Government of Northwest Territories
Gouvernement des Territoires du Nord-Ouest

NWT Water Monitoring Spring Break-Up Report

May 7, 2026 at 15:00

Surveillance des eaux aux TNO Rapport sur la débâcle printanière

7 mai 2026 à 15 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 on the Hay River continues to be primarily thermal. Today, upstream ice started to push in at the AB/NT border and ice movement began near the Town of Hay River. Water levels measured at the AB/NT border and at the Town of Hay River are rising but remain well below average.

- Slave River water levels rose earlier this week and are back to normal levels. Break-up is progressing along the Slave River south of the border.

- Break-up is progressing along the Mackenzie River
    - River ice on the Mackenzie River remains largely intact upstream of Fort Simpson with water levels measured near Jean Marie River continuing to slowly rise underneath intact ice.
    - Imagery from last report indicated weakening ice and melted snow on ice north of Wrigley (image capture May 5).
    - Water levels are rising near Norman Wells, with ice remaining largely intact.
    - The rainfall event that began today in the Dehcho Region is expected to end this evening and should result in continued ice movement and ice degradation along the Mackenzie River.
    - Generally, above average temperatures are forecasted over the Sahtu and Dehcho regions which will encourage further ice degradation.

- Break-up has begun on the Peel River with water levels starting to rise earlier than normal. Snowfall in the basin is expected over the coming few days.

- Break-up has begun on the Arctic Red River with water levels rising rapidly and satellite imagery indicating open water sections in the headwaters.

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 débâcle de la rivière Hay continue d'être principalement thermique. Aujourd'hui, la glace en amont a commencé à s'avancer à la frontière Alberta-TNO, et on observe un mouvement de la glace près de la ville de Hay River. Les niveaux d'eau mesurés à la frontière Alberta-TNO ainsi qu'à la hauteur de la ville de Hay River sont en hausse, mais restent bien inférieurs à la moyenne.

- Le niveau d'eau de la rivière des Esclaves a augmenté en début de semaine, mais est maintenant revenu à la normale. La débâcle se poursuit le long de la rivière des Esclaves, au sud de la frontière.

- La débâcle suit son cours le long du fleuve Mackenzie :
    - La glace fluviale sur le fleuve Mackenzie reste en grande partie intacte en amont de Fort Simpson, tandis que les niveaux d'eau mesurés près de Jean Marie River continuent de monter lentement sous la glace intacte.
    - Les images provenant du dernier rapport indiquaient un affaiblissement de la glace et la présence de neige fondue sur la glace au nord de Wrigley (images prises le 5 mai).
    - Le niveau de l'eau monte près de Norman Wells, et la glace est toujours largement intacte.
    - Les précipitations qui ont commencé aujourd'hui dans la région du Dehcho devraient prendre fin ce soir et entraîner un mouvement et une dégradation continus de la glace le long du fleuve Mackenzie.
    - De manière générale, on prévoit des températures supérieures à la moyenne dans les régions du Sahtu et du Dehcho, ce qui favorisera la poursuite de la fonte des glaces.

- La débâcle a commencé sur la rivière Peel, où les niveaux d'eau commencent à monter plus tôt qu'à l'habitude. On prévoit des précipitations de neige dans le bassin au cours des prochains jours.

- La débâcle a commencé sur la rivière Arctic Red, où les niveaux d'eau montent rapidement; les images satellite obtenues indiquent la présence de sections d'eau libre dans le cours supérieur de cette rivière.

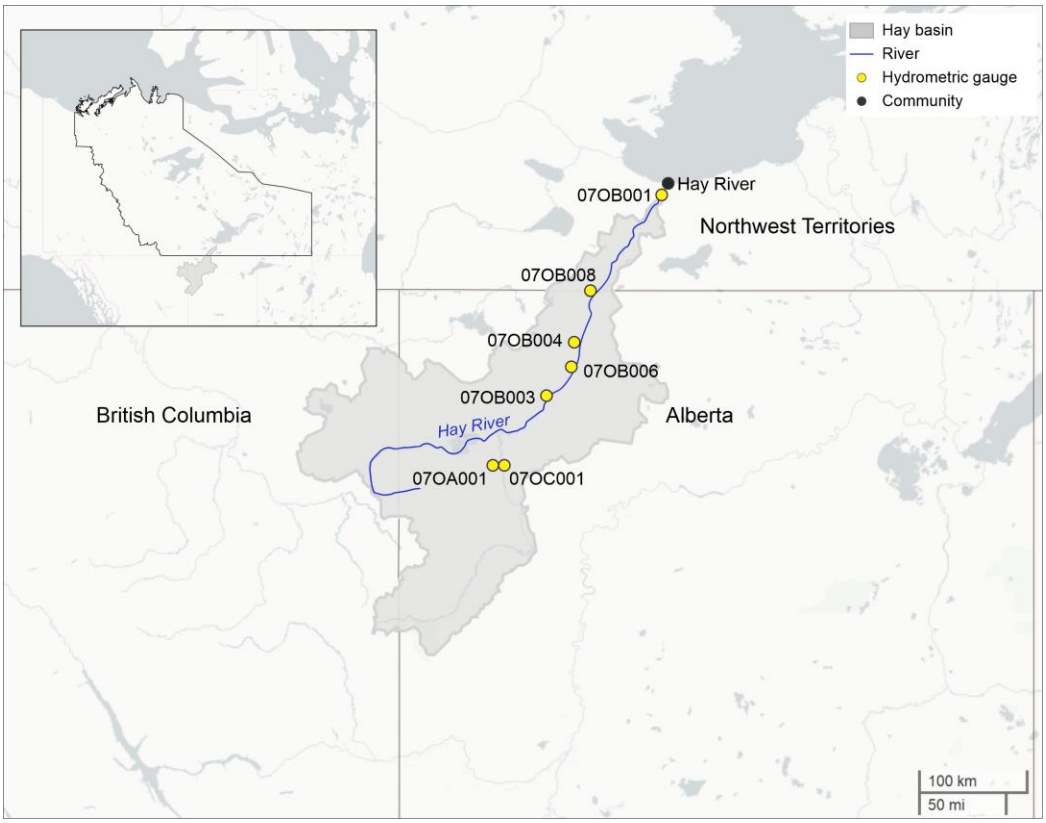
Contents

Hay River

Current Status:

