# NWT Water Monitoring Spring Break-Up Report

May 23, 2026 at 11:30

# Surveillance des eaux aux TNO Rapport sur la débâcle printanière

23 mai 2026 à 11 :30

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:

- At Aklavik, water levels measured on the Peel Channel just upstream of the community are continuing to rise, and might soon be approaching levels of past flood events.
    - The rate of rise has increased over the past day, and is currently rising by approximately 0.5m per day. As of 11:50 MT on May 23, the water level was 14.4m. Past flood events have occurred when water levels were above 15.5m.
    - Jammed ice in the delta – in the "Turtle" area (around the Mackenzie Islands) – is contributing to this rise.
    - From gauge photos last night and this morning, sheet ice movement has been observed on the Peel Channel.
- Ice in the "Turtle" area (where the Mackenzie River splits around the Mackenzie Islands), and in the Middle Channel of the delta, has not changed significantly over the past few days.
    - According to radar satellite imagery acquired on May 23, rubble ice is still jammed in the "Turtle", as well as in the East Channel approximately 3 km downstream of its confluence with the Mackenzie River.
    - According to radar satellite imagery and aerial photographs acquired on May 23, along the Middle Channel downstream of the "Turtle", ice is still relatively intact with some open water developing.
- On the East Channel (as measured at Inuvik), on the Middle Channel (as measured north of Horseshoe Bend), and on Napoiak Channel (as measured above Shallow Bay), water levels are continuing to rise underneath relatively intact ice.
- Break-up along the Peel River is near complete.
    - Water levels have continued to fall slowly at Fort McPherson since a high on May 18 and 19.
    - The river is predominantly open water downstream of Fort McPherson. There may be some rubble ice remaining at the mouth of the Peel River, according to radar satellite imagery acquired on May 23.
- Cloudy conditions over the delta next week might act to slow river ice degradation.

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.

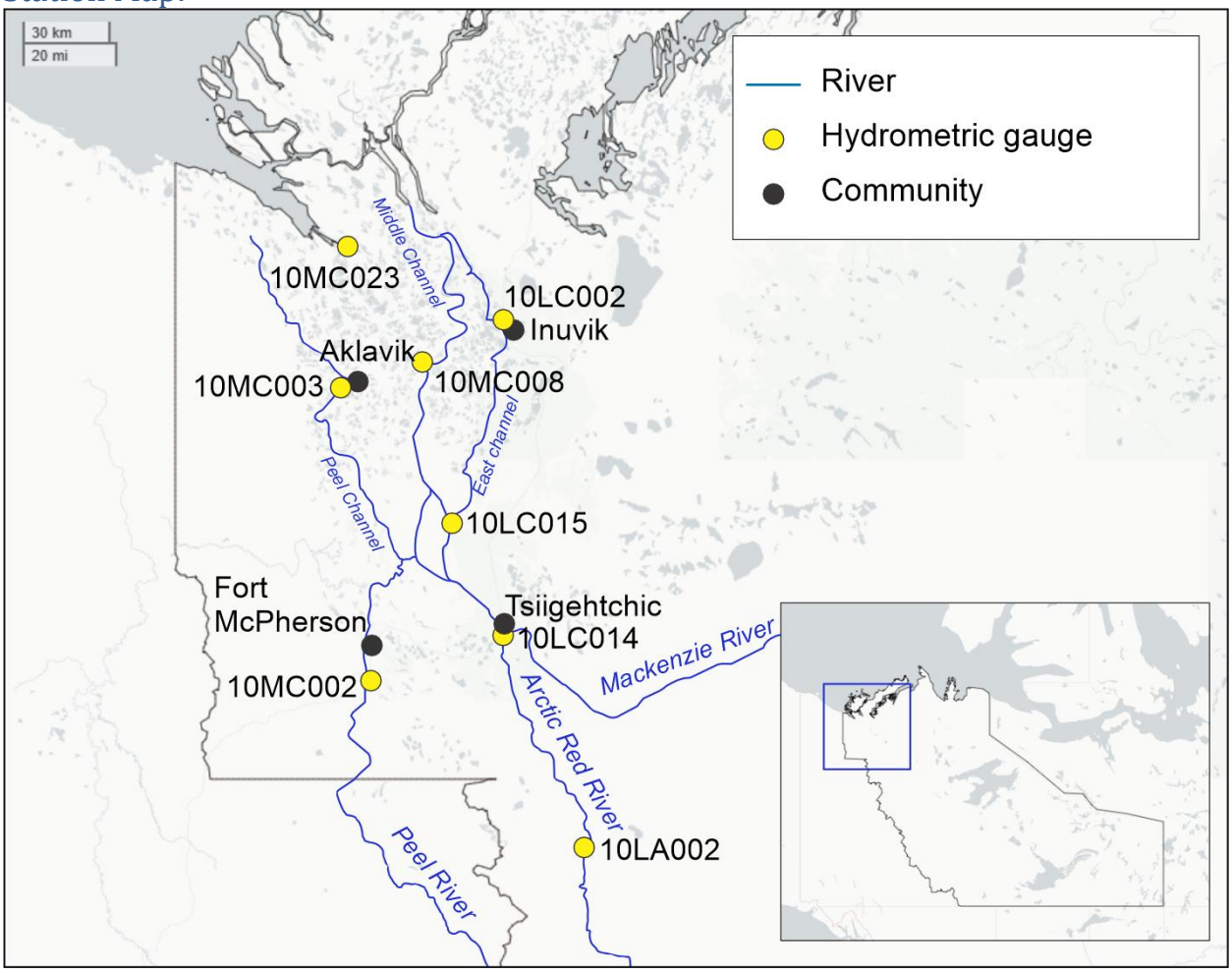
## Situation actuelle

- À Aklavik, les niveaux d'eau mesurés au niveau du chenal Peel, juste en amont de la collectivité, continuent de monter et pourraient bientôt atteindre les niveaux enregistrés lors des inondations passées.
    - Le rythme de la montée des eaux s'est accéléré au cours de la dernière journée; les eaux progressent actuellement d'environ 0,5 m par jour. À 11 h 50 (heure des Rocheuses) le 23 mai, le niveau d'eau était de 14,4 m. Des inondations ont précédemment eu lieu lorsque les niveaux d'eau dépassaient 15,5 m.
    - L'accumulation de glace dans le delta – dans le secteur connu sous le nom de « Turtle » (autour des îles Mackenzie) – contribue à cette montée du niveau d'eau.
    - D'après les photos prises hier soir et ce matin aux stations hydrométriques, un mouvement de la couche de glace a eu lieu au niveau du chenal Peel.
- La situation de la glace dans le secteur appelé « Turtle » (là où le fleuve Mackenzie se divise autour des îles Mackenzie) et dans le chenal Middle du delta n'a pas connu de changement notable au cours des derniers jours.
    - D'après les images spatiales radar obtenues le 23 mai, des fragments de glace continuent de former un embâcle dans le secteur « Turtle » ainsi que dans le chenal Est, à environ 3 km en aval de la confluence avec le fleuve Mackenzie.
    - D'après les images spatiales radar et les photographies aériennes obtenues le 23 mai, la glace est encore relativement intacte – quoiqu'avec quelques zones d'eau libre en formation – le long du chenal Middle, en aval du secteur « Turtle ».
- Au niveau du chenal Est (mesure effectuée à Inuvik), du chenal Middle (mesure effectuée au nord du coude Horseshoe) et du chenal Napoiak (mesure effectuée en amont de la baie Shallow), les niveaux d'eau continuent de monter sous une couche de glace encore relativement intacte.
- La débâcle est presque terminée sur la rivière Peel.
    - Les niveaux d'eau ont continué de baisser lentement à Fort McPherson, depuis le pic atteint les 18 et 19 mai.
    - Le fleuve est principalement composé d'eau libre en aval de Fort McPherson. Il pourrait rester des fragments de glace à l'embouchure de la rivière Peel, d'après les images spatiales radar obtenues le 23 mai.
- Le temps nuageux prévu au-dessus du delta la semaine prochaine pourrait ralentir la fonte de la glace fluviale.

