NWT Water Monitoring Spring Break-Up Report

May 21, 2026 at 11:00

Surveillance des eaux aux TNO Rapport sur la débâcle printanière

21 mai 2026 à 11 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:

- Break-up monitoring is now focussed only on the Peel River and Mackenzie Delta.
- Break-up along the Peel River is near complete.
    - Water levels have fallen slightly at Fort McPherson since a high on May 18 and 19.
    - According to satellite imagery acquired on May 21, some rubble ice remains at the mouth of the Peel River before it flows into the delta.
- Break-up is ongoing 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 currently above average at Aklavik and average at Inuvik for this time of year, and still within normal levels.
    - According to satellite imagery acquired on May 20 and 21, rubble ice is jammed in the "Turtle", where the channel splits around the Mackenzie Islands. Downstream, ice is relatively intact with some open water developing.
    - At Aklavik, drone photos and satellite imagery show that Peel Channel ice is still intact but degrading, with the ice detached from the channel banks.
- Light rain showers are possible today over Fort McPherson and Aklavik, and further upstream on the Peel River. A small increase in water levels is possible on the Peel River, but will remain within normal ranges.

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

- La surveillance de la débâcle vise maintenant seulement la rivière Peel et le delta du Mackenzie.
- La débâcle est presque terminée sur la rivière Peel.
    - Le niveau d'eau a légèrement baissé à la hauteur de Fort McPherson depuis le pic atteint les 18 et 19 mai.

    - Selon les images satellites obtenues le 21 mai, il reste encore des fragments de glace à l'embouchure de la rivière Peel, avant qu'elle ne se jette dans le delta.
- La débâcle est en cours dans le delta du Mackenzie.
    - Les niveaux d'eau mesurés dans le chenal Est, le chenal Middle et le chenal Peel continuent de monter sous une glace relativement intacte. Pour cette période de l'année, les niveaux d'eau sont actuellement supérieurs à la moyenne à la hauteur d'Aklavik et correspondent à la moyenne à la hauteur d'Inuvik; ils restent dans les limites habituelles.
    - Selon les images satellites obtenues les 20 et 21 mai, des fragments de glace ont formé un embâcle dans le secteur connu sous le nom de « Turtle », où le chenal se divise, près des îles Mackenzie. En aval, la glace est relativement intacte, avec quelques zones d'eau libre qui se forment.
    - À la hauteur d'Aklavik, des photos obtenues à l'aide de drones et de l'imagerie satellite montrent que la glace du chenal Peel est toujours intacte, mais qu'elle est en train de se dégrade, la glace s'étant détachée des berges du chenal.
- Il pourrait y avoir de légères averses aujourd'hui pour Fort McPherson et Aklavik, ainsi que plus en amont sur la rivière Peel. Une légère hausse des niveaux d'eau pourrait se produire sur la rivière Peel, mais ceux-ci resteront dans les limites normales.

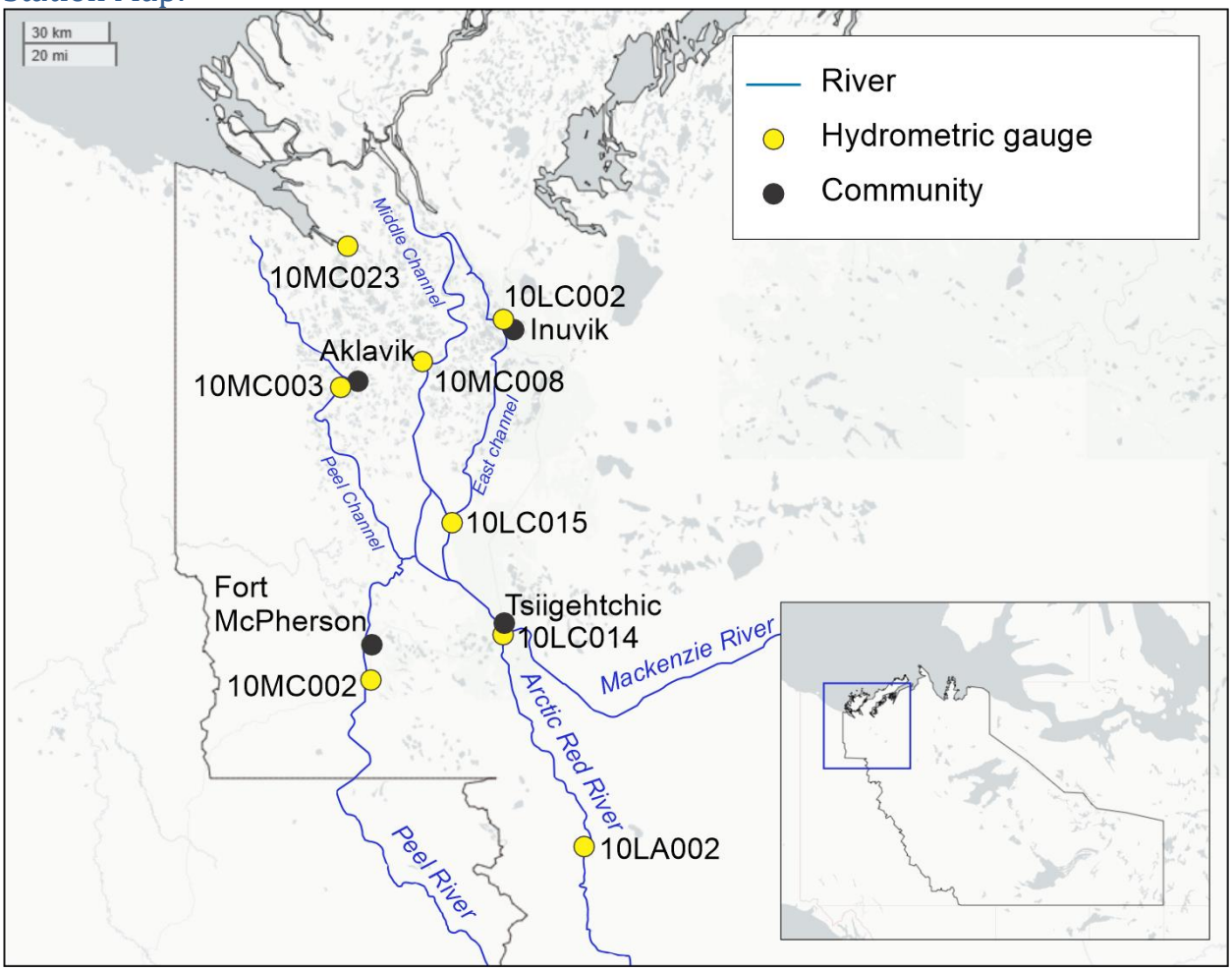
Contents

Peel River & Beaufort Delta

Current Status:

- Break-up along the Peel River is near complete.
    - Water levels have fallen slightly at Fort McPherson since a high on May 18 and 19.
    - According to radar satellite imagery acquired on May 21, some rubble ice remains at the mouth of the Peel River before it flows into the delta.
- Break-up is ongoing 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 currently above average at Aklavik and average at Inuvik for this time of year, and still within normal levels.
    - According to radar satellite imagery acquired on May 21 and optical satellite imagery acquired on May 20, rubble ice is jammed in the "Turtle", where the channel splits around the Mackenzie Islands. Downstream, ice is relatively intact with some open water developing.
    - At Aklavik, drone photos and radar satellite imagery show that Peel Channel ice is still intact but degrading, with the ice detached from the channel banks.
- Light rain showers are possible today over Fort McPherson and Aklavik, and further upstream on the Peel River. A small increase in water levels is possible on the Peel River, but will remain within normal ranges.

