



Rainy River Basin Current Conditions and Outlook

Thursday, May 8, 2025 Briefing

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Masha Hoy, Shawn Devinny - NCRFC

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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Key Points

NCRFC/NWS briefly review how the water flows in this basin

- Drought has been improving through the late winter and early Spring.
- Spring snowmelt runoff prompted marginal rises.
- Heavy rains April 27-28 led to stronger rises across the basin.
 - Precipitation near normal to above normal since October 1, 2024
 - High water, strong flows observed and continue into mid month, but no widespread flooding expected at this time.
 - Watershed will be sensitive to additional heavy rainfall.





Recent Past Weather



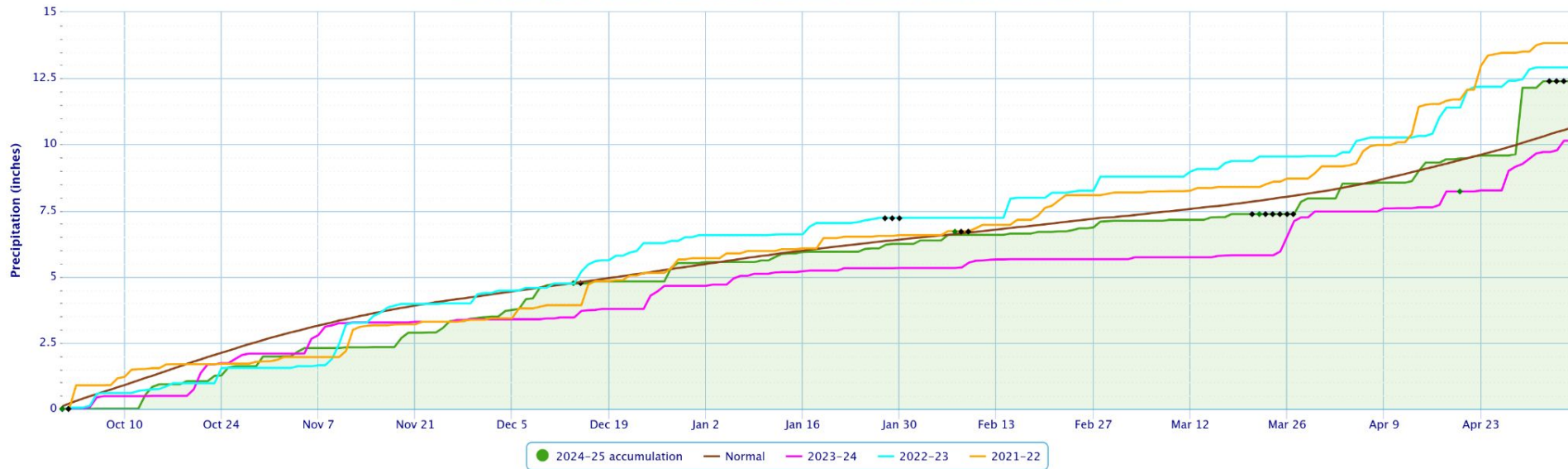


Recent Past Weather

Precipitation Since Oct 1, 2024 At Seagull Lake

Accumulated Precipitation – GUNFLINT LAKE 10 NW, MN

Click and drag to zoom to a shorter time interval; green/black diamonds represent subsequent/missing values



Powered by ACIS

— 2024-2025

12.39"

— 2023-2024

10.14"

— 2022-2023

12.91"

— 2021-2022

13.83"

— Normal

10.62"



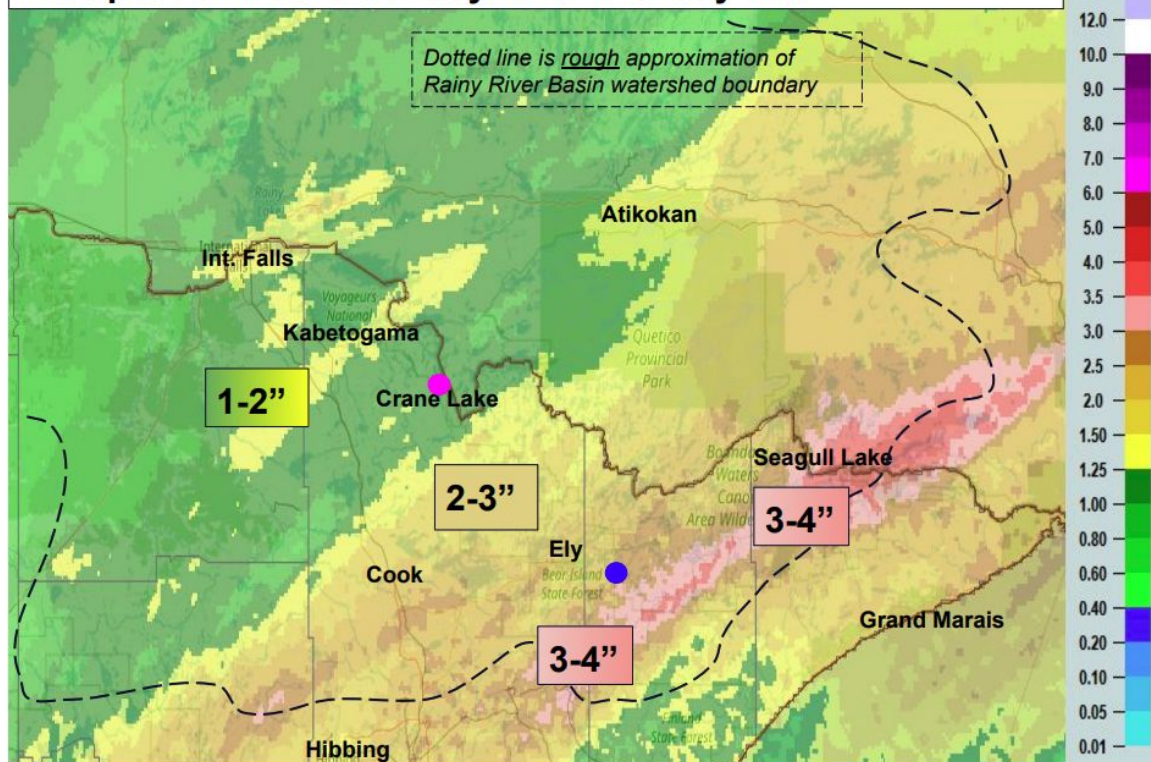
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Recent Past Weather

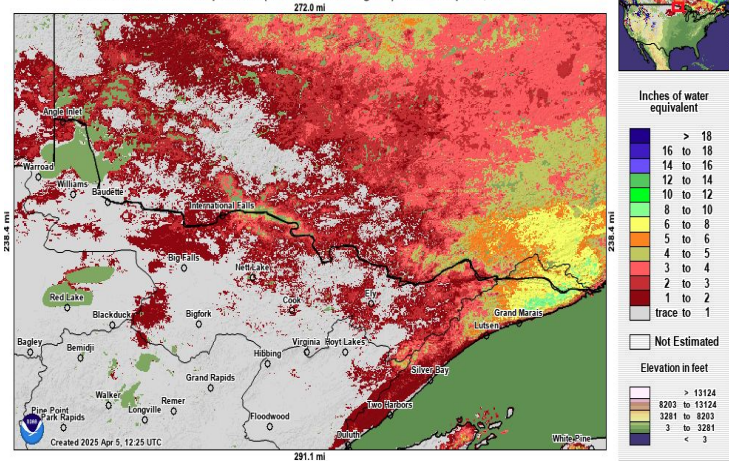
Precipitation Totals Sunday 4/28 - Monday 4/29



Heavy rains April 28-29 fell on top of ongoing marginal snowmelt.

Modeled Snow Water April 5, 2025

Modeled Snow Water Equivalent (Shallow-snow Legend) for 2025 April 5, 3:00 UTC



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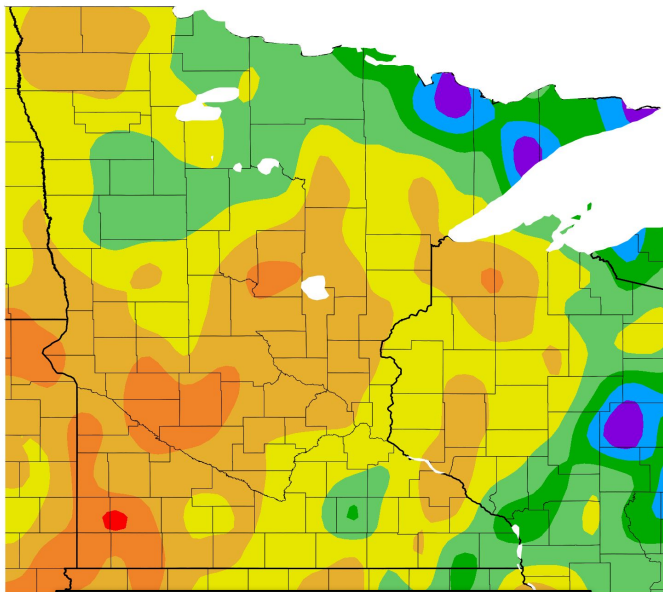
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Precipitation Departure from 1991-2020 Normals

