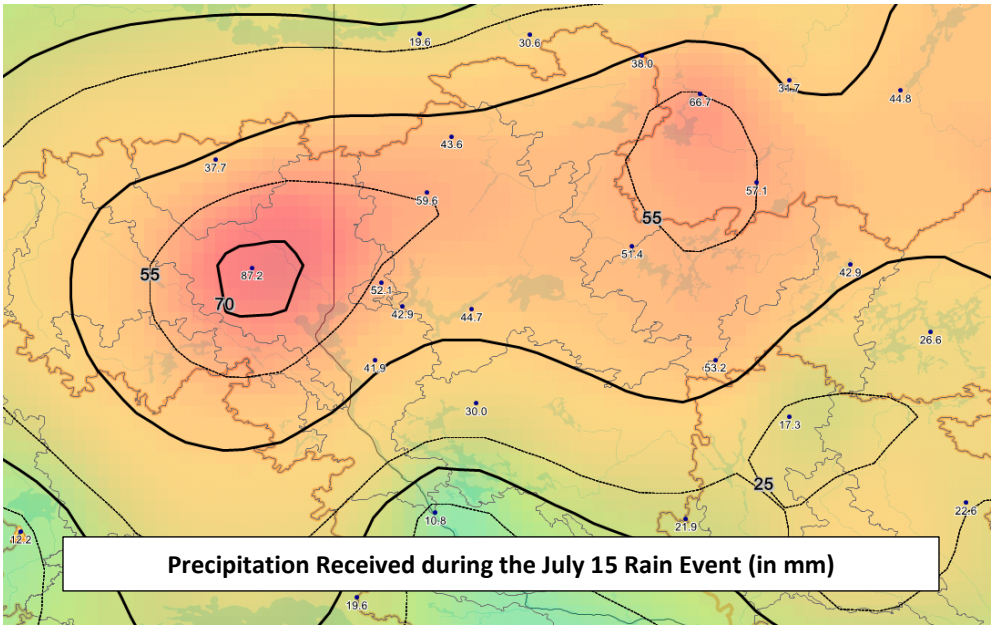
Torrential Rains of July 15 in the Timiskaming Area

Friday July 23, 2021 — Torrential rains that fell in the Timiskaming area on July 15 caused the level of Lake Timiskaming to rise rapidly. This rain event is a reminder from Mother Nature that she can produce extreme weather conditions with only a few hours' notice. Extreme weather events such as July 15th often lead to very rapid variations in river and lake conditions and can lead to serious consequences for those living along both natural and regulated watercourses. Operations at the control structures along the river do not eliminate flooding and are intended to mitigate their impacts.

Rainy weather was forecast for the week of July 12 with the passage of a warm front over the northern part of the Ottawa River basin. On Tuesday, July 13th, various weather models predicted cumulative precipitation from Tuesday to Thursday of about 35 mm for the north of the basin. This amount of precipitation is not considered problematic for water management at the various control structures located in the Abitibi-Timiskaming region. On July 14 at 10:26 p.m., a rainfall warning calling for 40 to 60 mm of precipitation with higher amounts possible locally, beginning Thursday morning, was issued by the Meteorological Service of Canada for a wide area from Sault Ste. Marie to Timiskaming shores.

At the Earlton weather station, 87 mm of rain fell from 4:00 a.m. to 4:00 p.m. over a period of just 12 hours. This is equivalent to receiving all the rain normally received in July at this location in a half a day period. This type of weather event is very rare. Based on historical rainfall data from the area, it is estimated that the probability of receiving such a large amount of rain in just 12 hours is less than 1% each year.

As shown in the figure below, 55 to 87 mm of rain fell on July 15 over a large part of the Lake Timiskaming basin. The area affected by these torrential rains was centered on the northern part of Lake Timiskaming and its immediate surroundings. This rain quickly turned into runoff, causing the small streams that flow into Lake Timiskaming to swell. Runoff reaching other larger rivers such as the Montréal, Blanche and Ottawa Rivers at Angliers was moderate as their flows increased only slightly. This observation along with the measured precipitation indicate that the torrential rains had fallen on a very small part of the basin, where the land drains rapidly towards Lake Timiskaming. If the rain had fallen some 50 kilometres further east or west, the local flooding that followed the weather event would have been less severe.



Precipitation Received during the July 15 Rain Event (in mm)

Due to the limited extent of the affected area, the dams on Lake Timiskaming were the only ones operated to mitigate the impact of the rapid rise in water levels on Lake Timiskaming. At the Lac des Quinze dam in Angliers, which is managed by the Québec Ministère de l'Environnement et de la Lutte contre les changements climatiques, no operations were carried out either during the night or during the day, since the water inflows at this location remained rather stable following the weather event. In addition, no special operations were required for the three run-of-river structures managed by Hydro-Québec on the Ottawa River downstream of the Reservoir des Quinze, as the rain in these regions was less abundant.

Information regarding the conditions that led to a sudden rise of the levels on Lake Timiskaming and operations at the dams to mitigate impacts of the rain event was communicated by the agency responsible for these works, Public Services and Procurement Canada, to the provincial authorities responsible for alerting residents on Friday morning, namely the Québec Ministère de la Sécurité publique and the Ontario Ministry of Natural Resources and Forestry, who in turn are responsible for informing local municipalities.

The Ottawa River Regulation Planning Board followed its communication protocol for conditions of rapidly varying levels and flows along the Ottawa River. This included updating the river conditions message on the organization's website (ottawariver.ca) on the afternoon of Friday, July 16th, and sending a message via Twitter to inform residents and media about changing conditions on the river downstream of the Timiskaming Lake reservoir. Residents and media who wish to do so can follow the ORRPB Twitter feed at https://twitter.com/ORRPB .

It is worth remembering that the control structures located along the Ottawa River cannot completely prevent impacts due to large precipitation events. Unfortunately, weather events that develop quickly leave little room for planned interventions. According to its customary practice, the Planning Board will review its protocol for communicating and forecasting river conditions to ensure that they remain relevant in the context of a changing climate where the occurrence of extreme weather events may become more frequent.

Ottawa River Regulation Secretariat