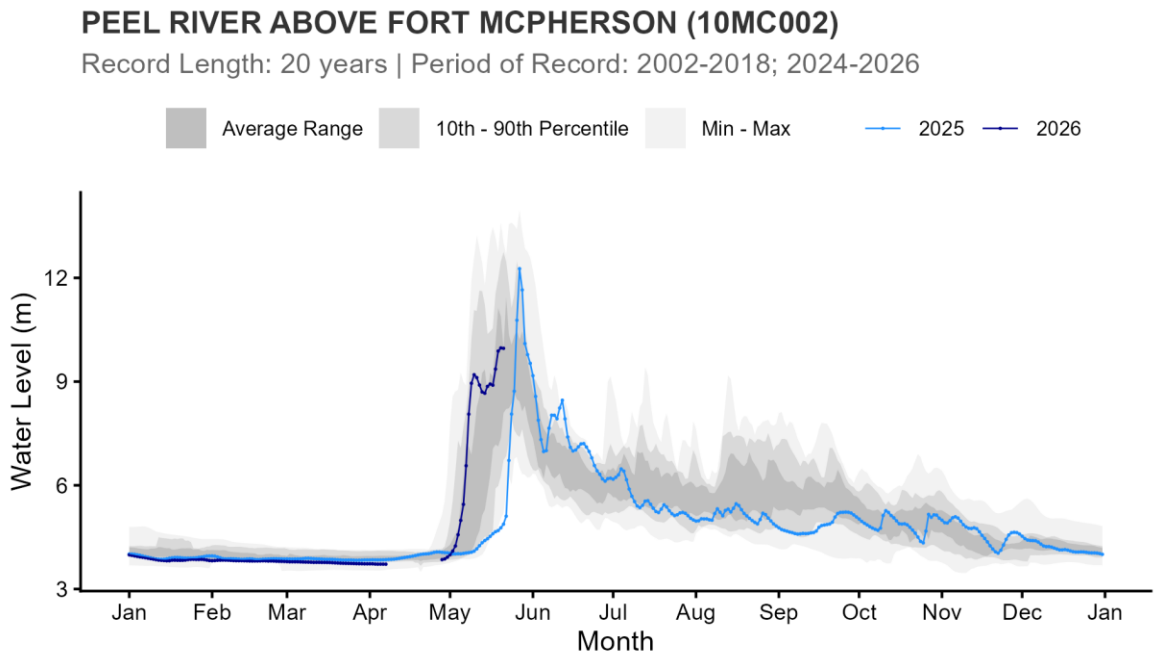
Station Map:



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

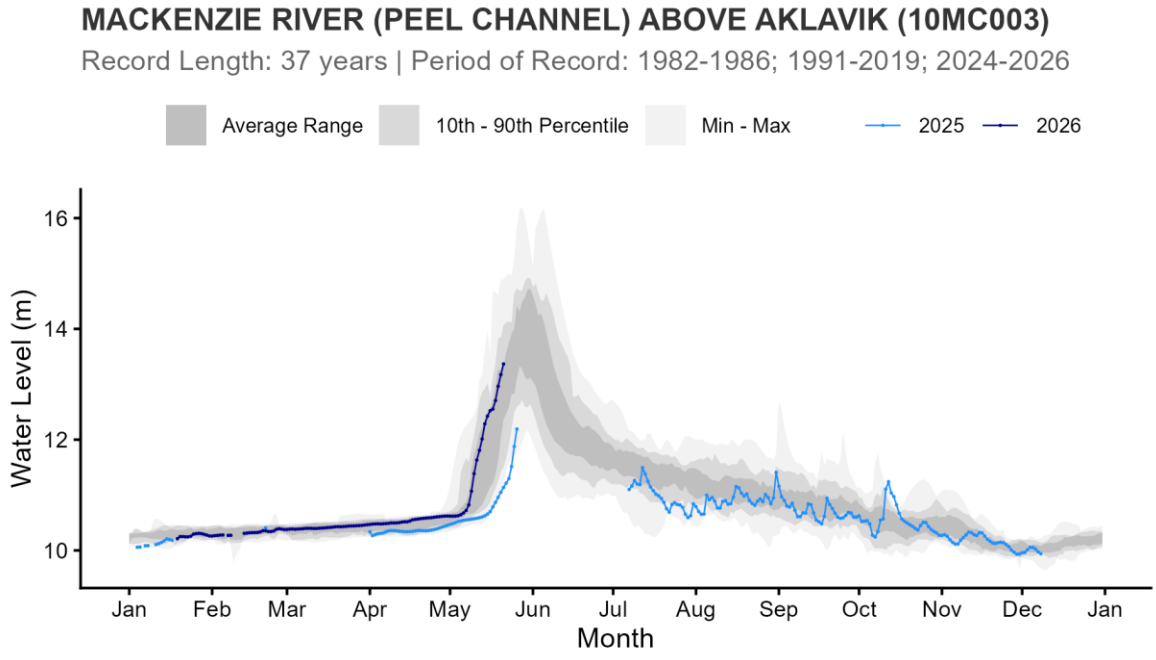
Hydrometric Data:

Peel River above Fort McPherson [10MC002]



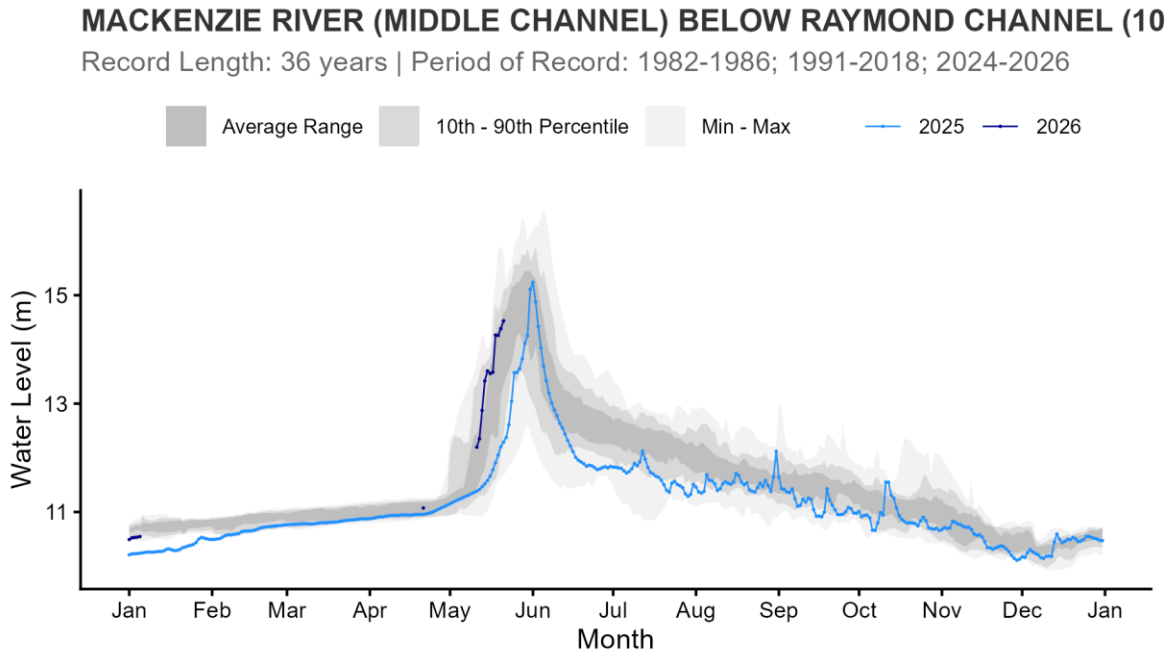
Above - Water level data for Peel River above Fort Mcpherson [10MC002]. Daily average levels for the previous year also are shown here.