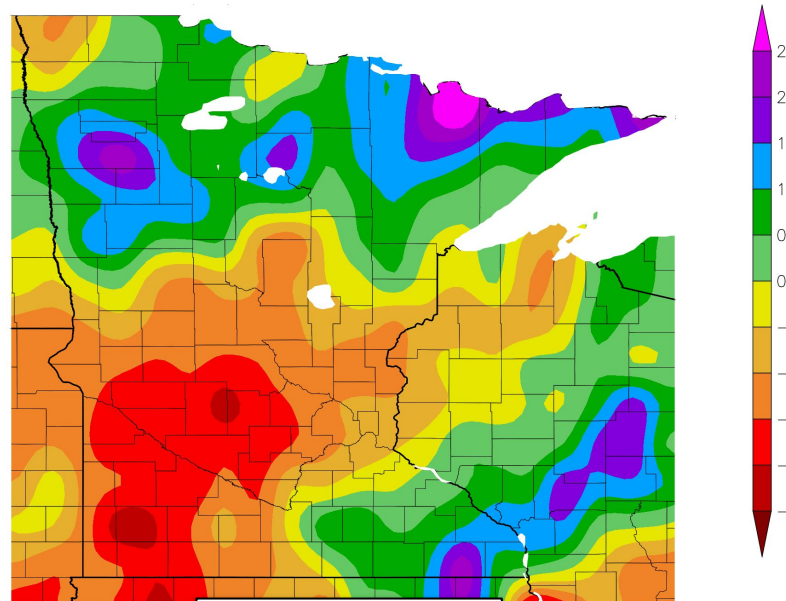
Inches above or below normal precipitation for the period.

Departure from Normal Precipitation (in)
10/1/2024 – 5/6/2025



Water Year (since Oct 1)

Departure from Normal Precipitation (in)
4/7/2025 – 5/6/2025



Last 30 Days

Generated 5/7/2025 using

ACIS Web Service: dated 5/7/2025 using provisional

ACIS Web Service



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U.S. Department of Commerce

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Basin Precipitation Climatology ending May 7, 2025

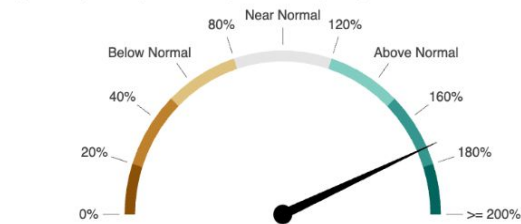
Near Normal to **far above normal** precipitation observed in April

International Falls

Month: April 2025: 2.96"

April 2025

April 1-30, 2025 (30 of 30 days covered by obs)



PRISM Normal

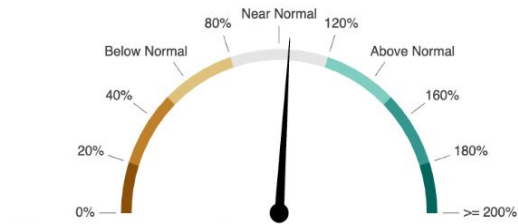
1.71"

Departure from Normal **↑ 1.25" : 173% of Normal**

Year-To-Date: 5.77"

2025

Jan 1 to May 7, 2025 (126 of 127 days covered by obs)



PRISM Normal

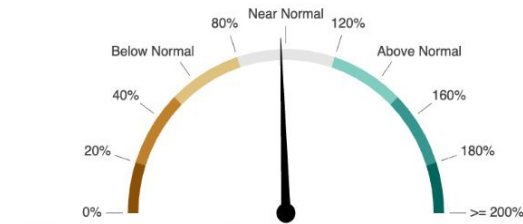
5.56"

Departure from Normal **↑ 0.21" : 104% of Normal**

Water Year-To-Date: 10.53"

Oct 2024 - Sept 2025

Oct 1, 2024 to May 7, 2025 (212 of 219 days covered by obs)



PRISM Normal

10.72"

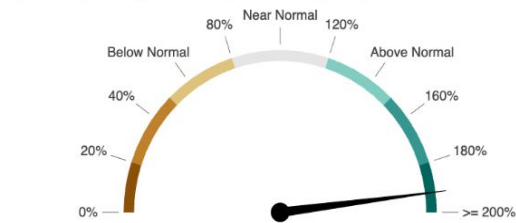
Departure from Normal **↓ -0.19" : 98% of Normal**

Ely

Month: April 2025: 3.78"

April 2025

April 1-30, 2025 (30 of 30 days covered by obs)



NOAA Normal

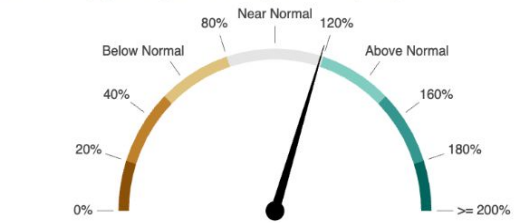
1.97"

Departure from Normal **↑ 1.81" : 192% of Normal**

Year-To-Date: 6.76"

2025

Jan 1 to May 7, 2025 (128 of 127 days covered by obs)



NOAA Normal

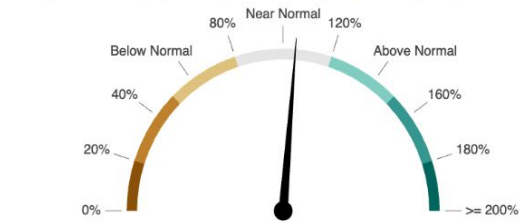
5.67"

Departure from Normal **↑ 1.09" : 119% of Normal**

Water Year-To-Date: 12.11"

Oct 2024 - Sept 2025

Oct 1, 2024 to May 7, 2025 (220 of 219 days covered by obs)



NOAA Normal

11.53"

Departure from Normal **↑ 0.58" : 105% of Normal**



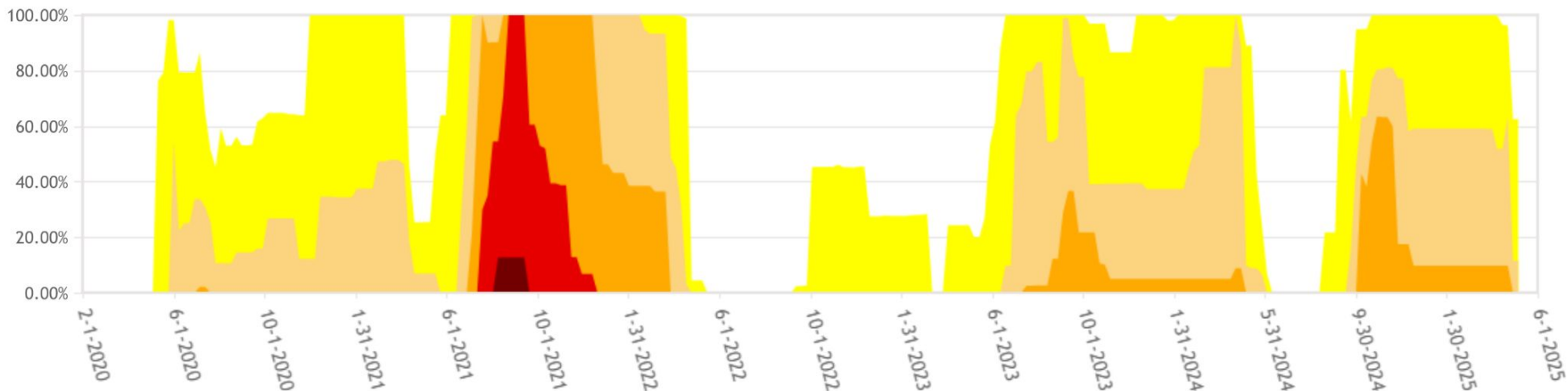
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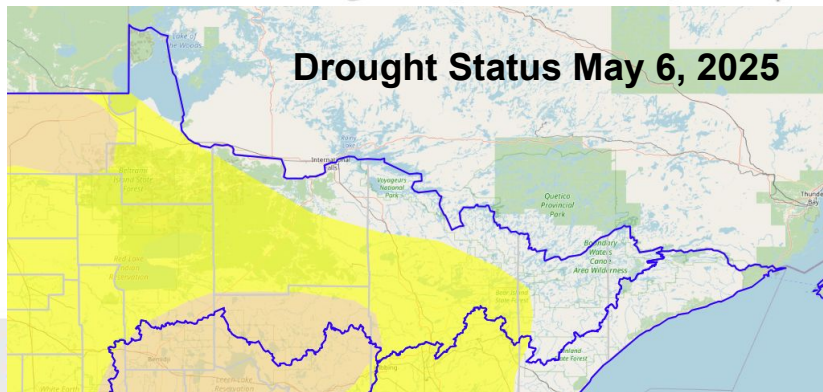


