NWT Water Monitoring Spring Break-Up Report

May 15, 2026 at 12:00

Surveillance des eaux aux TNO Rapport sur la débâcle printanière

15 mai 2026 à 12 h

NWT break-up reports will be published routinely as break-up unfolds. These reports will focus on regions with active snowmelt and ice break-up. The geographic focus of the report will shift as conditions change. Additional information about basin conditions can be found in the 2026 Spring Water Outlook, available here. If you have any photos or information about break-up in your community, feel free to reach out to us: nwtwaters@gov.nt.ca.

Current Status:

- After a warm last week of April and early May, recent cool temperatures have slowed break-up progression along the Peel River and Lower Mackenzie River.
- Break-up along the Lower Mackenzie River is near complete.
    - Break-up related flood risk has passed for all flood-prone communities along the Mackenzie River (excluding Aklavik in the Mackenzie River delta).
    - According to radar satellite imagery acquired on May 15 an ice jam of approximately 65 km has developed upstream of Horseshoe Bend on the Lower Mackenzie River.
    - According to optical satellite imagery acquired on May 14, the ice front is approximately 130 km upstream of Tsiigehtchic.
- Break-up along the Peel River is near complete.
    - Water level measured on the Peel River near Fort McPherson peaked on May 9, and recent water level values have plateaued.
    - According to satellite optical imagery acquired yesterday, river ice remains both upstream and downstream of Fort McPherson, including a small ice jam 18 km upstream of Fort McPherson.
- Warmer than average temperatures forecasted for this weekend for Fort McPherson, Aklavik and Inuvik should initiate further ice degradation and break-up progression.
    - The clearing of river ice along the Peel River and the Lower Mackenzie River is also dependent on break-up in the delta, as intact Mackenzie Delta ice is likely limiting break-up progression upstream.

Nous publierons régulièrement des rapports sur la débâcle aux TNO au fur et à mesure de l'évolution de la situation. Ces rapports se concentreront sur les régions où la fonte des neiges et la débâcle sont en cours. Nous changerons de région géographique en fonction de l'évolution de la situation. Vous trouverez des informations complémentaires sur l'état du bassin dans l'Aperçu des eaux printanières 2026, disponible ici. Si vous avez des photos ou des renseignements en lien avec la débâcle dans votre collectivité, n'hésitez pas à communiquer avec nous à l'adresse suivante : nwtwaters@gov.nt.ca.

Situation actuelle

- Après un temps chaud durant la dernière semaine d'avril et le début de mai, le refroidissement récent des températures a ralenti la progression de la débâcle le long de la rivière Peel et du cours inférieur du fleuve Mackenzie.
- La débâcle est presque terminée sur le cours inférieur du fleuve Mackenzie.

    - Le risque d'inondation causée par la débâcle est désormais écarté pour toutes les collectivités situées en zone inondable le long du fleuve Mackenzie (sauf Aklavik, dans le delta du fleuve Mackenzie).
    - Selon les images spatiales radar obtenues le 15 mai, un embâcle d'environ 65 km s'est formé en amont de Horseshoe Bend, sur le cours inférieur du fleuve Mackenzie.
    - Selon les images satellite optiques obtenues le 14 mai, le front glaciaire se trouve à environ 130 km en amont de Tsiigehtchic.
- La débâcle est presque terminée sur la rivière Peel.
    - Le niveau d'eau mesuré sur la rivière Peel près de Fort McPherson a atteint son maximum le 9 mai, et les valeurs récentes se sont stabilisées.
    - Selon les images satellites optiques obtenues hier, la glace demeure présente tant en amont qu'en aval de Fort McPherson, avec la présence notamment d'un petit embâcle à 18 km en amont de Fort McPherson.
- Les températures supérieures à la moyenne prévues en fin de semaine pour Fort McPherson, Aklavik et Inuvik devraient entraîner de nouveau une dégradation de la glace et accélérer la progression de la débâcle.
    - La fonte de la glace le long de la rivière Peel et du cours inférieur du fleuve Mackenzie dépend également de la débâcle dans le delta, car la glace intacte du delta du Mackenzie limite probablement la progression de la débâcle en amont.

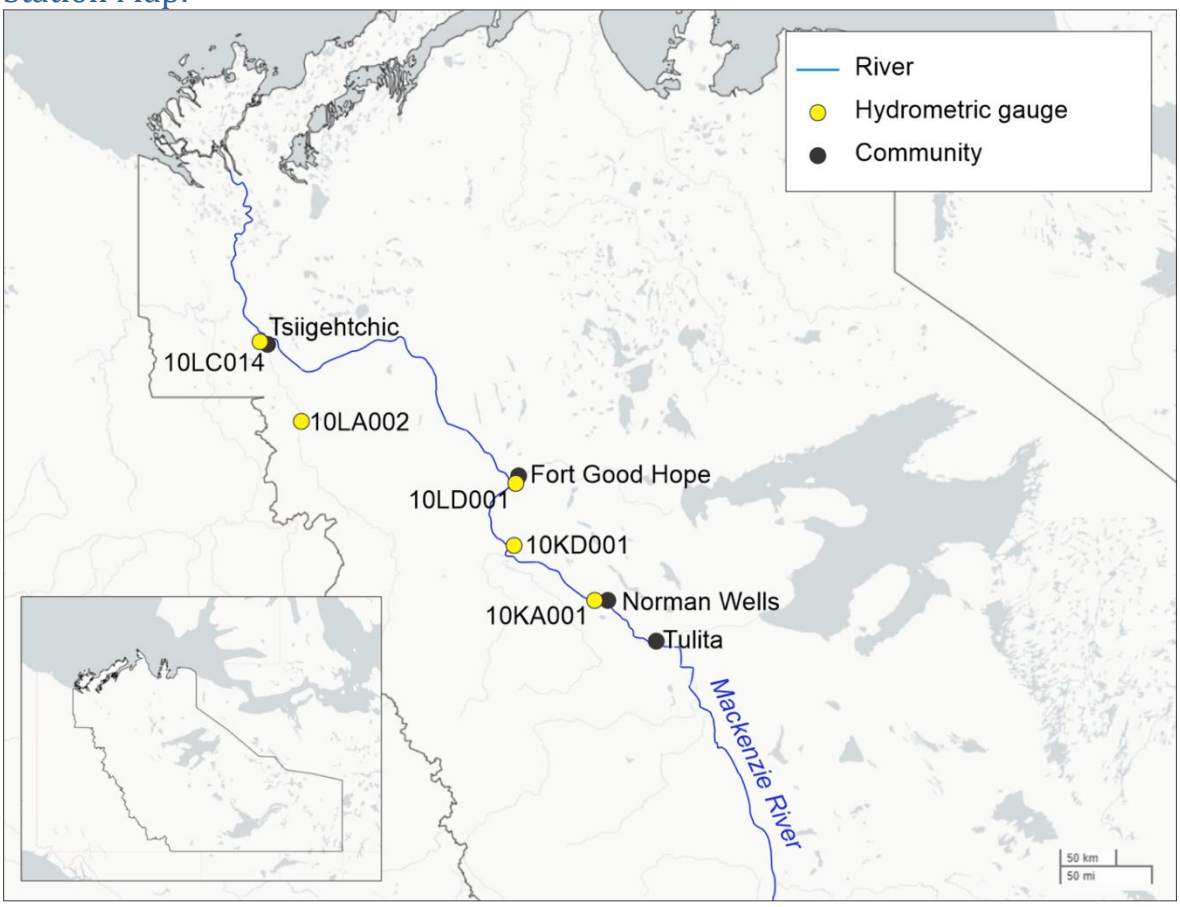
Contents

Arctic Red River & Lower Mackenzie River

Current Status:

- Break-up along the Lower Mackenzie River (excluding Mackenzie Delta) is near complete.
    - Break-up related flood risk has passed for all flood-prone communities along the Mackenzie River (excluding Aklavik in the delta).
    - According to radar satellite imagery acquired on May 15 an ice jam of approximately 65 km has developed upstream of Horseshoe Bend on the Lower Mackenzie River.
    - According to optical satellite imagery acquired on May 14, the ice front is approximately 130 km upstream of Tsiigehtchic.
- On the Arctic Red River, water level peaked on May 8.
    - According to satellite imagery, an ice jam of approximately 17 km sits near the mouth, likely blocked by river ice on the Mackenzie River.
- Warmer than average temperatures forecasted for this weekend should help degrade and melt river ice and snow, but further break-up progression is also limited by relatively intact ice within the Mackenzie Delta.

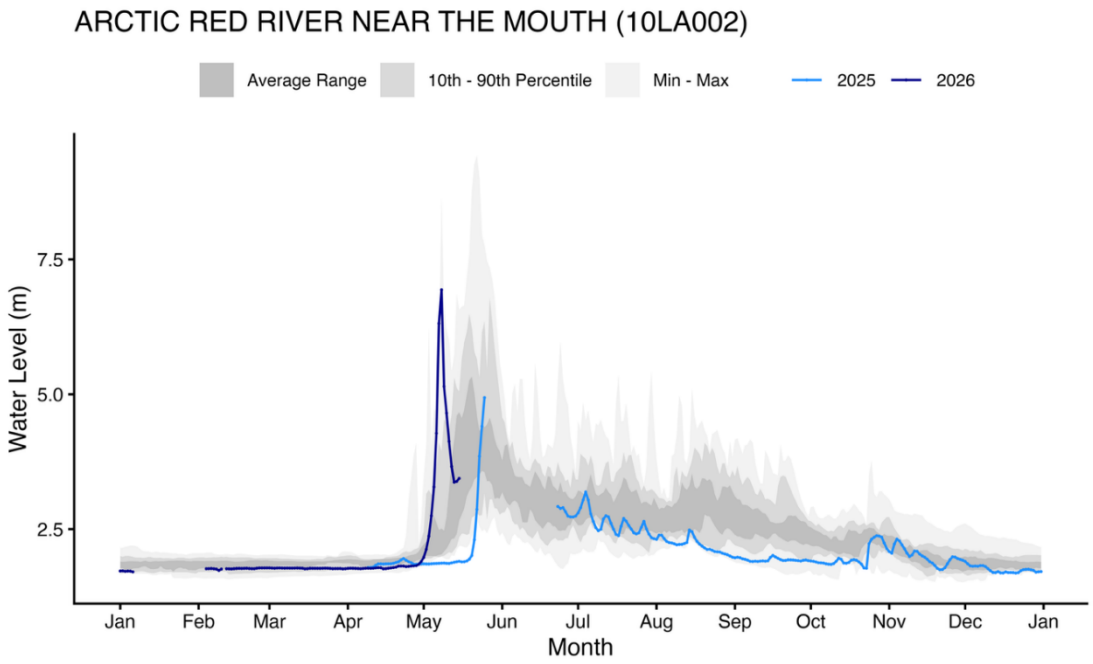
Station Map:



Above: Map of Hydrometric Stations and nearby communities for the plots included in this section.