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



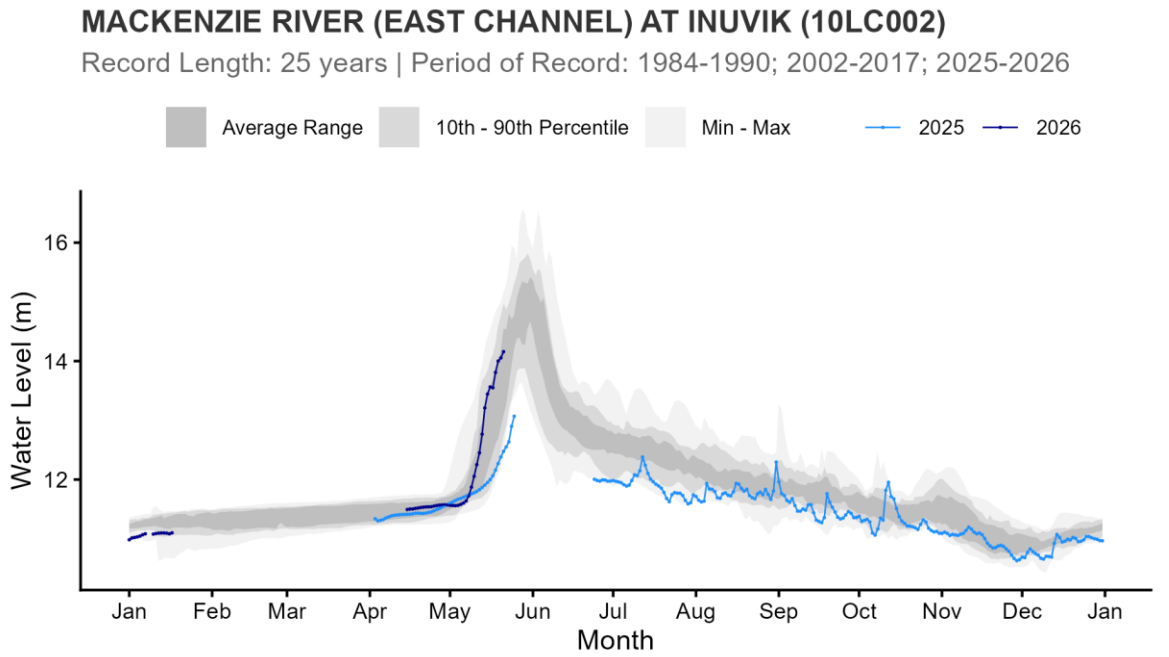
Above - Water level data for Mackenzie River (Peel Channel) above Aklavik [10MC003]. Daily average levels for the previous year also are shown here.

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 21 at 11:00 MDT. 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 21 at 11:00 MDT. Photo courtesy of Water Survey of Canada and GNWT.

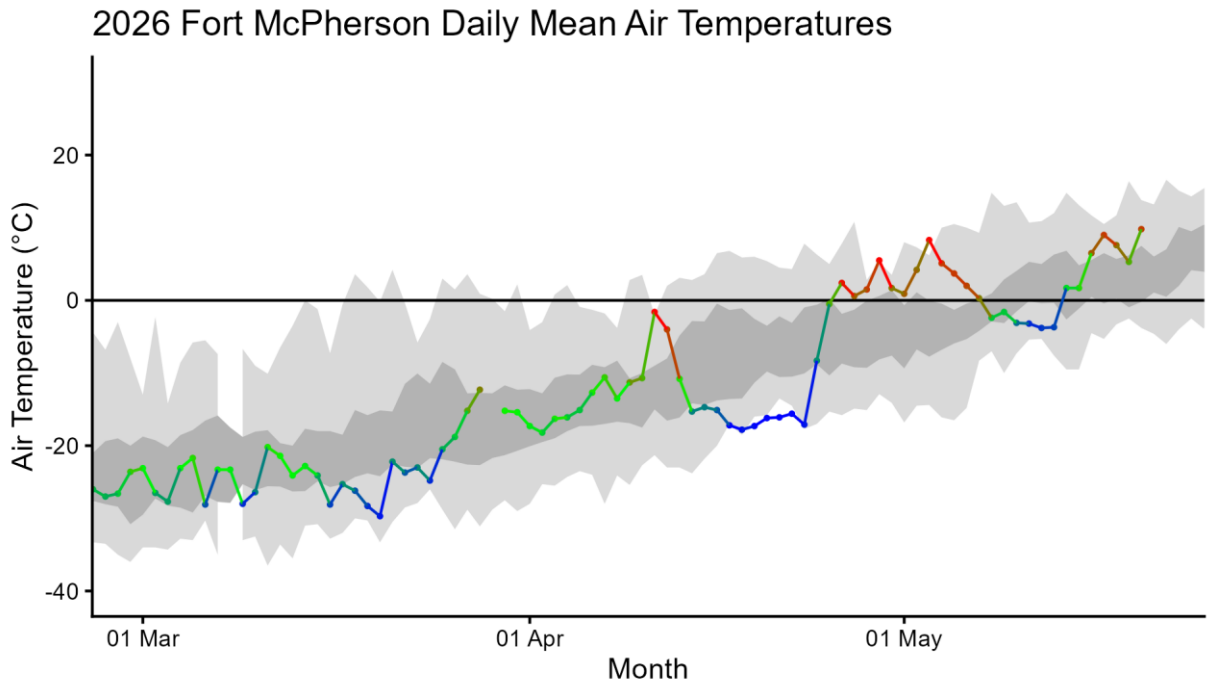
Weather Data:

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.

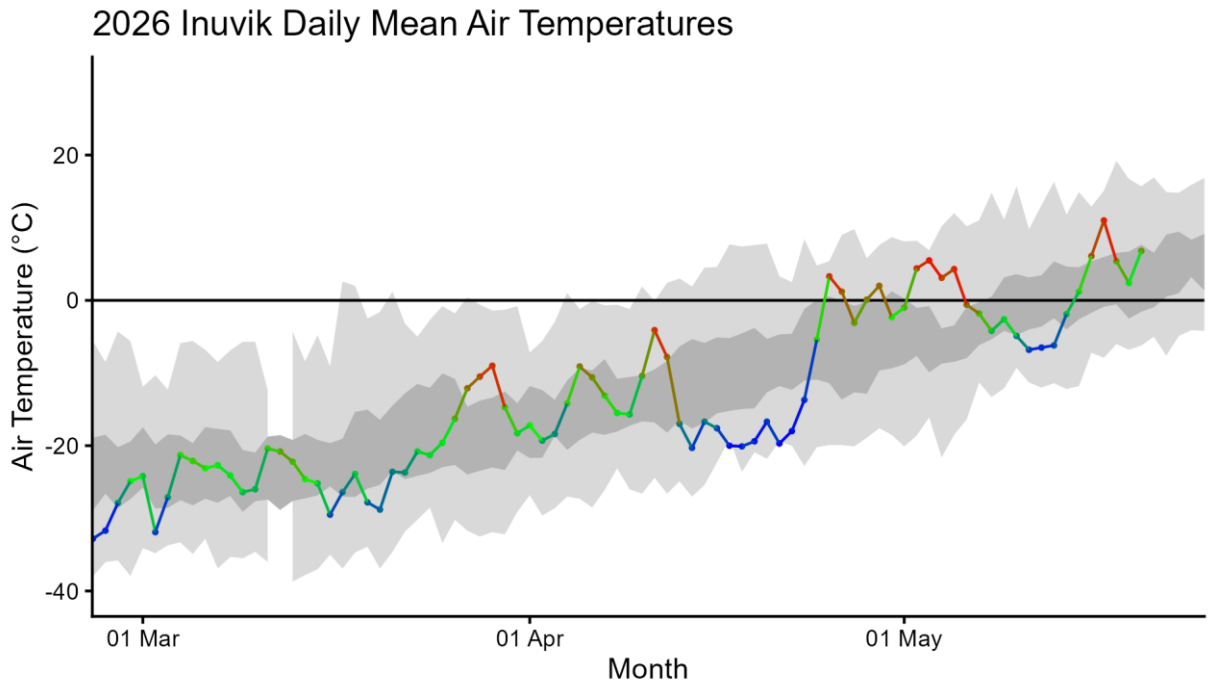
- The lower Mackenzie River basin (Beaufort Delta Region): temperatures over the last few days have been average to above average. No significant precipitation has been recorded.