# Contents

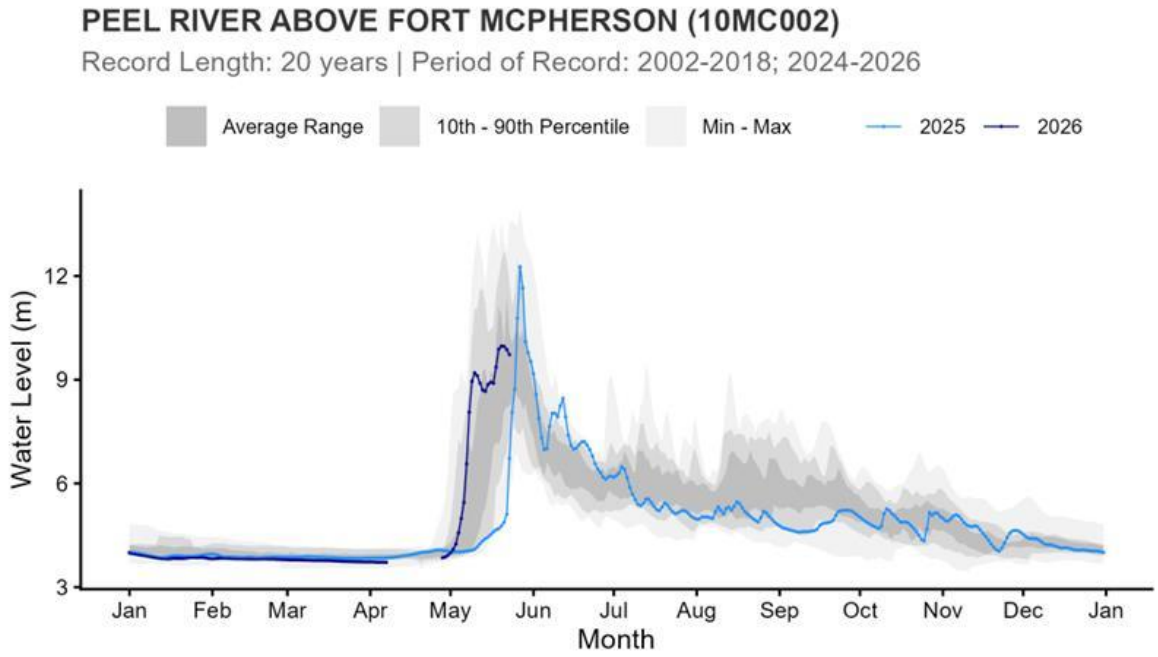
# Hydrometric Data:

## Station Map:



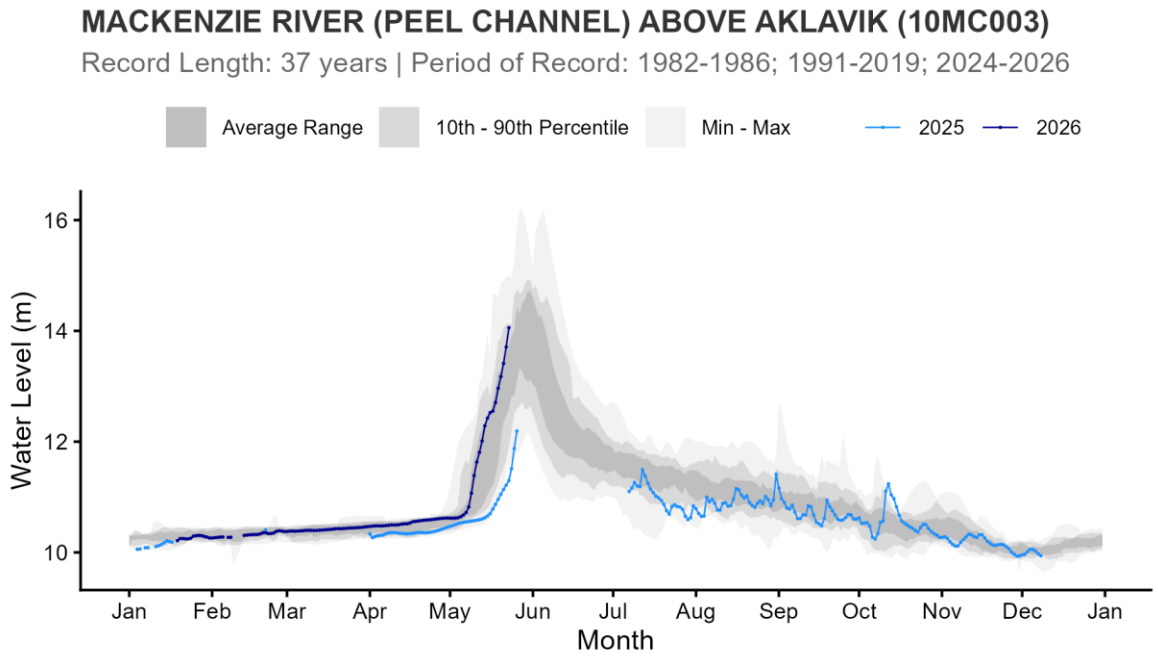

*Above* – Map of Hydrometric Stations and nearby communities for the plots included in this section.

