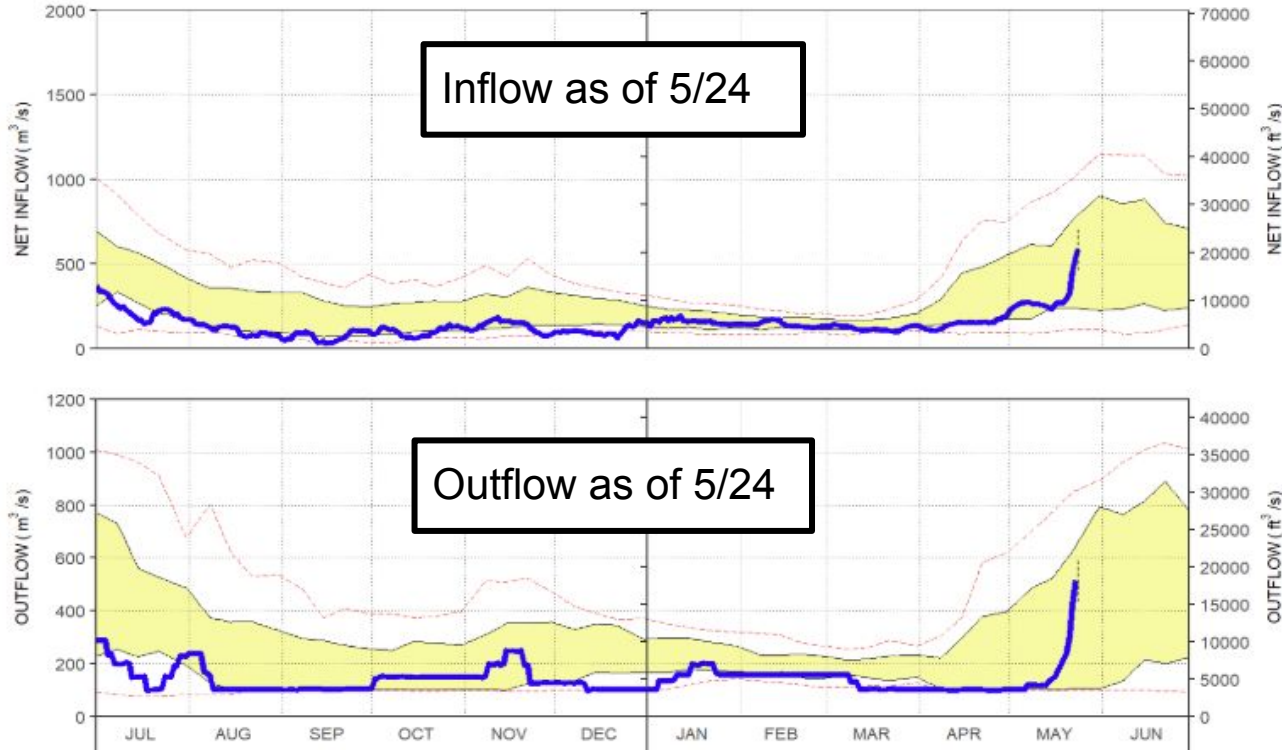
Inflow is meeting outflow, which should help levels begin to stabilize.

[Read about active regulation by The Water Levels Committee](#)





Rainy Lake Inflow / Outflow



Inflow still *slightly* higher than outflow, both on the rise.





