



Rainy River/Rainy Lake Basin Summer 2024

Tuesday July 2, 2024 Briefing

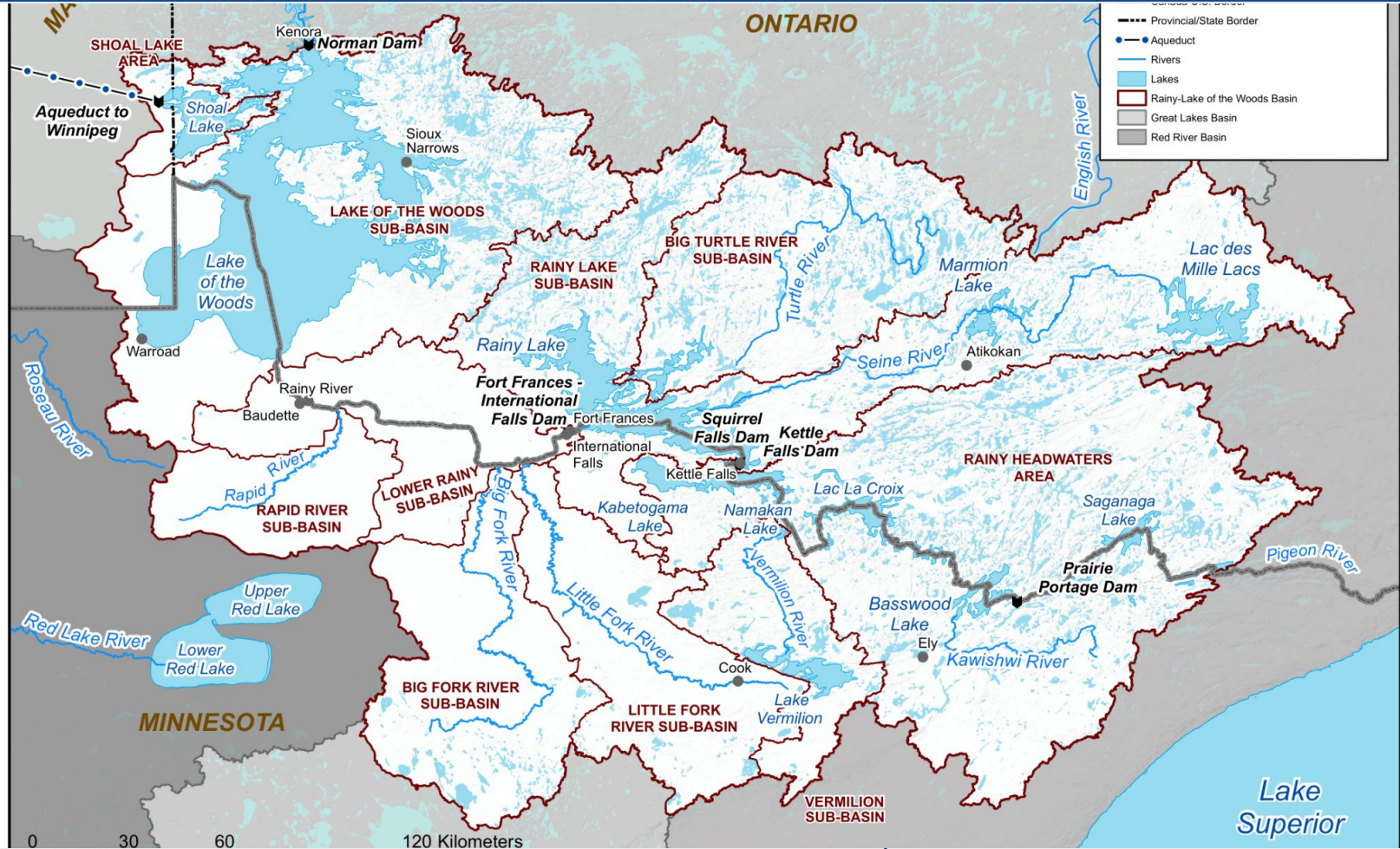
This information is provided for situational awareness on river and lake levels. No update scheduled at this time.

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

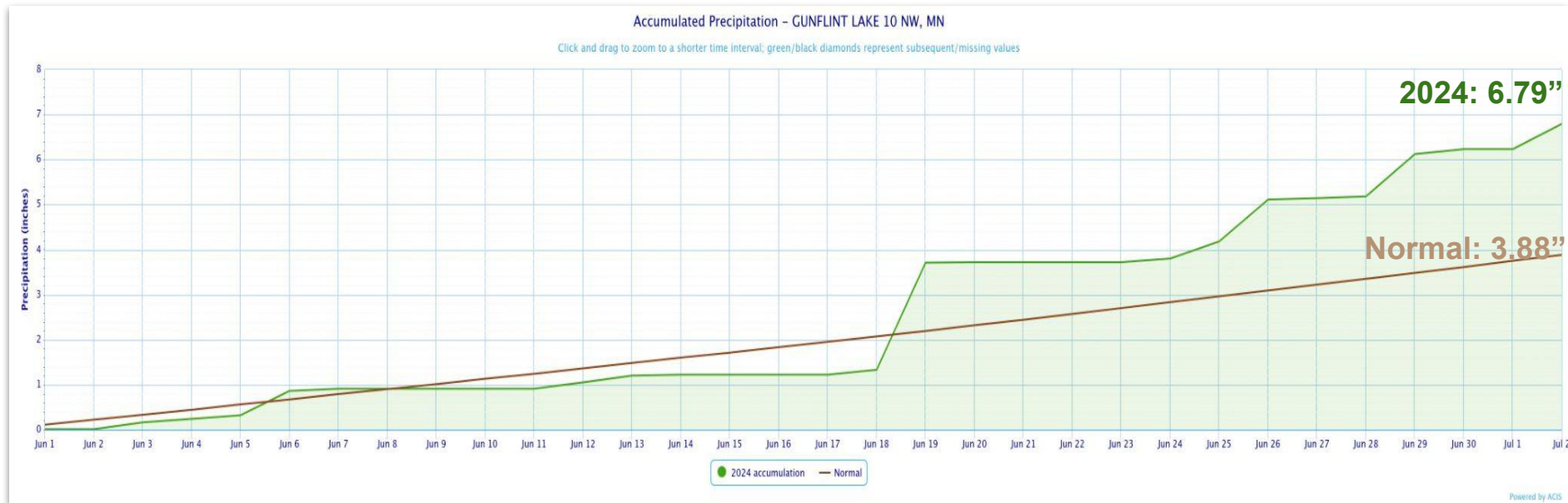




Recent Past Weather

Rainfall Last 30 Days **At Seagull Lake** (Since June 1) **2024** and **Normal**

- Rain total June 1st to July 1st was 3rd highest for that period (2.91" more than normal)