## Peel River above Fort McPherson [10MC002]



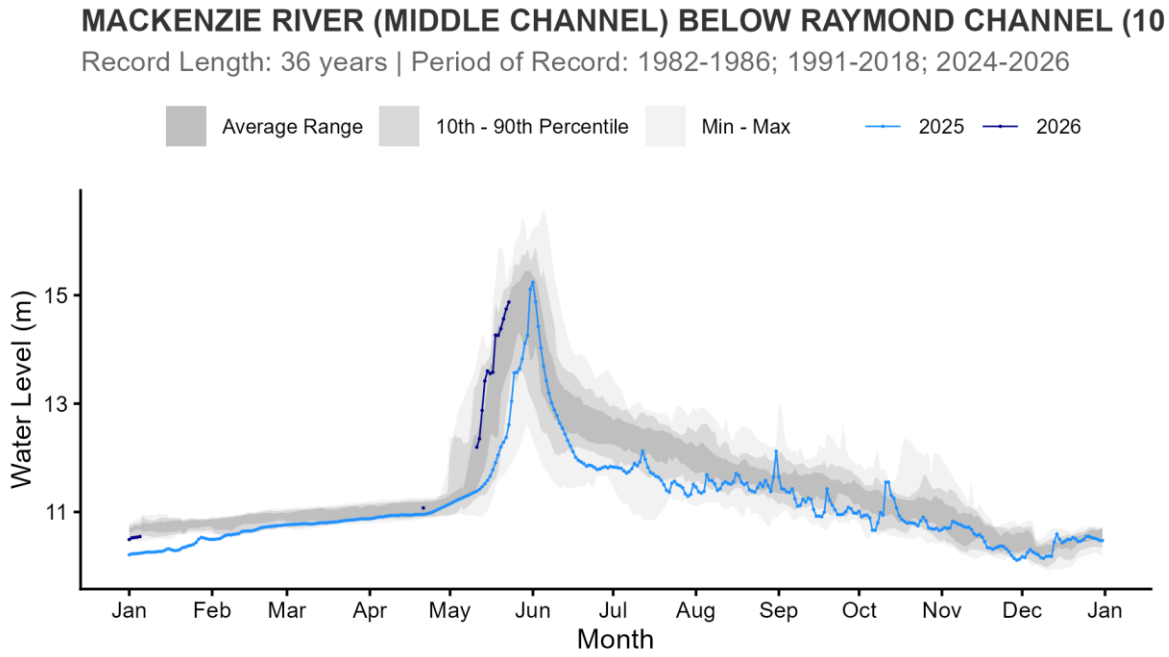

*Above* - Water level data for Peel River above Fort Mcpherson [10MC002]. Daily average levels for the previous year also are shown here.

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



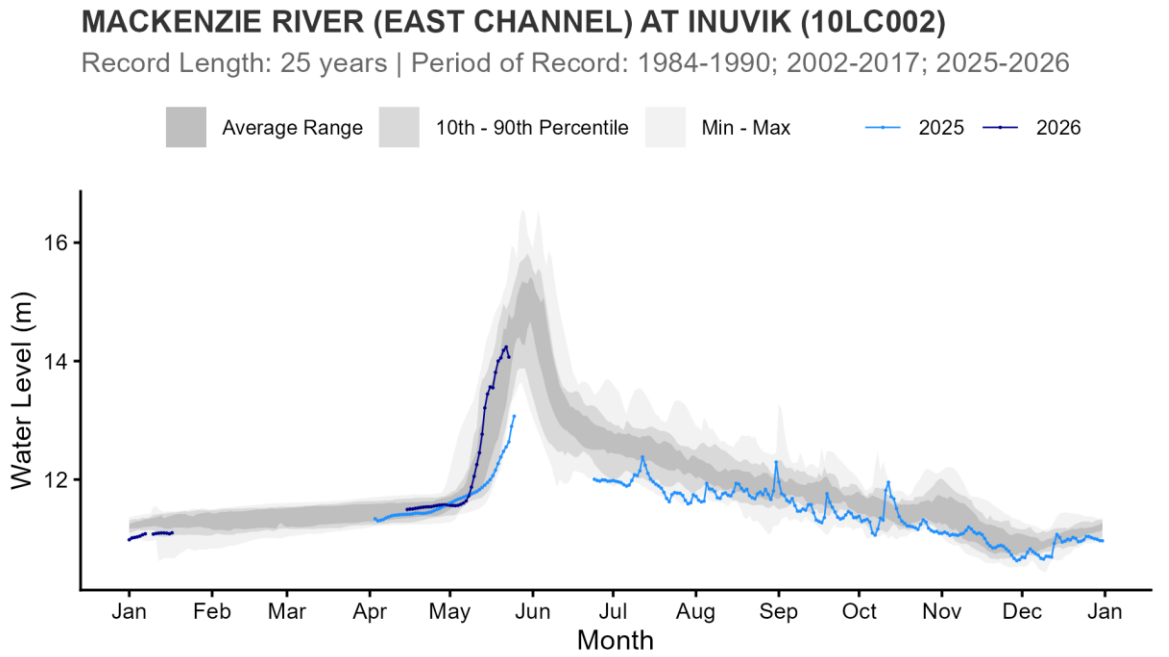

*Above* - Water level data for Mackenzie River (Peel Channel) above Aklavik [10MC003]. Daily average levels for the previous year also are shown here.

## 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 23 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 23 at 09:00 MDT. Photo courtesy of Water Survey of Canada and GNWT.

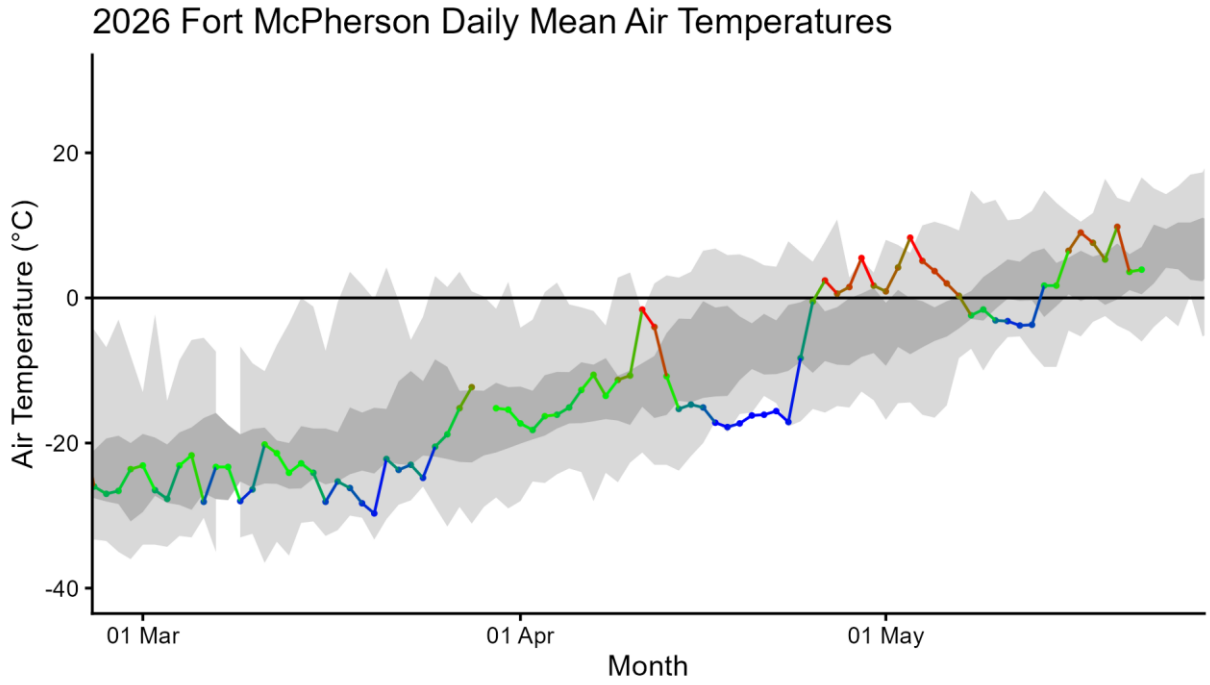
## Weather Data:

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.