- Break-up on the Hay River continues to be primarily thermal.
  - The Hay River is open at Meander River, AB.
  - The gauge station camera image at 13:00 today showed ice pushing in from upstream at the AB/NT border.
  - There are sections of open water between the AB/NT border and the town of Hay River.
  - Ice movement was observed near the Town of Hay River today.
- Water levels on the Hay River are well below average.
  - Levels measured at the town of Hay River and at the AB/NT border are continuing to rise.
- Snowmelt is near complete in the Hay River basin.
  - A small rainfall event (<5 mm) is expected this afternoon to pass over part of the basin north of the border.
- Forecasted average to above average temperatures this week should result in continued ice degradation and break-up.
- Refer to the [Town of Hay River website] for the most up-to-date information, as well as webcam images of current conditions.

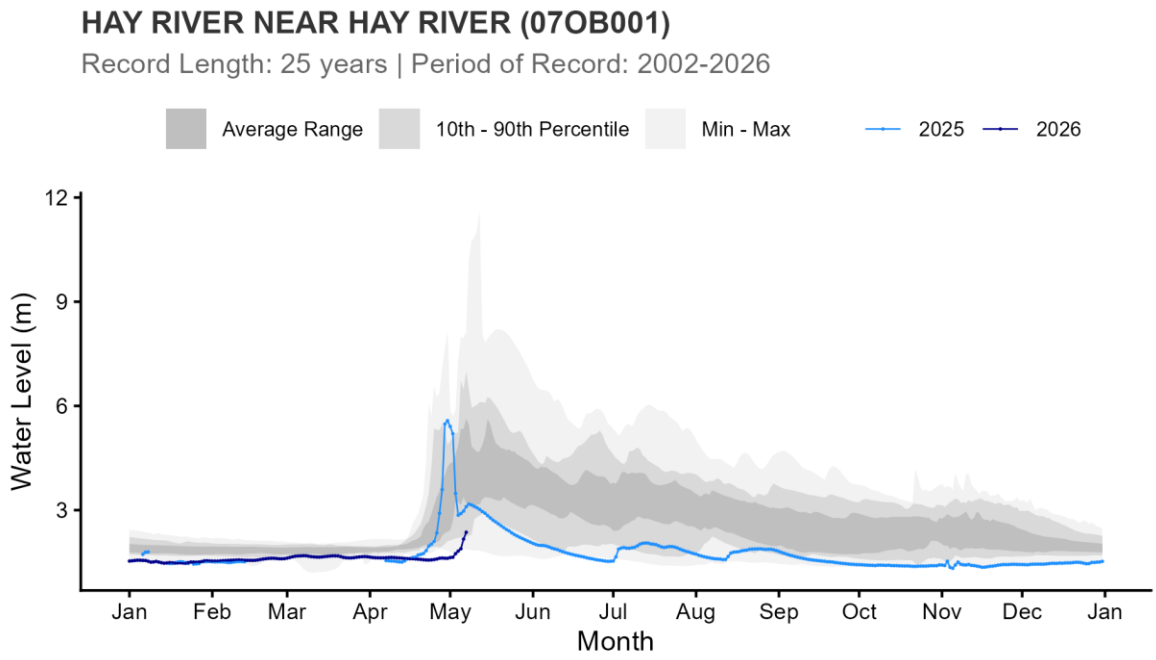
Station Map:



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

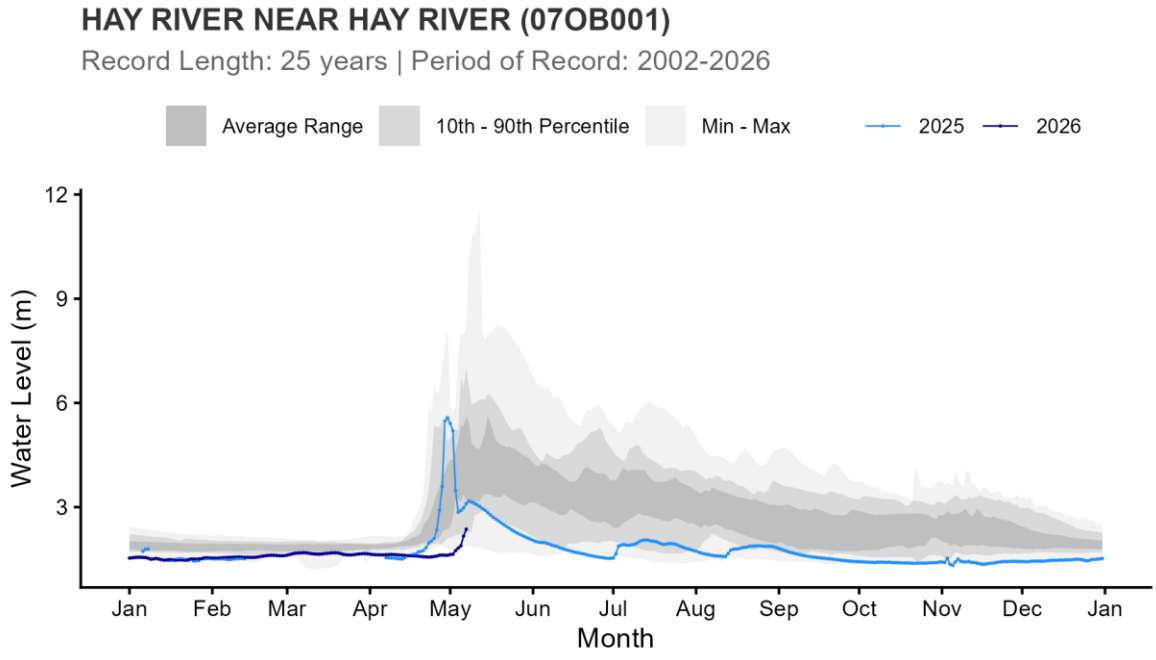
Hydrometric Data:

Hay River near Hay River [07OB001]



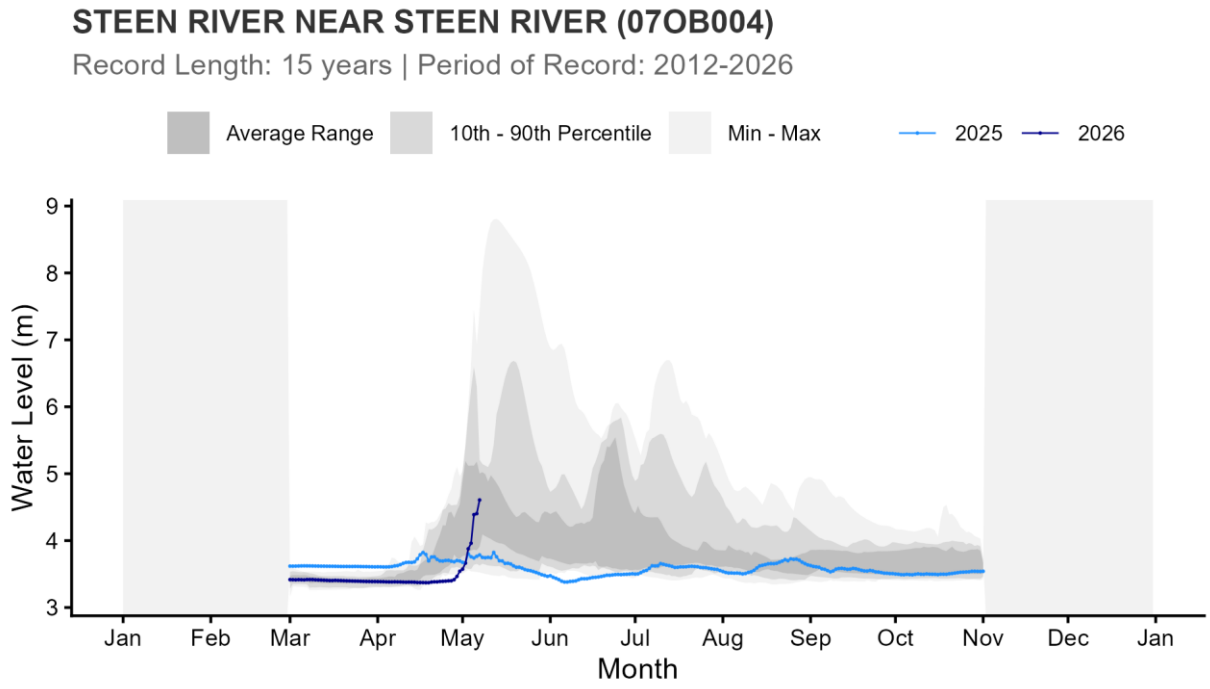
Above - Water level data for Hay River near Hay River [07OB001]. Daily average levels for the previous year also are shown here.

Hay River near Alta/NWT Boundary [07OB008]



Above - Water level data for Hay River near Alta/Nwt Boundary [07OB008]. Daily average levels for the previous year also are shown here.

Steen River near Steen River [07OB004]



Above - Water level data for Steen River near Steen River [07OB004]. Daily average levels for the previous year also are shown here.

Gauge photos:

Hay River near Alta/Nwt Boundary [07OB008]

Above - Hay River near Alta/Nwt Boundary [07OB008] hydrometric gauge photo from May 7 at 13:00. Photo courtesy of Water Survey of Canada and GNWT.

Hay River near Hay River [07OB001]

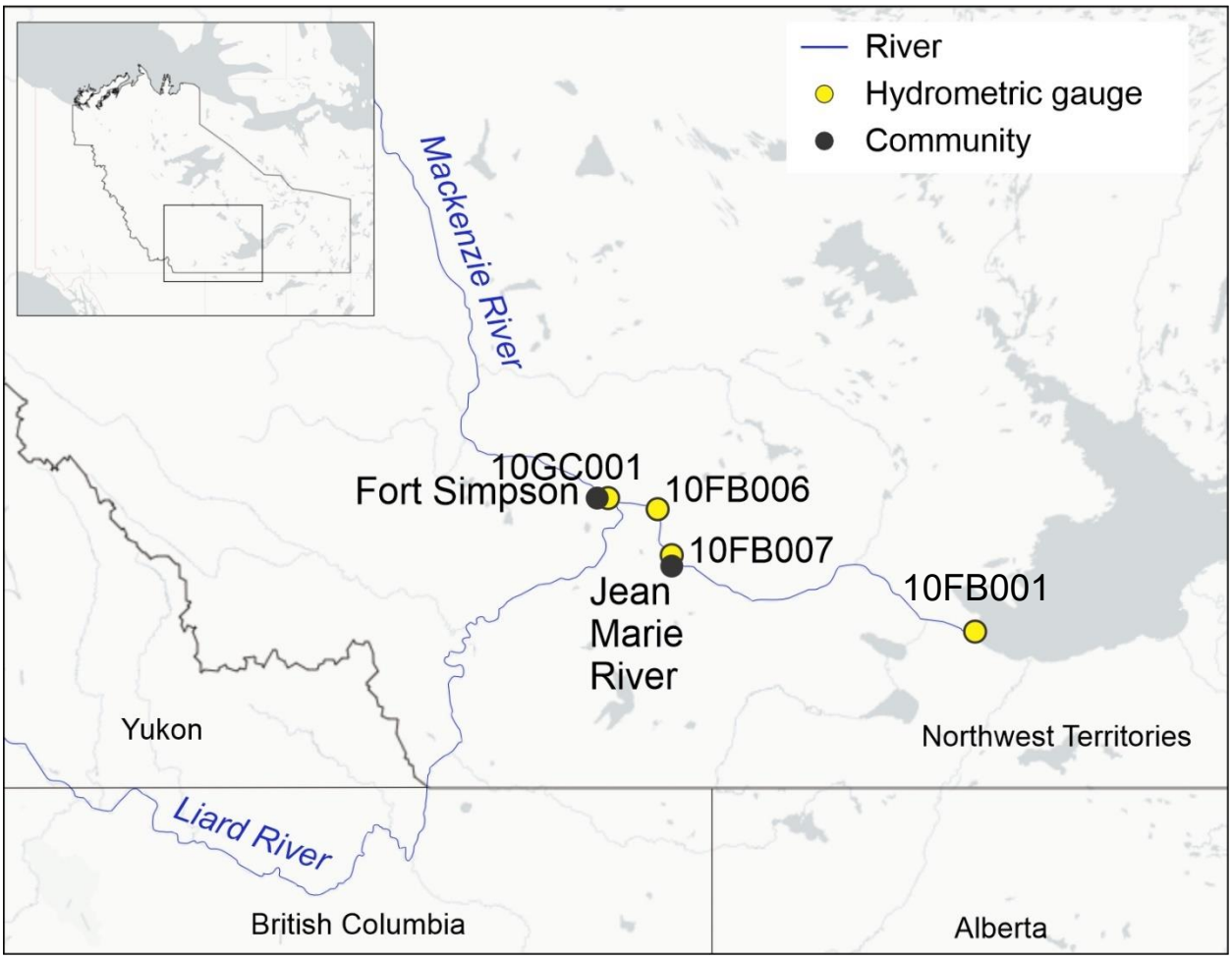
Above - Hay River near Hay River [07OB001] hydrometric gauge photo from May 7 at 13:00. Photo courtesy of Water Survey of Canada and GNWT.