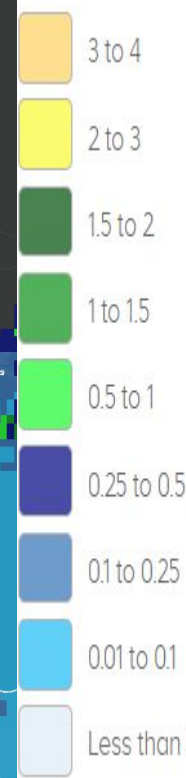


Recent Past Weather

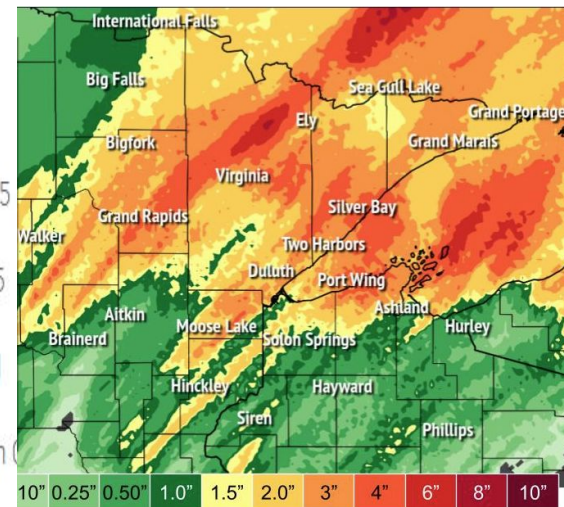
Last 72 Hours (Ending Tuesday Morning, July 2nd)

Last 3 Days Rainfall ending July 2

RAINFALL (inches)



Recent additional rains along the border. Heavy rains of 3-8" on the event of June 18th (below)

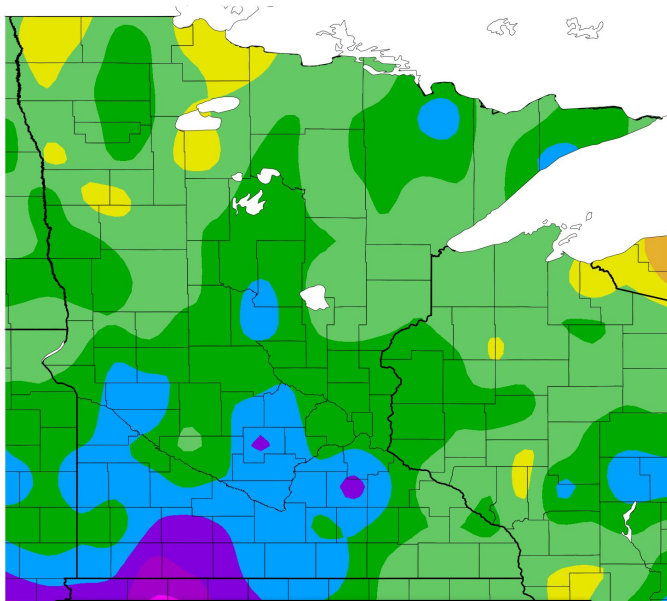




Precipitation Departure from 1991-2020 Normals

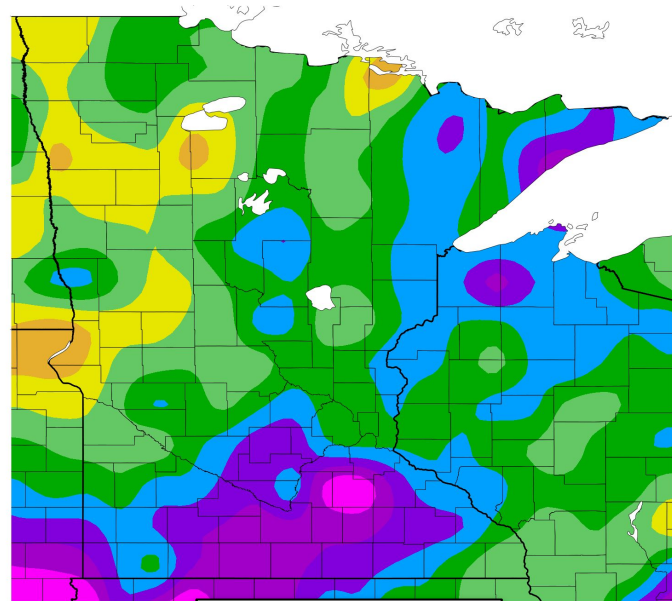
Inches above or below normal precipitation for the period.

Departure from Normal Precipitation (in)
10/1/2023 - 7/1/2024



Water Year (since Oct 1)

Departure from Normal Precipitation (in)
6/2/2024 - 7/1/2024



Last 30 Days

Generated 7/2/2024 at

Regional Climate Centers:

ated 7/2/2024 at HPRCC using

NOAA Regional Climate C



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

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



Basin Precipitation Climatology ending June 2024

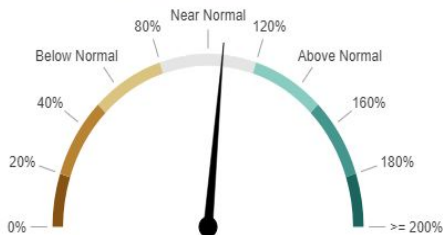
Near Normal to far above normal precipitation observed

International Falls

Month: June 2024: 4.19"

June 2024

June 1-30, 2024 (30 of 30 days covered by obs)

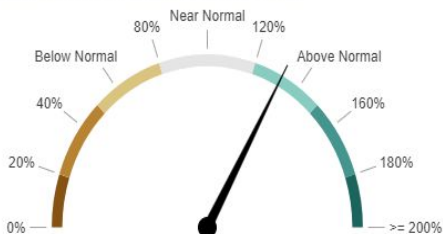


PRISM Normal 3.94"
Departure from Normal ↑ 0.25" : 106% of Normal

Year-To-Date: 16.09"

2024

Jan 1 to Jul 2, 2024 (184 of 184 days covered by obs)

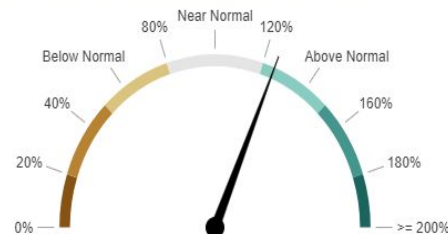


PRISM Normal 12.17"
Departure from Normal ↑ 3.92" : 132% of Normal

Water Year-To-Date: 21.58"

Oct 2023 - Sept 2024

Oct 1, 2023 to Jul 2, 2024 (276 of 276 days covered by obs)



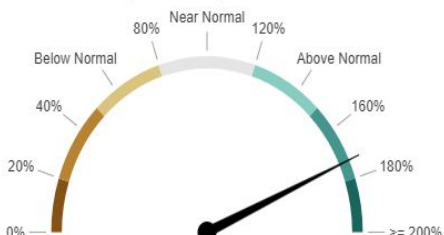
PRISM Normal 17.33"
Departure from Normal ↑ 4.25" : 125% of Normal

Ely

Month: June 2024: 6.91"

June 2024

June 1-30, 2024 (30 of 30 days covered by obs)

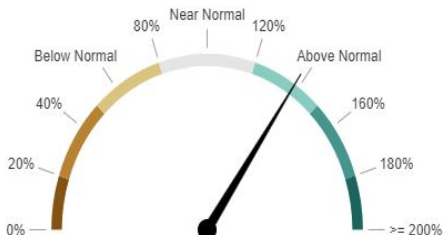


NOAA Normal 3.99"
Departure from Normal ↑ 2.92" : 173% of Normal

Year-To-Date: 16.80"

2024

Jan 1 to Jul 2, 2024 (184 of 184 days covered by obs)