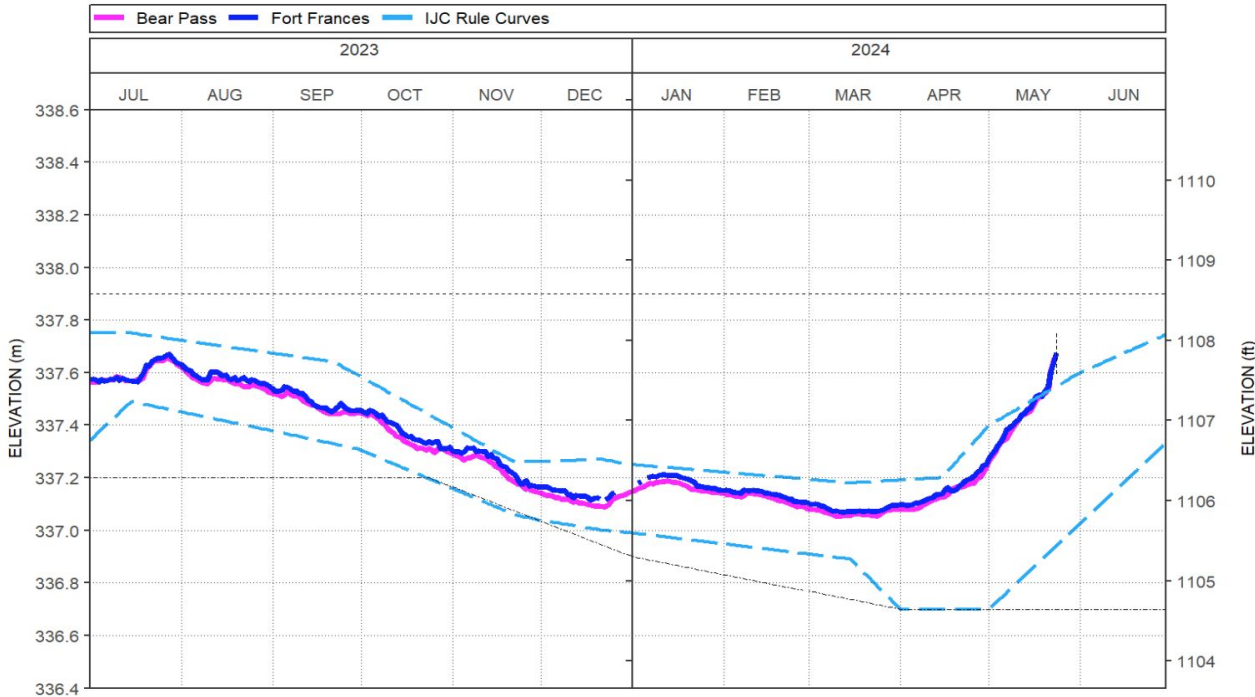
Rainy Lake

Rainy Lake Levels



ISSUED: 2024-05-24
Provisional Data

RAINY LAKE



Lake levels just exceeding the rule curve.

High water slowly moves through the system gradually flowing into Rainy Lake.

Inflow is just greater than outflow, which will keep levels going up slowly, but should start to stabilize as inflow/outflow even out.

[Read about active regulation by The Water Levels Committee](#)