Drought - Time series for the Rainy River Basin

HUC 0903 (Rainy) Percent Area in U.S. Drought Monitor Categories



Drought Status May 6, 2025





Forecast Weather

Next 6-14 Days

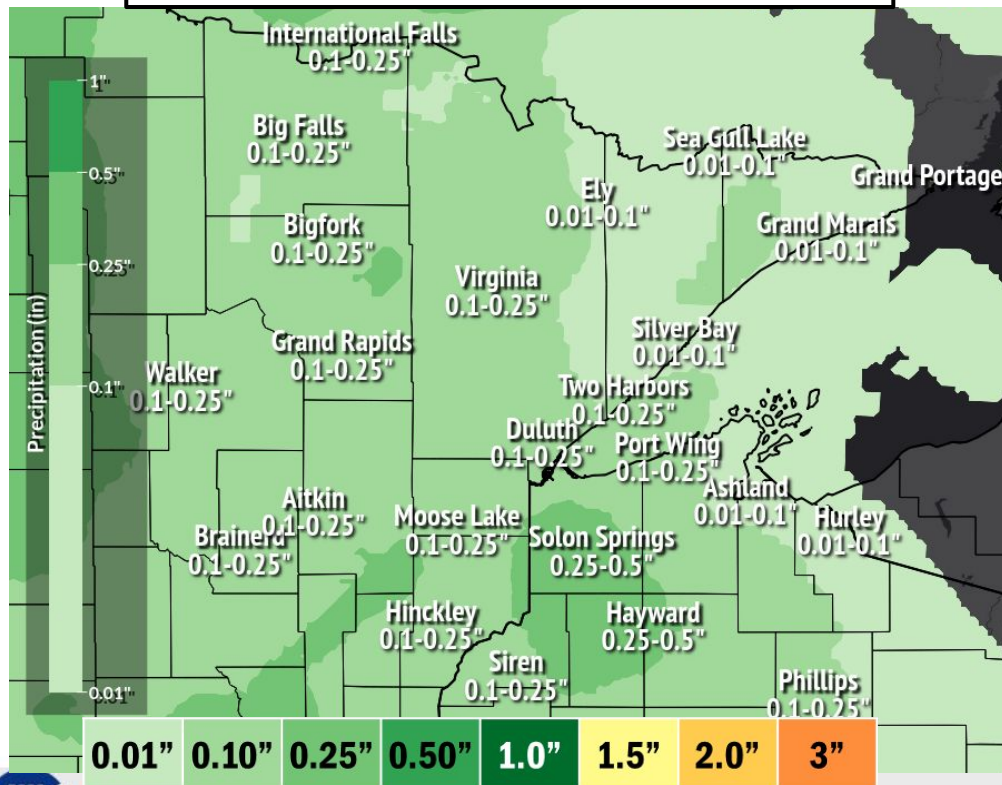




Precipitation Forecast - Current NWS Forecast

Basin Average Precipitation

Forecast Rainfall 5/8 - 5/16



- Very little precipitation expected through mid May
- Persistent high pressure with above normal temperatures.

Probability of Precipitation Forecast (%)

	5/8 Thu	5/9 Fri	5/10 Sat	5/11 Sun	5/12 Mon	5/13 Tue	5/14 Wed	5/15 Thu	5/16 Fri
Big Falls	0	10	10	15	5	15	35	45	40
Crane Lake	0	10	10	20	5	15	30	45	45
Ely	0	10	5	15	5	10	30	40	40
Grand Marais	0	15	10	10	5	5	20	40	40
Hibbing	0	10	5	10	5	10	40	45	40
International Falls	0	10	15	25	5	15	35	50	45
Kabetogama	0	10	10	20	5	15	30	45	40
Orr	0	10	10	15	5	15	35	45	40
Seagull Lake	0	10	5	15	5	10	25	40	40
Silver Bay	0	15	10	10	5	10	30	40	40



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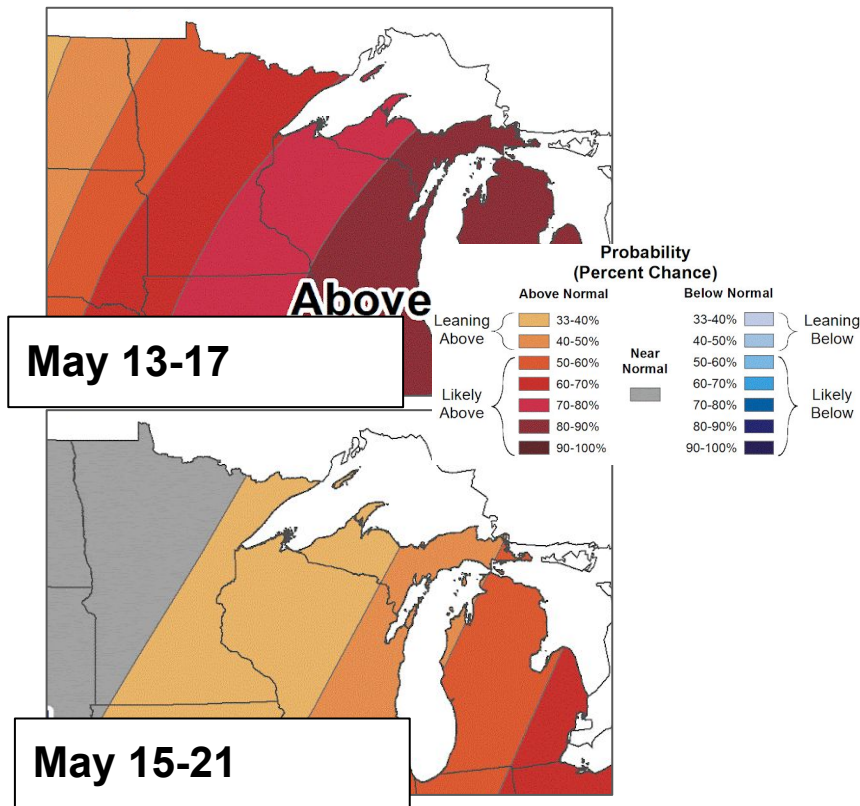
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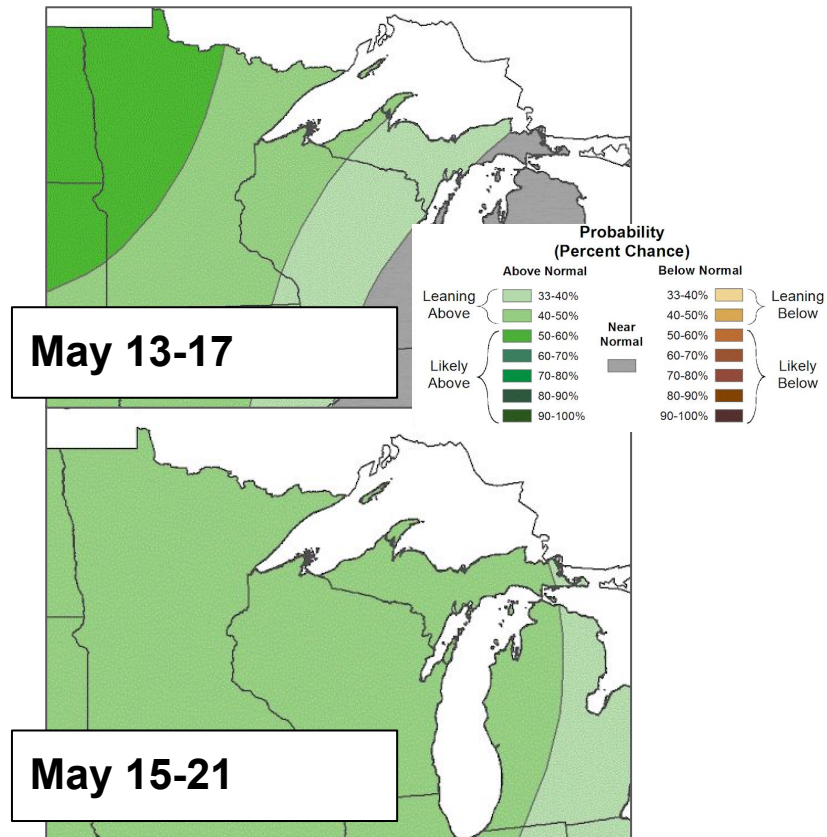
Temperature and Precipitation Outlooks Days 6-14