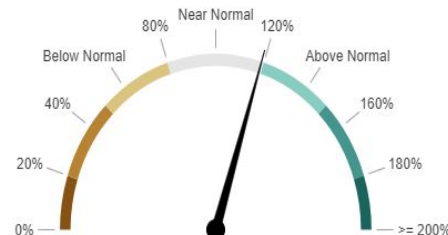


NOAA Normal 12.21"
Departure from Normal ↑ 4.59" : 138% of Normal

Water Year-To-Date: 21.50"

Oct 2023 - Sept 2024

Oct 1, 2023 to Jul 2, 2024 (276 of 276 days covered by obs)



NOAA Normal 18.07"
Departure from Normal ↑ 3.43" : 119% of Normal





Forecast Weather

Next 6-14 Days

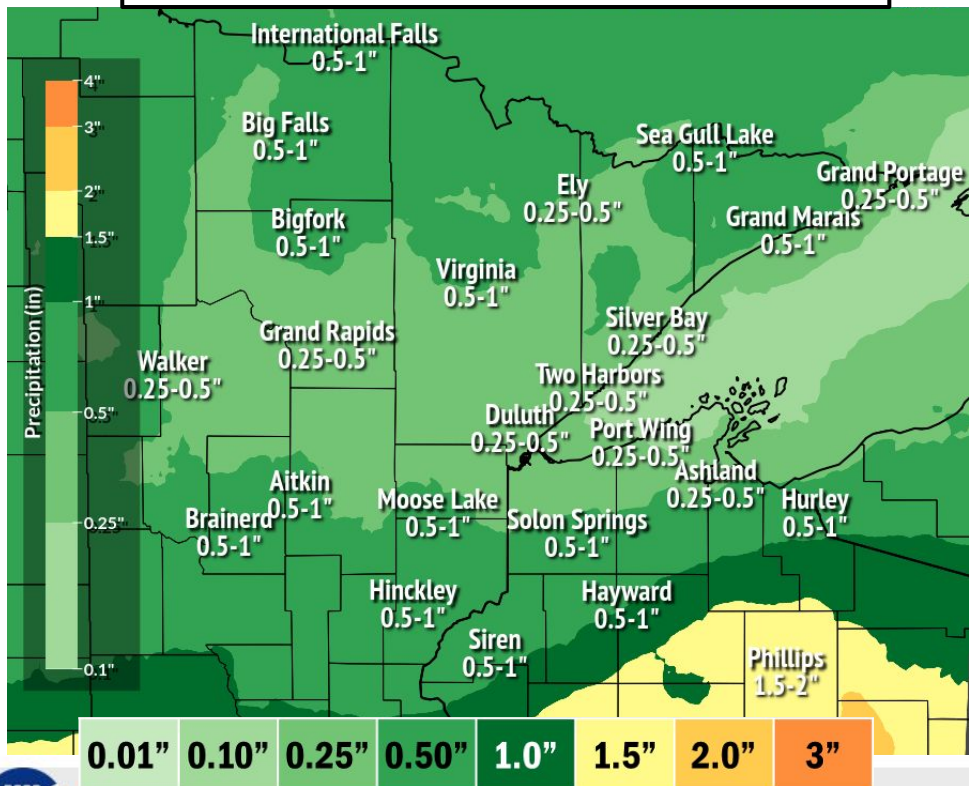




Precipitation Forecast - Current NWS Forecast

Basin Average Precipitation

Forecast Rainfall 7/2 - 7/9



- Passing chances for light rain through late week
- Possible more widespread rain this weekend.

Probability of Precipitation Forecast (%)

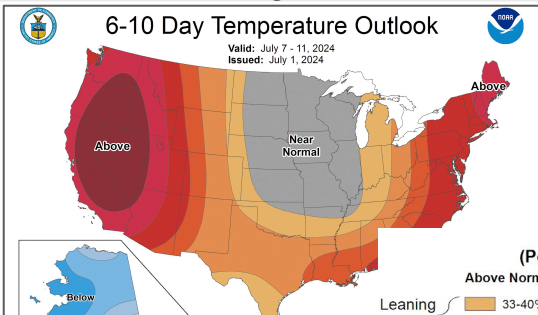
	7/3	7/4	7/5	7/6	7/7	7/8	7/9	7/10
	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed
Big Falls	35	20	15	45	65	25	30	15
Crane Lake	35	20	20	35	70	35	35	20
Ely	35	25	30	30	65	35	35	20
Grand Marais	35	35	30	15	55	35	30	25
Hibbing	30	30	35	45	70	35	35	20
International Falls	35	15	15	45	70	30	35	20
Kabetogama	35	15	15	40	70	30	35	20
Orr	35	15	25	40	70	35	35	20
Seagull Lake	35	30	25	20	60	40	35	20
Silver Bay	25	25	35	20	60	40	35	20



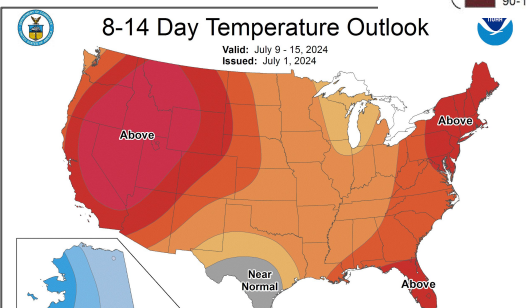
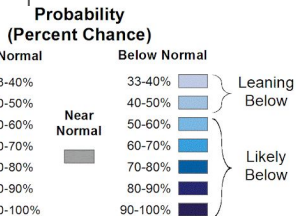
Temperature and Precipitation Outlooks Days 6-14

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

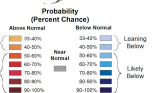
Temperature Outlooks



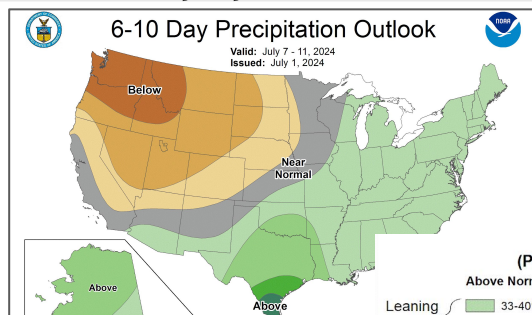
July 7-11



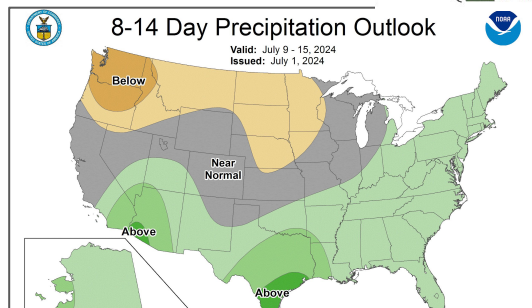
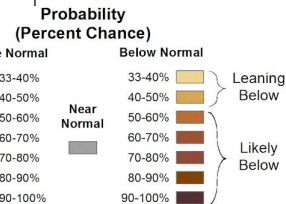
July 9-15