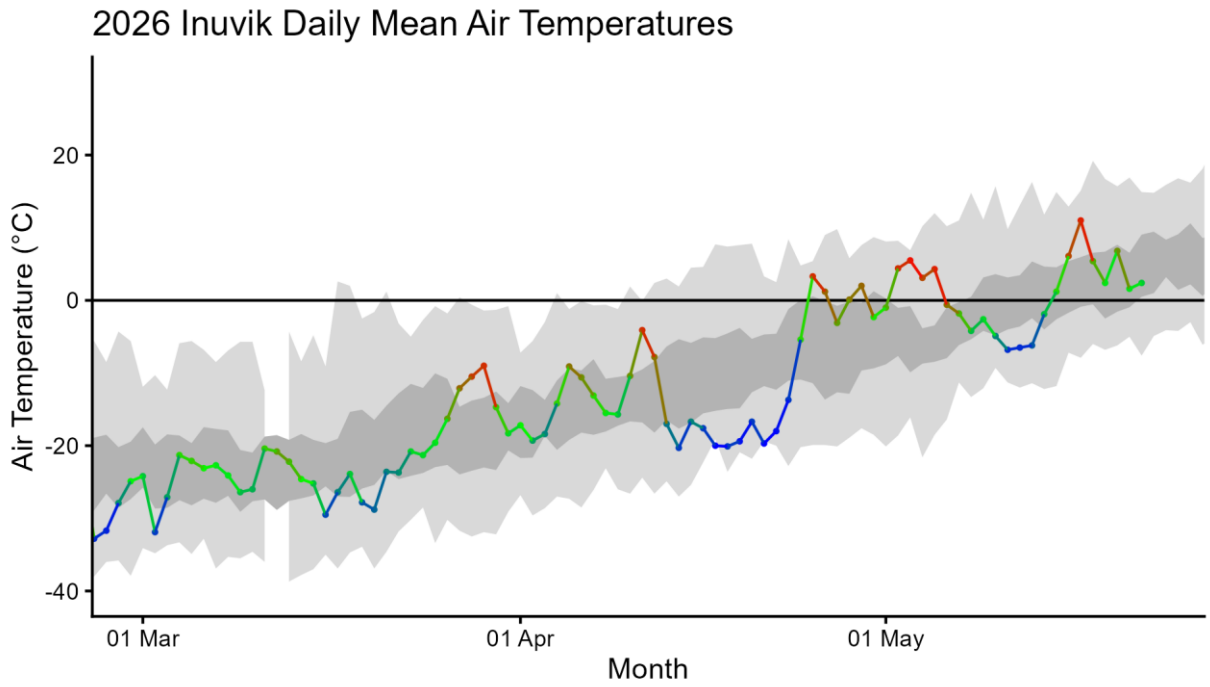
- The lower Mackenzie River basin (Beaufort Delta Region): temperatures over the last four days have been average.

### Fort McPherson Air Temperature



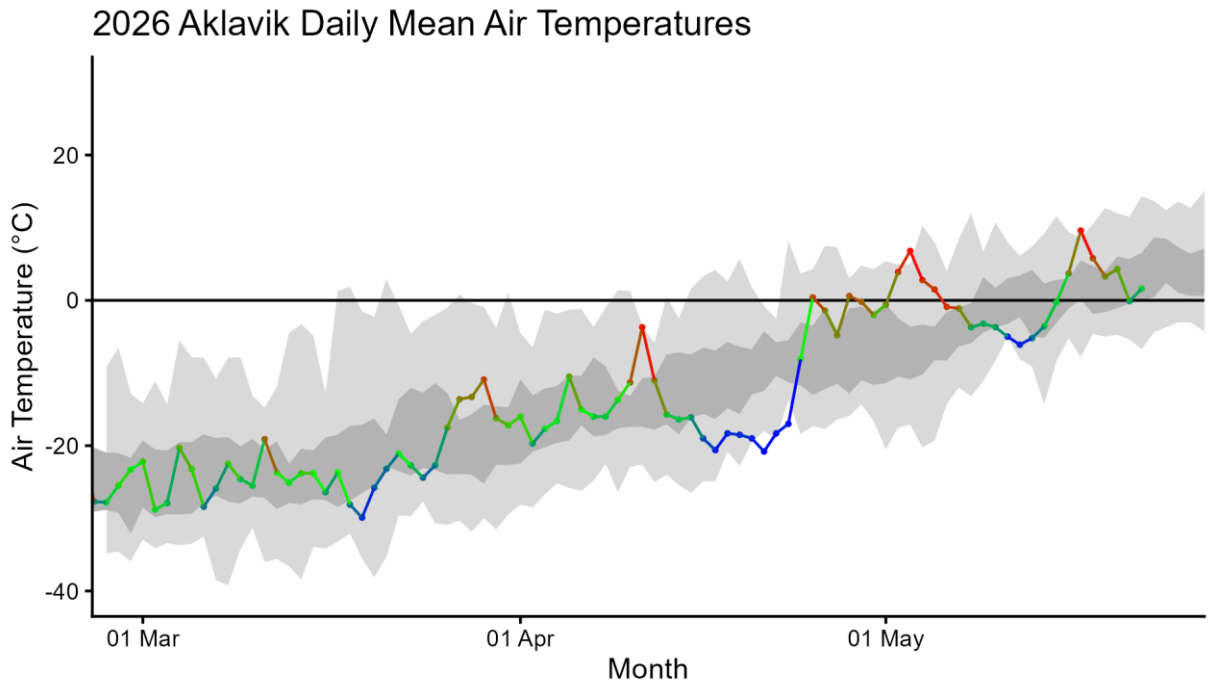

*Above* - Daily mean air temperature for Fort McPherson. Shaded areas represent the historical range (1991-2025).

## Inuvik Air Temperature




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

## Aklavik Air Temperature

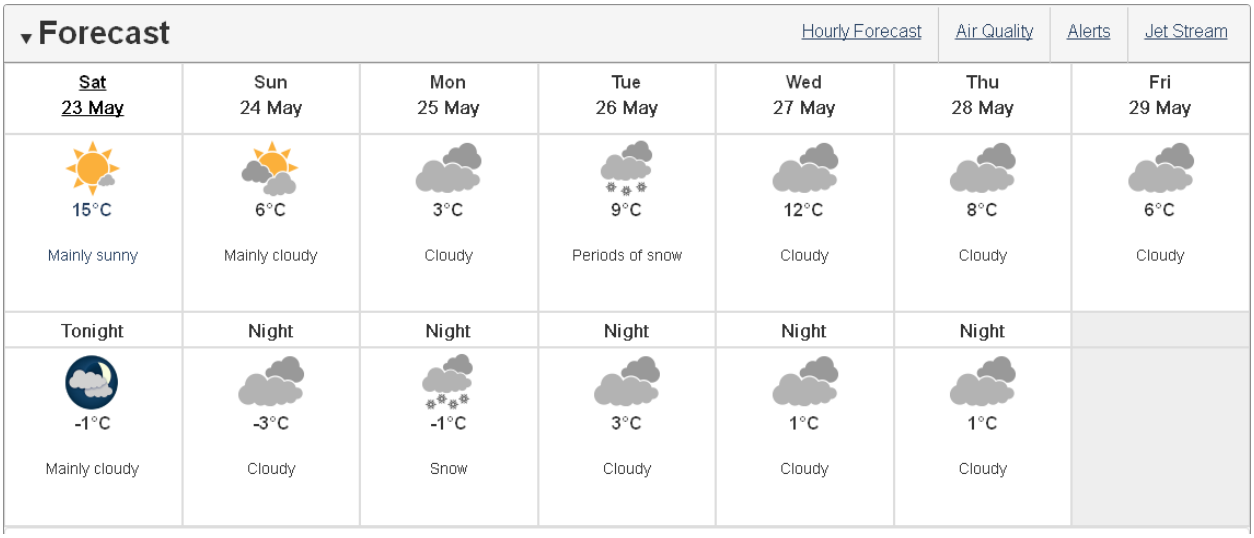



*Above* - Daily mean air temperature for Aklavik. Shaded areas represent the historical range (1991-2025).