Mackenzie River

Current Status:

- Break-up is progressing along the Mackenzie River between Fort Providence and Fort Simpson.
    - Satellite imagery from the evening of May 6 indicates the ice jam seen on May 5 downstream of Fort Simpson seems to have passed.
    - River ice remains largely intact upstream of Fort Simpson.
- Water level measured on the Mackenzie River near Jean Marie River continues to slowly rise under intact ice but is still lower than the level last year.
- Water level is rising on the Mackenzie River at Norman Wells under the ice.
- Above average temperatures are forecasted for this week over the Dehcho and Sahtu regions.
- The precipitation event that started yesterday evening is anticipated to continue today and should result in continued ice movement and ice degradation along the Mackenzie River.
- Gauge photos indicate ice remains intact near Norman Wells with signs of longitudinal break-up along the banks.

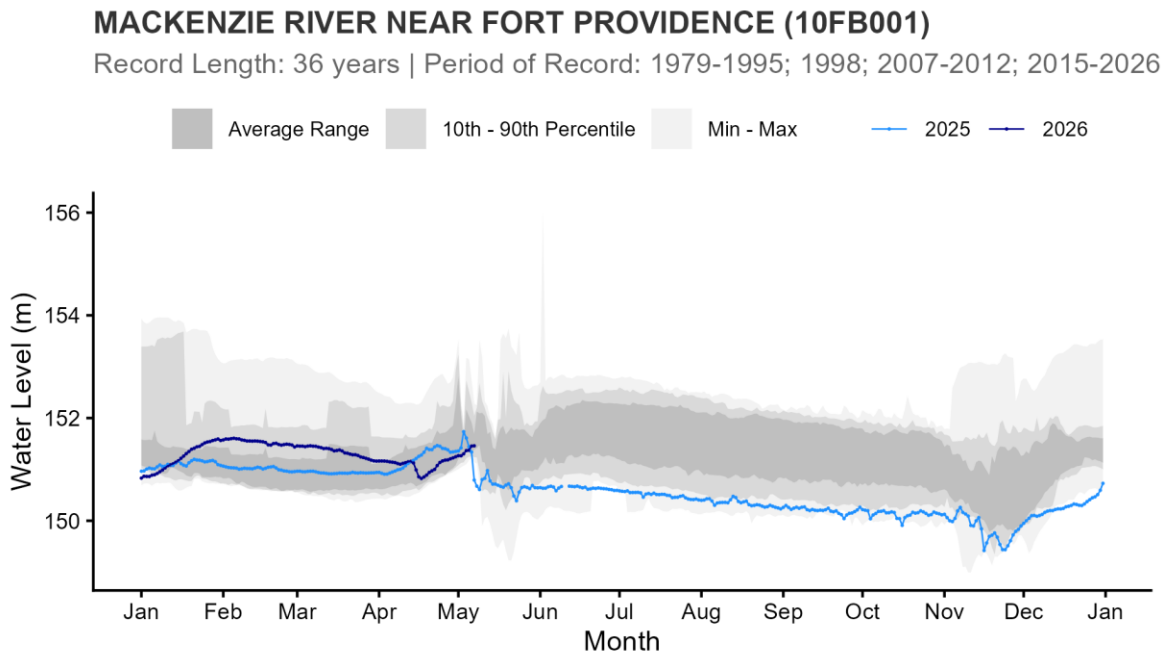
Station Map:



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

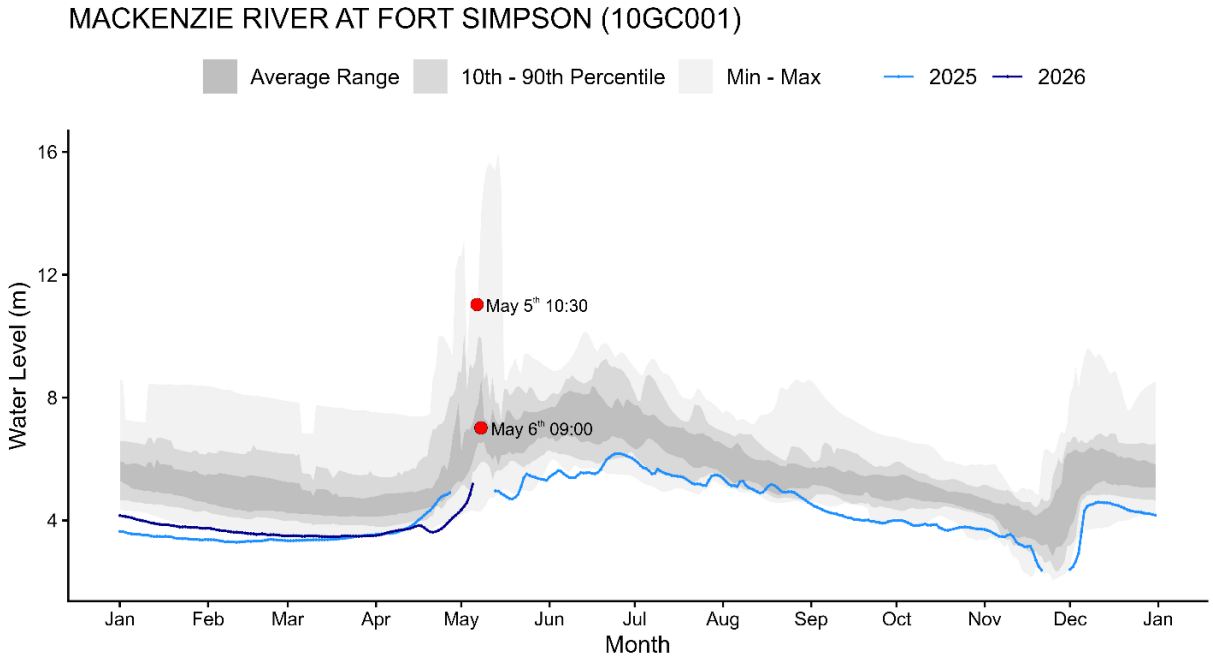
Hydrometric Data:

Mackenzie River near Fort Providence [10FB001]



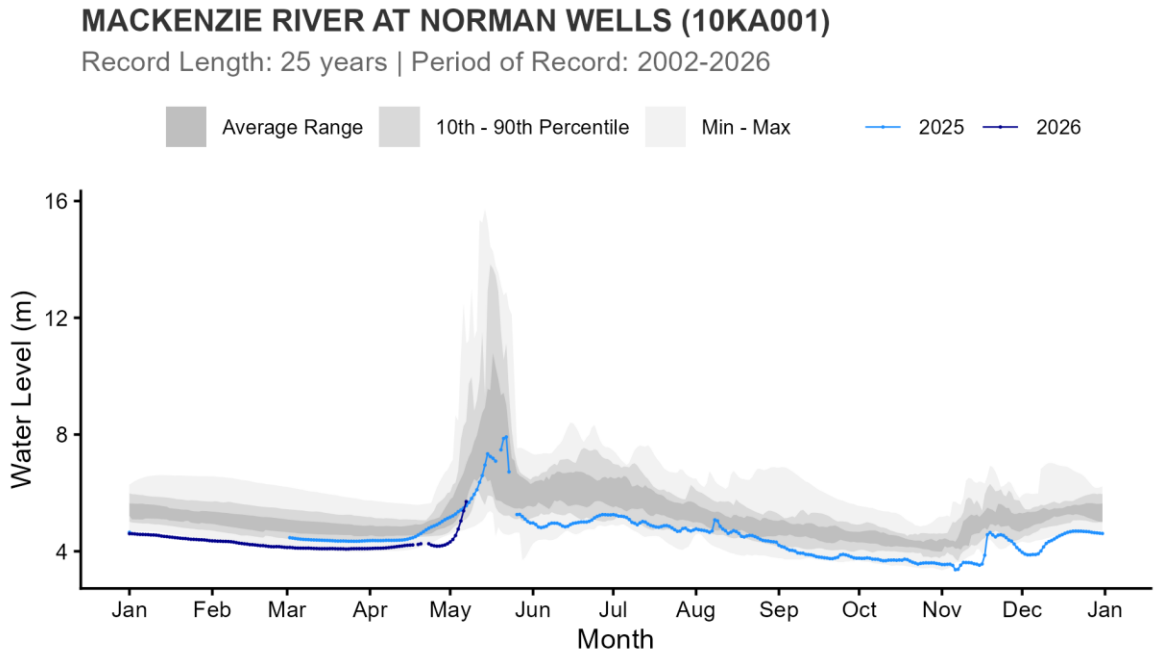
Above - Water level data for Mackenzie River near Fort Providence [10FB001]. Daily average levels for the previous year also are shown here.

Mackenzie River at Fort Simpson [10GC001]