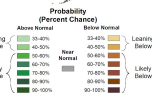
Precipitation Outlooks



July 7-11



July 9-15





Current & Expected River/Lake Levels

Next 6-10 Days and Beyond





Rainy Headwaters

South Kawishiwi River near Ely

HEFS - 10 Day River Level Probabilities

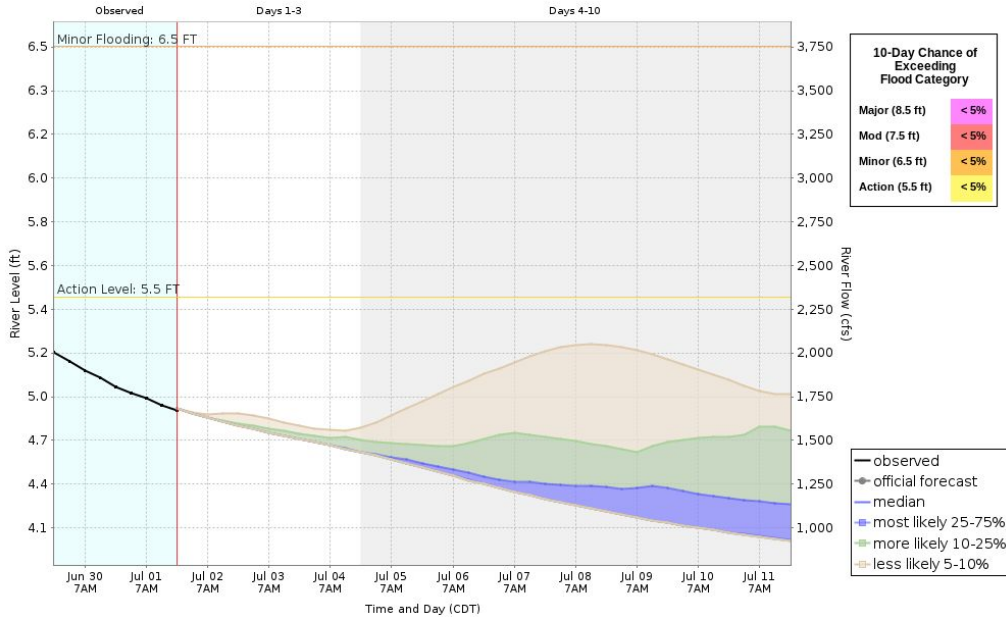
Based on Hydrologic Ensemble Forecast Service Model Simulations Used to Estimate the Range of Possible River Levels

Ensemble Forecast for South Kawishiwi near Ely



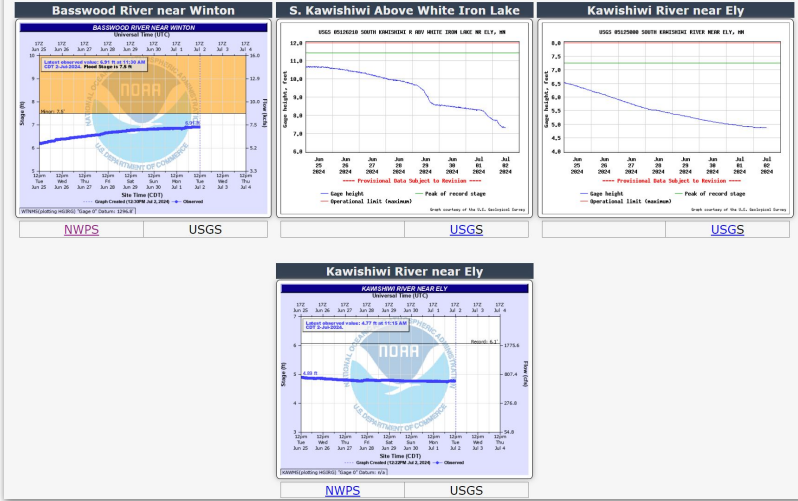
Jul 02 - Jul 12, 2024

South Kawishiwi River at Ely 9SE (SKRM5)



Model runtime: 07:00 PM CDT Jul 01 2024
North Central River Forecast Center

Rainy Headwaters



- High water cresting and slowly beginning to recede far in the eastern headwaters.
- High water (but not flooding) may persist leading to high lake levels and fast river flows.



National Oceanic and Atmospheric Administration

U.S. Department of Commerce

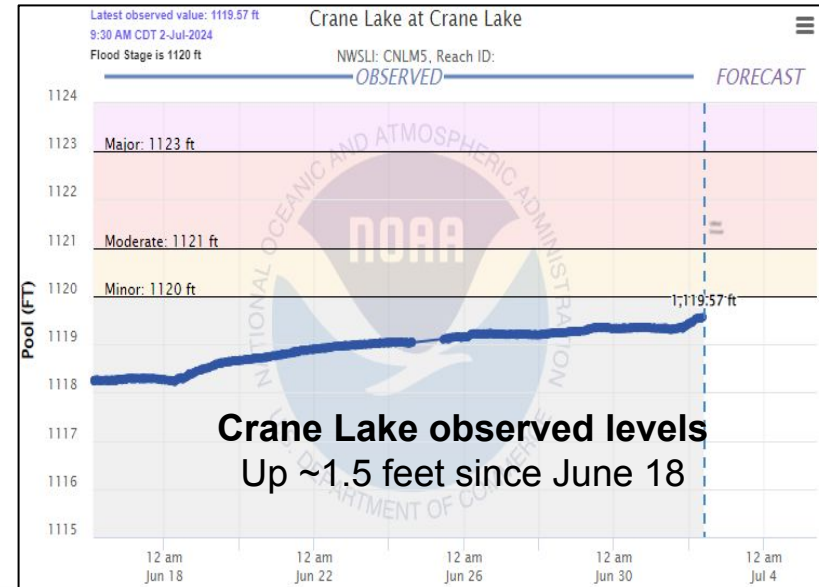
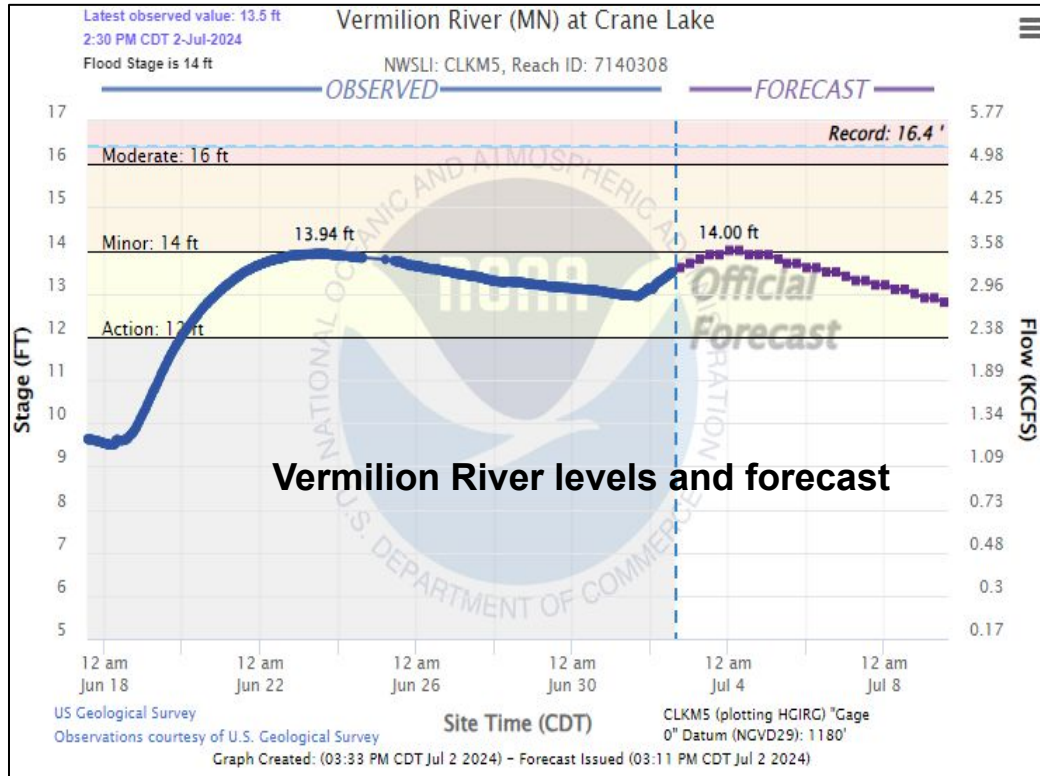
National Weather Service
Duluth, MN & North Central River Forecast Center