Fort McPherson Air Temperature



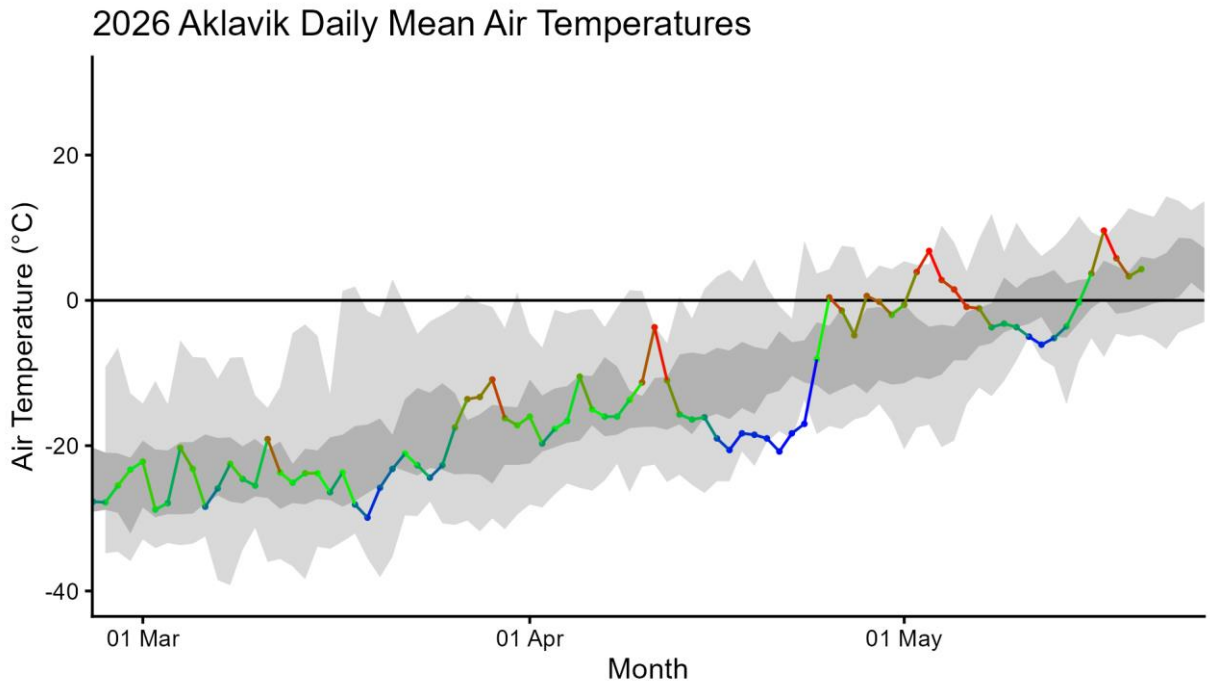
Above - Daily mean air temperature for Fort McPherson. Shaded areas represent the historical range (1991-2025).

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:

- Lower Mackenzie River basin (Beaufort Delta Region): forecasted temperatures over the week from May 21-27 are average. Light rain showers are possible today over Fort McPherson and Aklavik, and further upstream on the Peel River. Minimal impact on water levels is anticipated in the Mackenzie Delta; a small increase is possible on the Peel River.

Fort McPherson seven-day weather forecast:

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

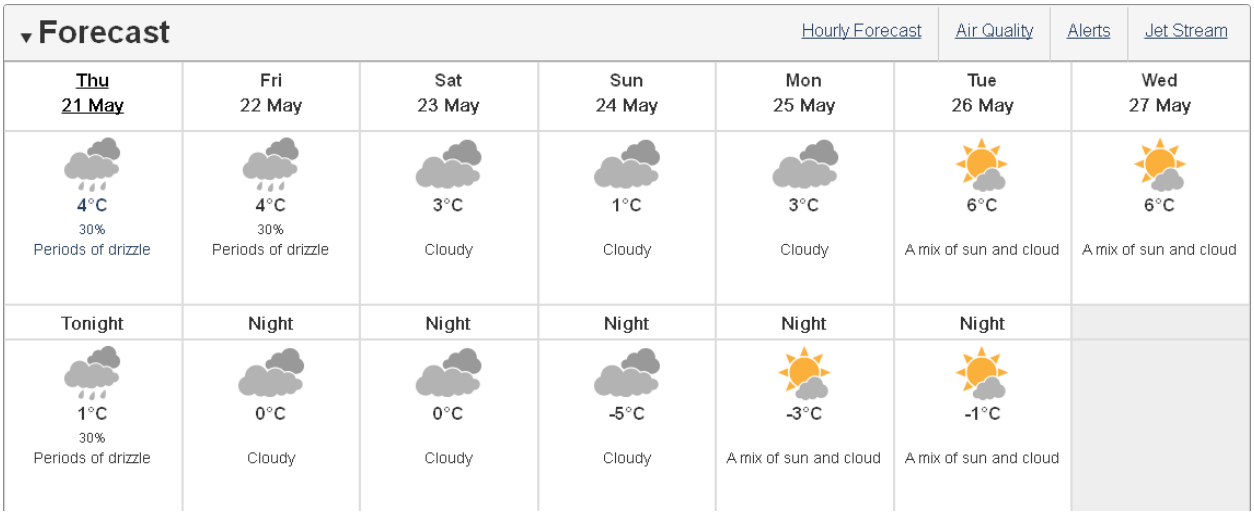
Thu 21 May	Fri 22 May	Sat 23 May	Sun 24 May	Mon 25 May	Tue 26 May	Wed 27 May
8°C 30% Chance of showers	11°C 30% Chance of rain showers or flurries	14°C A mix of sun and cloud	7°C Cloudy	6°C Cloudy	7°C A mix of sun and cloud	7°C A mix of sun and cloud
Tonight	**Night**	**Night**	**Night**	**Night**	**Night**	
1°C 30% Chance of rain showers or flurries	1°C Cloudy	1°C Cloudy periods	-5°C Cloudy	-2°C Cloudy periods	0°C Cloudy periods	

Inuvik seven-day weather forecast:

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

Thu 21 May	Fri 22 May	Sat 23 May	Sun 24 May	Mon 25 May	Tue 26 May	Wed 27 May
4°C Cloudy	6°C 30% Periods of drizzle	10°C A mix of sun and cloud	2°C Cloudy	4°C Cloudy	12°C Sunny	12°C A mix of sun and cloud
Tonight	**Night**	**Night**	**Night**	**Night**	**Night**	
0°C 30% Periods of drizzle	-1°C Cloudy periods	-1°C A mix of sun and cloud	-5°C Cloudy	-2°C A mix of sun and cloud	0°C A mix of sun and cloud	

Aklavik seven-day weather forecast:



Forecast

Hourly Forecast | Air Quality | Alerts | Jet Stream

Thu 21 May	Fri 22 May	Sat 23 May	Sun 24 May	Mon 25 May	Tue 26 May	Wed 27 May
4°C 30% Periods of drizzle	4°C 30% Periods of drizzle	3°C Cloudy	1°C Cloudy	3°C Cloudy	6°C A mix of sun and cloud	6°C A mix of sun and cloud
Tonight	Night	Night	Night	Night	Night	
1°C 30% Periods of drizzle	0°C Cloudy	0°C Cloudy	-5°C Cloudy	-3°C A mix of sun and cloud	-1°C A mix of sun and cloud	

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**.

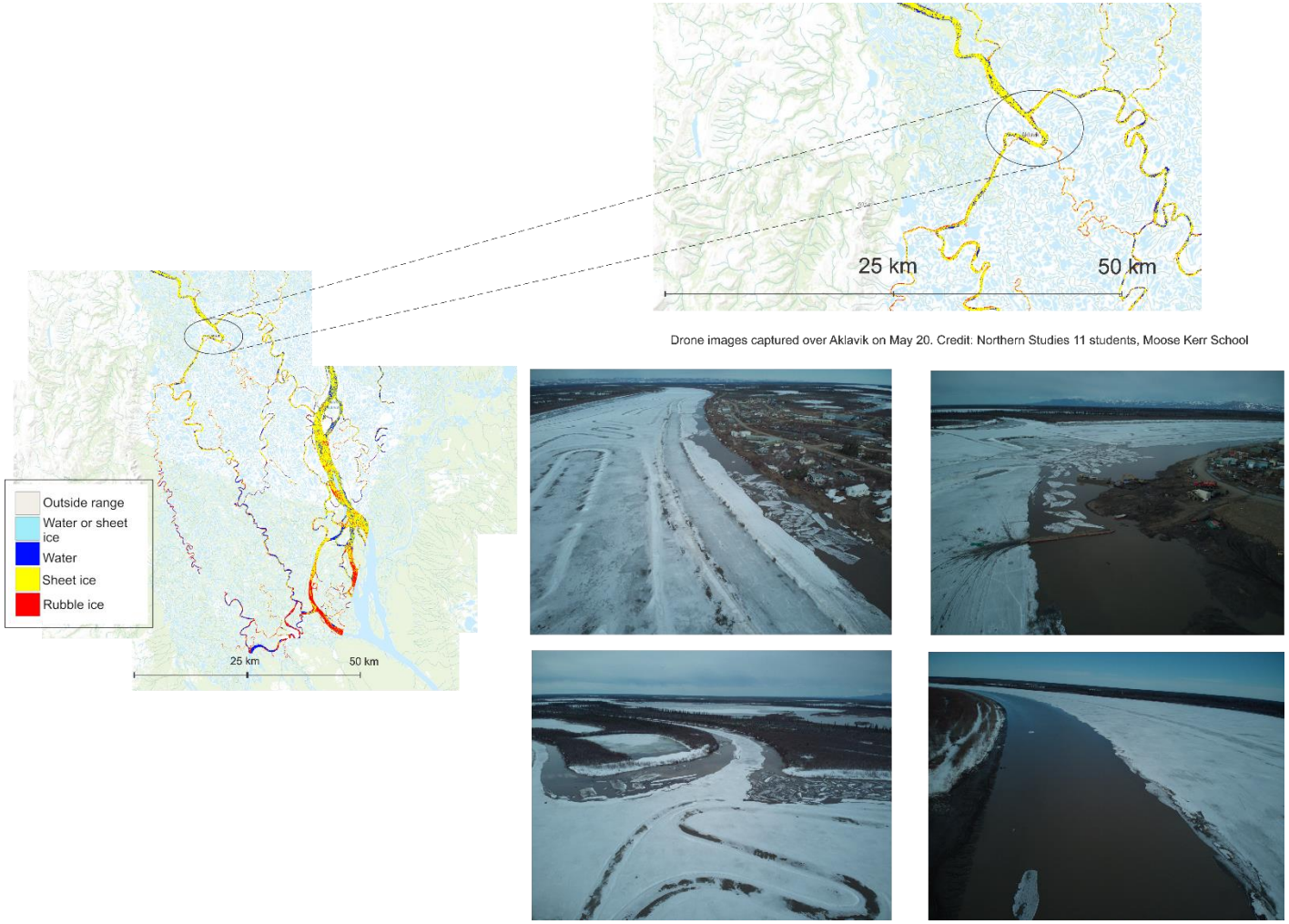
The causes of mechanical and thermal break-ups are usually dependent on the weather during early spring. Warm weather, sunshine, and rain on snow events are usually a good way to bring extra energy into the system to help melt the ice. Warm temperatures in the upstream part of a basin could also cause 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:

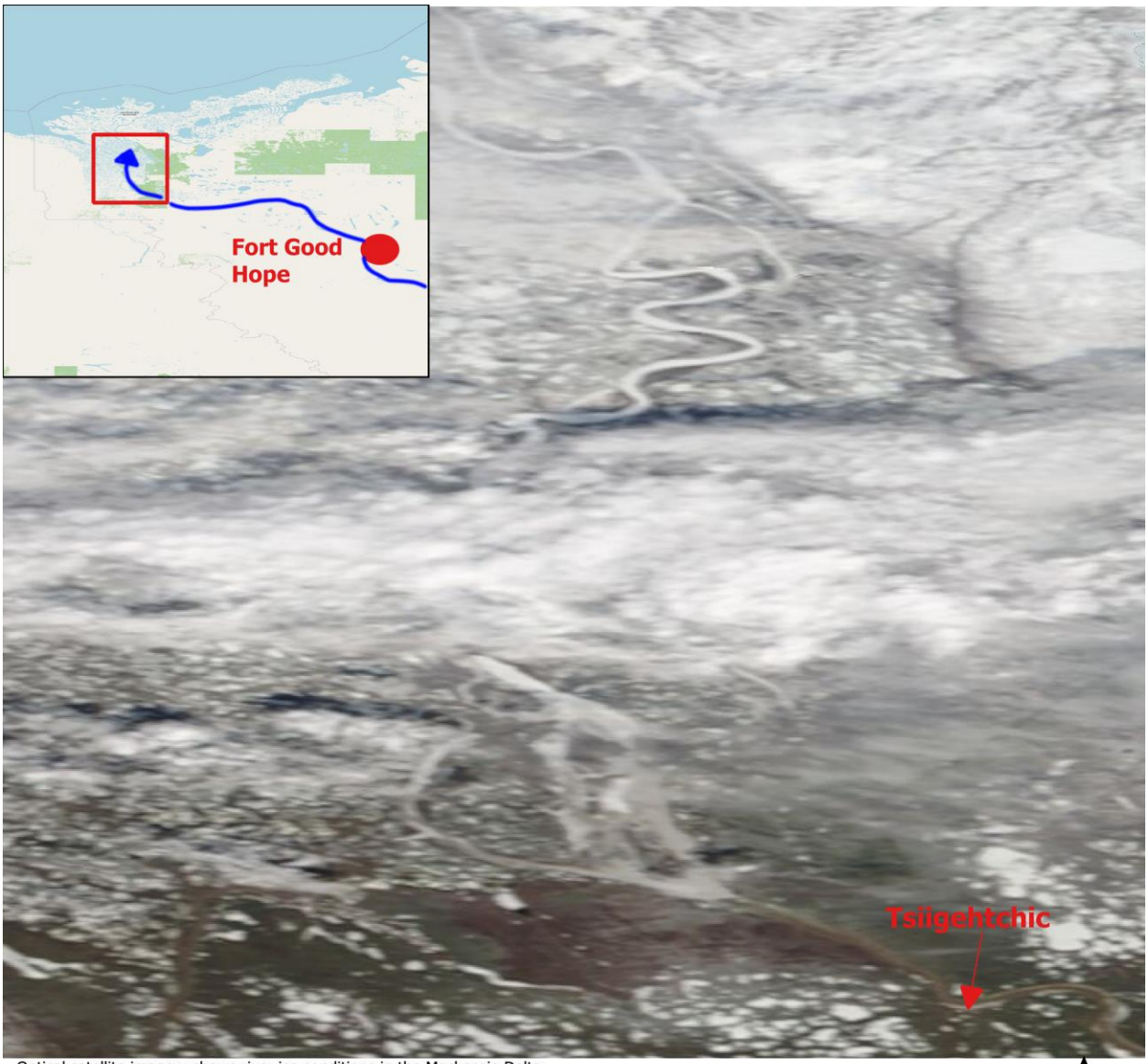
- The figures in this report plot water levels. The values on the y-axis are (in most cases) relative to an arbitrary datum. This means that the values on each gauge can be compared to different years but should not be used to compare water levels from one location to the next.
- For example, the Hay 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