National Weather Service

Duluth, MN & North Central River Forecast Center





Big Picture - Rainy and Namakan Last Two Years

As of 5/24/2024

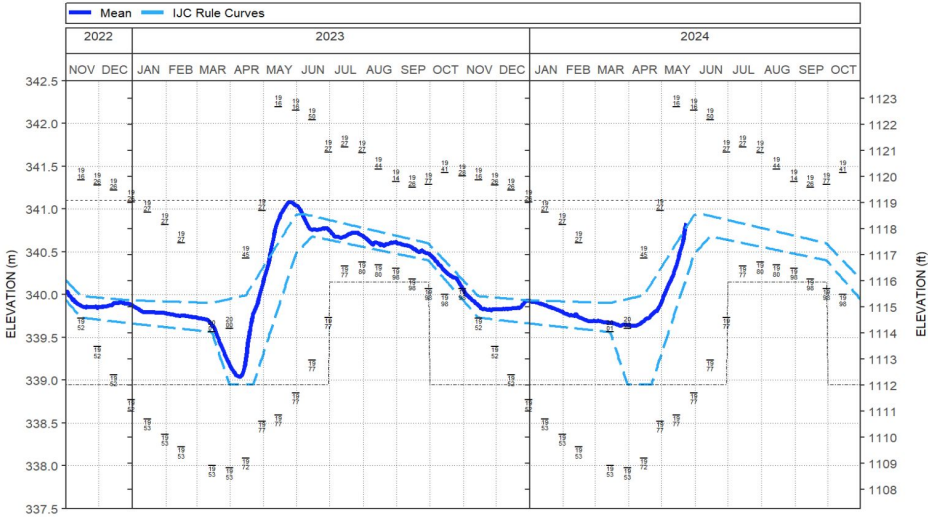


ISSUED: 2024-05-24
Provisional Data

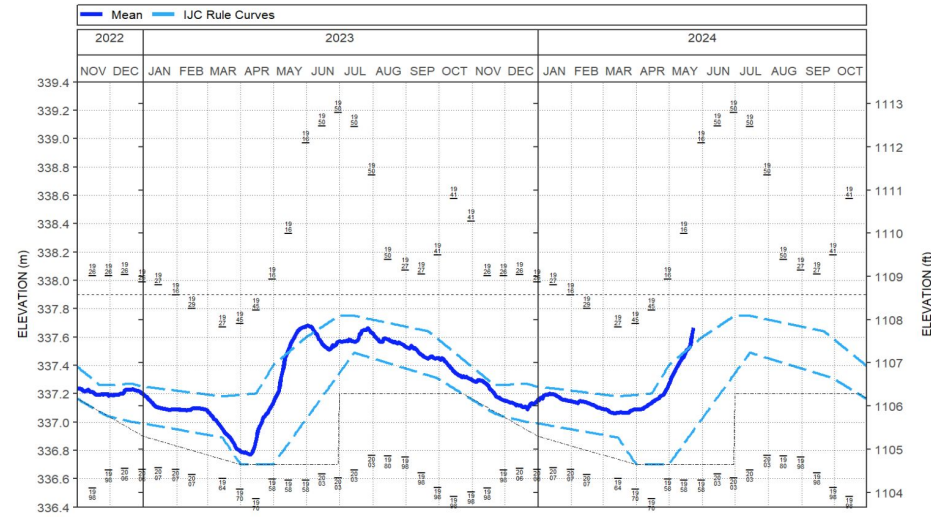


ISSUED: 2024-05-24
Provisional Data

NAMAKAN LAKE



RAINY LAKE



Rises just outside rule curve are currently similar to those from snowmelt during Spring 2023.