## Weather Forecasts:

- Lower Mackenzie River basin (Beaufort Delta Region): forecasted temperatures over the week from May 23-29 are average. From Monday, conditions are expected to be cloudy with some chance of rain or snow showers.

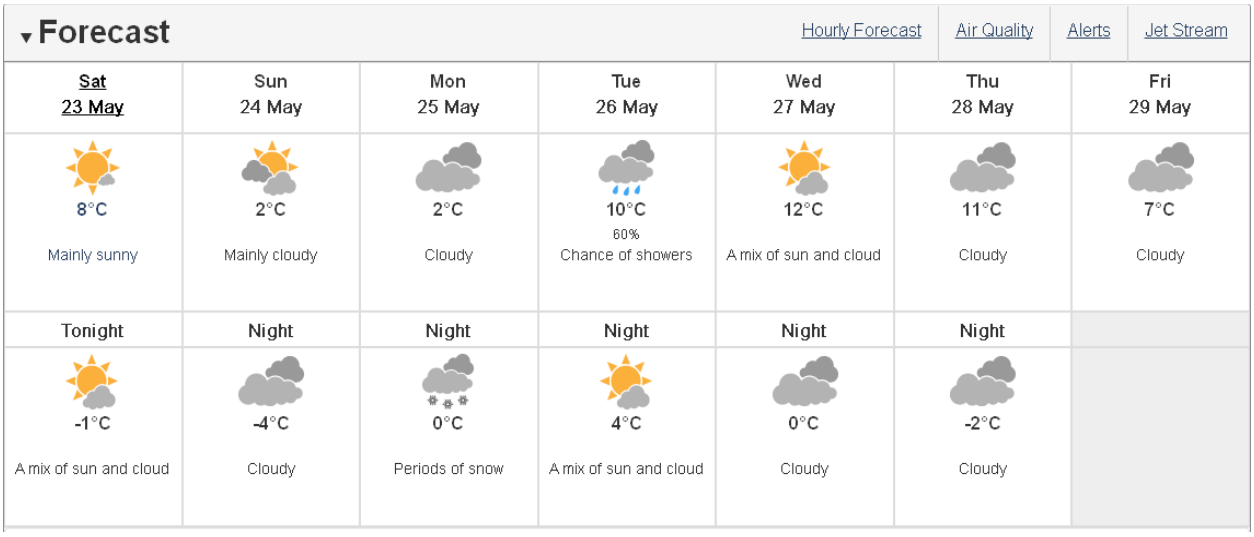
Fort McPherson seven-day weather forecast:



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

| Sat 23 May | Sun 24 May | Mon 25 May | Tue 26 May | Wed 27 May | Thu 28 May | Fri 29 May |
|---|---|---|---|---|---|---|
| 15°C | 6°C | 3°C | 9°C | 12°C | 8°C | 6°C |
| Mainly sunny | Mainly cloudy | Cloudy | Periods of snow | Cloudy | Cloudy | Cloudy |
| Tonight | Night | Night | Night | Night | Night | |
| -1°C | -3°C | -1°C | 3°C | 1°C | 1°C | |
| Mainly cloudy | Cloudy | Snow | Cloudy | Cloudy | Cloudy | |

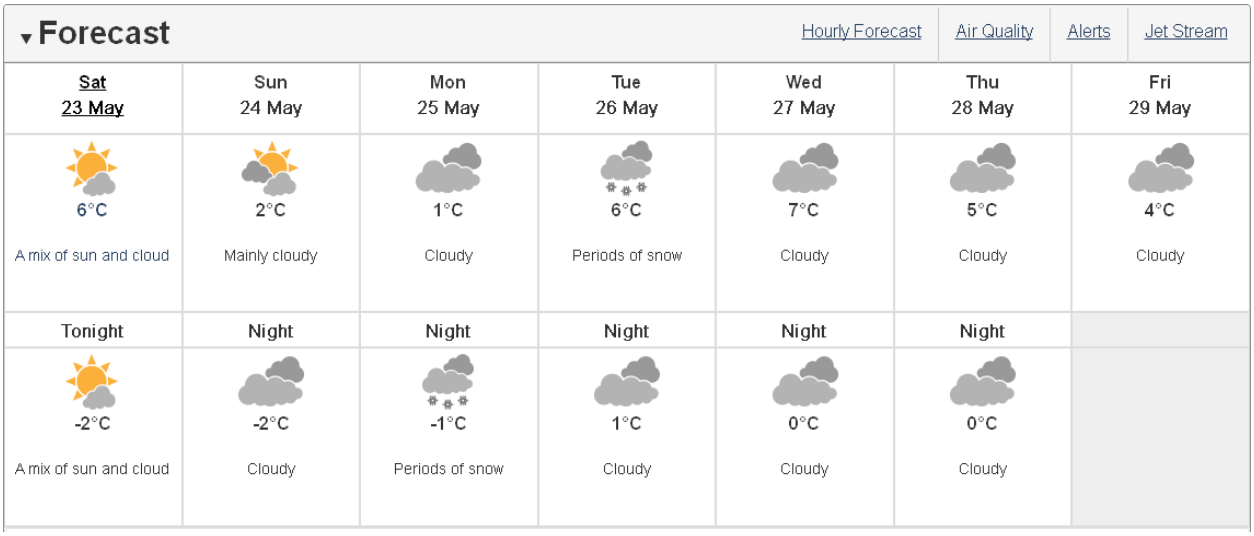
Inuvik seven-day weather forecast:



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

| Sat 23 May | Sun 24 May | Mon 25 May | Tue 26 May | Wed 27 May | Thu 28 May | Fri 29 May |
|---|---|---|---|---|---|---|
| 8°C | 2°C | 2°C | 10°C | 12°C | 11°C | 7°C |
| Mainly sunny | Mainly cloudy | Cloudy | 60% Chance of showers | A mix of sun and cloud | Cloudy | Cloudy |
| Tonight | Night | Night | Night | Night | Night | |
| -1°C | -4°C | 0°C | 4°C | 0°C | -2°C | |
| A mix of sun and cloud | Cloudy | Periods of snow | A mix of sun and cloud | Cloudy | Cloudy | |

Aklavik seven-day weather forecast:



**Forecast**

Hourly Forecast | Air Quality | Alerts | Jet Stream

| Sat 23 May | Sun 24 May | Mon 25 May | Tue 26 May | Wed 27 May | Thu 28 May | Fri 29 May |
|---|---|---|---|---|---|---|
| 6°C | 2°C | 1°C | 6°C | 7°C | 5°C | 4°C |
| A mix of sun and cloud | Mainly cloudy | Cloudy | Periods of snow | Cloudy | Cloudy | Cloudy |

| Tonight | Night | Night | Night | Night | Night | |
|---|---|---|---|---|---|---|
| -2°C | -2°C | -1°C | 1°C | 0°C | 0°C | |
| A mix of sun and cloud | Cloudy | Periods of snow | Cloudy | Cloudy | Cloudy | |