Vermilion River near Crane Lake

[Click here for hydrograph](#)

Rises from recent rain caused strong river response. **High water remains.** Still a lot of water in Lake Vermilion yet to move through.





Namakan Lake (and Kabetogama Lake)

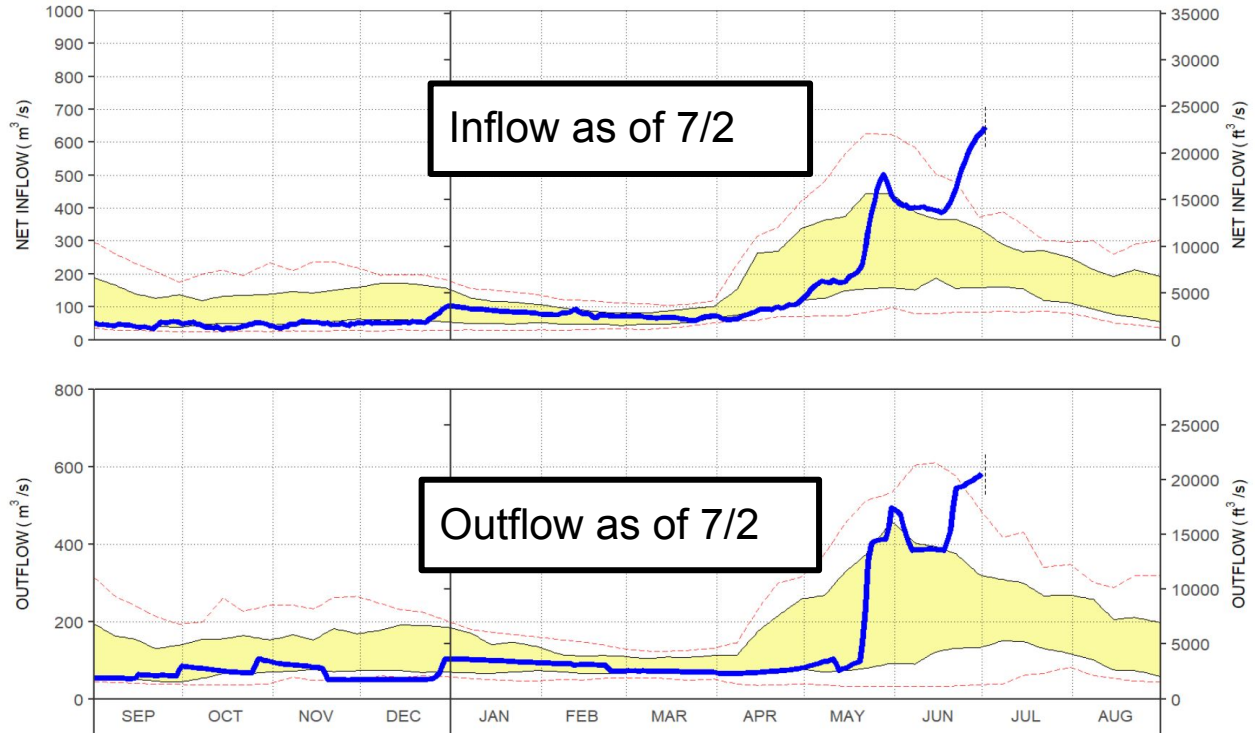
Namakan Lake Inflow / Outflow

Inflow

Increases will continue from headwater tributaries as recent rainfall runoff routes into the lake.

Outflow

Outflow slightly lower than inflow, so expect slow rises to continue. Dam operators working to maximize outflow, per [latest water level notices](#).



[Link to Plot Legend](#)

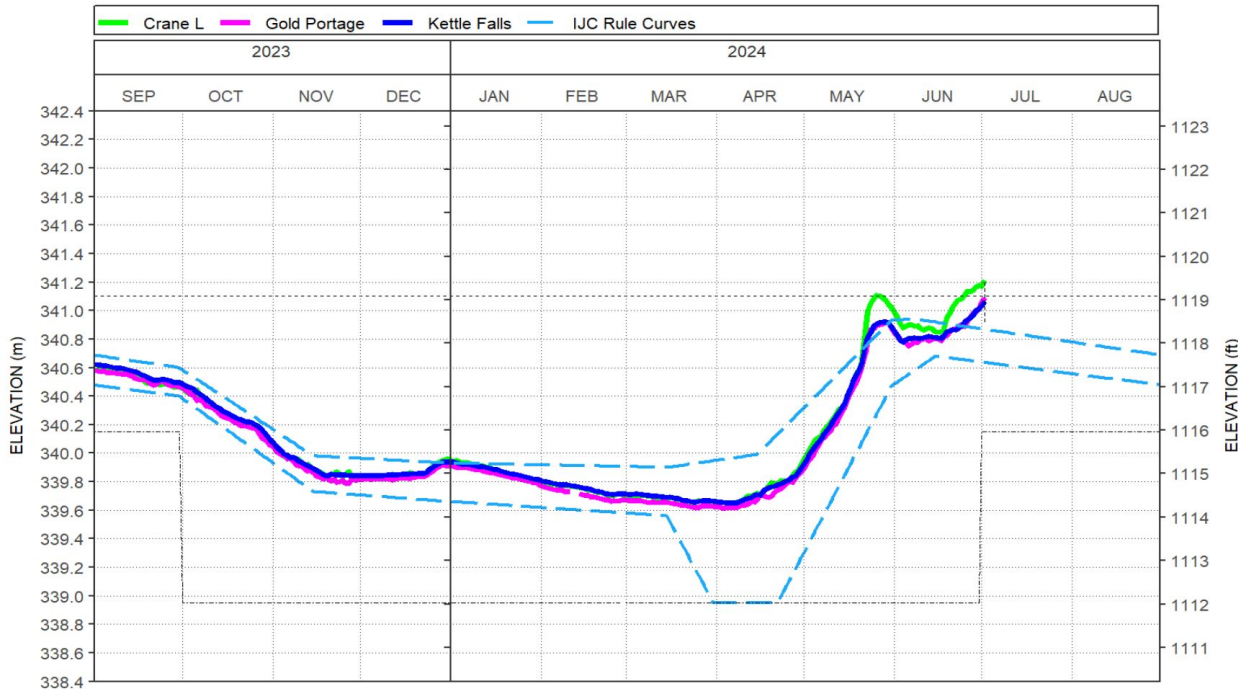




Namakan Lake (& Kabetogama Lake)

Namakan Lake Levels

NAMAKAN LAKE



Data as of 7/2

Lake levels exceeding the rule curve by about 6-8”.