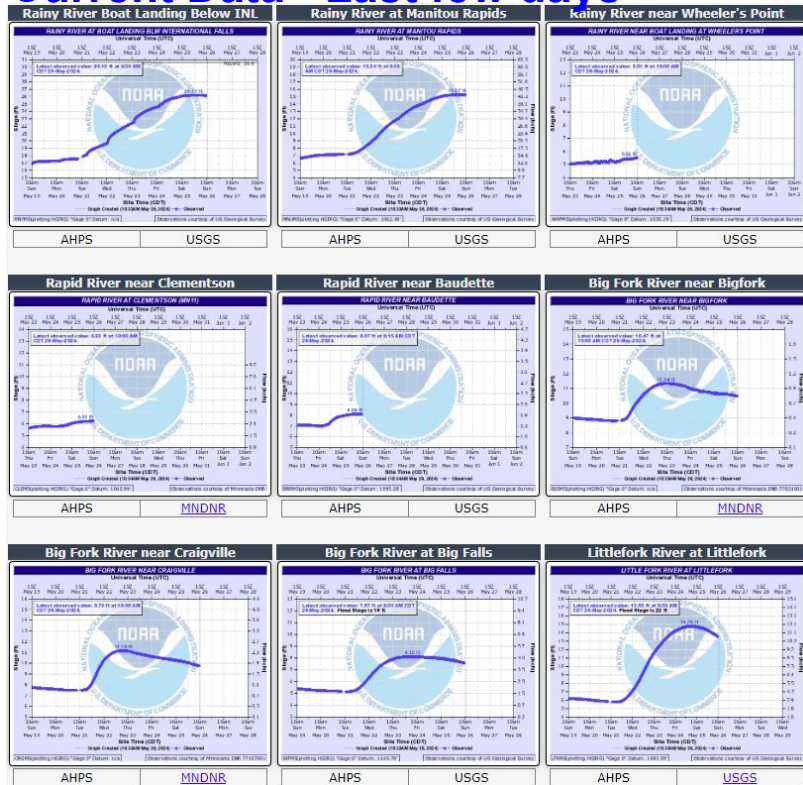




Rainy River Below International Falls Dam

Rises from recent rainfall

Current Data - Last few days



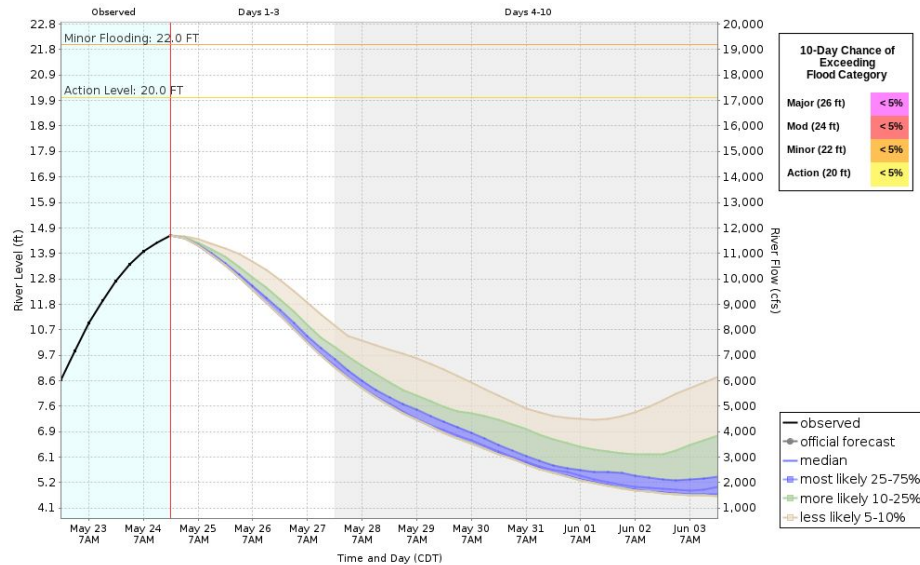
Littlefork River at Littlefork

HEFS - 10 Day River Level Probabilities

Based on Hydrologic Ensemble Forecast Service Model Simulations
Used to Estimate the Range of Possible River Levels



May 25 - Jun 04, 2024
Little Fork River at Little Fork 10SW & Rvr (LFKMS)



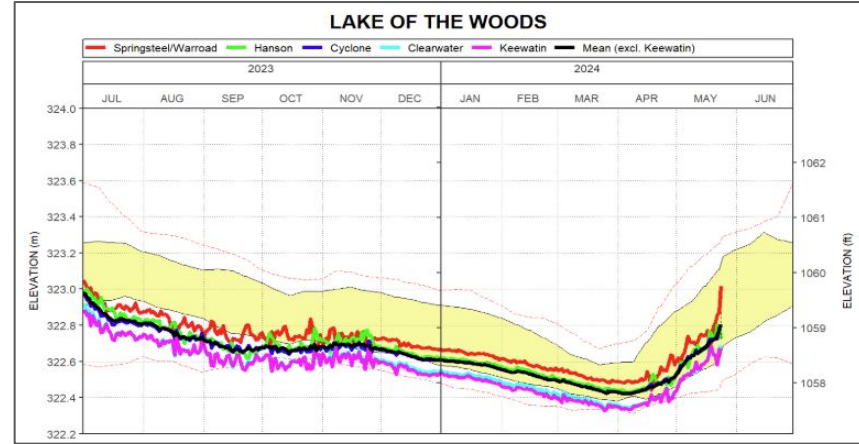
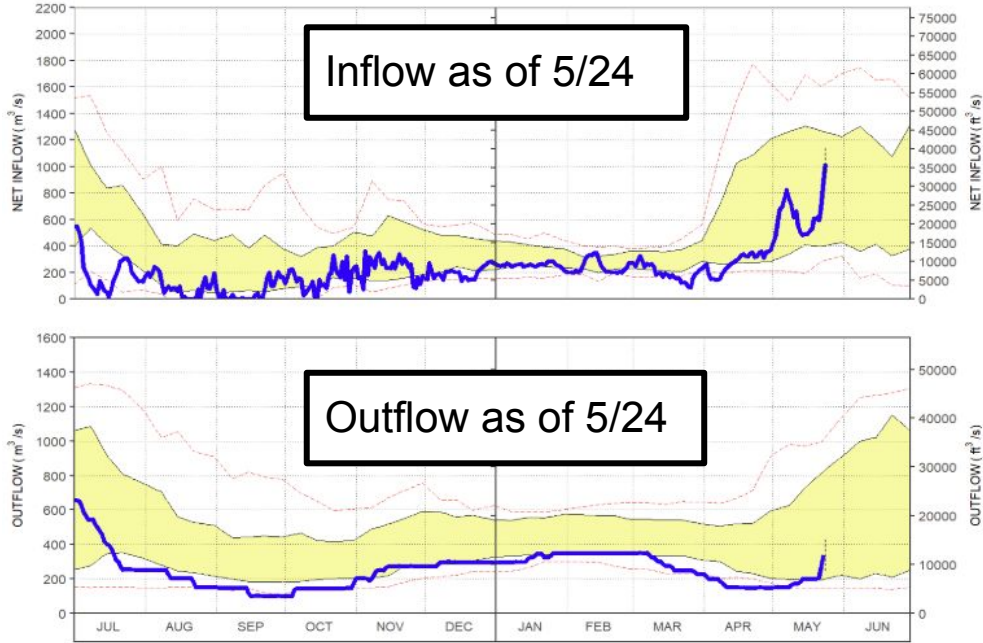
Model runtime: 07:00 PM CDT May 24 2024
North Central River Forecast Center





Lake of the Woods

Observed Inflow/Outflow and Levels



Inflows on the increase with higher releases from Rainy Lake and contributions Rainy River tributaries. Within normal ranges.