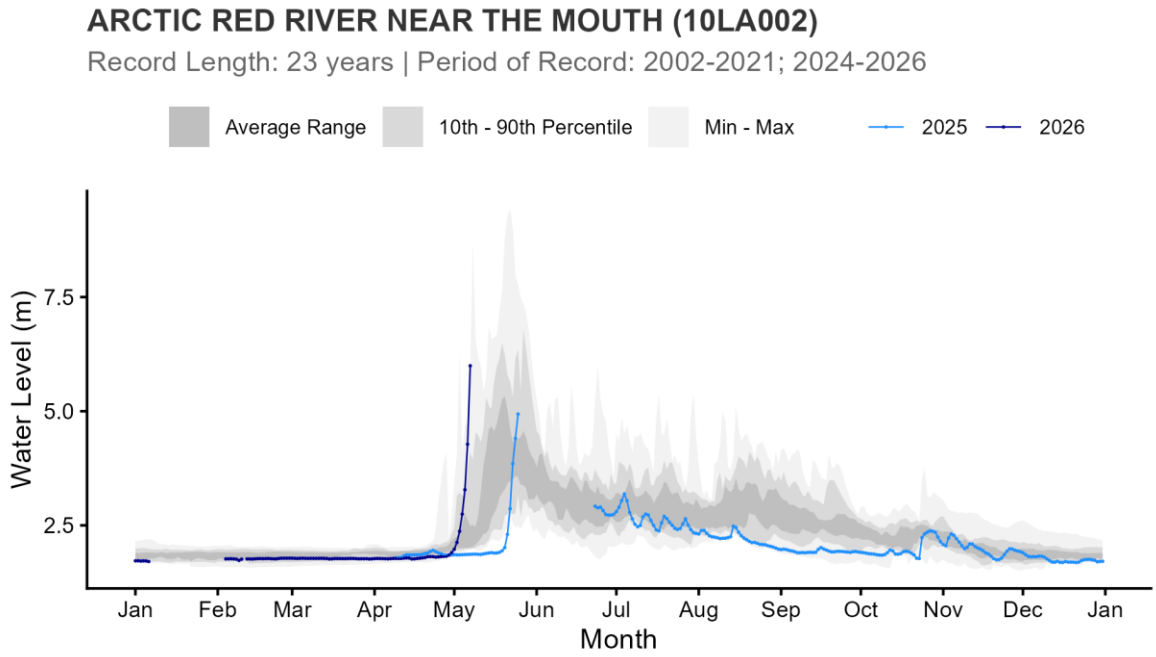
Above - Water level data for Mackenzie River at Fort Simpson [10GC001] up until May 4th. Daily average levels for the previous year also are shown here. Data points from the Village of Fort Simpson gauge have been added onto this graph (shown as red circles).

Mackenzie River at Norman Wells [10KA001]



Above - Water level data for Mackenzie River at Norman Wells [10KA001]. Daily average levels for the previous year also are shown here.

Arctic Red River near the Mouth [10LA002]



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

Gauge photos:

Mackenzie River at Jean Marie River [10FB007]

Above - Mackenzie River at Jean Marie River [10FB007] hydrometric gauge photo from May 7 at 13:00. Photo courtesy of Water Survey of Canada and GNWT.

Mackenzie River at Strong Point [10FB006]

Above - Mackenzie River at Strong Point [10FB006] hydrometric gauge photo from May 7 at 13:00. Photo courtesy of Water Survey of Canada and GNWT.

Mackenzie River at Fort Simpson [10GC001]

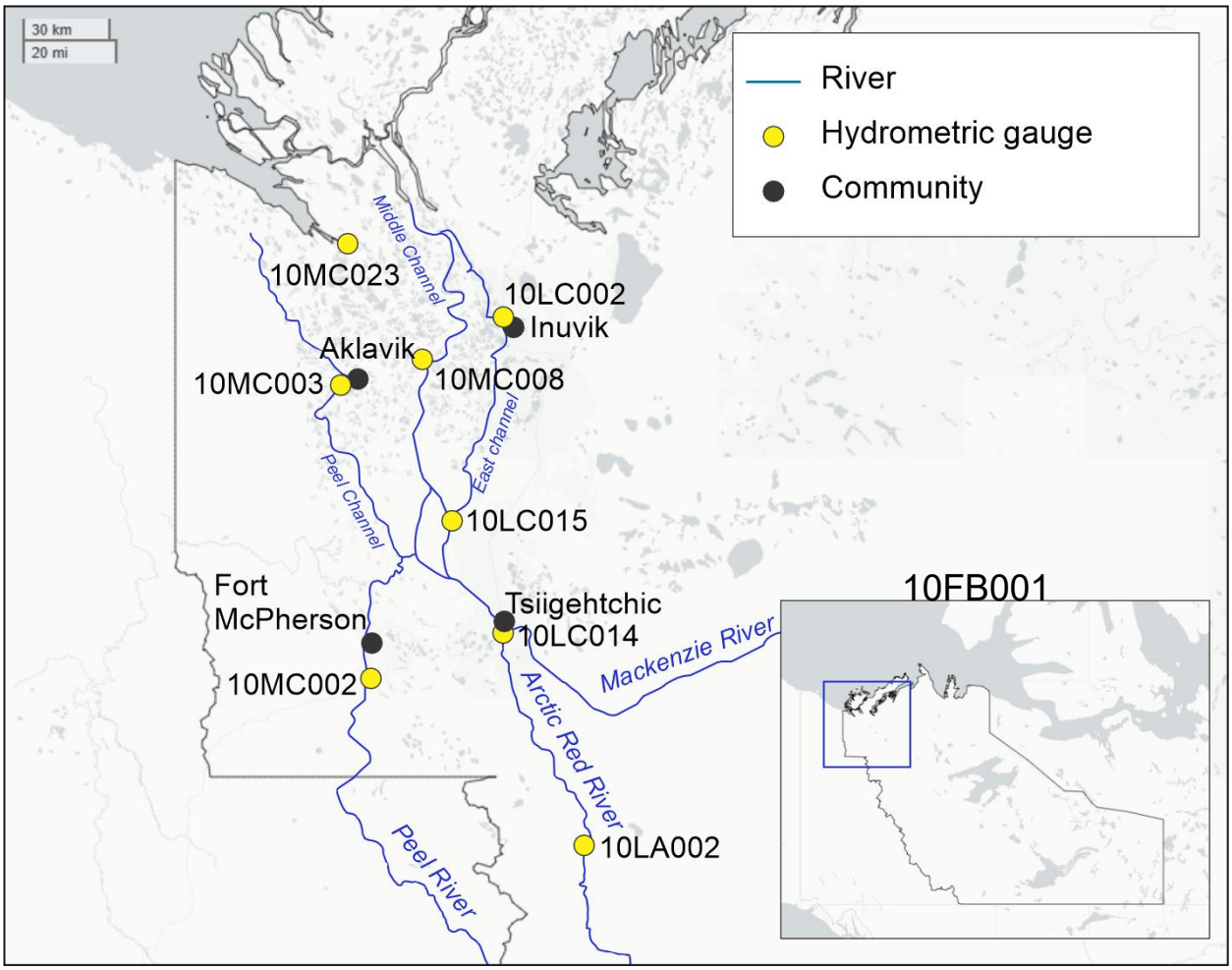
Above - Mackenzie River at Fort Simpson [10GC001] hydrometric gauge photo from May 7 at 13:00. Photo courtesy of Water Survey of Canada and GNWT.