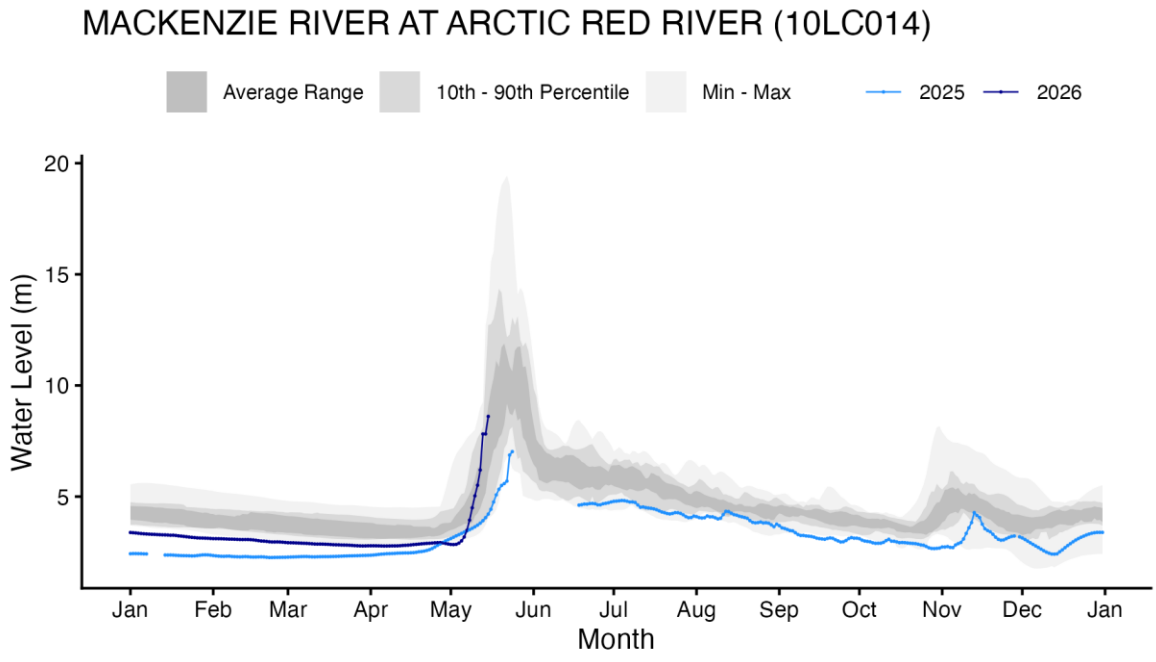
Hydrometric Data:

Arctic Red River near the mouth [10LA002]



Above - Water level data Arctic Red River near the mouth [10LA002]. Daily average levels for the previous year also are shown here.

Mackenzie River at Arctic Red River [10LC014]



Above - Water level data for Mackenzie River at Arctic Red River [10LC014]. Daily average levels for the previous year also are shown here.

Gauge photos:

Mackenzie River at Fort Good Hope [10LD001]

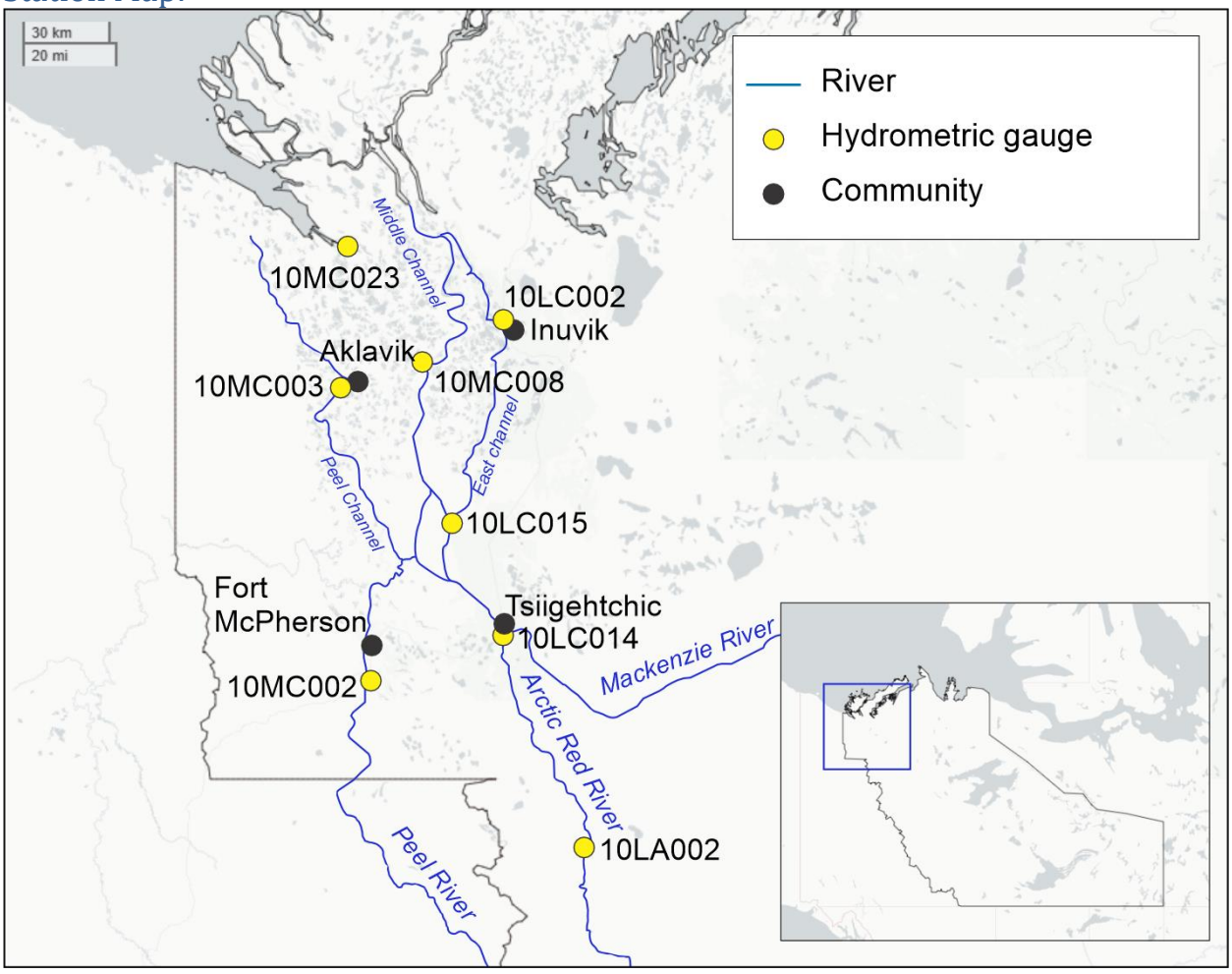
Above – Mackenzie River at Fort Good Hope [10LD001] hydrometric gauge photo from May 15 at 09:00. Photo courtesy of Water Survey of Canada and GNWT.

Peel River & Beaufort Delta

Current Status:

- Break-up along the Peel River is near complete.
    - Water level measured on the Peel River near Fort McPherson peaked on May 9. Recent water level values have plateaued.
    - According to satellite optical imagery acquired yesterday, river ice remains both upstream and downstream of Fort McPherson, including a small ice jam 18 km upstream of Fort McPherson.
- Break-up has yet to start in the Mackenzie Delta.
    - Water levels measured on the East Channel, Middle Channel and Peel Channel are continuing to rise underneath relatively intact ice. Water levels are within normal range for this time of year.
- Warmer than average temperatures forecasted for this weekend will result in continued river ice degradation and snowmelt.

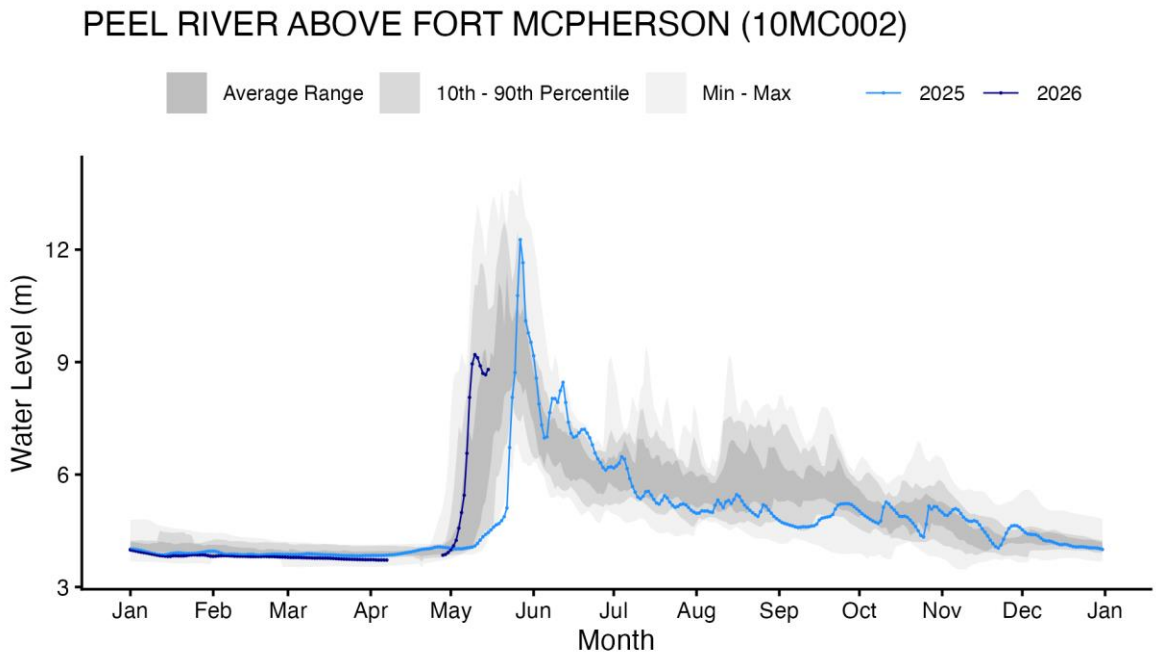
Station Map:



Above: Map of Hydrometric Stations and nearby communities for the plots included in this section.

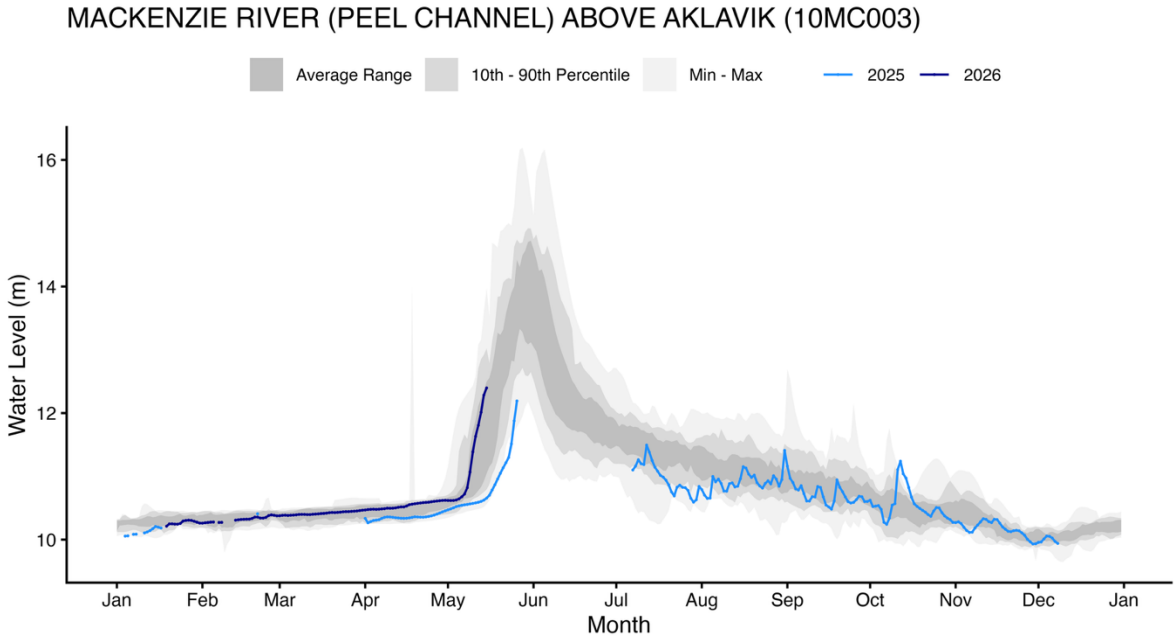
Hydrometric Data:

Peel River above Fort McPherson [10MC002]