Possible shift back into a wet pattern towards the second half of the month

Temperature Outlooks



Precipitation Outlooks



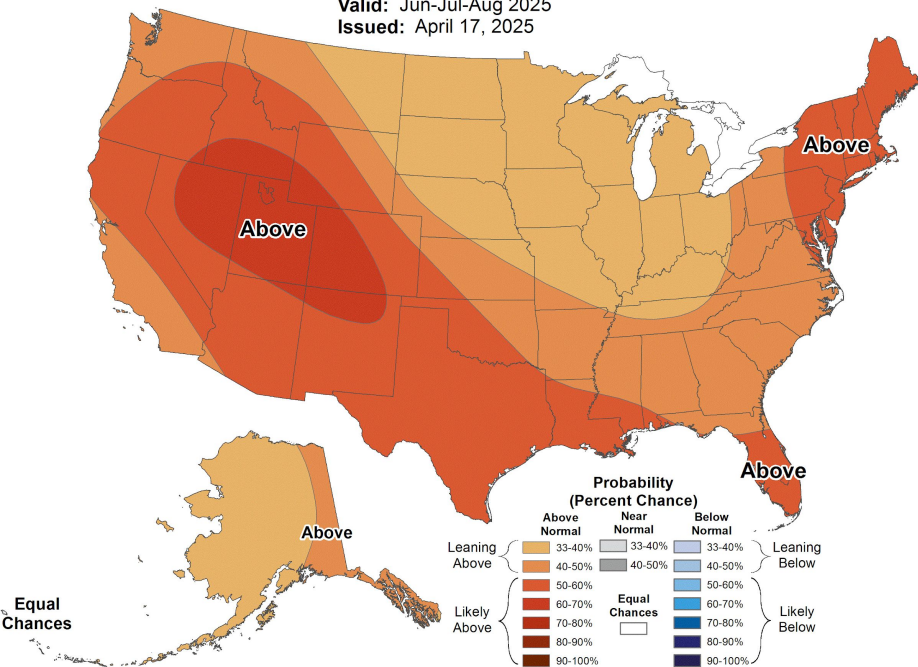


Summer Temperature and Precipitation Outlooks



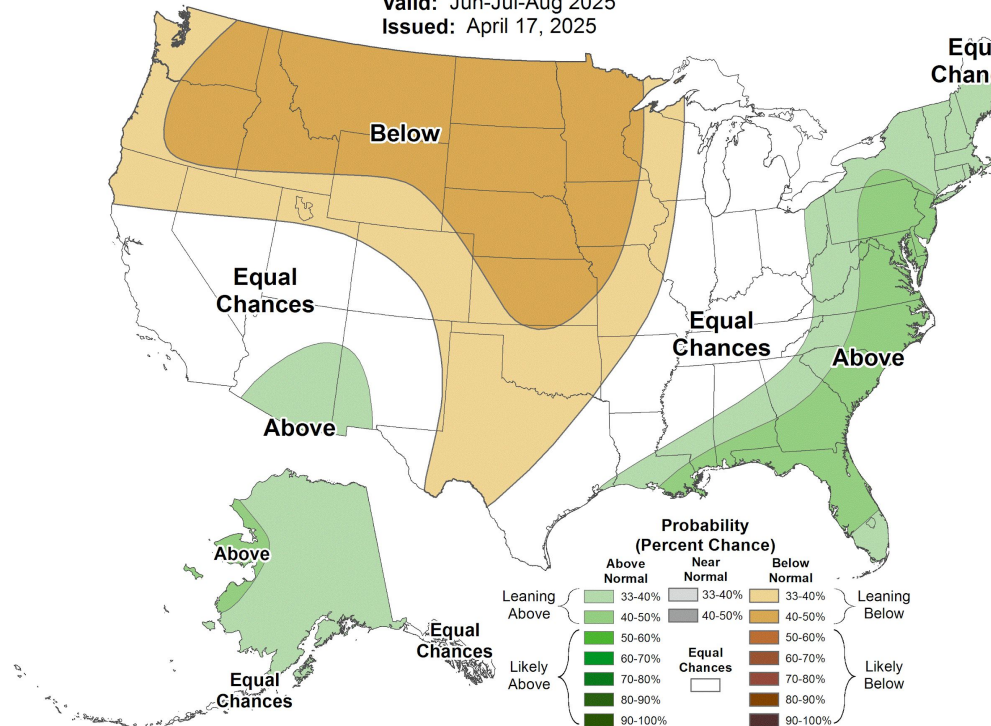
Seasonal Temperature Outlook

Valid: Jun-Jul-Aug 2025
Issued: April 17, 2025



Seasonal Precipitation Outlook

Valid: Jun-Jul-Aug 2025
Issued: April 17, 2025





Current & Expected River/Lake Levels

Next 6-10 Days and Beyond





Rainy Headwaters

South Kawishiwi River near Ely

HEFS - 10 Day River Level Probabilities

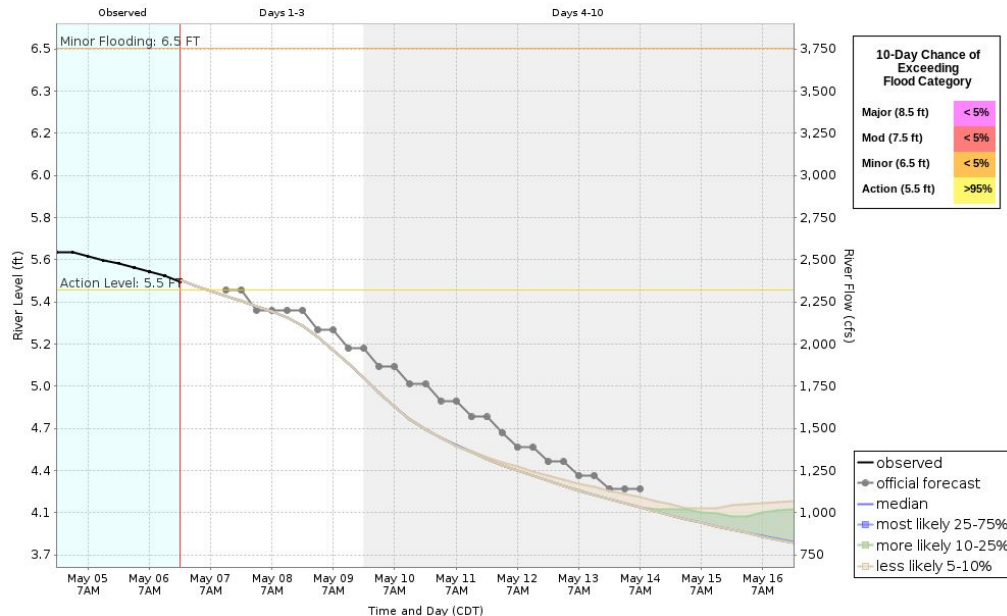
Based on Hydrologic Ensemble Forecast Service Model Simulations
Used to Estimate the Range of Possible River Levels

Ensemble Forecast for South Kawishiwi near Ely



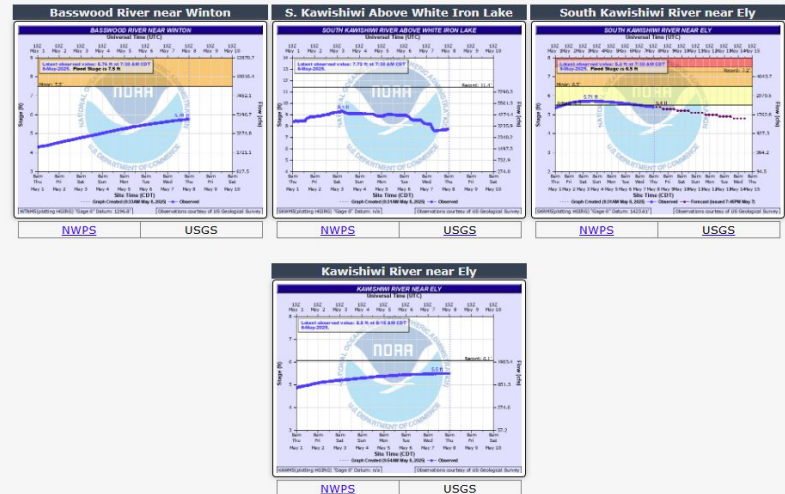
May 07 - May 17, 2025

South Kawishiwi River at Ely 9SE (SKRM5)



Model runtime: 07:00 PM CDT May 06 2025
North Central River Forecast Center

Rainy Headwaters



- High water cresting and slowly beginning to recede far in the eastern headwaters.