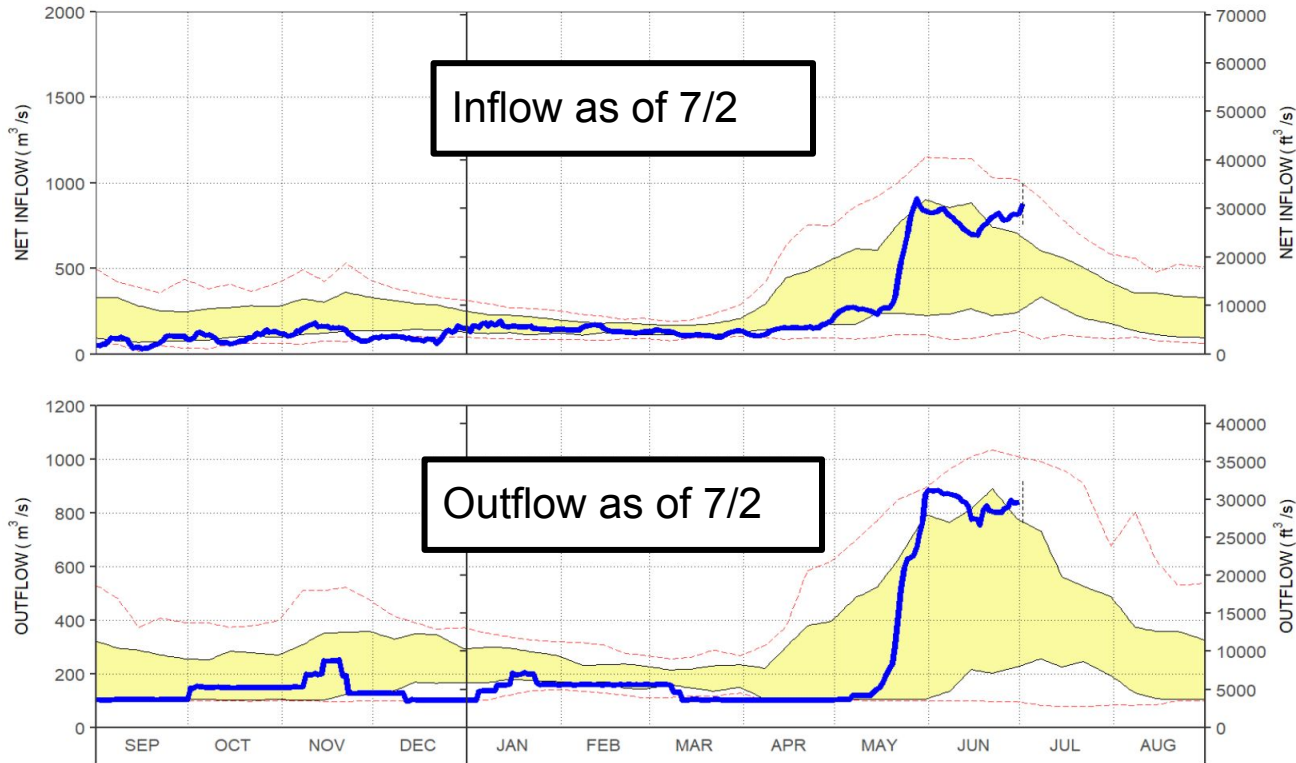
Level increases continue as water slowly moves through the system.

Inflow is slightly higher than outflow. **All logs have been pulled from dams, maximizing outflow.**

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



Rainy Lake Inflow / Outflow



Inflow still *slightly* higher than outflow. Dam operators working to maximize outflow, per [latest water level notices](#).



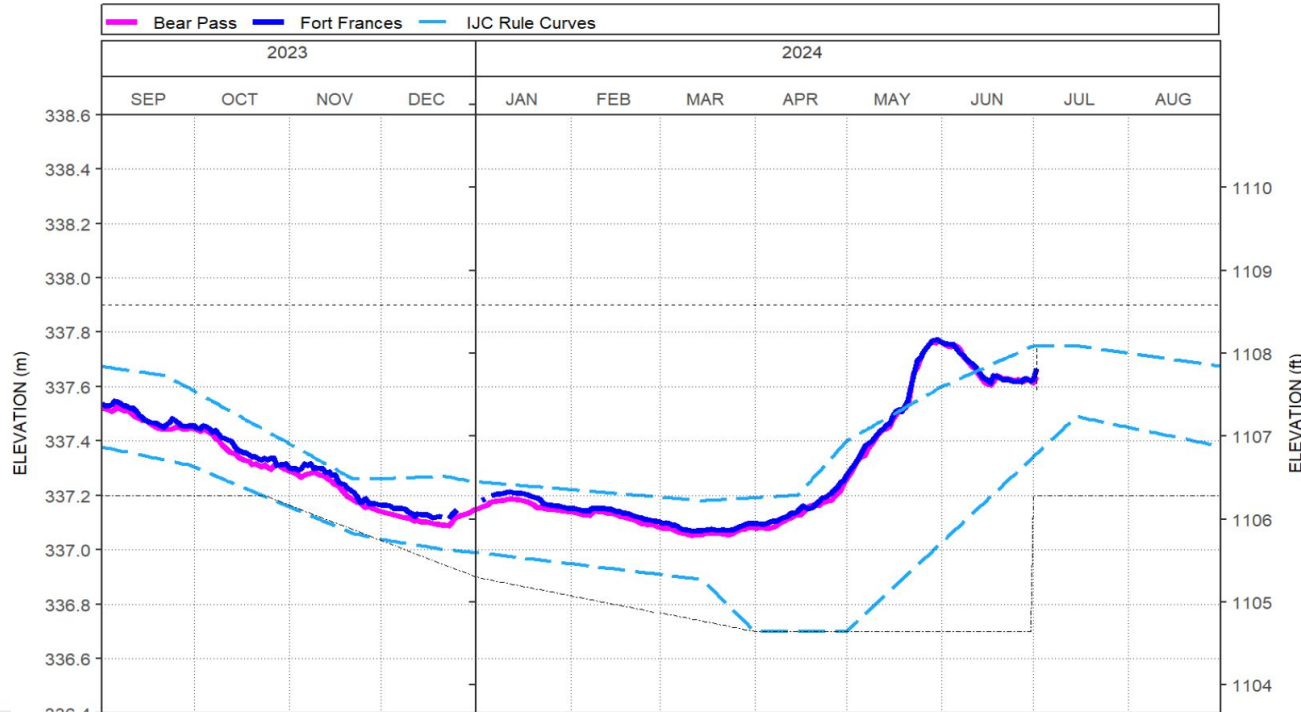
Rainy Lake

Rainy Lake Levels



ISSUED: 2024-07-02
Provisional Data

RAINY LAKE



Lake levels returned to rule curve. Additional rises possible.