Peel River

Current Status:

- Break-up is progressing in the headwaters of the Peel River.
- Optical imagery shows intact ice near Fort McPherson. The ice front is about 150 km upstream of Fort McPherson.
- The water level is rising under the ice at Fort McPherson, with ice degrading near the banks.
- Temperatures have been above average. A snowfall event is anticipated to start on Friday and continue over the weekend.

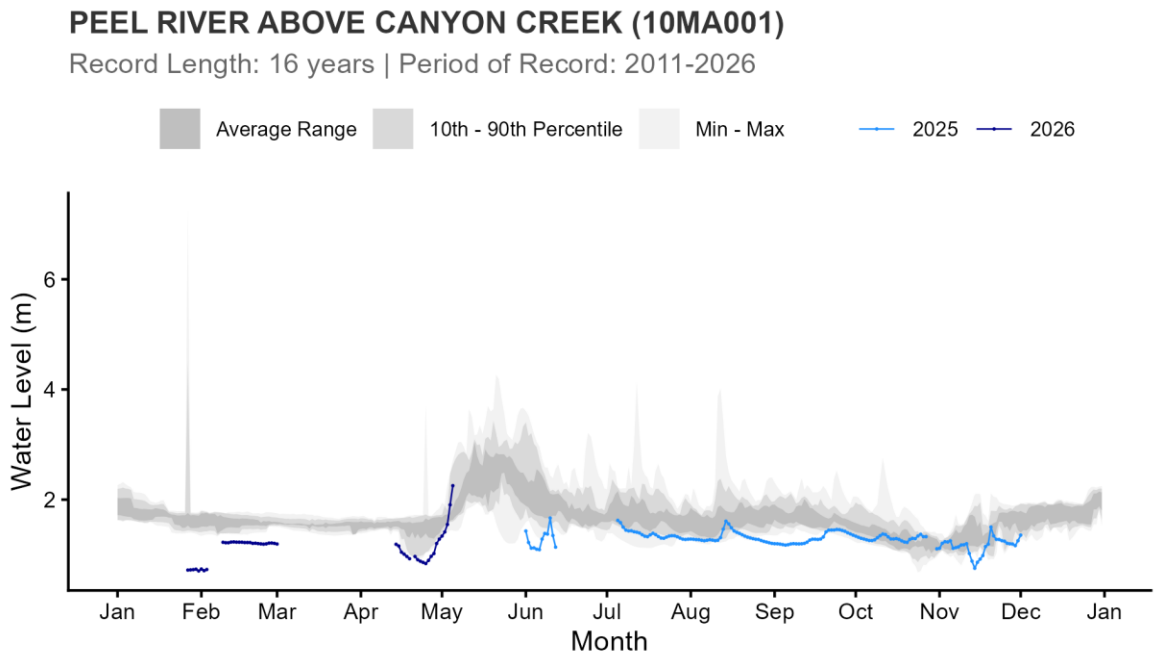
Station Map:



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

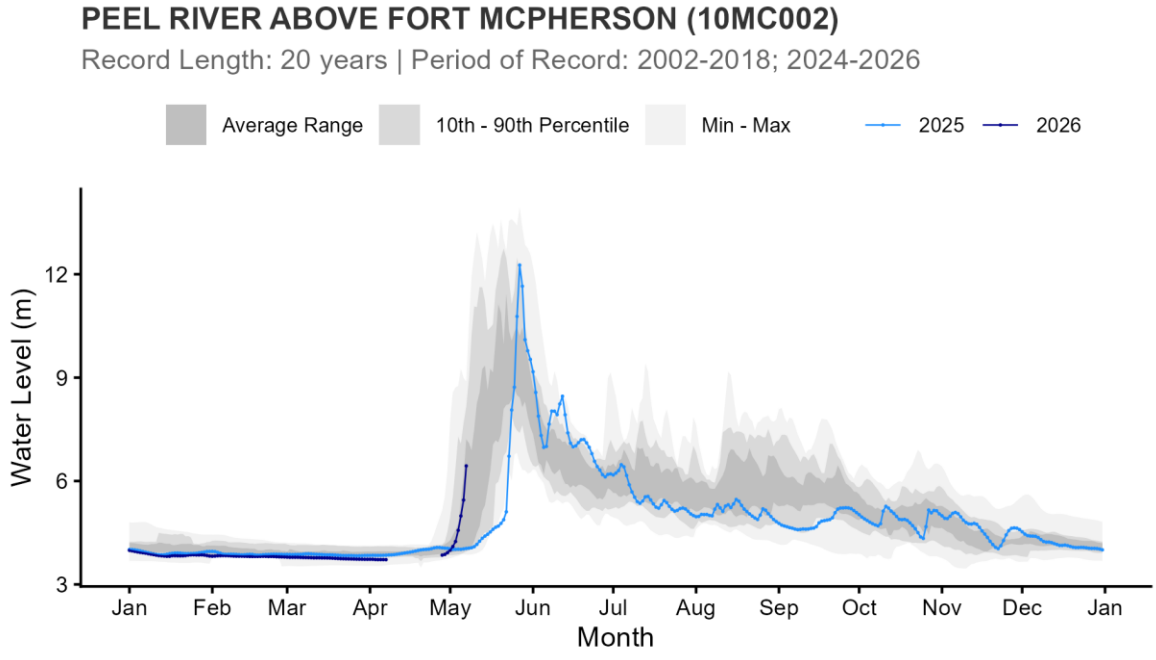
Hydrometric Data:

Peel River above Canyon Creek [10MA001]



Above - Water level data for Peel River above Canyon Creek [10MA001]. Daily average levels for the previous year also are shown here.

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.