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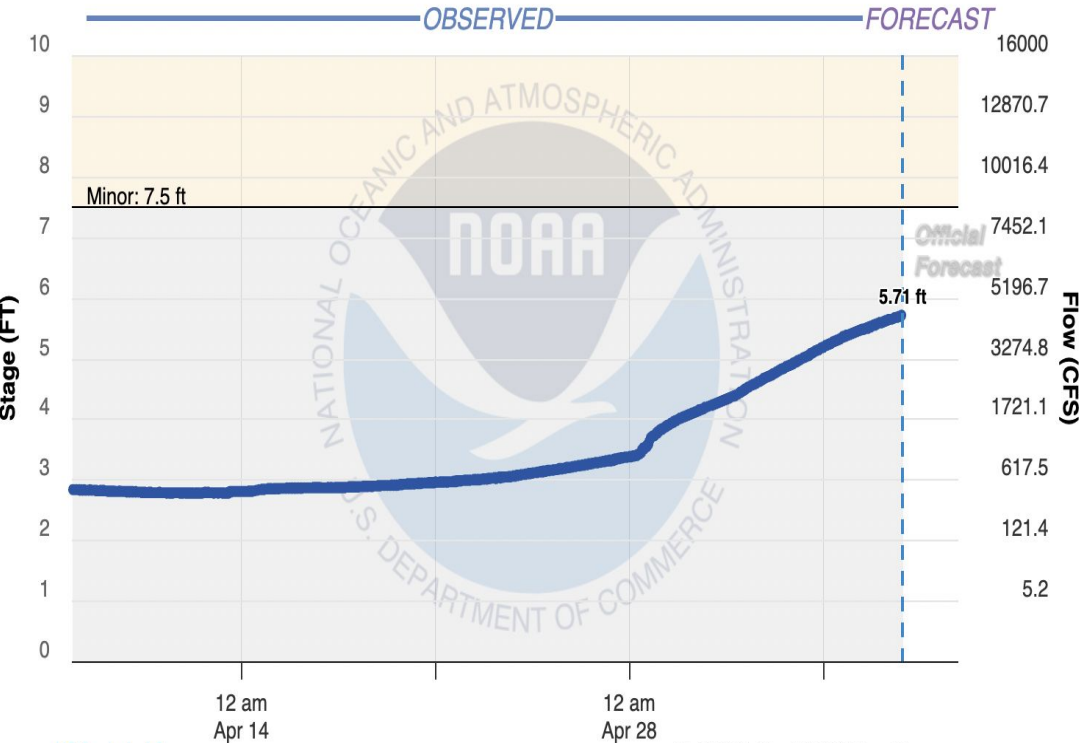
Basswood River/Lake

[Click here for hydrograph](#)

Latest observed value: 5.71 ft
8:30 PM CDT 7-May-2025
Flood Stage is 7.5 ft

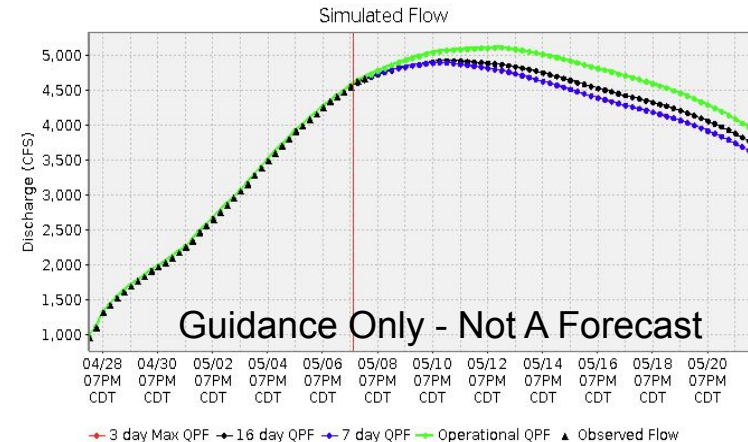
Basswood River near Winton

NWSLI: WTNM5, Reach ID: 7098203



Noticeable additional rises from rainfall on top of freshet. Crest possible through the weekend.

NCRFC Guidance
Basswood River near Winton, MN



Disclaimers: Not an official forecast - Model Guidance Only
The NCRFC Forecast includes 24 hours of forecast precipitation.

Created on 05/08/2025 at 08:14:10 AM CDT



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Vermilion River near Crane Lake

[Click here for hydrograph](#)

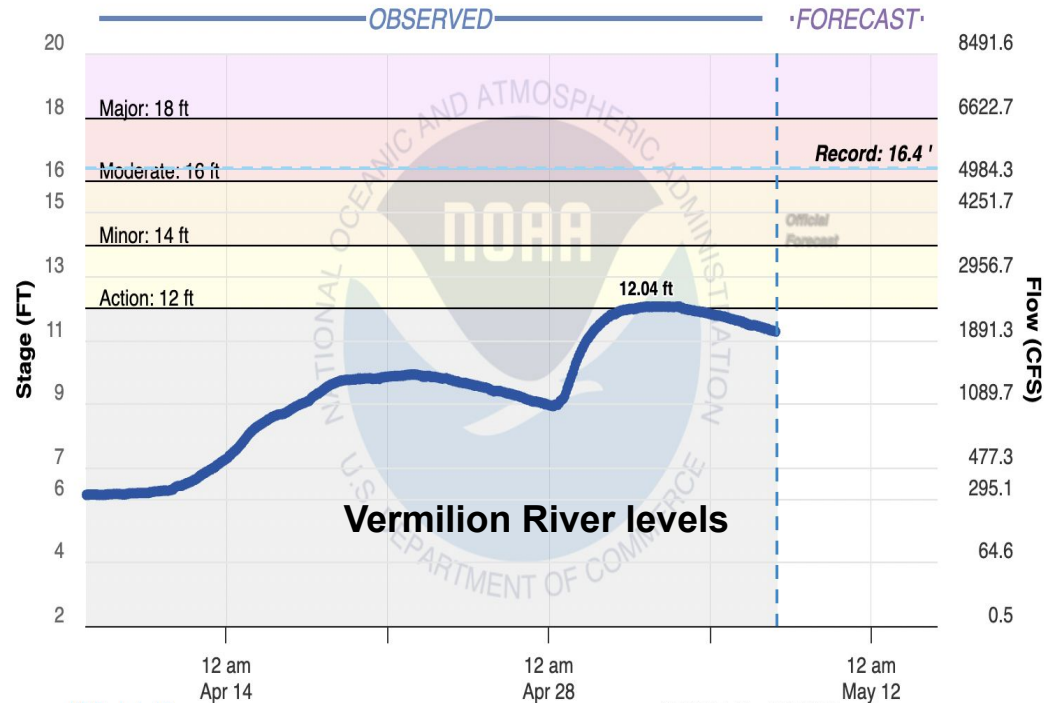
Latest observed value: 11.25 ft

8:30 PM CDT 7-May-2025

Flood Stage is 14 ft

Vermilion River (MN) at Crane Lake

NWSLI: CLKM5, Reach ID: 7140308



Rises from recent rain caused a pop up to action stage, starting to come back down.

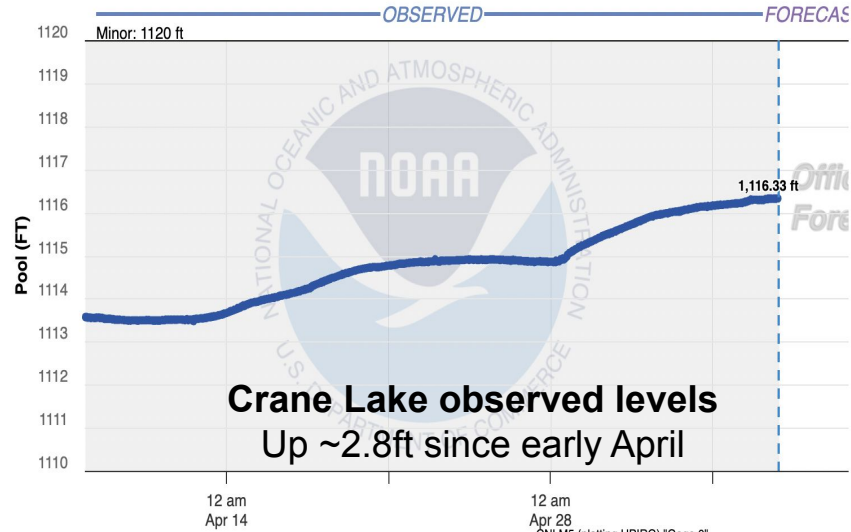
Latest observed value: 1116.33 ft

8:30 PM CDT 7-May-2025

Flood Stage is 1120 ft

Crane Lake at Crane Lake

NWSLI: CNLM5, Reach ID: 7156422





Namakan Lake (and Kabetogama Lake)