## 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**.

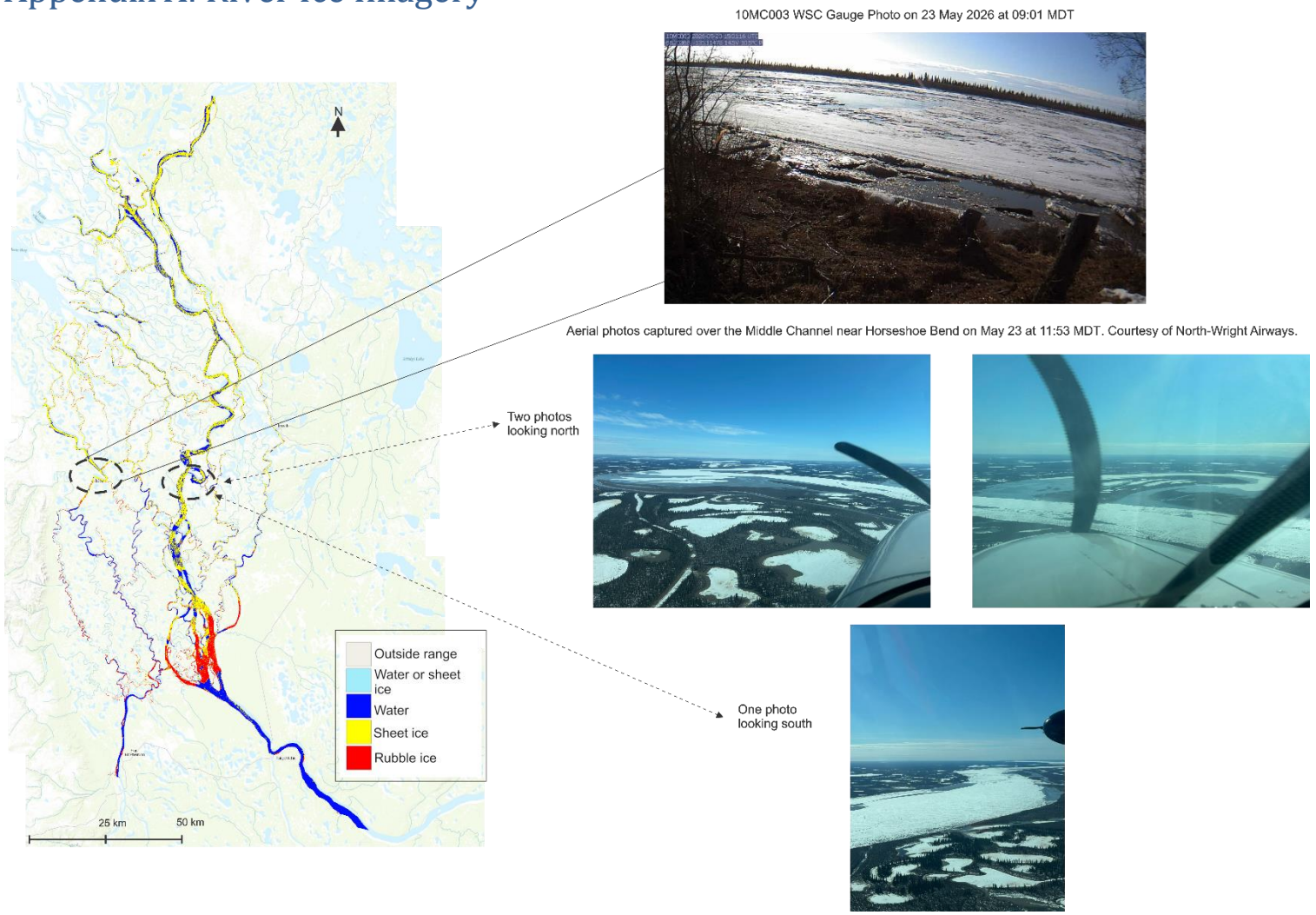
The causes of mechanical and thermal break-ups are usually dependent on the weather during early spring. Warm weather, sunshine, and rain on snow events are usually a good way to bring extra energy into the system to help melt the ice. Warm temperatures in the upstream part of a basin could also cause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

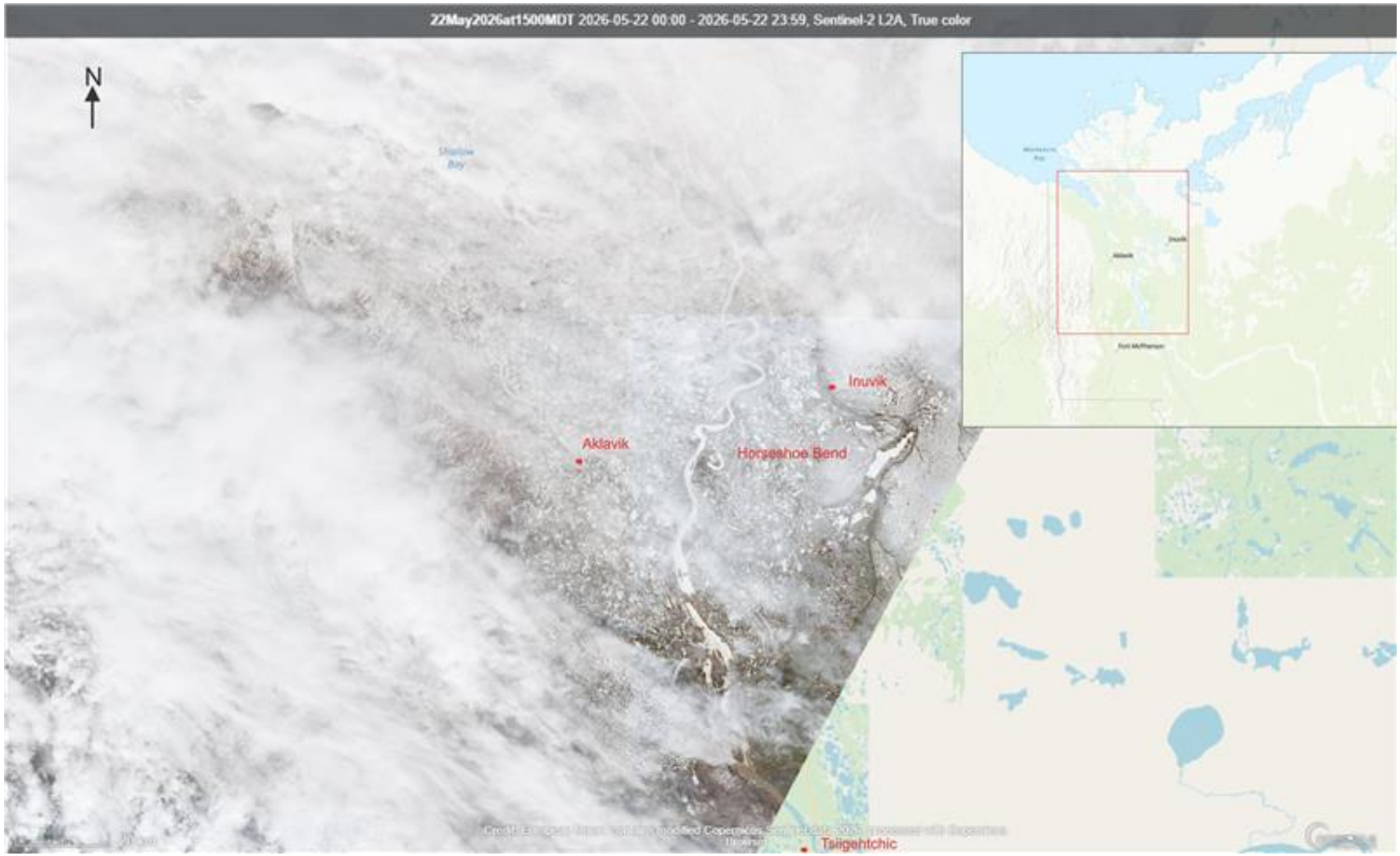
### Technical Note:

- 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



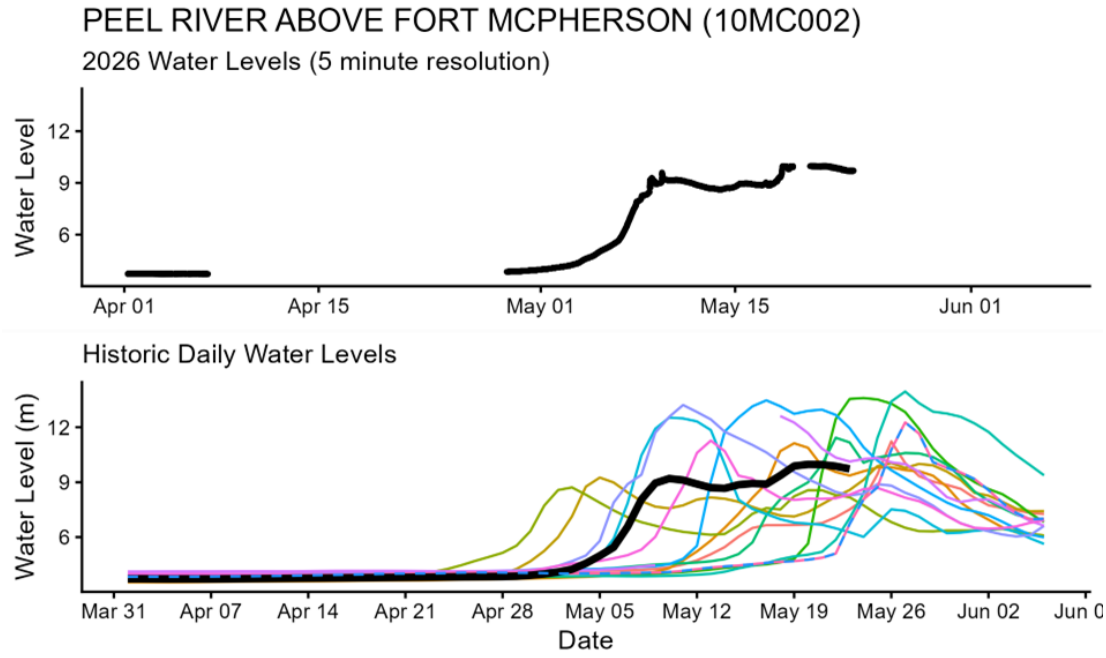

*Above* – Classified river ice imagery captured on May 23 at 09:23 MDT over the Mackenzie Delta. The river ice classification shows rubble ice remaining in the "Turtle" (Mackenzie Islands area). Ice is predominantly intact along the Main Channel from the Turtle northwards, as verified over Horseshoe Bend by aerial photos courtesy of North-Wright Airways. The satellite image is courtesy of the federal government's Government Operations Centre, and the river ice classification was completed using the IceBC algorithm.




*Above* - optical satellite imagery captured by Copernicus Sentinel-2 on May 22 at 1500 MDT shows river ice conditions from the Mackenzie River at Tsiigehtchic to downstream through the Mackenzie Delta. The ice front is at Point Separation, with rubble ice persisting in the "Turtle" (Mackenzie Islands, where the river splits into three channels) and ice is predominantly intact on the Middle Channel through the delta.

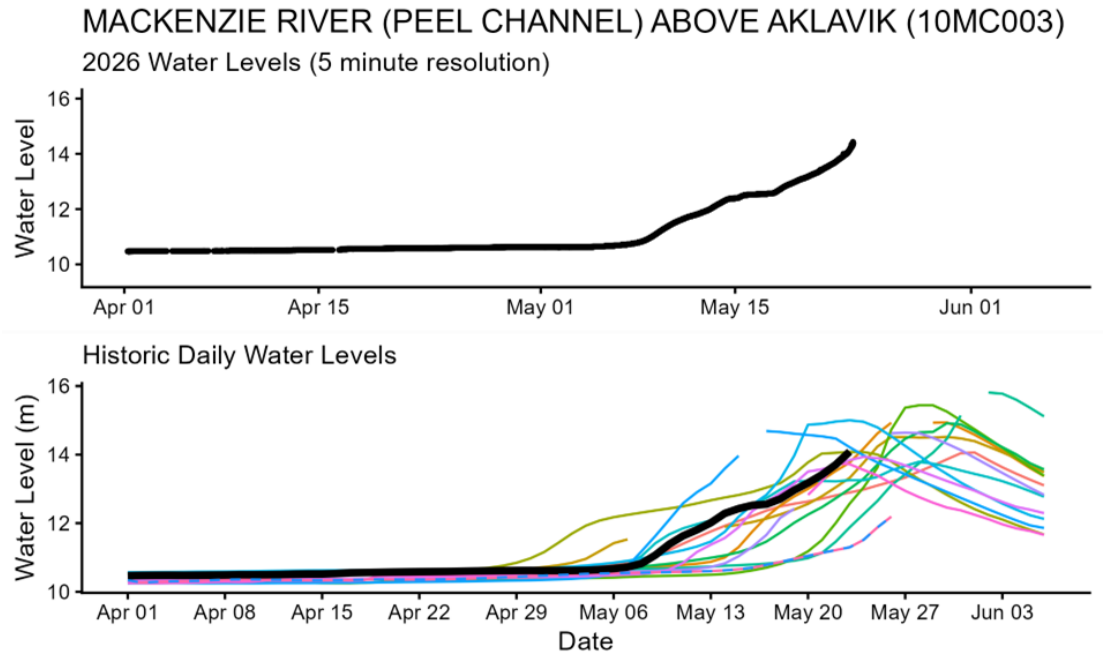
# Appendix B: High resolution and historic water level plots