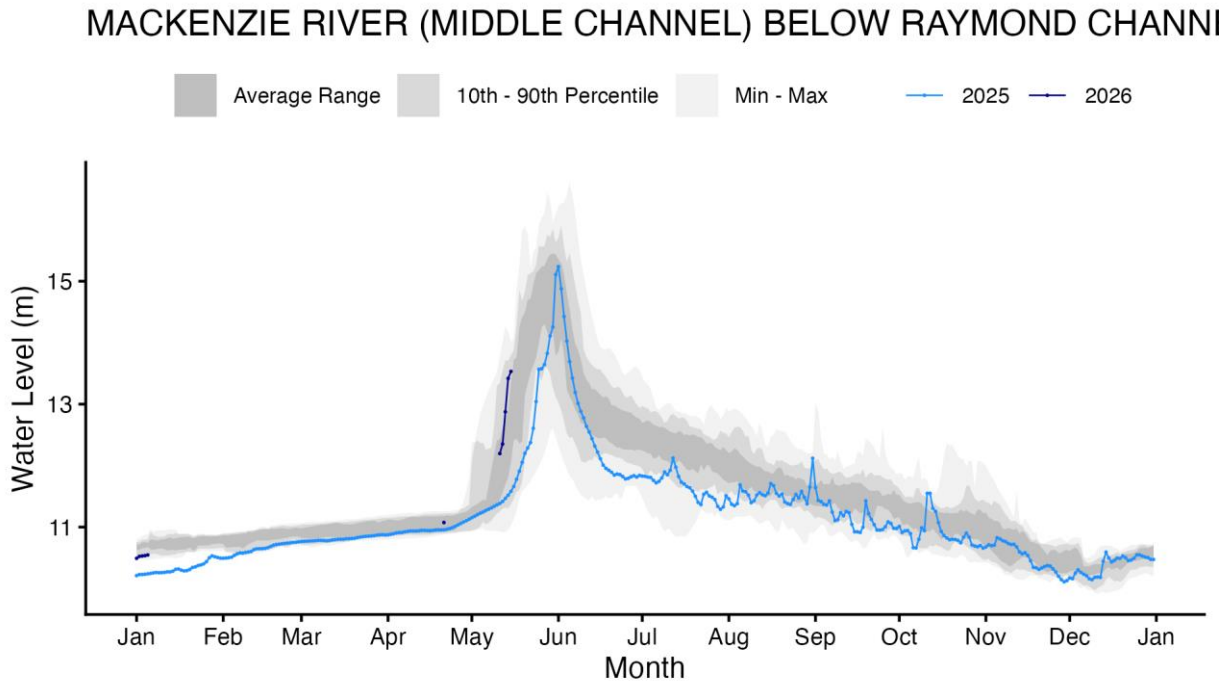
Above - Water level data for Peel River above Fort Mcpherson [10MC002]. Daily average levels for the previous year also are shown here.

Mackenzie River (Peel Channel) above Aklavik [10MC003]



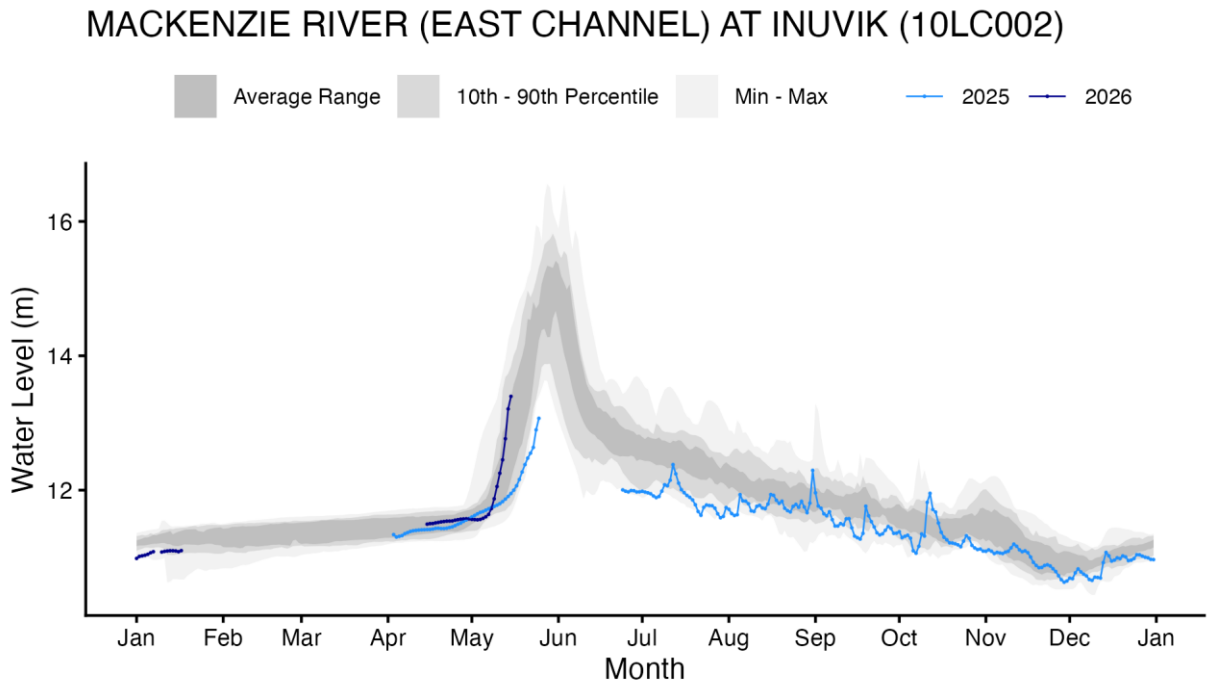
Above - Water level data for Mackenzie River (Peel Channel) above Aklavik [10MC003]. Daily average levels for the previous year also are shown here.

Mackenzie River (Middle Channel) below Raymond Channel [10MC008]



Above - Water level data for Mackenzie River (Middle Channel) below Raymond Channel [10MC008]. Daily average levels for the previous year also are shown here.

Mackenzie River (East Channel) at Inuvik [10LC002]



Above - Water level data for Mackenzie River (East Channel) at Inuvik [10LC002]. Daily average levels for the previous year also are shown here.

Gauge photos:

Peel River above Fort McPherson [10MC002]

Above – Peel River above Fort McPherson [10MC002] hydrometric gauge photo from May 15 at 09:00. Photo courtesy of Water Survey of Canada and GNWT.

Mackenzie River (Peel Channel) above Aklavik [10MC003]

Above – Mackenzie River above Aklavik [10MC003] hydrometric gauge photo from May 15 at 09:00. Photo courtesy of Water Survey of Canada and GNWT.

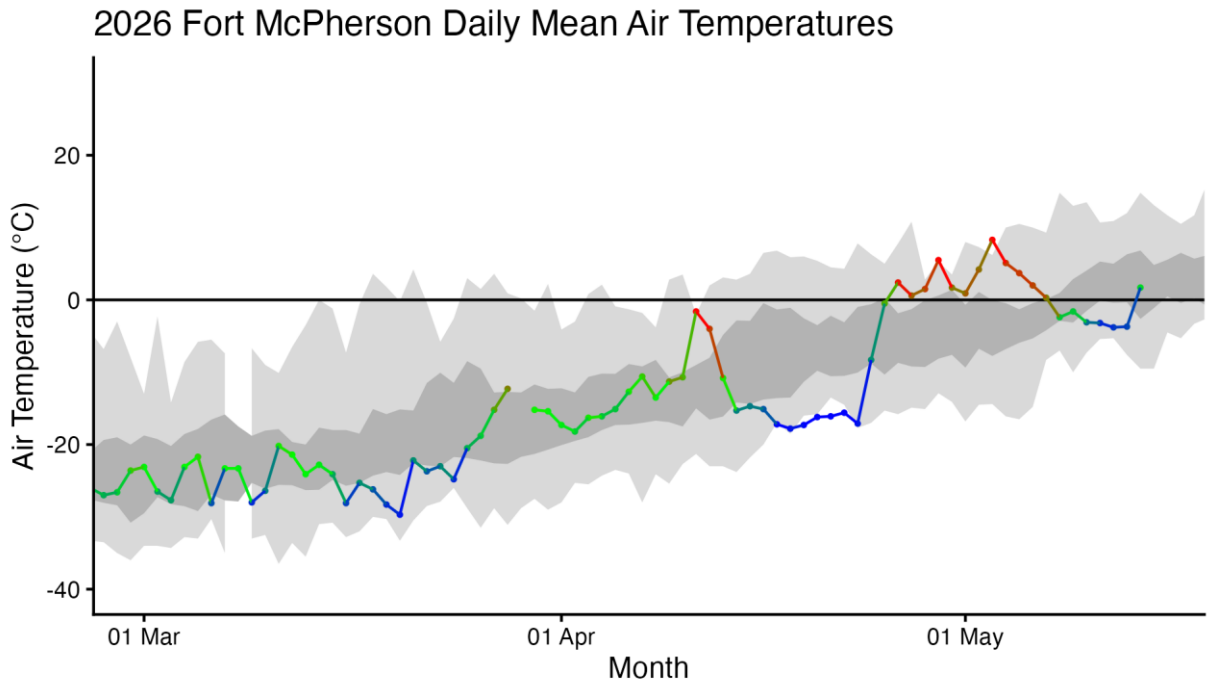
Weather Data:

Weather information informs how snow and ice will melt and provides information about how this spring is unfolding relative to previous springs. Warmer than normal conditions early in the spring allow for additional energy to melt the snowpack and soften river ice. Rain-on-snow events can cause rapid melt of snowpacks and facilitate quick delivery of snowmelt water to rivers. Locations included here cover basin areas that feed into NWT rivers that are currently undergoing break-up.

The first set of figures show how temperatures have been relative to average (dark grey band) this spring, while the second set is Environment and Climate Change Canada (ECCC) weather forecast data for the next seven days.

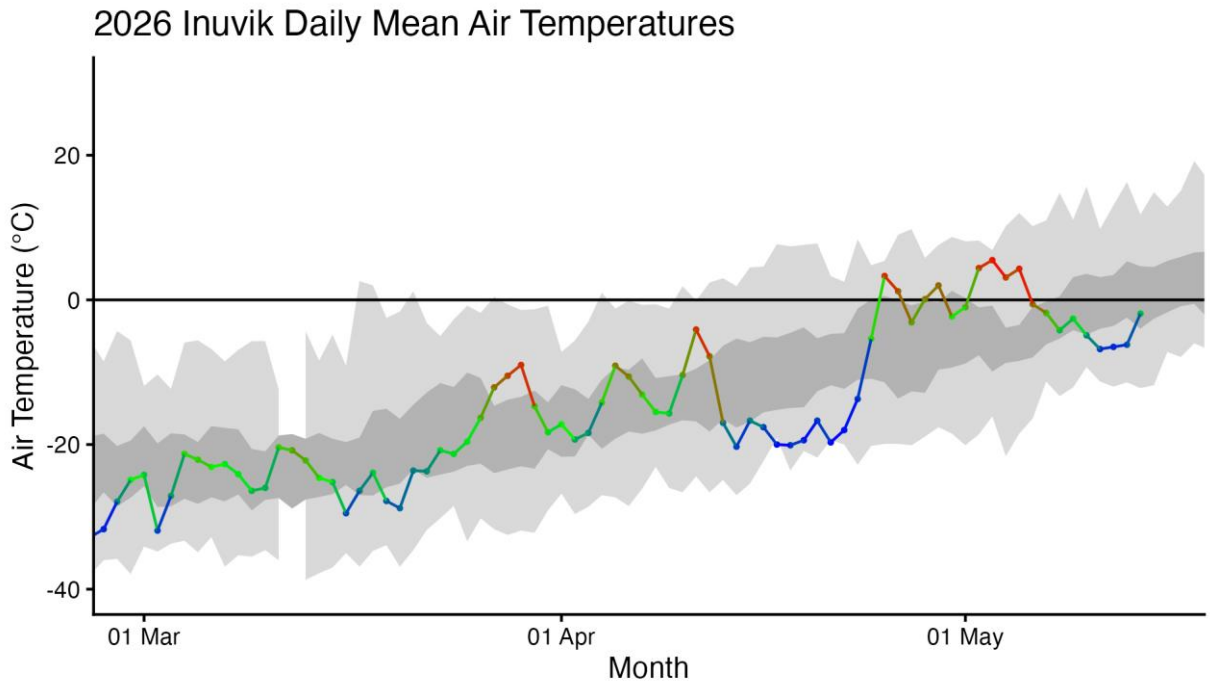
- Upper Mackenzie River basin (Dehcho Region): Temperatures over the past few days have been above average. No significant precipitation was recorded.
- Central Mackenzie River basin (Sahtu Region): Temperatures over the past few days have been near average. No significant precipitation was recorded.
- Peel, Arctic Red, and lower Mackenzie River basins (Beaufort Delta Region): Temperatures over the past few days have been slightly below average. No significant precipitation was recorded.