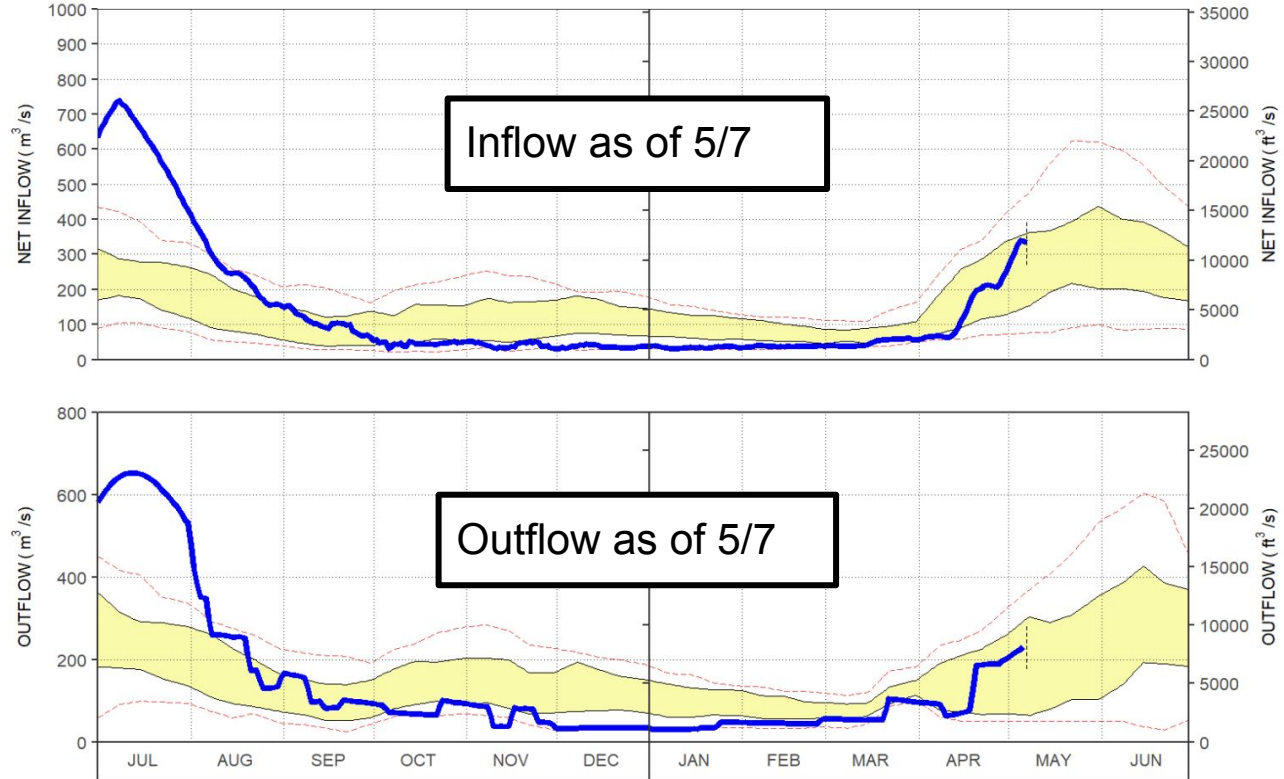
Namakan Lake Inflow / Outflow

Inflow

Increases steady to slightly increasing from headwater tributaries as recent rainfall runoff routes into the lake.

Outflow

Outflow slightly lower than inflow, so expect slow rises to continue.



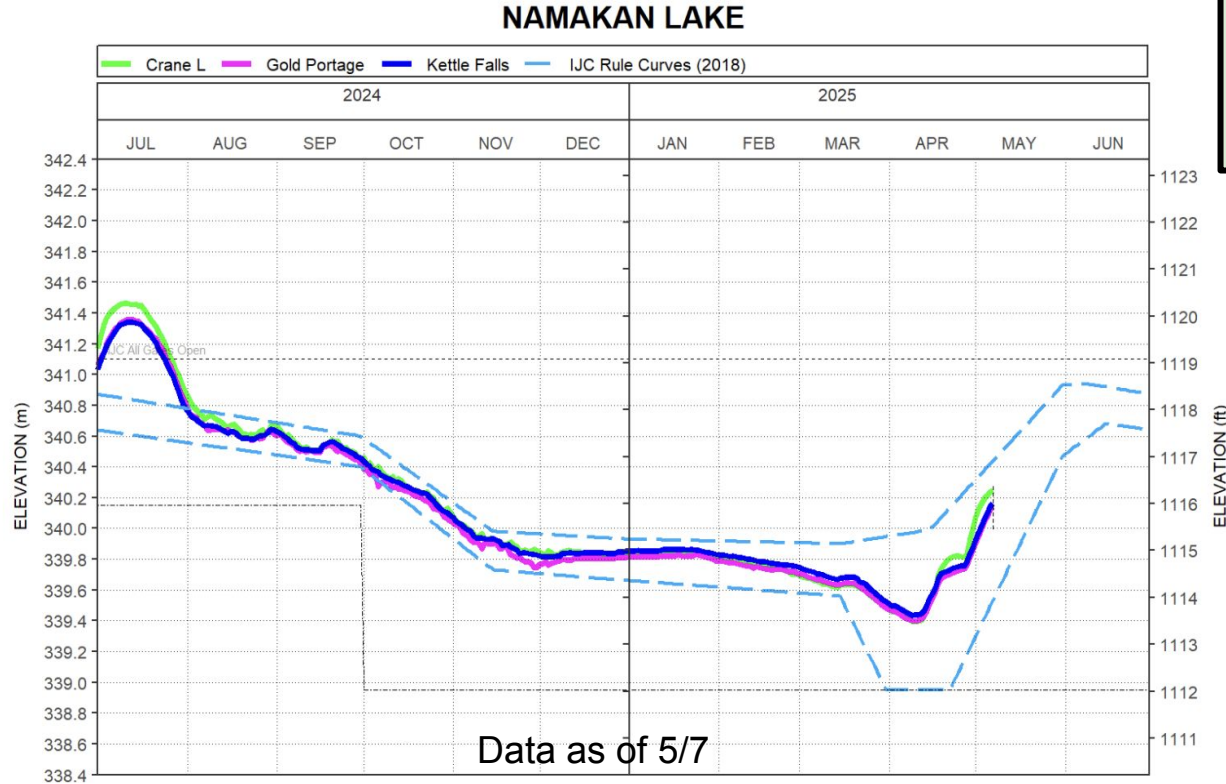
[Link to Plot Legend](#)





Namakan Lake (& Kabetogama Lake)

Namakan Lake Levels



Lake levels well within rule curves and around 3 feet below all gates open.

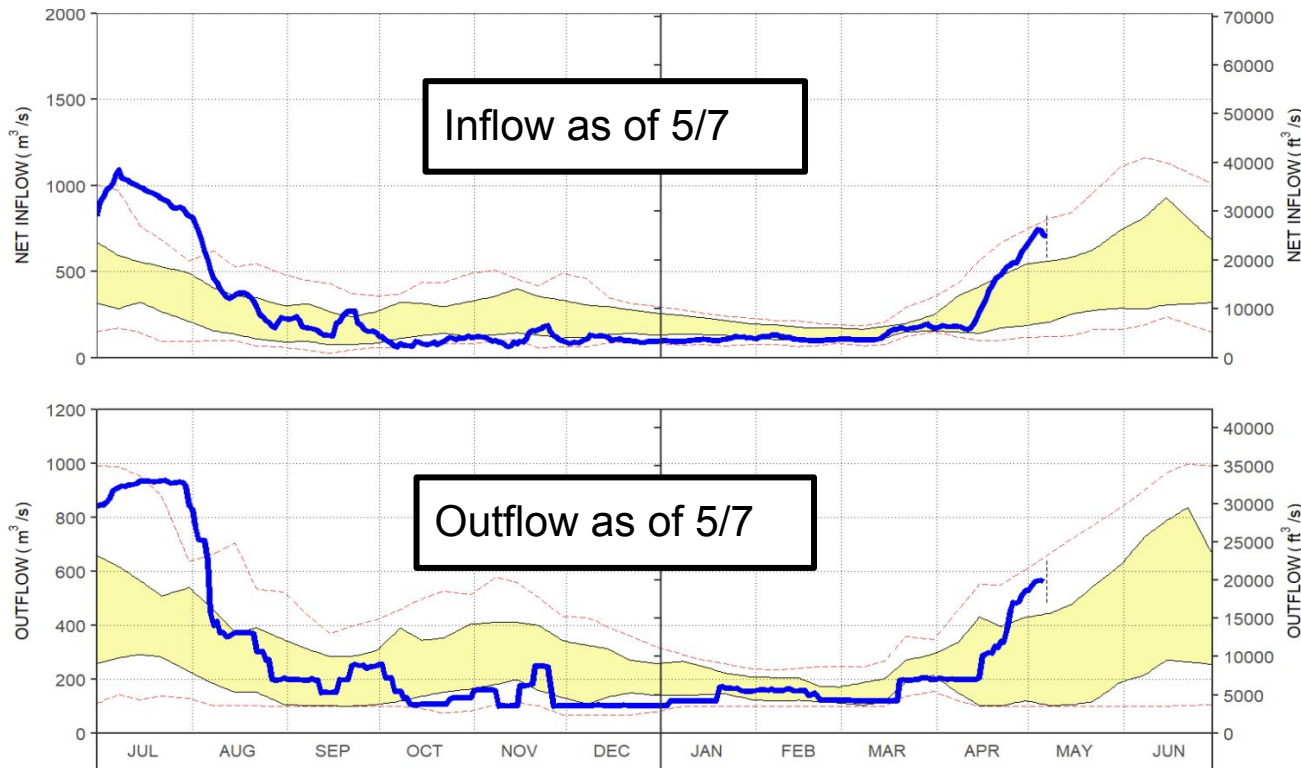
Dam operators targeting 40-65% of the rule curve bands.

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





Rainy Lake Inflow / Outflow



Inflow still higher than outflow. Dam operators working bring Rainy Lake back to 35-65% of rule curves, per [latest water level notices](#).