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

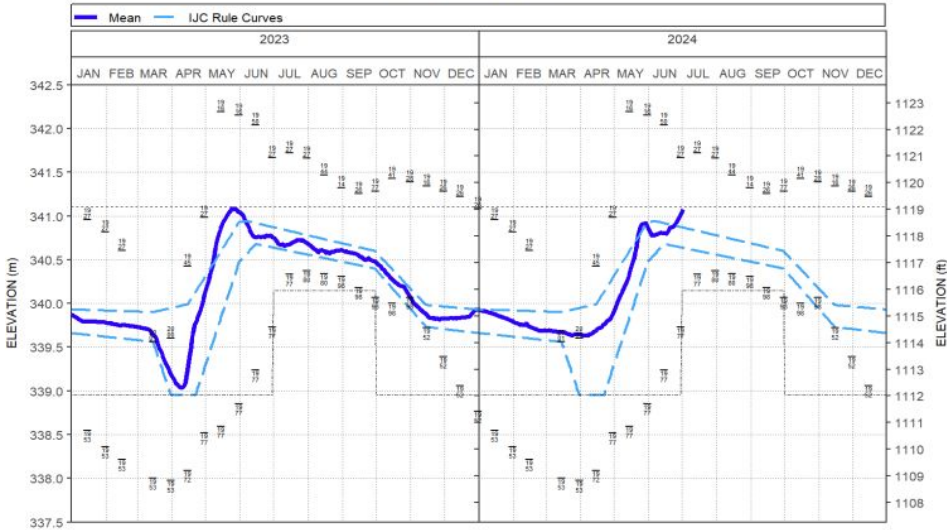
[Read about active regulation by The Water Levels Committee](#)



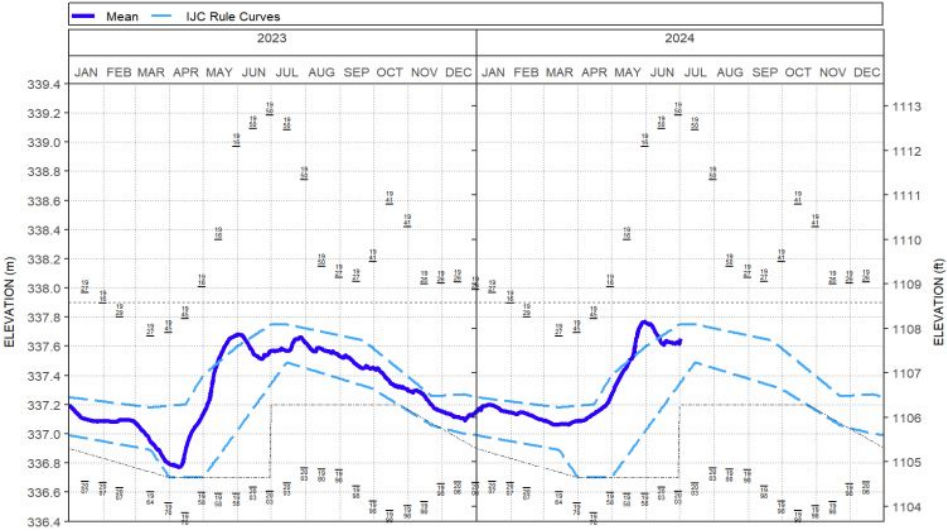
Big Picture - Rainy and Namakan Last Two Years

As of 7/2/2024

NAMAKAN LAKE



RAINY LAKE



- Rises this spring just outside rule curve on Rainy Lake were similar to those from snowmelt during Spring 2023.
- **Additional rises on Namakan Lake reaching Spring 2023 high water levels. Still 3.5 ft below 2022 peak crest.**

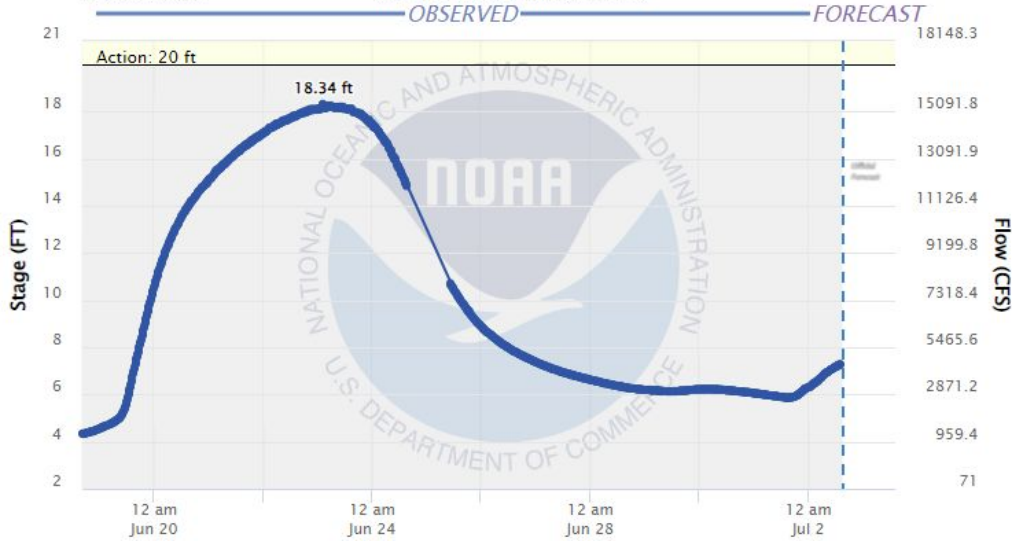




Rainy River Below International Falls Dam

Rises from recent rainfall

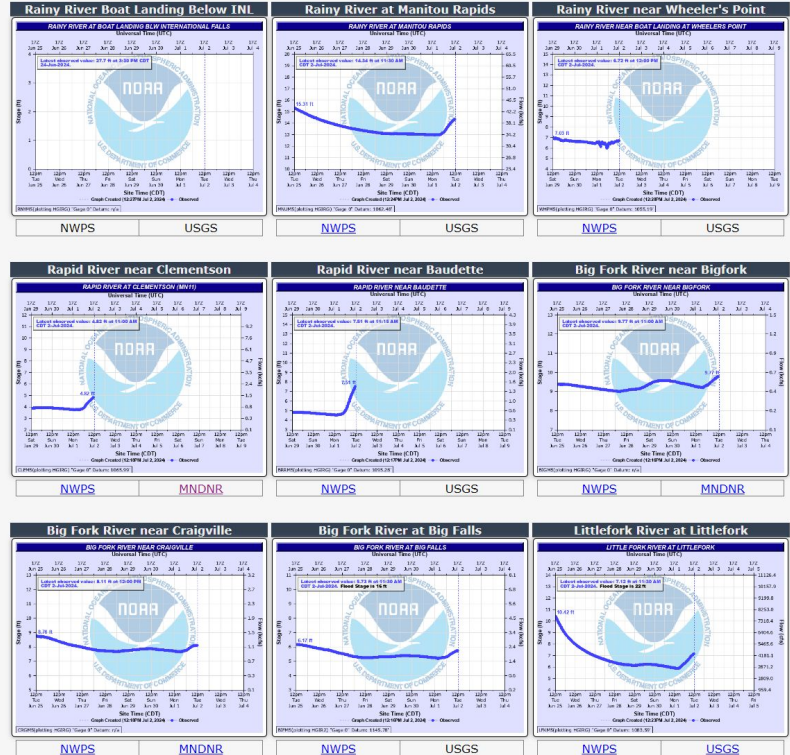
Littlefork River at Littlefork



Heavy rain in across the northern tier of the Littlefork basin will result in a stage rise to 7.2' to 7.6' (well below minor flooding).