Fort McPherson Air Temperature



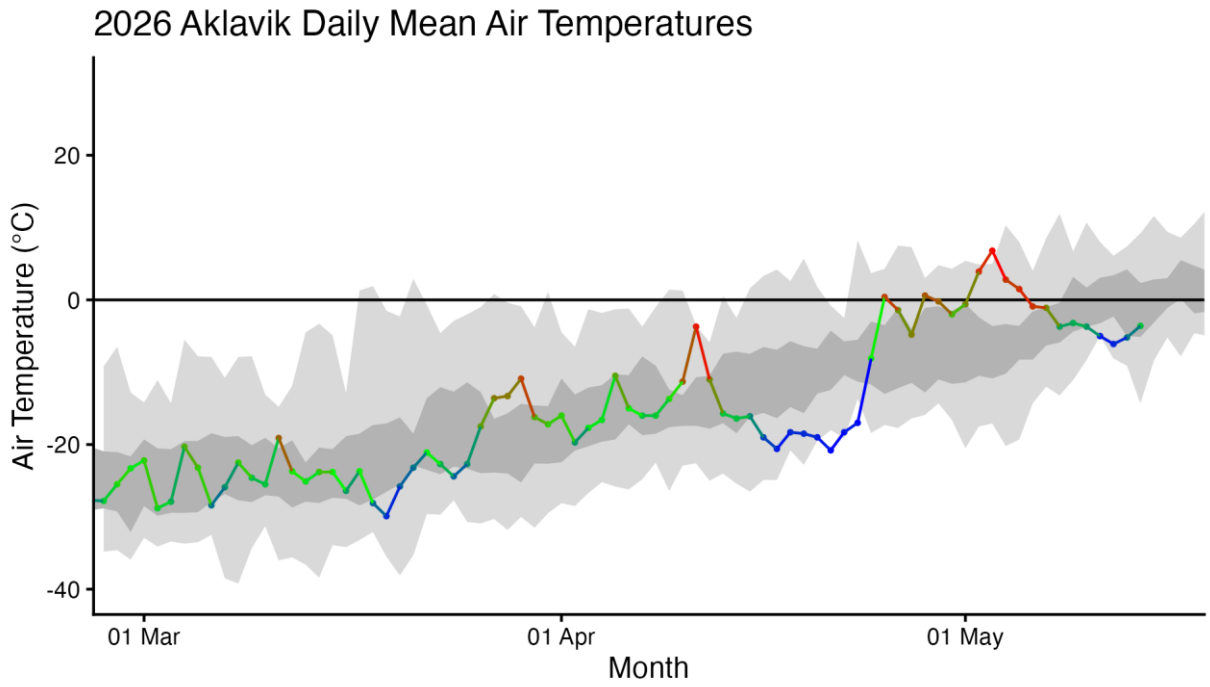
Above - Daily mean air temperature for Fort McPherson. Shaded areas represent the historical range (1991-2025).

Inuvik Air Temperature



Above - Daily mean air temperature for Inuvik. Shaded areas represent the historical range (1991-2025).

Aklavik Air Temperature

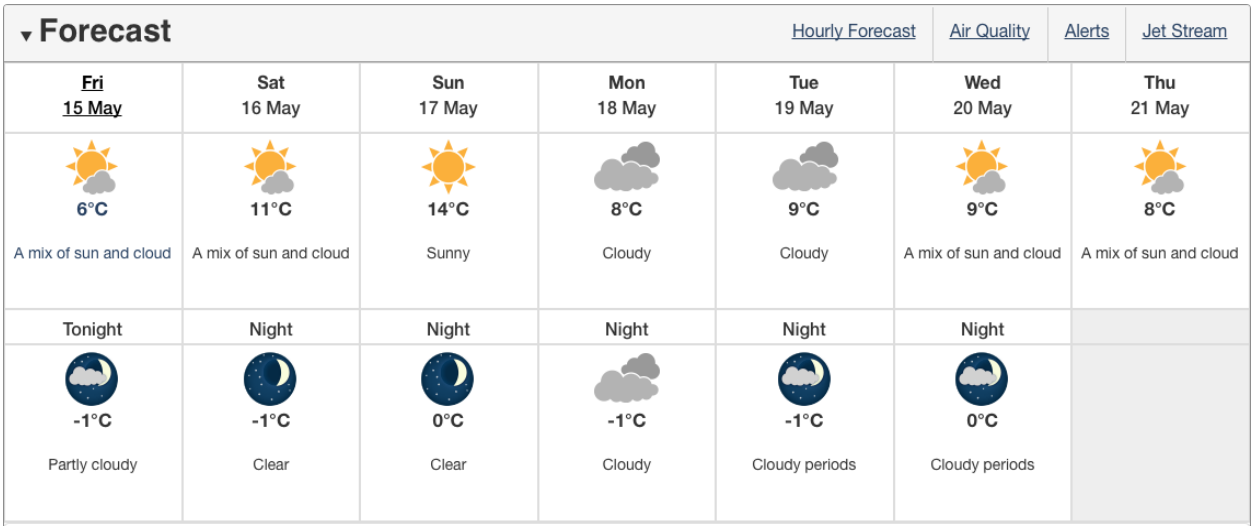


Above - Daily mean air temperature for Aklavik. Shaded areas represent the historical range (1991-2025).

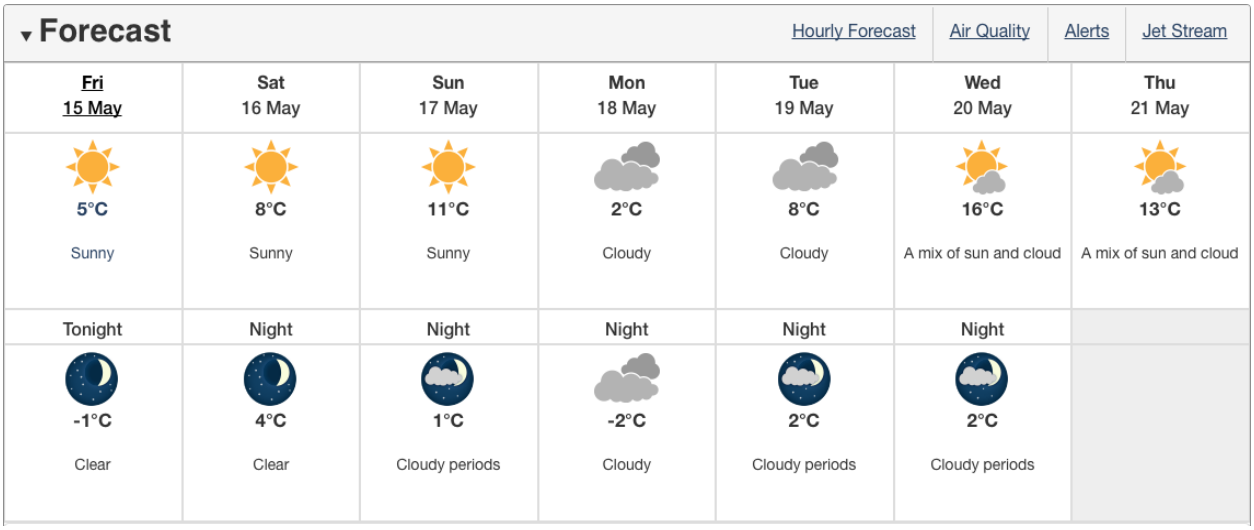
Weather Forecasts:

- Upper Mackenzie River basin (Dehcho Region): Forecast temperatures for May 15–21 are expected to increase from average to above average by the end of the period. No significant precipitation is expected over the long weekend. Some precipitation is possible mid to late next week, with minimal anticipated impact on water levels.
- Central Mackenzie River basin (Sahtu Region): Forecast temperatures for May 15–21 are expected to be near to slightly above average. No significant precipitation is expected over the long weekend. Some precipitation is possible between Wrigley and Norman Wells mid to late next week, with minimal anticipated impact on water levels.
- Peel, Arctic Red, and lower Mackenzie River basins (Beaufort Delta Region): Forecast temperatures for May 15–21 are expected to be near to slightly above average. No significant precipitation is expected over the long weekend. Scattered showers are possible toward the end of the forecast period, with minimal anticipated impact on water levels.

Fort McPherson seven-day weather forecast:



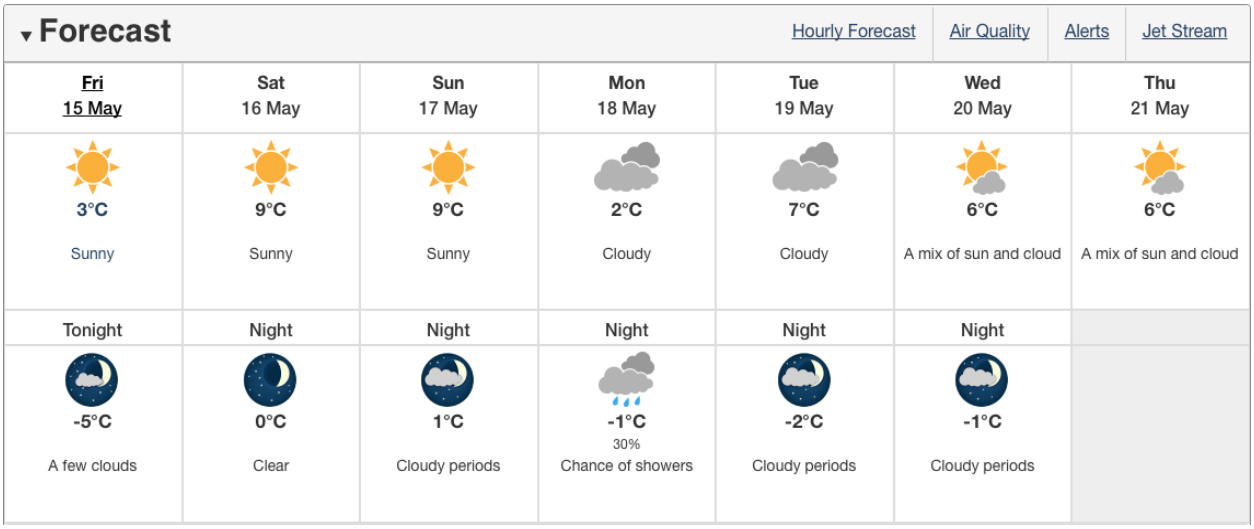
Inuvik seven-day weather forecast:



Forecast — Hourly Forecast | Air Quality | Alerts | Jet Stream

Fri 15 May	Sat 16 May	Sun 17 May	Mon 18 May	Tue 19 May	Wed 20 May	Thu 21 May
5°C	8°C	11°C	2°C	8°C	16°C	13°C
Sunny	Sunny	Sunny	Cloudy	Cloudy	A mix of sun and cloud	A mix of sun and cloud
Tonight	Night	Night	Night	Night	Night	
-1°C	4°C	1°C	-2°C	2°C	2°C	
Clear	Clear	Cloudy periods	Cloudy	Cloudy periods	Cloudy periods	

Aklavik seven-day weather forecast:



Forecast — Hourly Forecast | Air Quality | Alerts | Jet Stream

Fri 15 May	Sat 16 May	Sun 17 May	Mon 18 May	Tue 19 May	Wed 20 May	Thu 21 May
3°C	9°C	9°C	2°C	7°C	6°C	6°C
Sunny	Sunny	Sunny	Cloudy	Cloudy	A mix of sun and cloud	A mix of sun and cloud
Tonight	Night	Night	Night	Night	Night	
-5°C	0°C	1°C	-1°C 30%	-2°C	-1°C	
A few clouds	Clear	Cloudy periods	Chance of showers	Cloudy periods	Cloudy periods	

Factors to Watch:

It is important to note that much of the water contributing to NWT rivers originates from outside of the NWT, which is why we also rely on information from the Yukon, British Columbia, Alberta and Saskatchewan.

The potential and severity of flooding will depend in large part on the weather over the upcoming weeks and how this interacts with existing ice conditions, water levels and snowpack amounts.