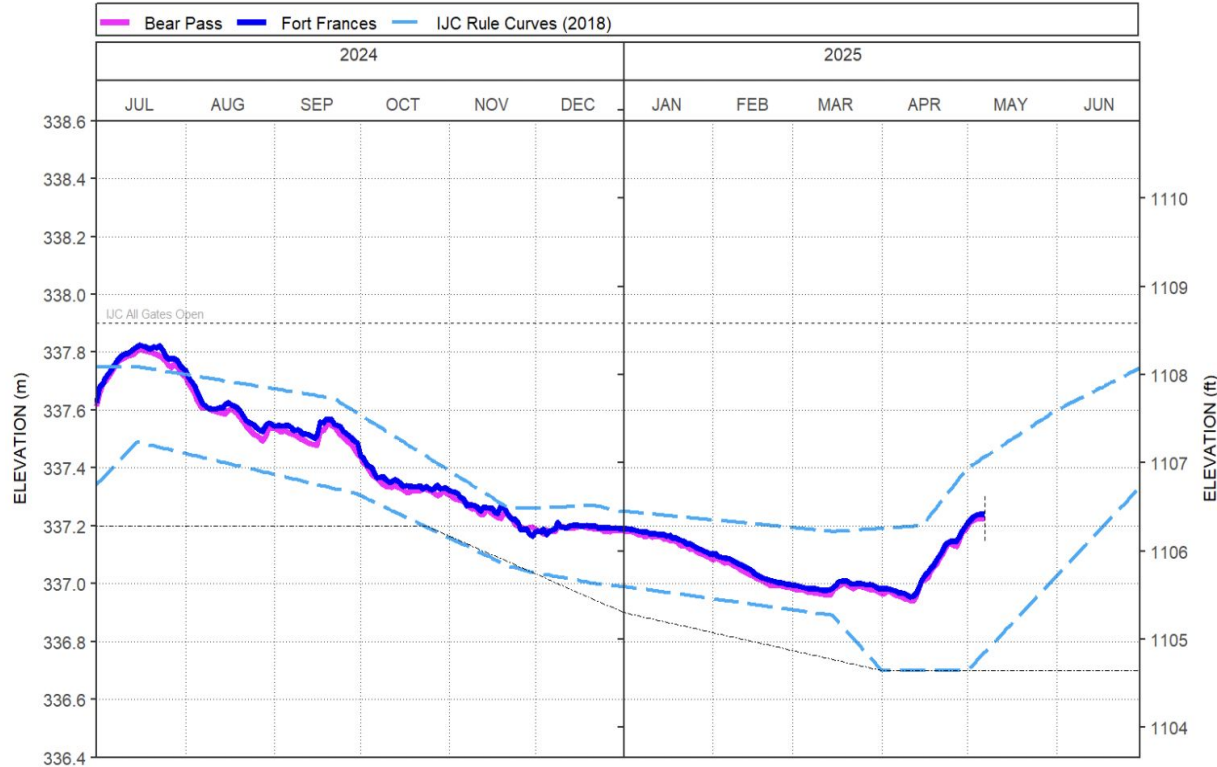




Rainy Lake

Rainy Lake Levels

RAINY LAKE



Dam operators working bring Rainy Lake back to 35-65% of rule curves

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

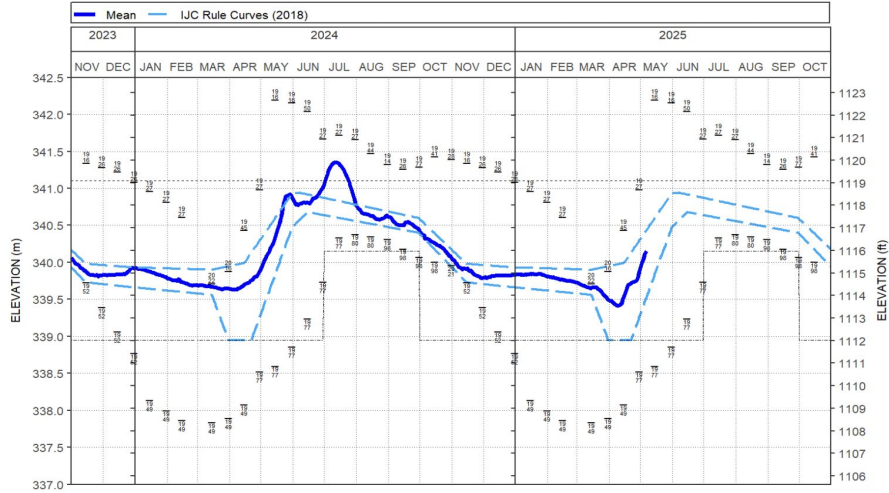




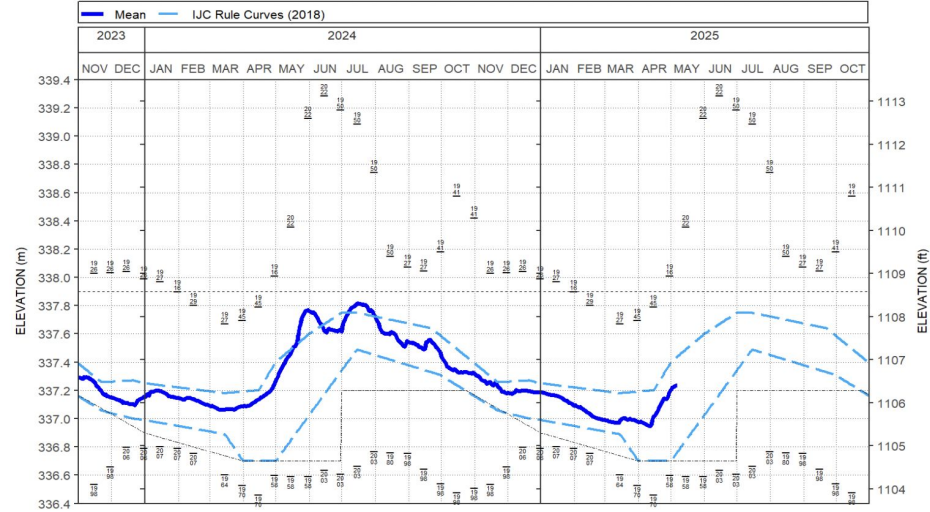
Big Picture - Rainy and Namakan Last Two Years

As of 5/7/2025

NAMAKAN LAKE



RAINY LAKE



- Rises are within rule curves - which also increase this time of year with the seasonal level rise.
- **At a similar level as this time last year.**





Rainy River Below International Falls Dam

Rises from recent rainfall

Littlefork River at Littlefork

Latest observed value: 6.8 ft

8:30 PM CDT 7-May-2025

Flood Stage is 22 ft

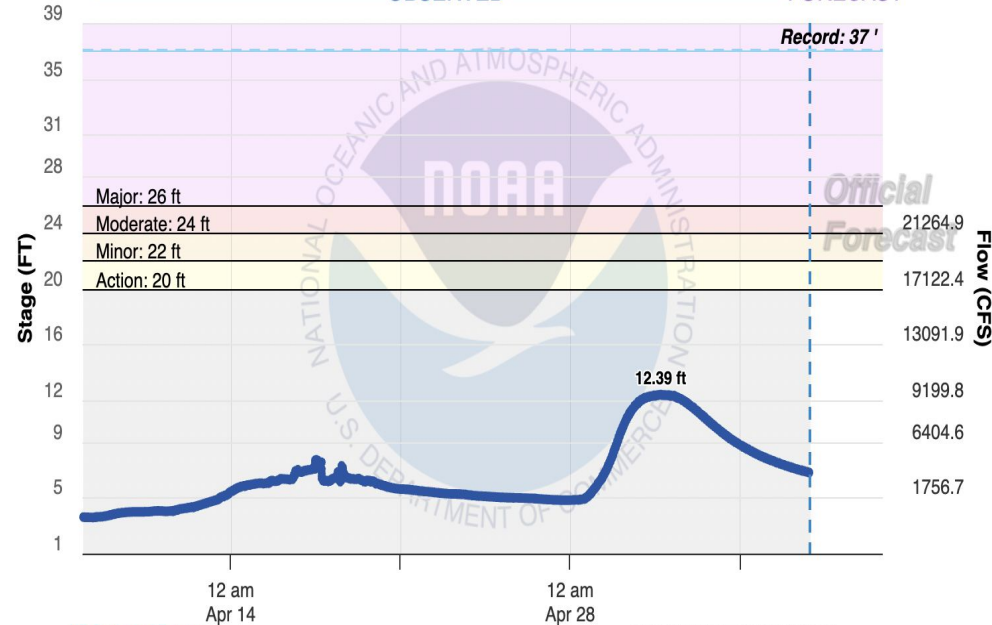
Little Fork River at Littlefork

NWSLI: LFKM5, Reach ID: 7171122

OBSERVED

FORECAST

Record: 37'