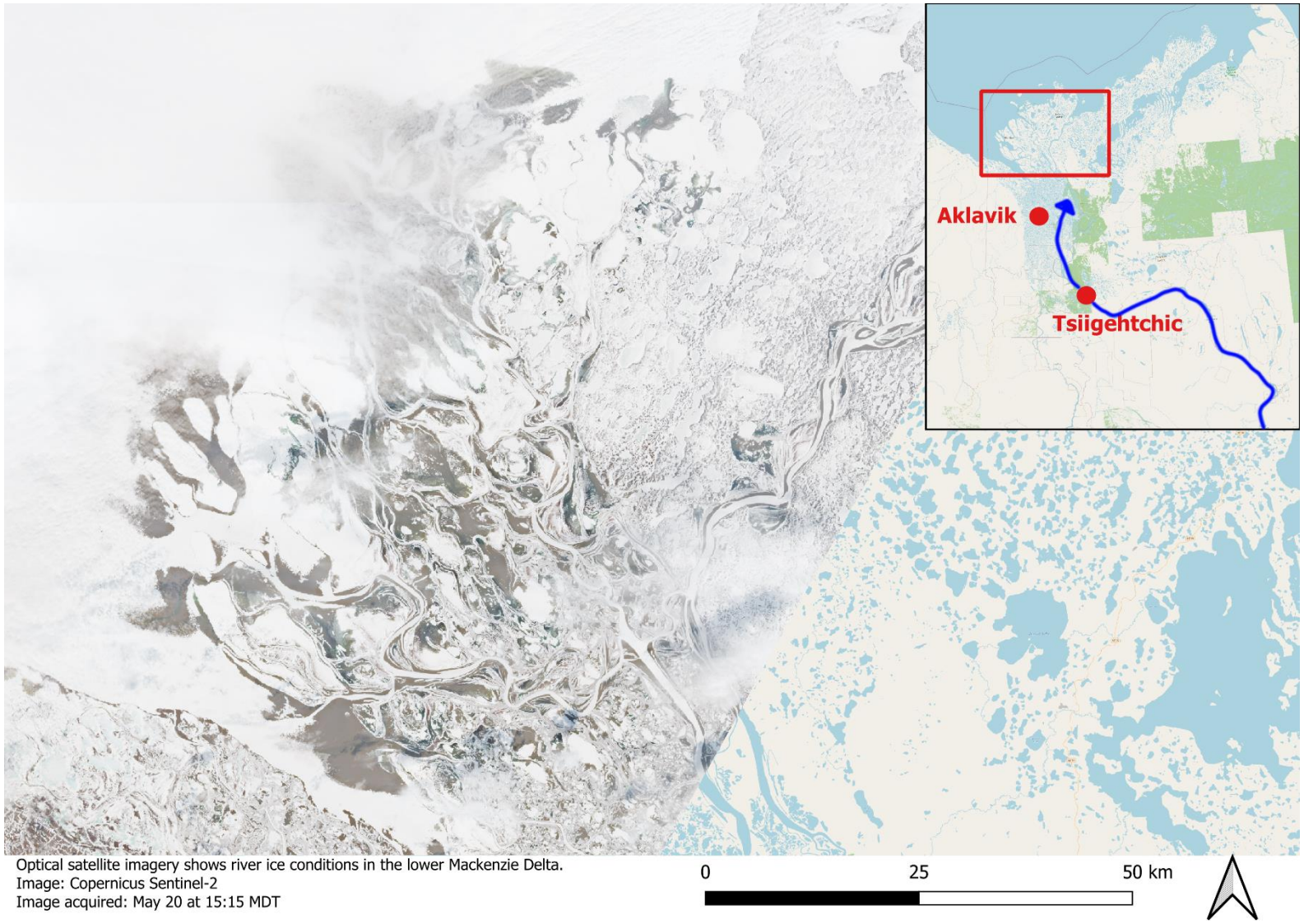
Drone images captured over Aklavik on May 20. Credit: Northern Studies 11 students, Moose Kerr School

Above – Classified river ice imagery captured on May 21 at 09:39 MDT over the Mackenzie Delta. The river ice classification shows localized rubble ice remaining in the "Turtle" (Mackenzie Islands, where the river splits into three channels). There is a mix of ice types, but it is predominantly intact along the main channel from the Turtle northwards. Intact ice is also predominant in smaller channels, including the Peel Channel at Aklavik. These conditions were verified by drone photos courtesy of Northern Studies 11 students at Moose Kerr School in Aklavik, and WSC gauge imagery. The satellite image is provided courtesy of the federal government's Government Operations Centre, and the river ice classification was completed using the IceBC algorithm.



Optical satellite imagery shows river ice conditions in the Mackenzie Delta downstream of Tsiigehtchic.
Image: NASA MODIS via NASA Worldview
Image acquired: May 20, 2026.