The primary factors that influence water levels in the spring are:

- Ice jams (can result in out-of-bank flows, even if there are below normal flows)
- Rate of melt of ice and snow:
    - Gradual vs quick melt
    - Rain on snow or ice events (rain brings a lot of energy to help melt happen more quickly)
- Current water levels
- How wet the ground was in the fall
- Snowpack

Spring Break-up on NWT Rivers: Mechanical vs Thermal

In any given year, spring flooding can occur in a number of NWT communities, including Hay River, Jean Marie River, Fort Simpson, Fort Liard, Tulita, Fort Good Hope, Fort McPherson and Aklavik. Spring flooding is caused by ice jam-induced flooding and can occur irrespective of existing water levels. However, if existing water levels are high, the impact of an ice jam flood can be much worse.

Ice jams typically occur on north-flowing rivers where warm weather and snowmelt cause ice to break-up on the southern reaches of a river. As this ice flows north (downstream), it meets a more solid ice cover, hits the ground, or gets stuck in a river bend. When this happens, the pieces of floating ice jam can form a dam, which causes water levels to rise rapidly. This is called a **mechanical break-up**, whereby the ice downstream is broken up by the force of ice moving into it.

If there is warm and sunny weather throughout early spring, the ice may thermally erode and weaken. This provides less of a resisting force for ice and water moving down the river and will have less of a chance of causing water levels to rise behind an ice jam. This is called a **thermal break-up**.

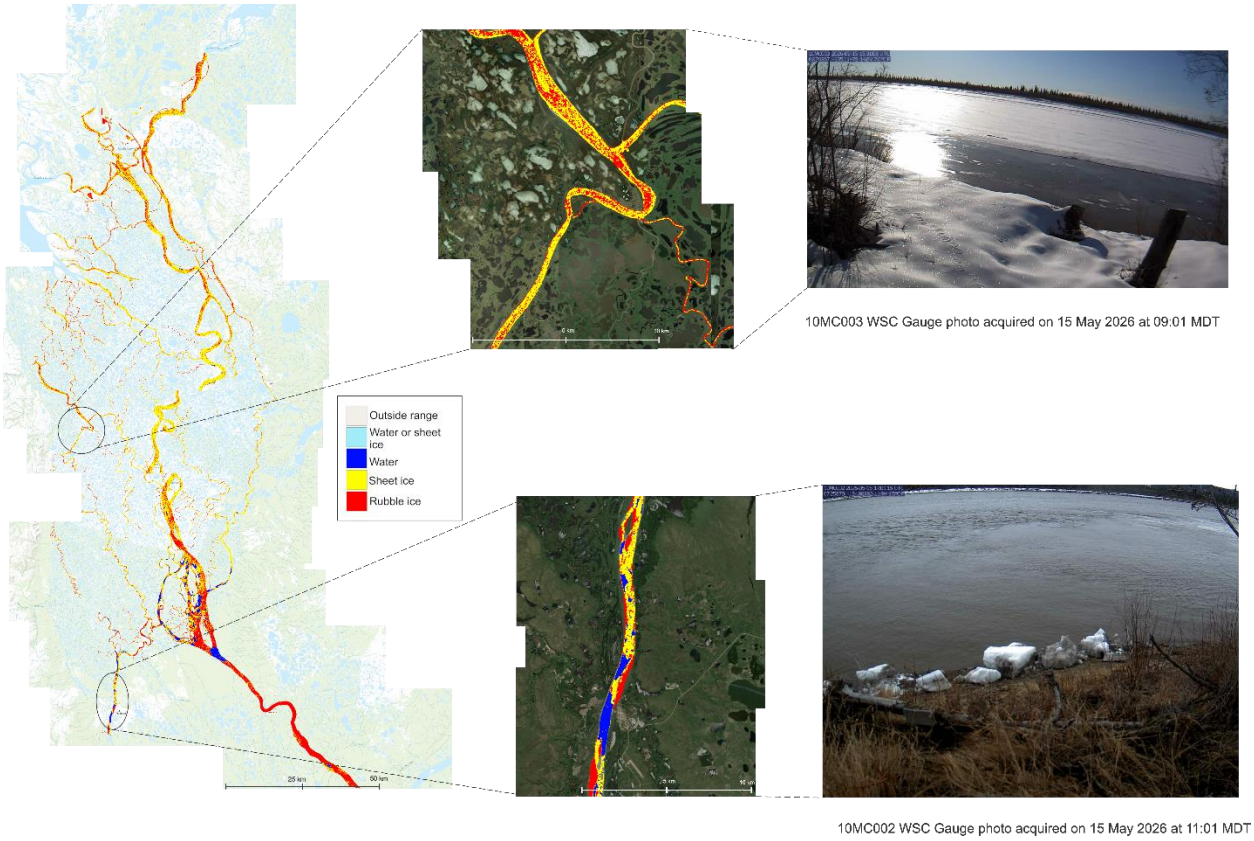
The causes of mechanical and thermal break-ups are usually dependent on the weather during early spring. Warm weather, sunshine, and rain on snow events are usually a good way to bring extra energy into the system to help melt the ice. Warm temperatures in the upstream part of a basin could also cause a rapid snowmelt and move water to the river very quickly. This could lead to ice-jam conditions downstream if the ice has not yet received

enough energy to degrade. Another important factor is the thickness of the ice. Thicker ice takes longer to melt and can increase the chances of ice jams. If an ice jam occurs, the location of the ice jam is also very important. Each river reach has different locations that are prone to ice jams. The location of the ice jam can be an important factor as to whether or not a community floods. Furthermore, ice will jam and then move again at multiple locations along a river as break-up progresses downstream. The timing and location of each jam can also influence if a community will flood.

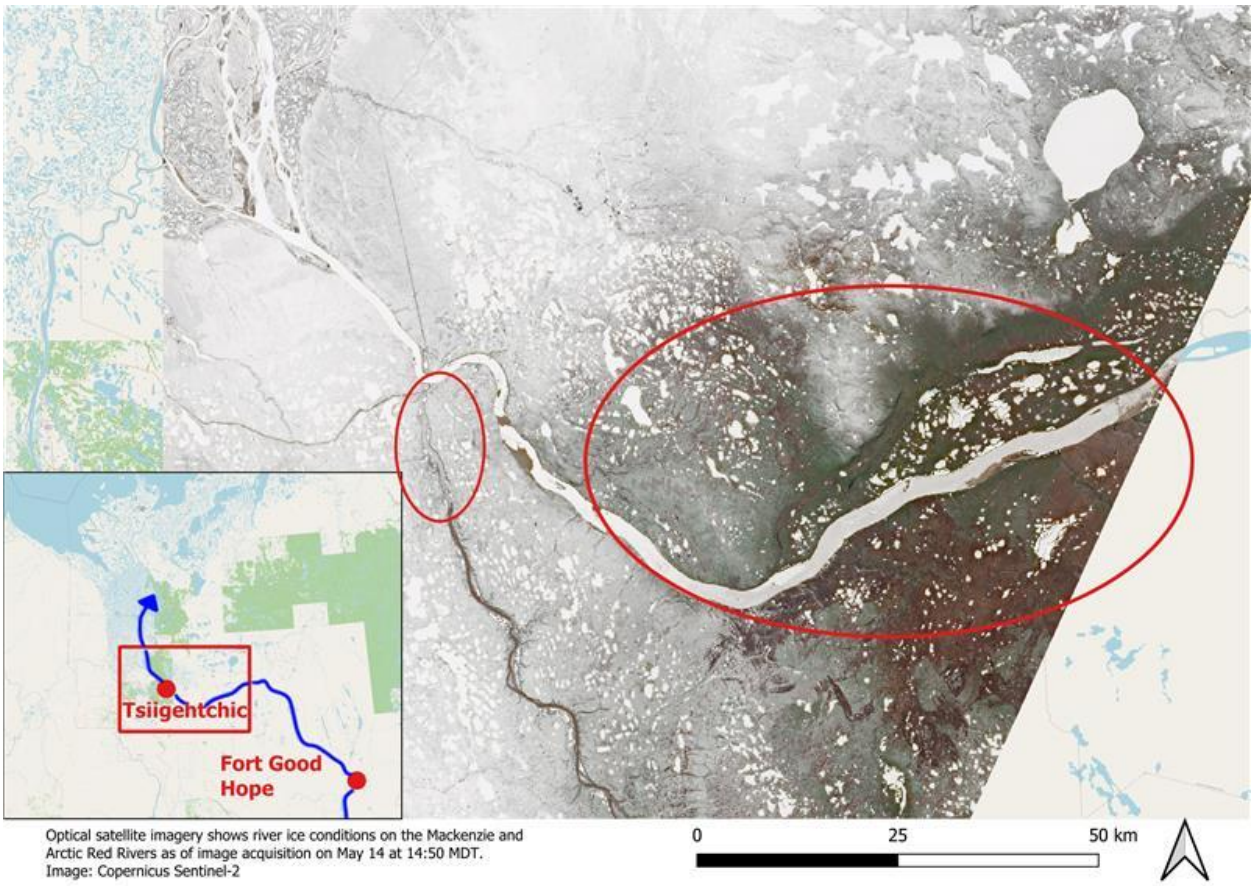
Technical Note:

- The figures in this report plot water levels. The values on the y-axis are (in most cases) relative to an arbitrary datum. This means that the values on each gauge can be compared to different years but should not be used to compare water levels from one location to the next.
- For example, the Hay River near the border gauge (07OB008) records a level of about 288 m. The Hay River near Hay River gauge (07OB001) usually records a level of about 4 m. This **does not mean** that the water level at the Hay River at the border site is 284 m higher than the water level at the Hay River near Hay River site.

