WATER AND WEATHER: *Wettest Spring in 142 Years of Monitoring Contributes to Record High Lake Levels*

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This spring, April showers are bringing more than May flowers. “April and the first 15 days in May was the wettest, by almost an inch, in 142 years of record keeping,” says John Wheeler, Chief Meteorologist for WDAY. These record breaking levels of precipitation are contributing to elevated lake levels and flooding, a stark contrast from last fall’s dry conditions.

For Minnesota’s inland lakes, there are two primary factors that impact water levels: precipitation and evaporation. Snow melt and rainfall have been especially high this spring. Because saturated soils limit infiltration, a high percentage of this water is entering lakes and streams as runoff. It should also be noted that 2022 ice out dates were later than anticipated. “When ice covers much of the water surface, it acts as a cap on the lake, effectively preventing evaporation from occurring.” (International Lake Superior Board of Control). Delayed ice out dates likely delayed springtime evaporation and river flow, which could be contributing to the high water levels.

According to observations by the Pelican Group of Lakes Improvement District (PGOLID) Lakes Coordinator, Pelican River is experiencing a record high flow of 257 million gallons per day, enough to fill 390 Olympic sized swimming pools. This flow is 20% higher than the previous observed record.

On October 21st, 2021, Detroit Lake was 21.24 inches below the record high water mark. As of May 18th, 2022, the lake is approximately 1 inch above the highest level observed over the past 78 years of monitoring. “The average Detroit Lake level rise among the last 27 winters is a bit less than 5 inches. We are looking at an almost 19 inch shift from last October to current levels, about five inches (more) than the next most dramatic rise during the winter of 2012/13,” says Dick Hecock. Other lakes in the region are experiencing a similar pattern.

Lake Melissa shoreline: July 22nd, 2021 (left) vs. May 13th, 2022 (right).

Potential impacts of the current water levels include shoreline erosion, localized flooding, and property damage. Erosion of shoreline is amplified by big waves, which are caused by strong wind and boat wakes. Lake users should exercise caution and courtesy when operating watercraft in order to prevent further damages during this period of record high water levels.

References

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