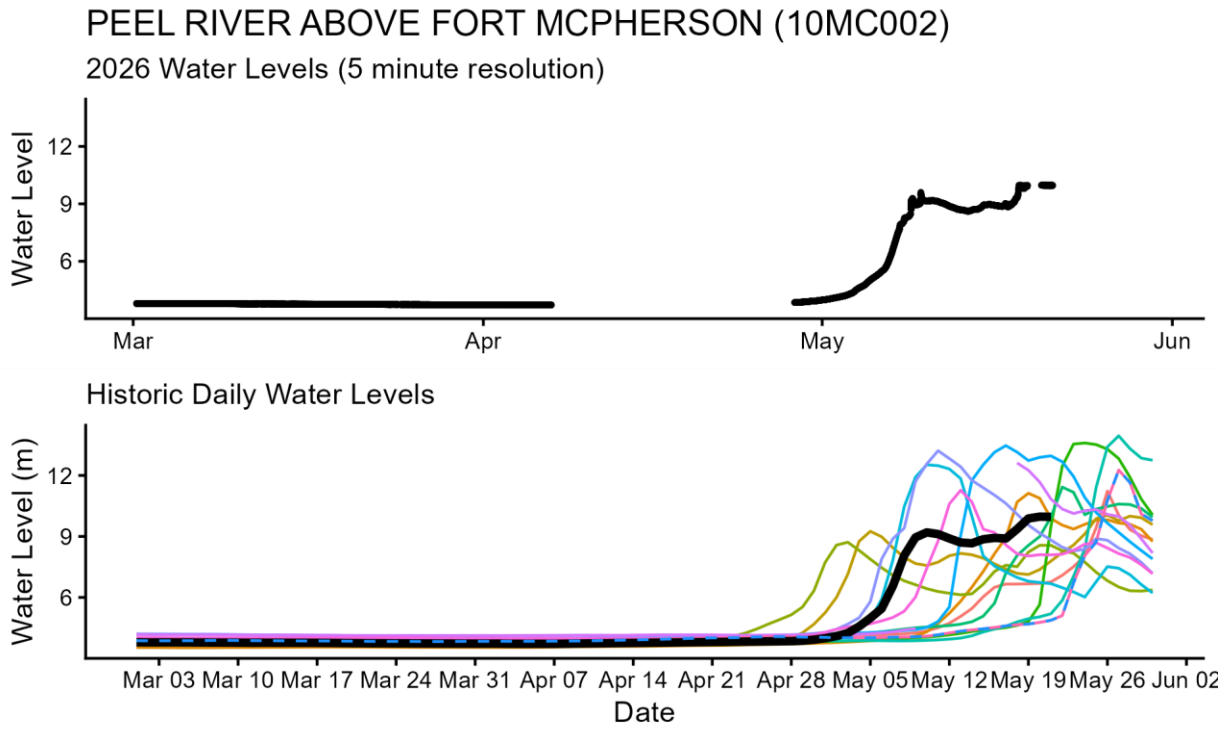
Above – optical satellite imagery acquired by NASA MODIS on May 20 shows river ice conditions downstream of Tsiigehtchic and on the main channels in the Mackenzie Delta. Ice is downstream of Point Separation, with rubble ice found within the series of islands referred to as the "Turtle" (Mackenzie Islands), and intact ice downstream of that.



Above – optical satellite imagery acquired by Copernicus Sentinel-2 on May 20 at 15:15 MDT shows river ice conditions in the lower Mackenzie Delta. River ice is largely intact with open leads along riverbanks.

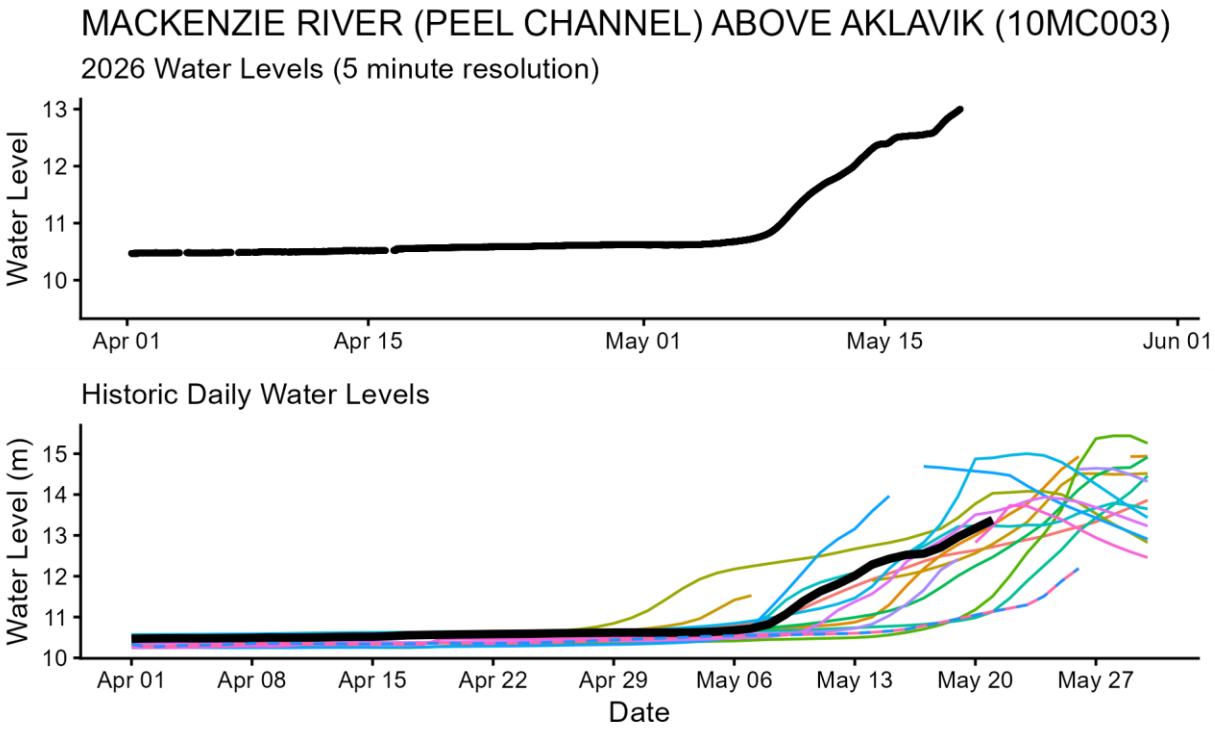
Appendix B: High resolution and historic water level plots

Peel River above Fort McPherson (10MC002)



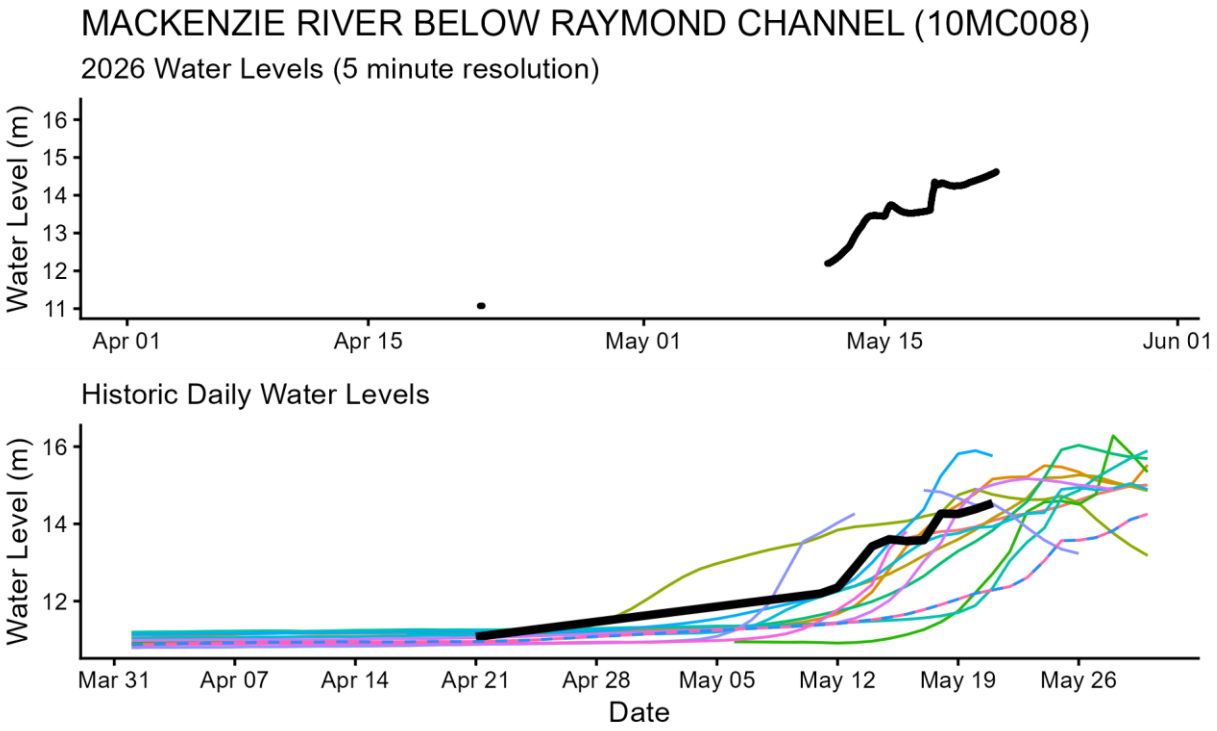
Above - The upper graph in the figure presents real time water level data at 5-minute resolution. The lower graph shows daily average levels relative to the previous 20 years.