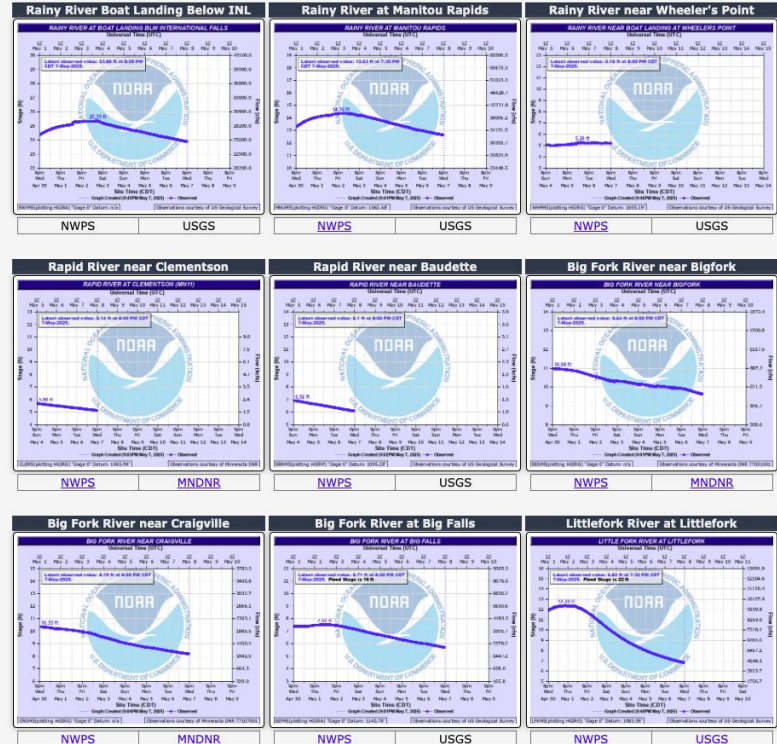


US Coastal Survey

LFKM5 (station USBCB) (Page 0)

Current Data - Last few days

Rainy River past International Falls/Fort Frances



National Oceanic and
Atmospheric Administration

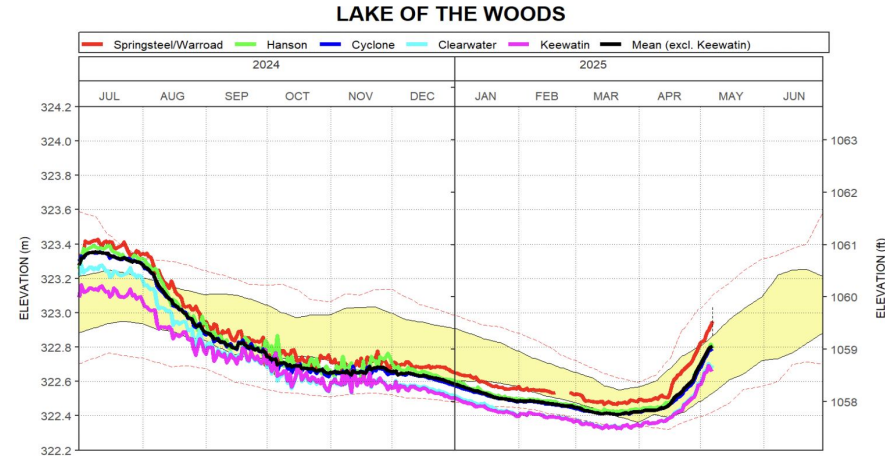
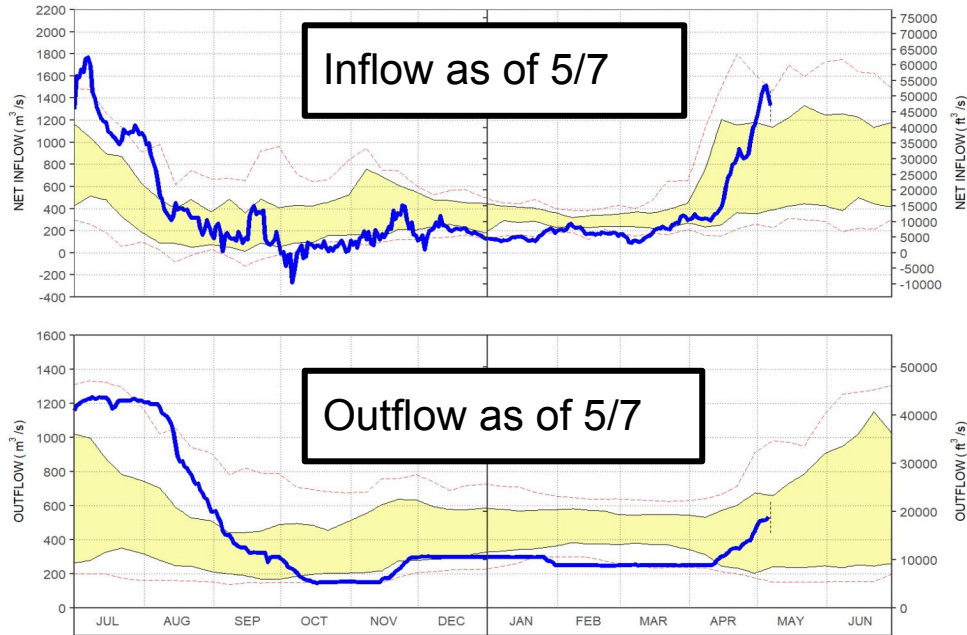
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Lake of the Woods

Observed Inflow/Outflow and Levels



Inflows high with higher releases from Rainy Lake and contributions Rainy River tributaries.





Summary

Report your impacts to NWS Duluth!

- **River flows are still high** across Rainy River headwaters. Gradual rises likely to continue downstream as excess water slowly works its way through.
 - Rates of rise are fairly mild and align with normal spring/early summer level increases.
 - Higher water, strong flows observed and continue into mid month, but no widespread flooding expected at this time.
- **Watershed will be sensitive to additional heavy rainfall** should it occur - similar set up to last Spring.

Find more information at <https://www.weather.gov/dlh/rainyriverbasin> or water.noaa.gov/wfo/dlh



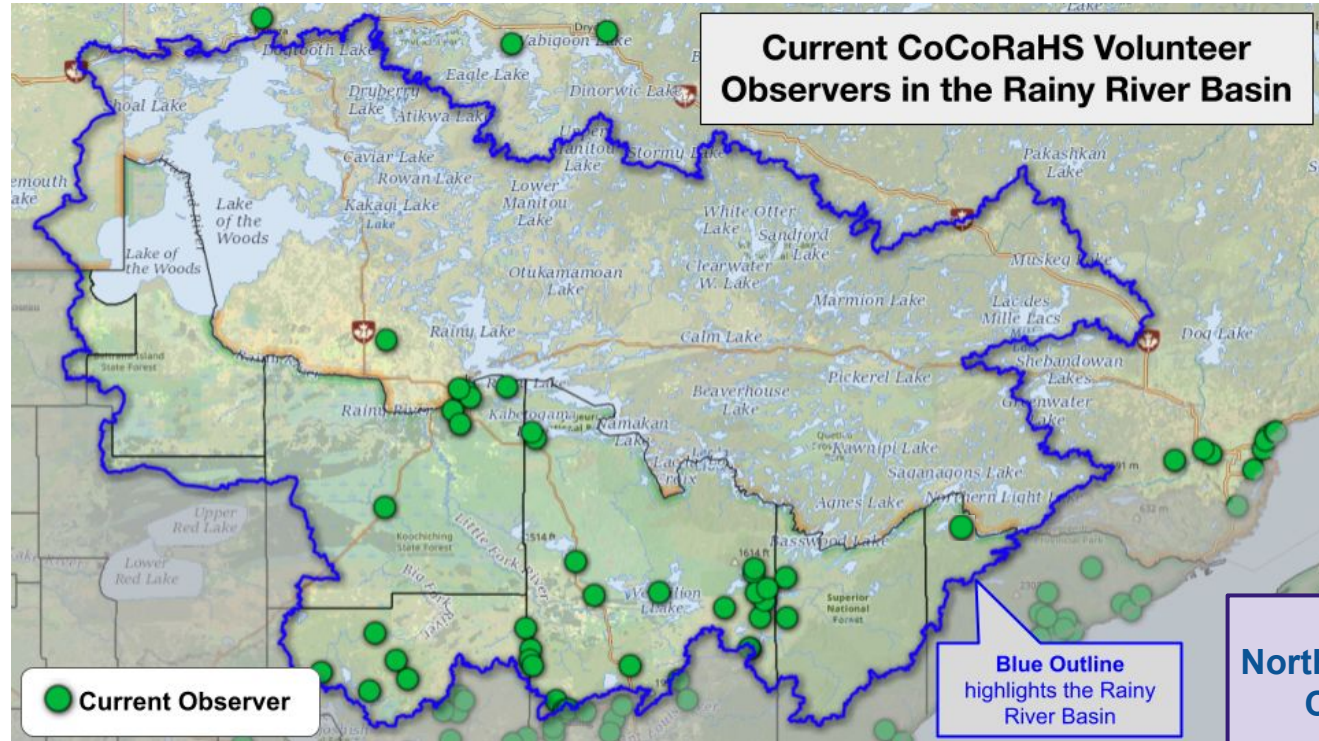


NWS Seeks Weather Observers in the Rainy River Basin!

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 cocoahs.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@cocoahs.org



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U.S. Department of Commerce

Gauges available through the Koochiching County SWCD

National Weather Service
Duluth, MN