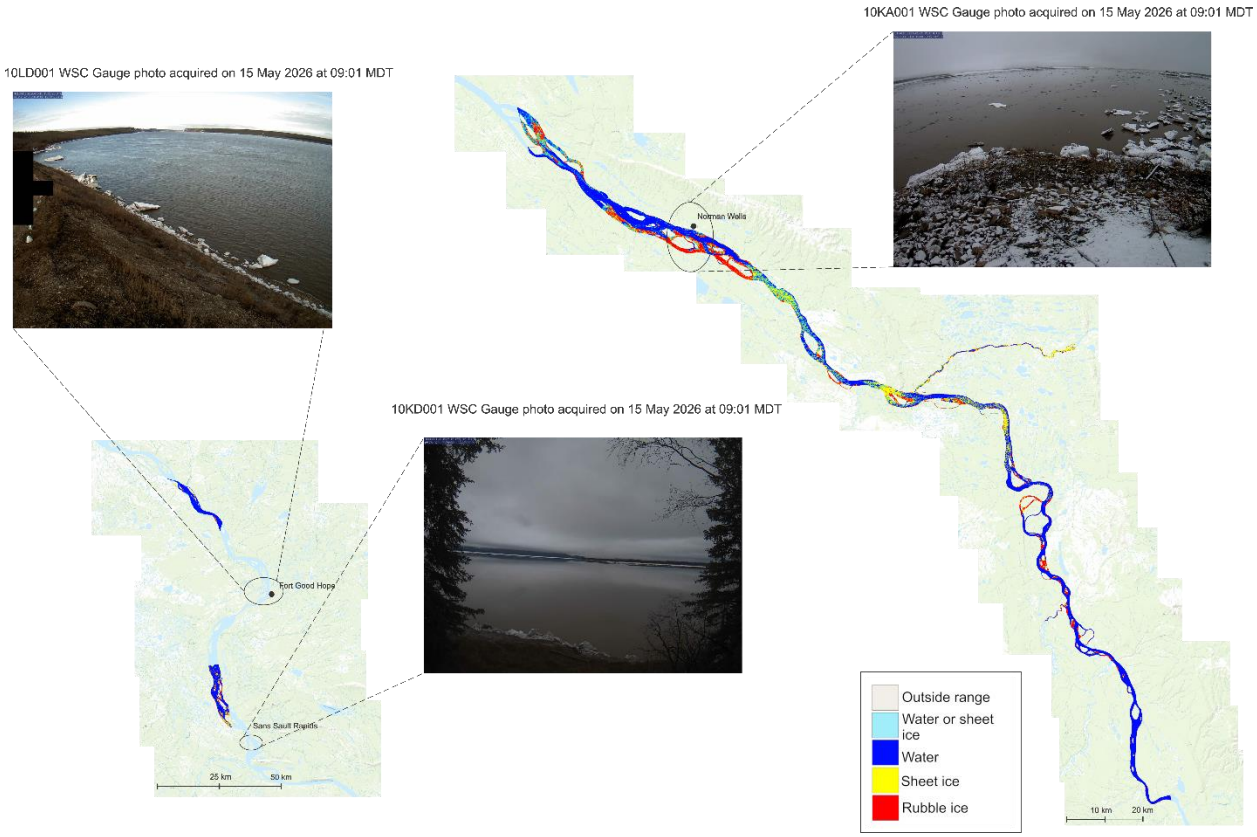
Appendix A: River Ice Imagery



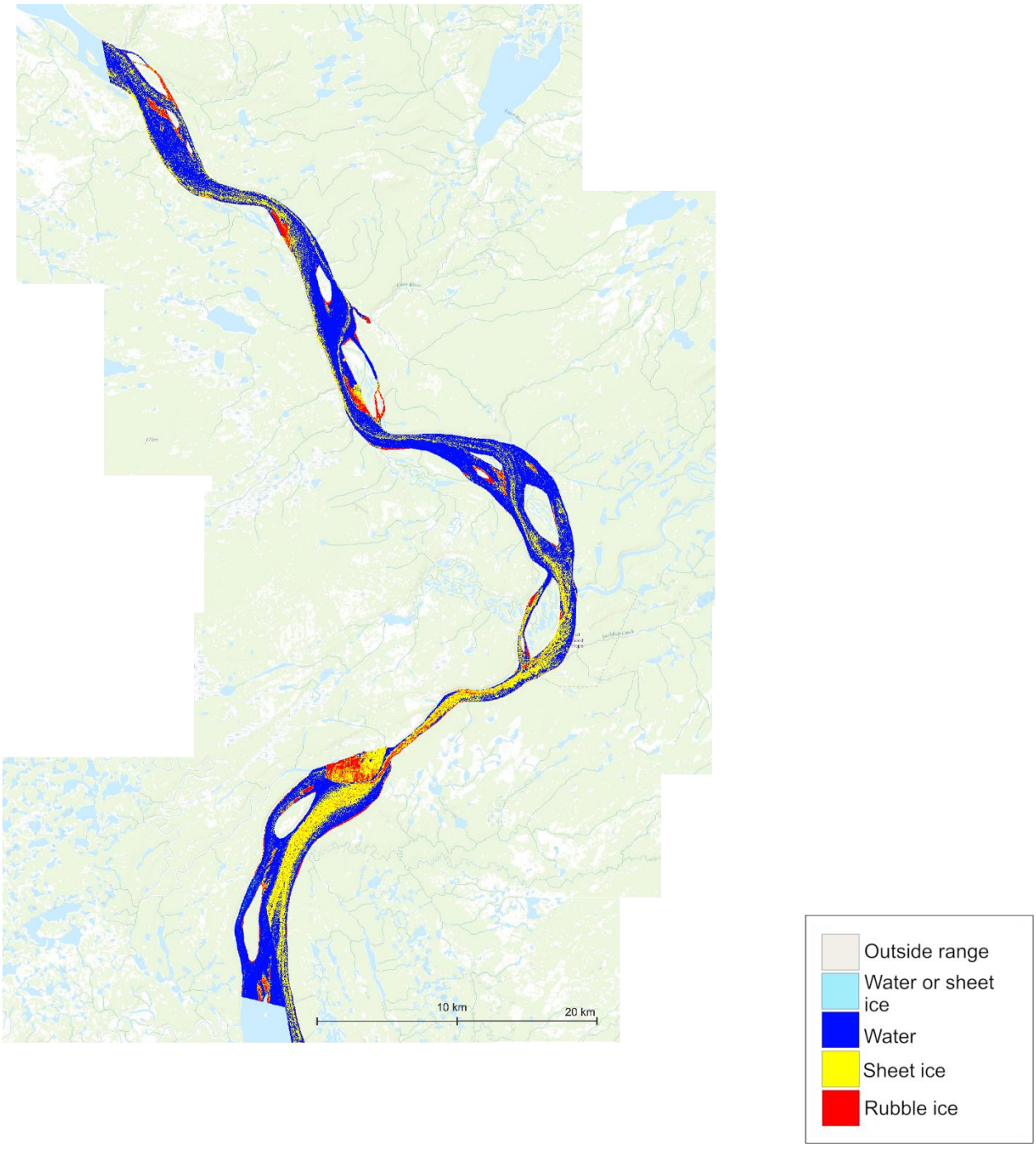
Above - Classified river ice imagery (30m resolution RCM image; captured on 15 May 2026 at 09:23 MDT) showing the Mackenzie River upstream of Tsiigehtchic, the Peel River, and portions of the Mackenzie Delta. The classified river ice shows predominantly intact ice (yellow) and rubble ice (red) with a ~65 km jam likely upstream of Horseshoe Bend, along with some open water sections near Fort McPherson and near Horseshoe Bend. The RCM image is courtesy of the federal government's Government Operations Centre. The river ice classification was completed using the IceBC algorithm.



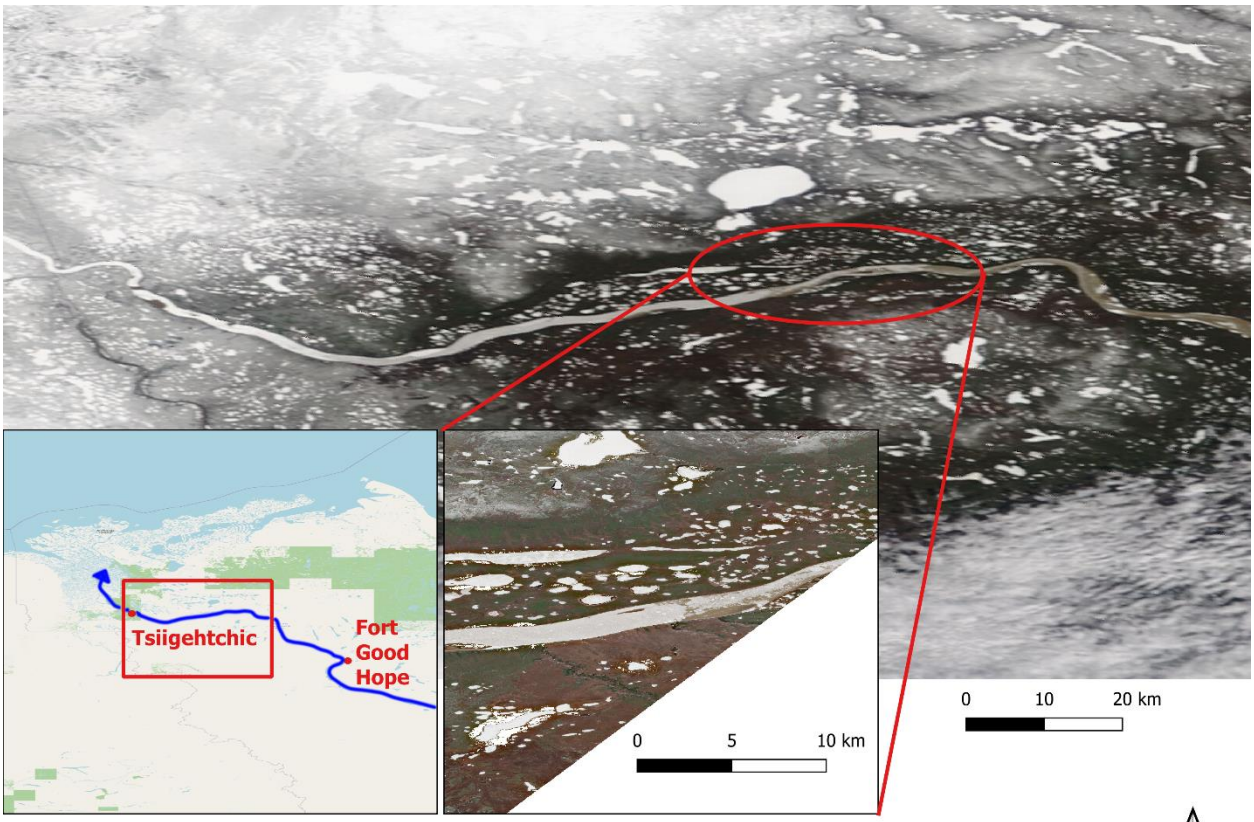
Above - Optical satellite imagery acquired on May 14 at 14:50 MDT shows ice jams on the Arctic Red River at the mouth and on the Mackenzie River at the ice front upstream of Tsiigehtchic. Based on RCM image captured on 15 May 2026 at 09:23 MDT (shown on the previous page), the ice jam on the Mackenzie River appears to have moved downstream as of today.



Above - Classified river ice imagery (30m resolution RCM image; captured on 15 May 2026 at 9:24 MDT and on 14 May 2026 at 19:46 MDT) showing classified river ice for a stretch of 270 km along the Mackenzie River and a 50 km stretch along Great Bear River. The classified river ice shows predominantly open water (blue) with some sections where rubble ice (red) remains along the banks, and some sections of remaining intact ice (yellow) near to Tulita (along the Mackenzie River and Great Bear River). The RCM image is courtesy of the federal government's Government Operations Centre. The river ice classification was completed using the IceBC algorithm.

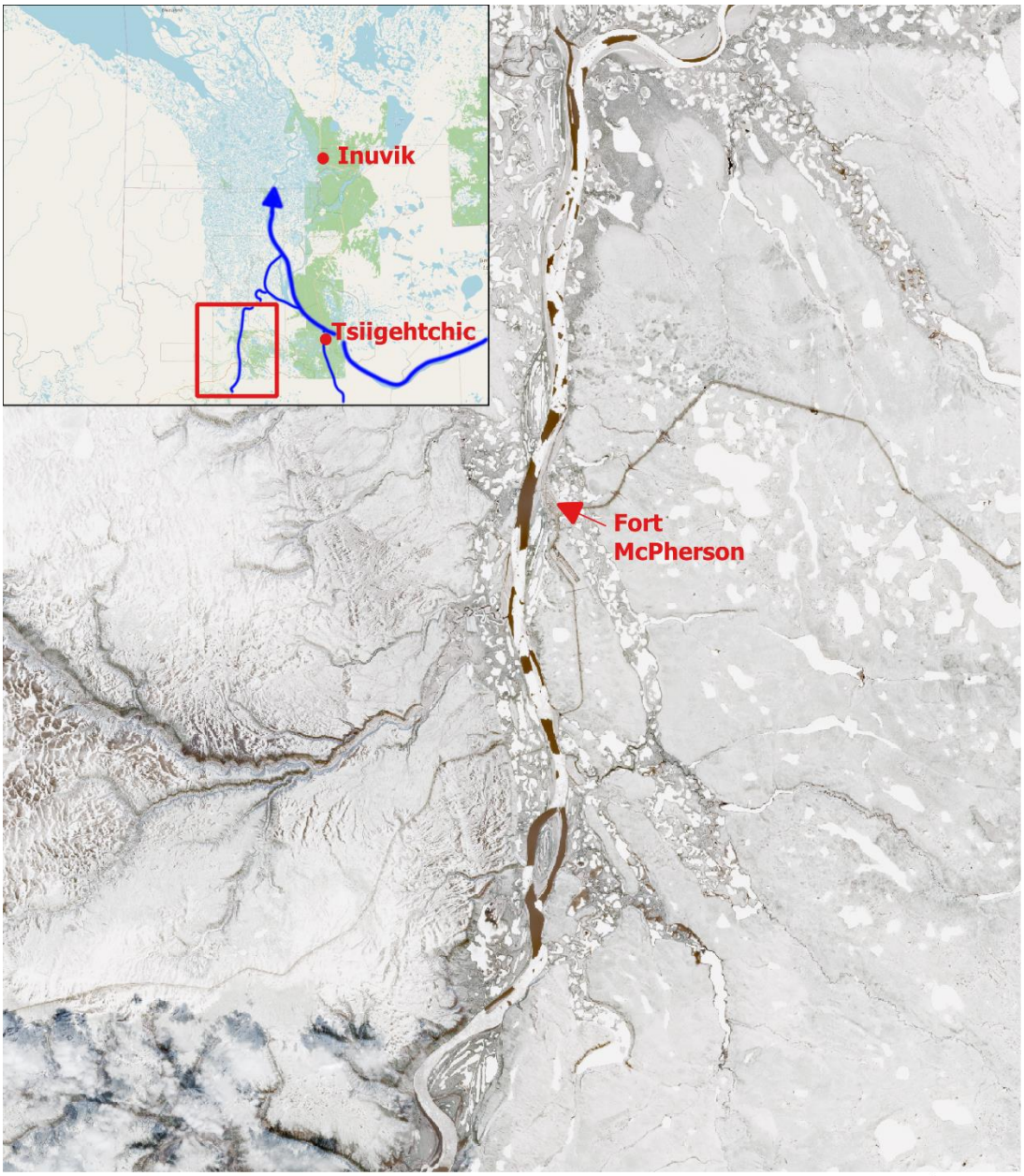


Above - Classified river ice imagery (30m resolution RCM image; captured on 13 May 2026 at 20:10 MDT) showing 90 km along the Mackenzie River around Fort Good Hope. The classified river ice shows predominantly open water (blue) and intact ice (yellow) upstream of Fort Good Hope. The RCM image is courtesy of the federal government's Government Operations Centre. The river ice classification was completed using the IceBC algorithm.