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



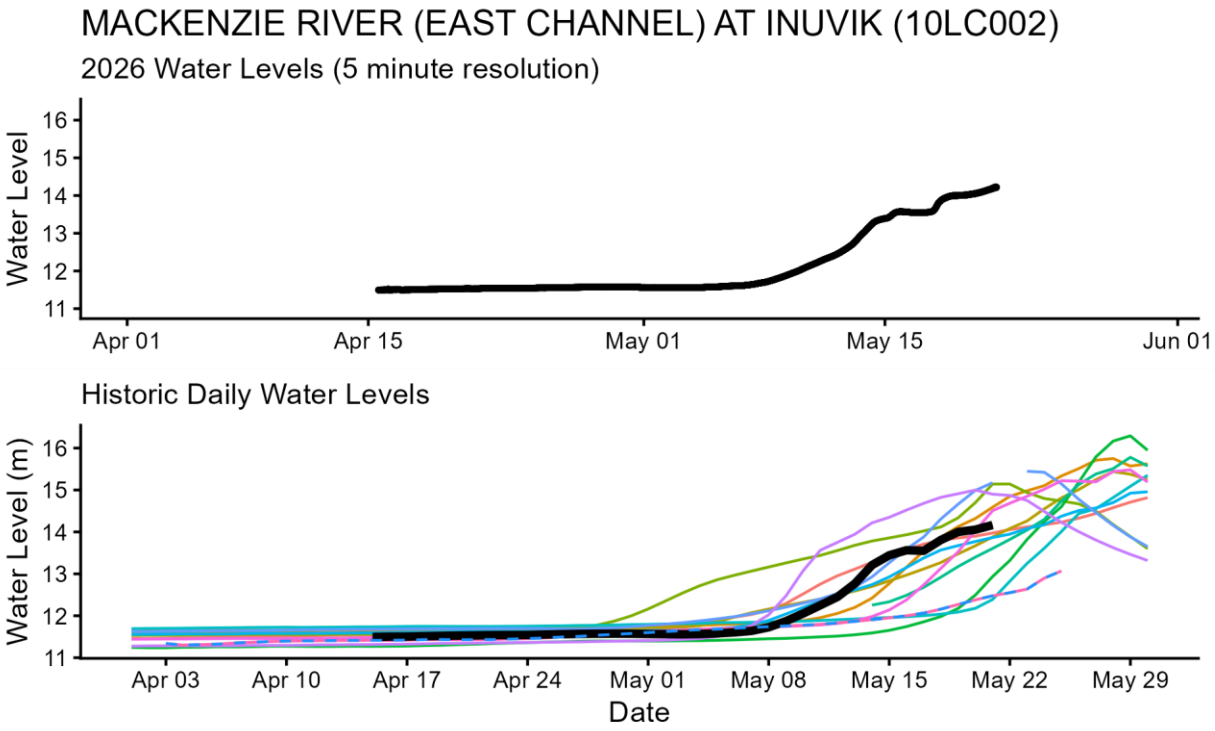
Above - The upper graph in the figure presents real time water level data at 5-minute resolution. The lower graph shows daily average levels relative to the previous 20 years.

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



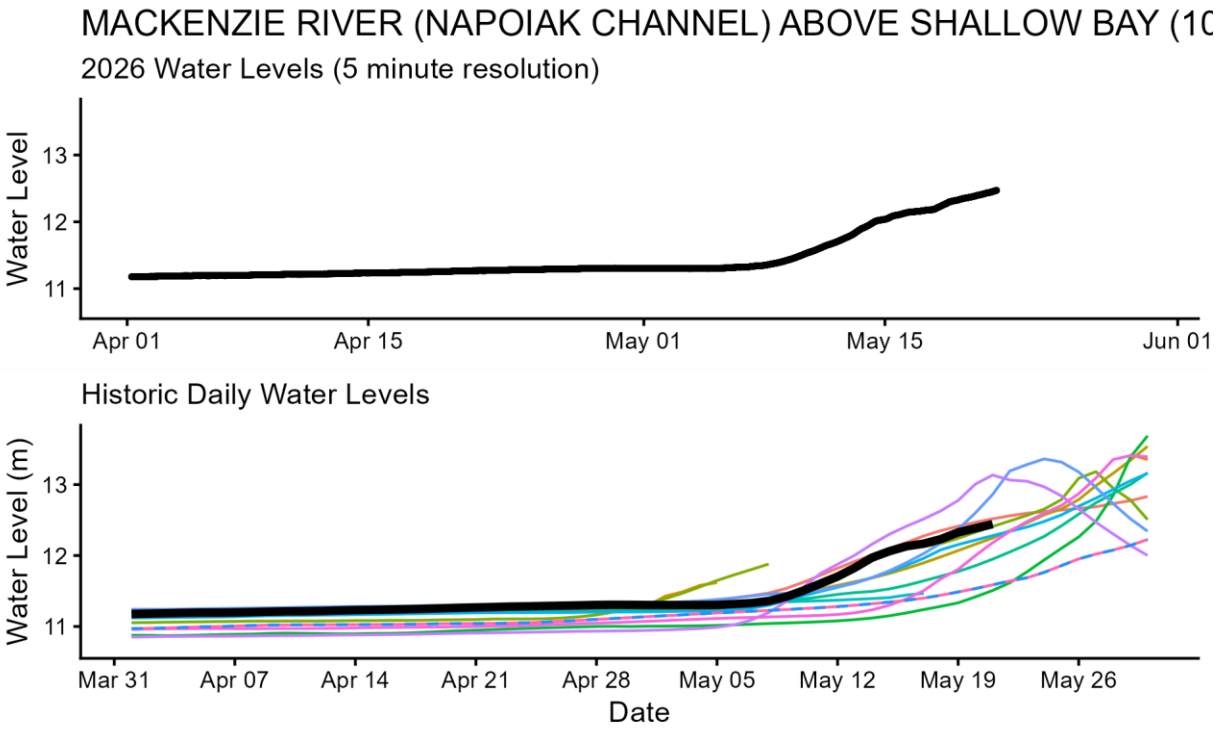
Above - The upper graph in the figure presents real time water level data at 5-minute resolution. The lower graph shows daily average levels relative to the previous 20 years.

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)



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