Summary

Report your impacts to NWS Duluth!

- **River flows are still high** across Rainy River headwaters. Far eastern portions of the basin may continue to see moderate rises. Further west (Vermillion Lake and north), rises are beginning to stabilize and should start to slowly come down).
- Rates of rise are fairly mild but **water moves slowly through the system and will be slow to come back down.**
- Lake levels on Namakan and Rainy Lake are just coming out of their rule curves.
- Active management between dam operators and The Water Levels Committee is ongoing [Read about active regulation](#)

Find more information at <https://www.weather.gov/dlh/rainyriverbasin>



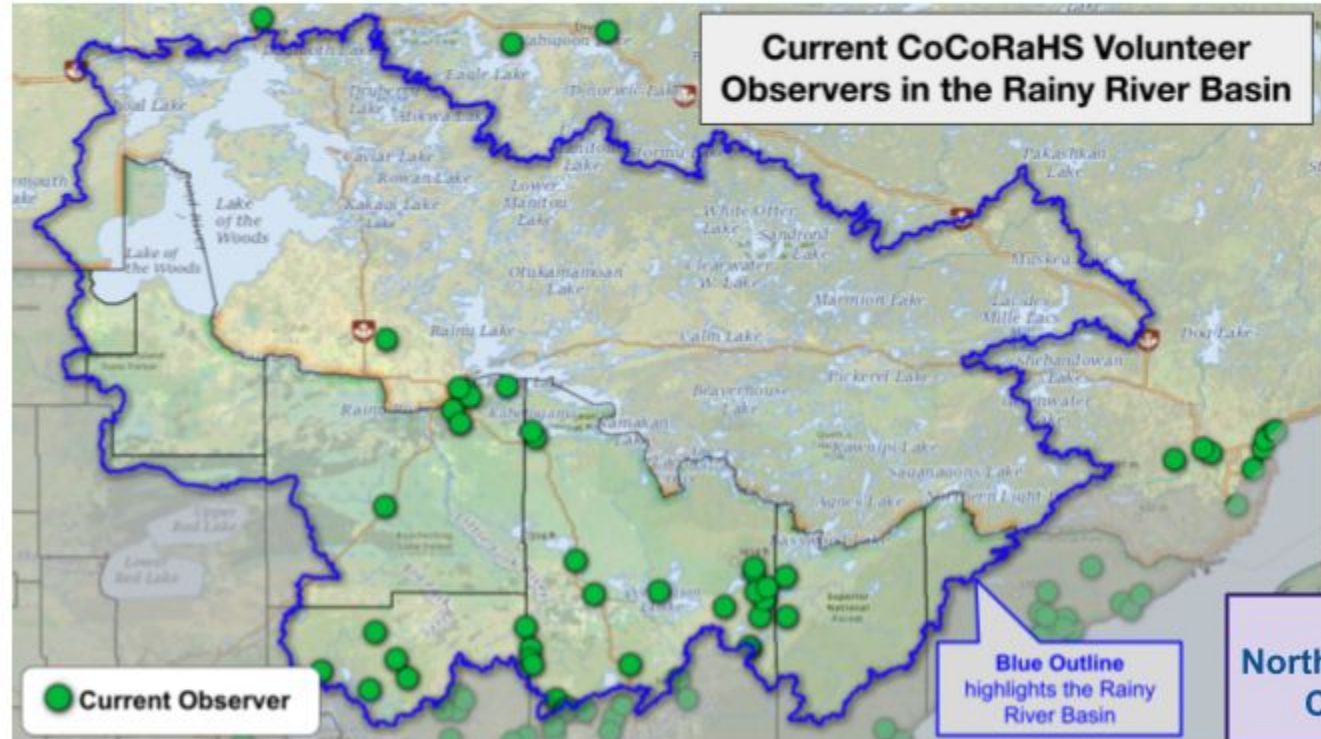


Help Predict Future Flooding

YOUR REPORTS can help NWS better predict flooding!

Please help us fill in the gaps on the map below!

Current CoCoRaHS Volunteer Observers in the Rainy River Basin



Interested?



1. Sign up at cocorahs.org
2. Purchase an official CoCoRaHS rain gauge (OR, if you just want to report snowfall/snow depth, you just need a good yardstick!)
3. Report rain, snow, and snow depth (snowpack depth) *daily using the CoCoRaHS website or app daily each morning

**Reporting only when you can such as after major storms is OK - but daily observations are best!*

Have Questions?

Northeast MN: ketzel.levens@noaa.gov

Canada: canada@cocorahs.org



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