Optical satellite imagery from NASA MODIS (above) and Copernicus Sentinel-2 (below, right), show the location of the Mackenzie River ice front as of May 14, 2026. Images acquired: ~15:10 MDT (MODIS), 14:50 MDT (Sentinel-2).

Above – Optical satellite imagery acquired on May 14, 2026, between 14:50-15:10MDT. The upper is a larger scale image from NASA MODIS, the lower right is a close-up from Copernicus Sentinel-2. These images show the location of the Mackenzie River ice front between Fort Good Hope and Tsiigehtchic (~130km upstream of Tsiigehtchic).

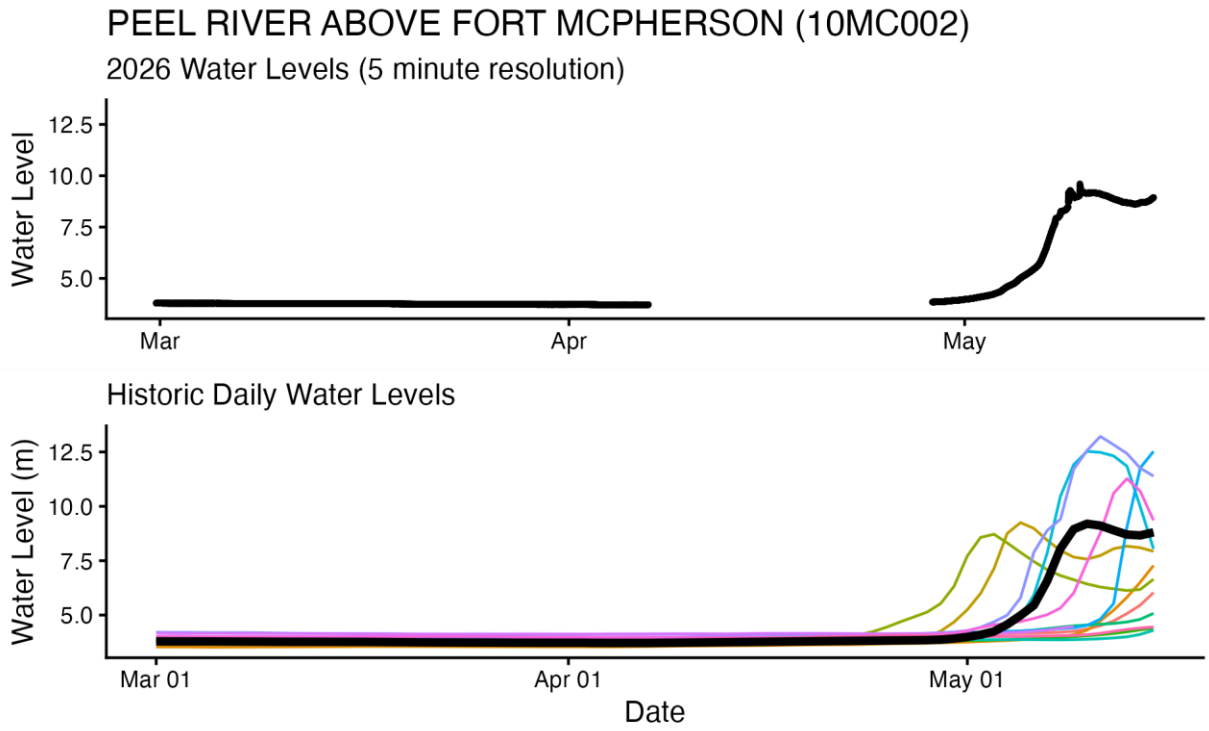


Optical satellite imagery shows the Peel River near Fort McPherson.
Image: Sentinel Copernicus-2
Image acquired: May 14, 2026 at 14:50 MDT.

Above – optical satellite imagery acquired on May 14, 2026 at 14:50 MDT shows ice conditions on the Peel River upstream and downstream of Fort McPherson. Sections of intact ice cover remain. There is a jam approximately 12km long, sitting approximately 20km upstream of the community. Image courtesy of ESA Copernicus.

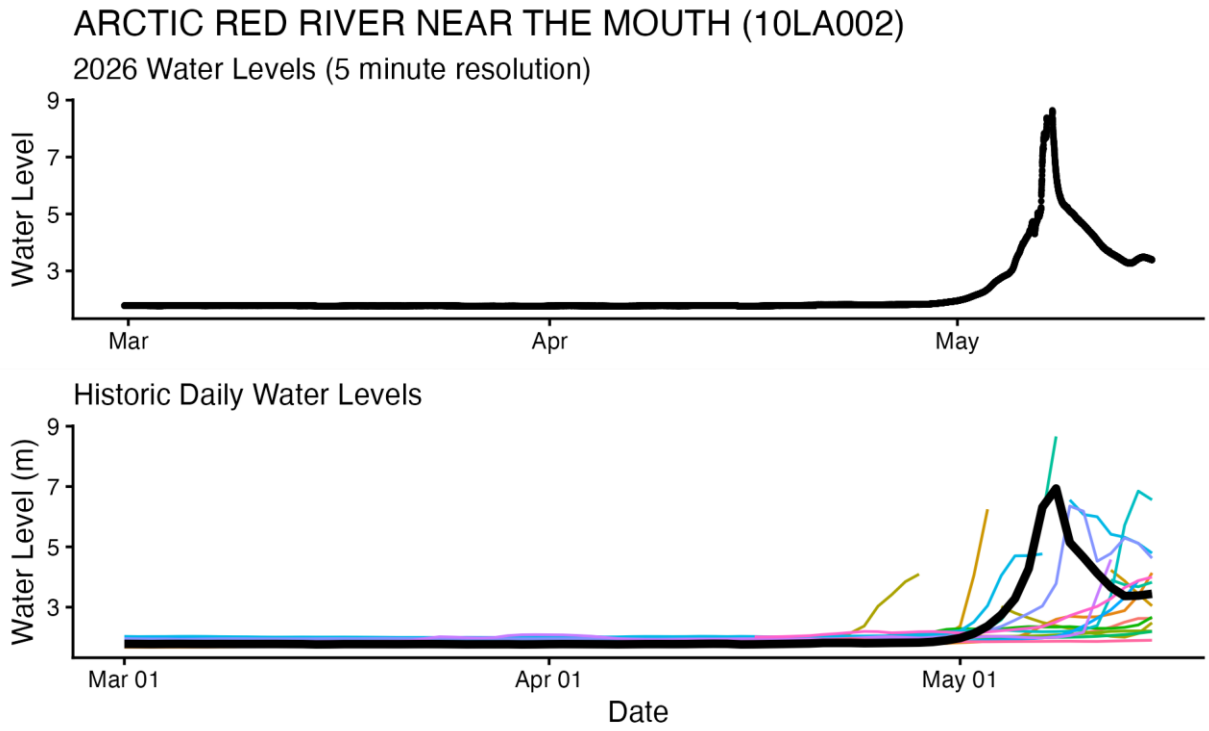
Appendix B: High resolution and historic water level plots

Peel River above Fort McPherson (10MC002)



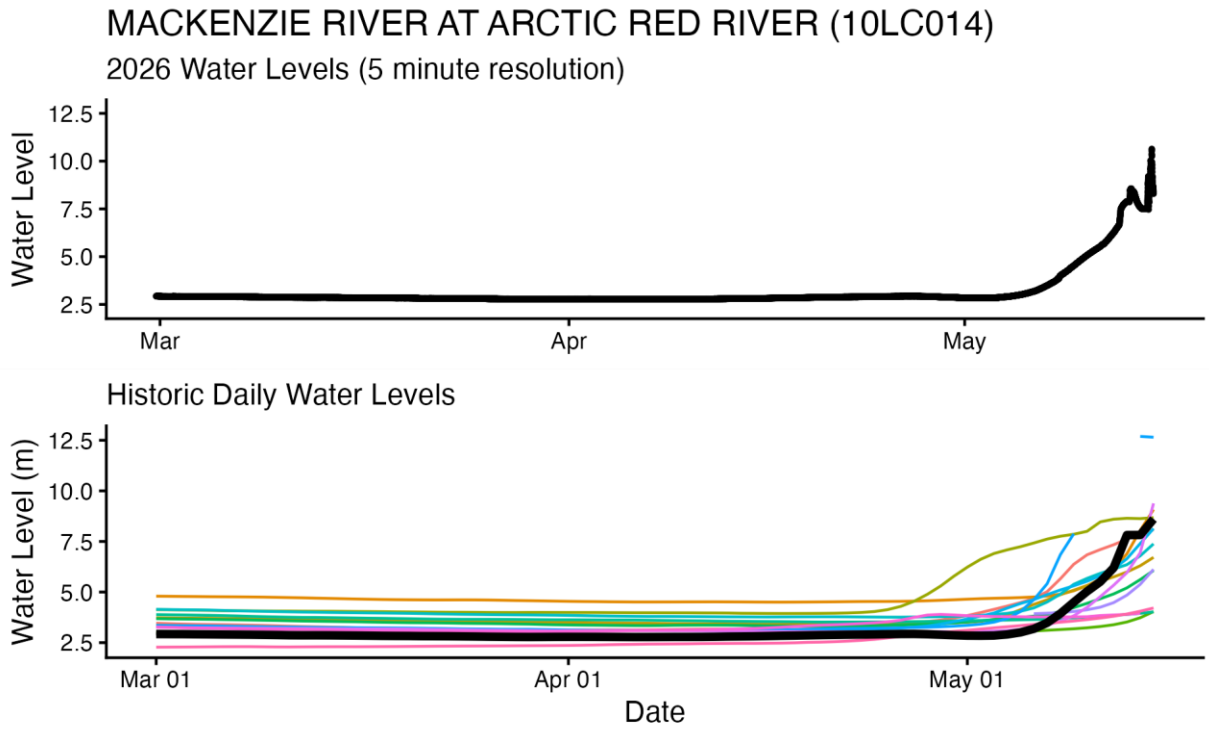
Above - The upper graph in the figure presents real time water level data at 5-minute resolution. The lower graph shows daily average levels relative to the previous 20 years.