## Peel River above Fort McPherson (10MC002)



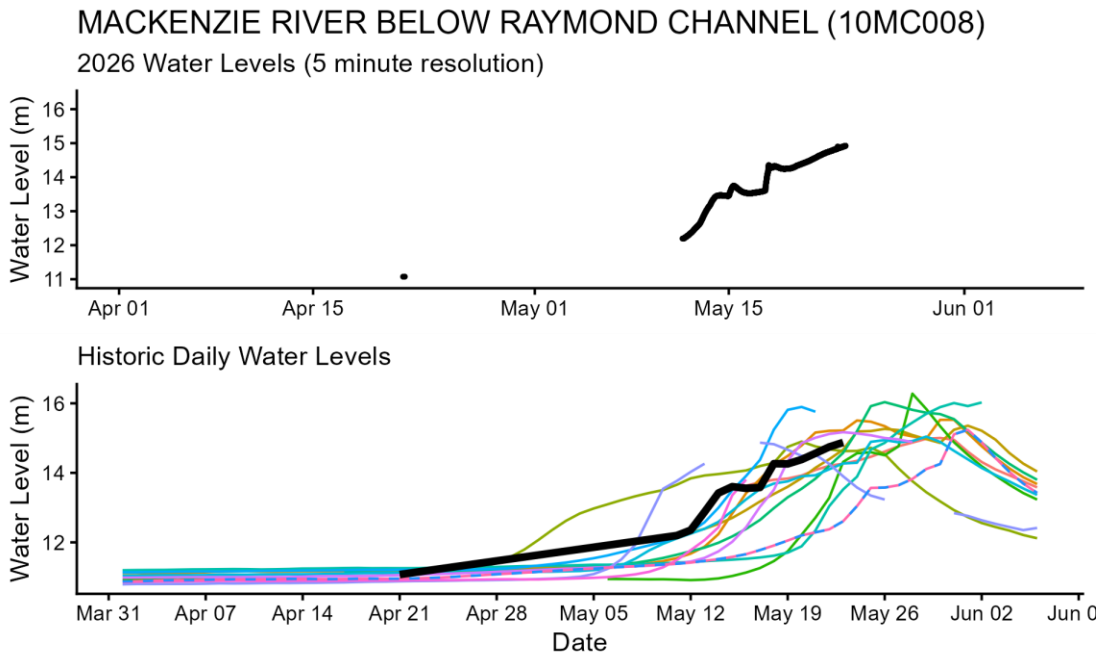

*Above* - The upper graph in the figure presents real time water level data at 5-minute resolution. The lower graph shows daily average levels relative to the previous 20 years.

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



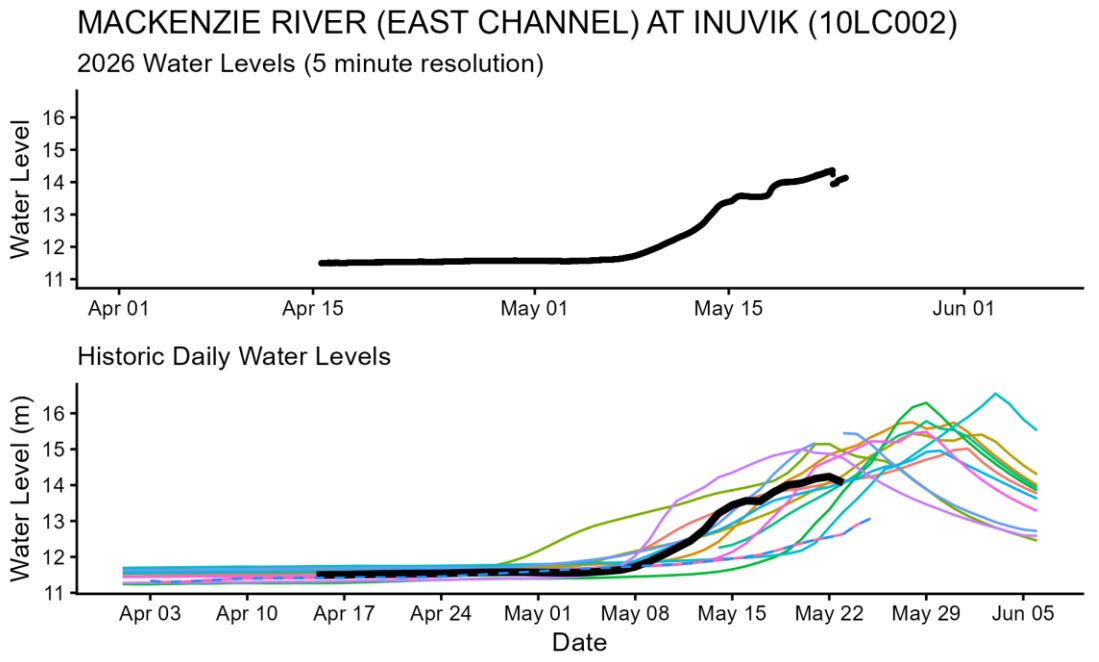

*Above* - The upper graph in the figure presents real time water level data at 5-minute resolution. The lower graph shows daily average levels relative to the previous 20 years.

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



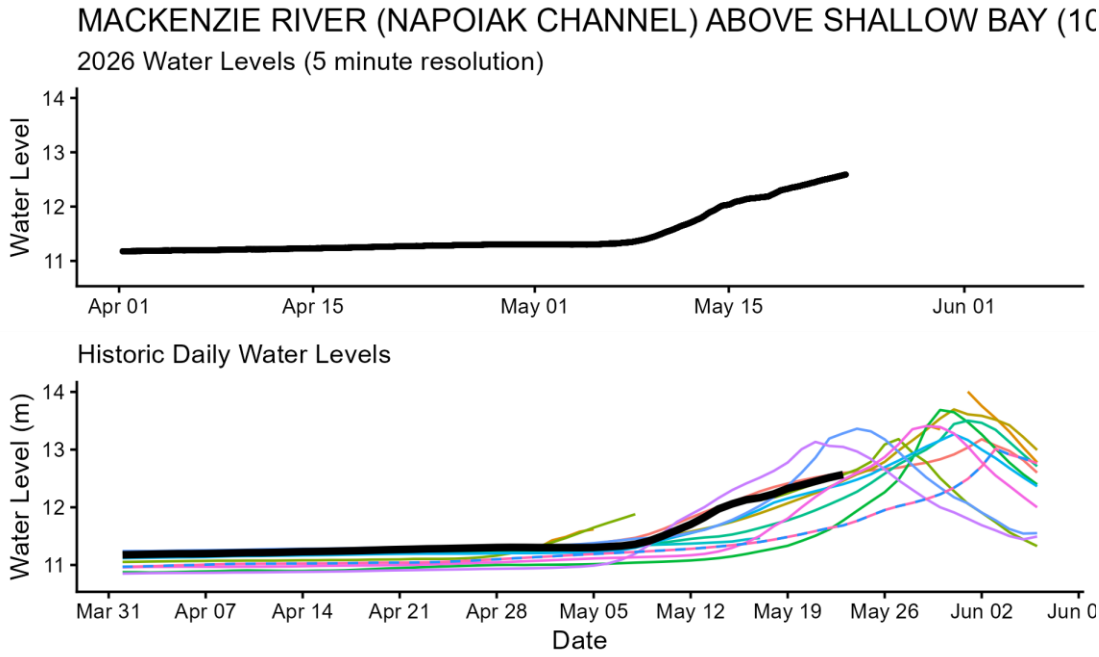

*Above* - The upper graph in the figure presents real time water level data at 5-minute resolution. The lower graph shows daily average levels relative to the previous 20 years.

## 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)




*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.