Current Data - Last few days

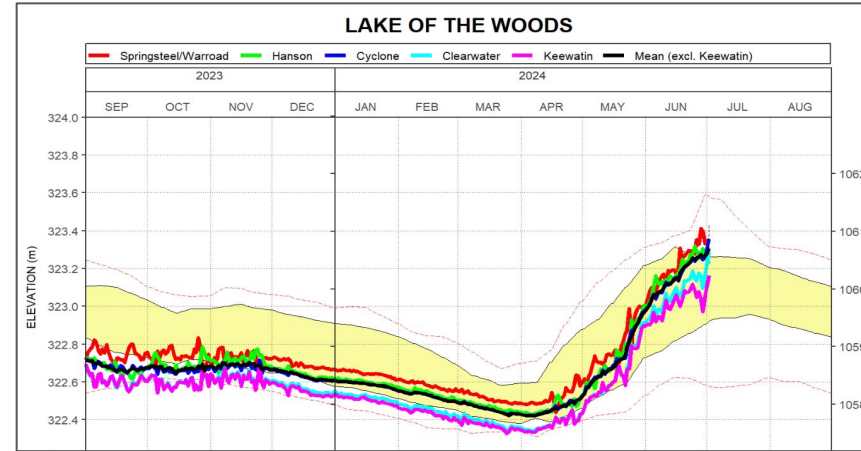
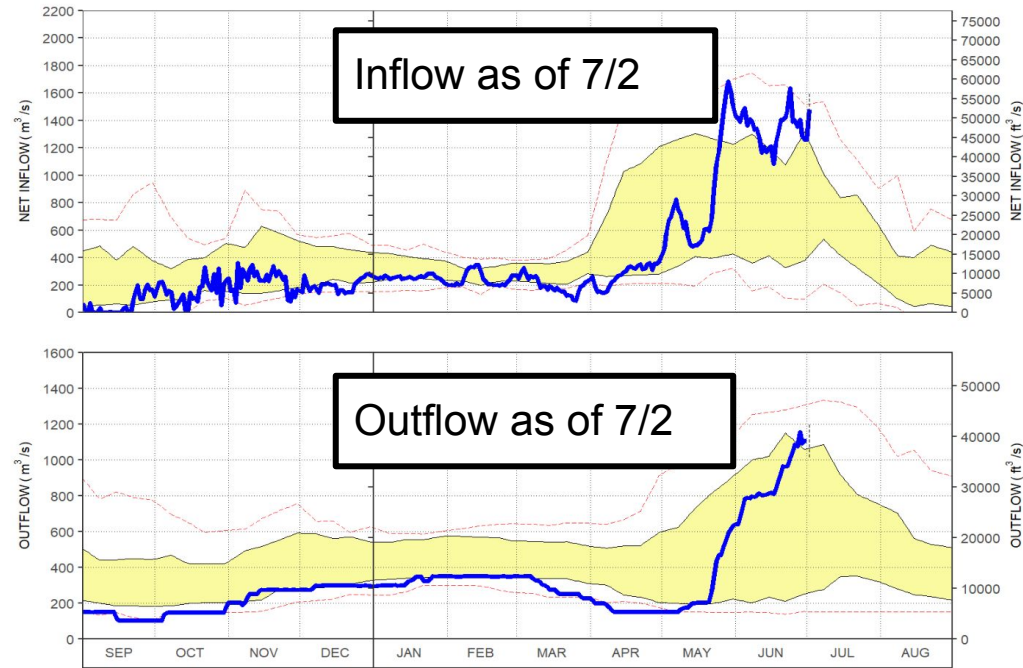
Rainy River past International Falls/Fort Frances





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. Gradual rises likely to continue on Crane, Kabetogama/Namakan, and Rainy Lakes as excess water slowly works its way through.
- 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 Lake are just coming out of their rule curves.
- Active management between dam operators and The Water Levels Committee is ongoing. **All logs pulled from Kettle/Squirrel Falls, and logs removed at International Falls as flows increase to maximize outflow.** [Read about active regulation](#)

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



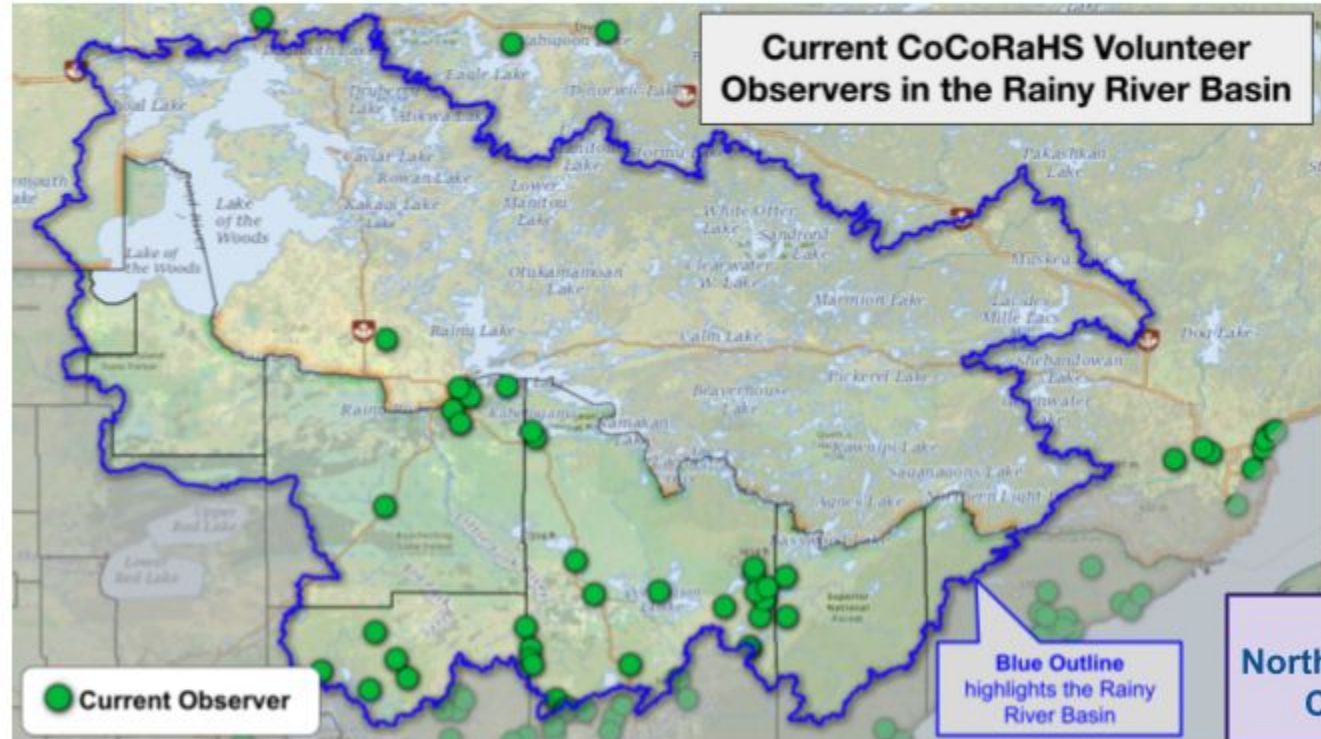


Help Predict Future Flooding

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