Arctic Red River near the mouth (10LA002)



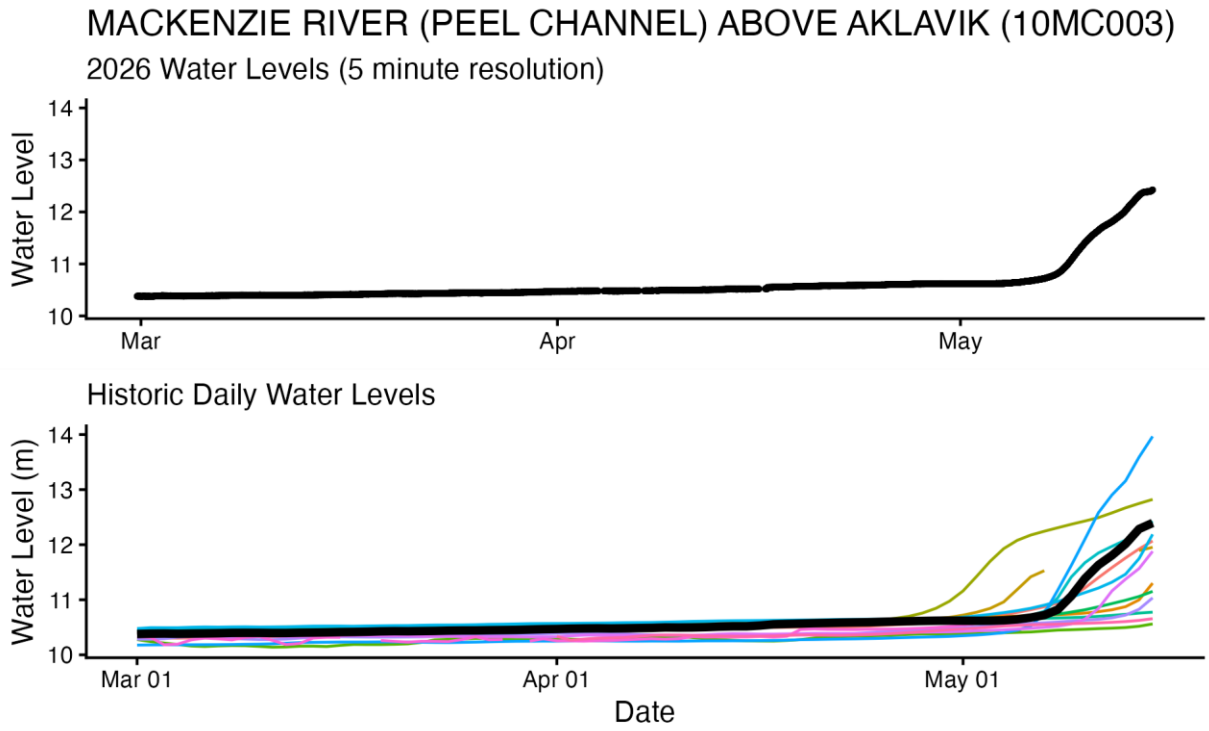
Above - The upper graph in the figure presents real time water level data at 5-minute resolution. The lower graph shows daily average levels relative to the previous 20 years.

Mackenzie River at Arctic Red River (10LC014)



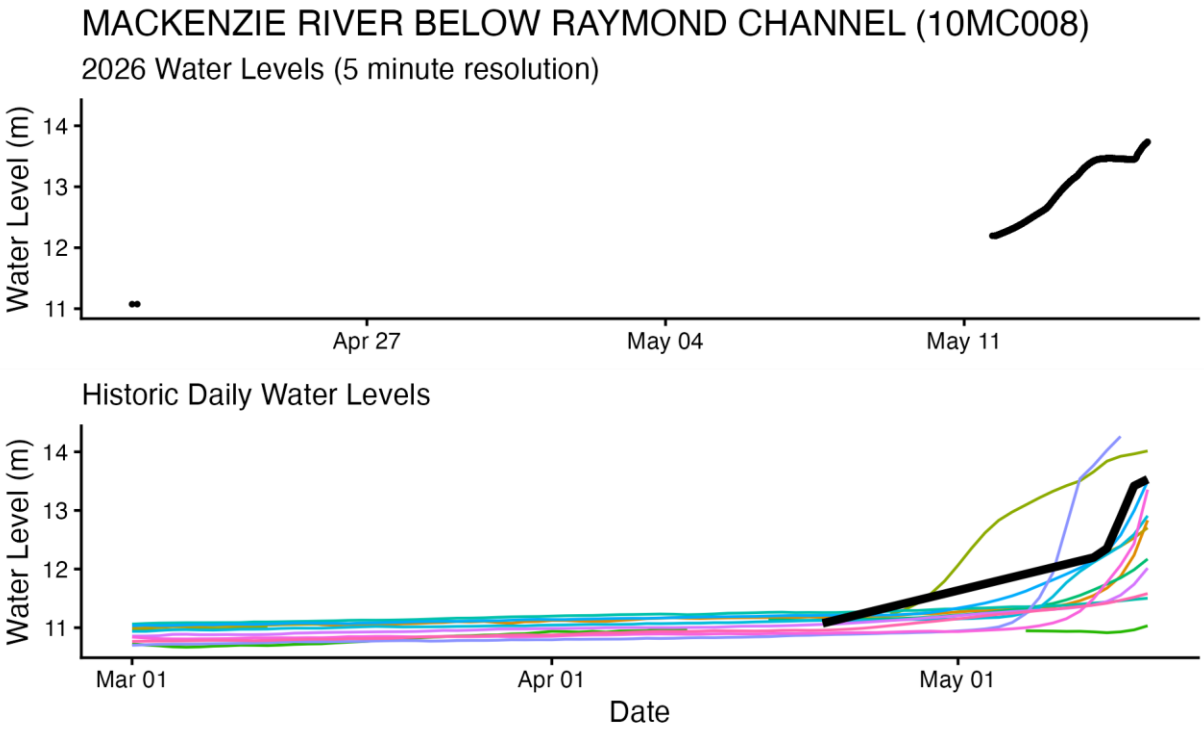
Above - The upper graph in the figure presents real time water level data at 5-minute resolution. The lower graph shows daily average levels relative to the previous 20 years.

Mackenzie River (Peel Channel) above Aklavik (10MC003)



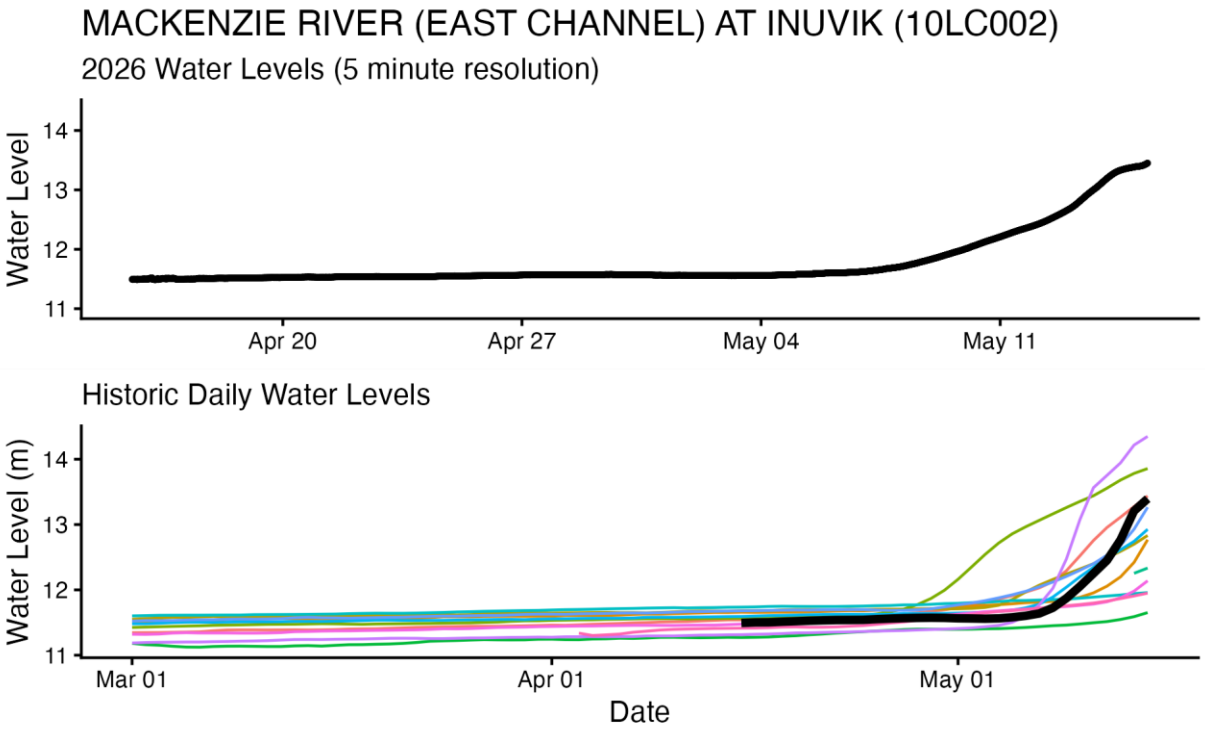
Above - The upper graph in the figure presents real time water level data at 5-minute resolution. The lower graph shows daily average levels relative to the previous 20 years.

Mackenzie River (Middle Channel) below Raymond Channel (10MC008)



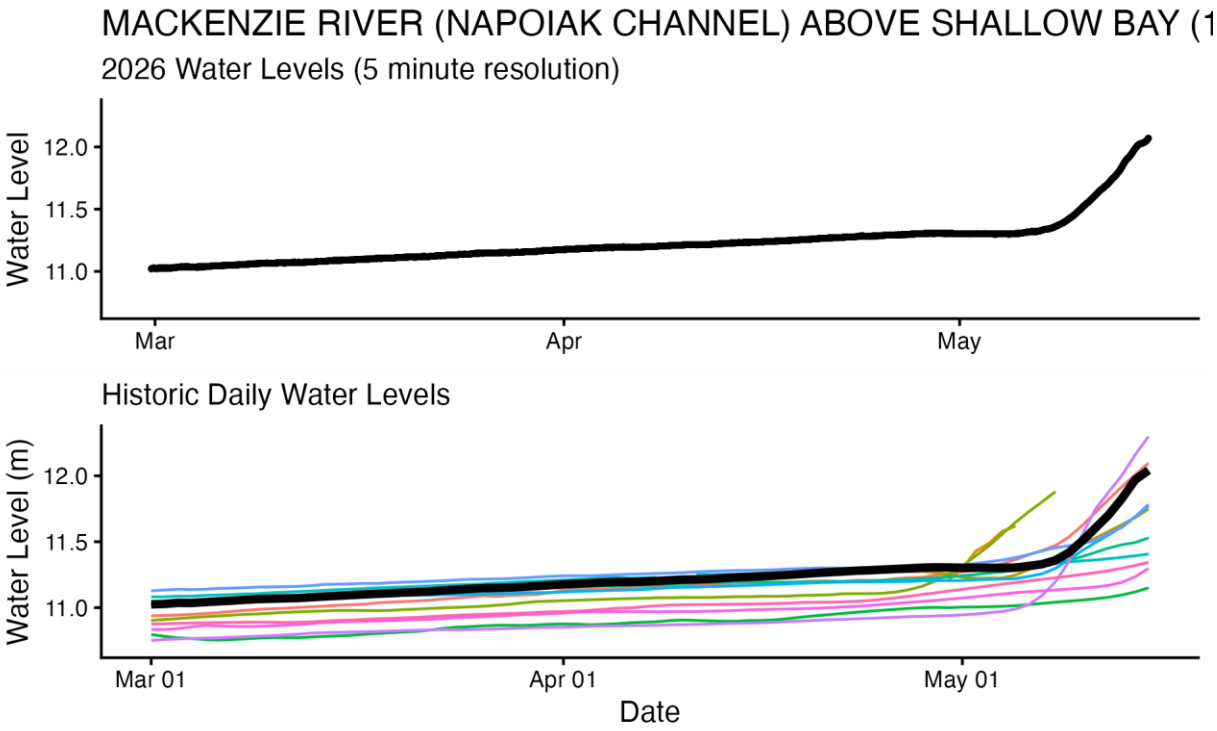
Above - The upper graph in the figure presents real time water level data at 5-minute resolution. The lower graph shows daily average levels relative to the previous 20 years.

Mackenzie River (East Channel) at Inuvik (10LC002)



Above - The upper graph in the figure presents real time water level data at 5-minute resolution. The lower graph shows daily average levels relative to the previous 20 years.

Mackenzie River (Napoiak Channel) above Shallow Bay (10MC023)



Above - The upper graph in the figure presents real time water level data at 5-minute resolution. The lower graph shows daily average levels relative to the previous 20 years.