Gauge photos:

Peel River above Fort Mcpherson [10MC002]

Above - Peel River above Fort Mcpherson [10MC002] hydrometric gauge photo from May 7 at 12:00. Photo courtesy of Water Survey of Canada and GNWT.

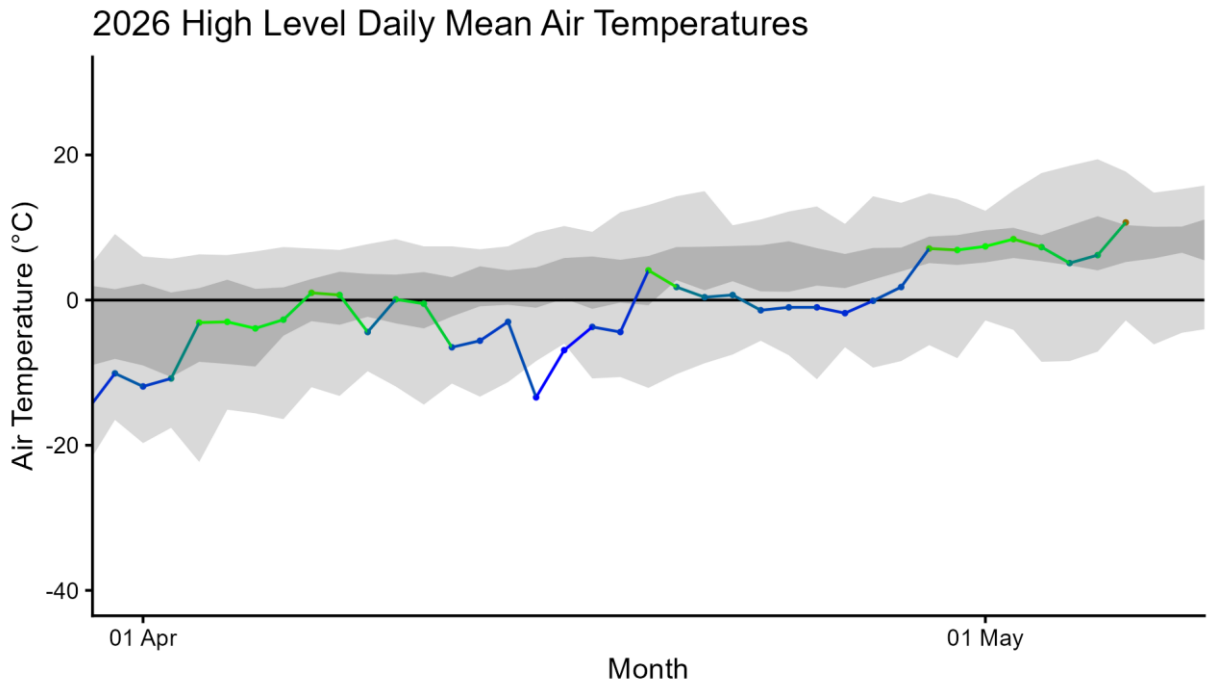
Weather Data:

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.

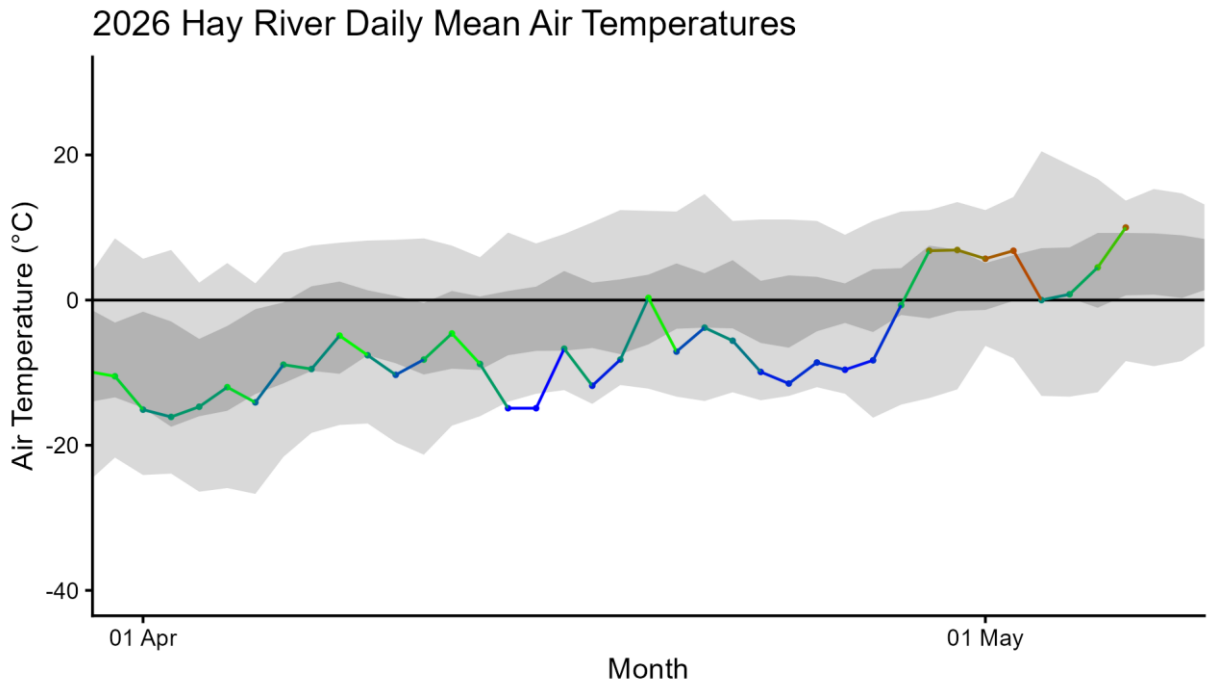
- In the Hay River basin, temperatures over the last few days have been rising but remain average.
- In the Liard River basin, temperatures over the last week have been above average.
- In the Dehcho Region, temperatures over the last few days have been above average.
- In the Sahtu Region, temperatures have been near to above average over the past few weeks

High Level Air Temperature



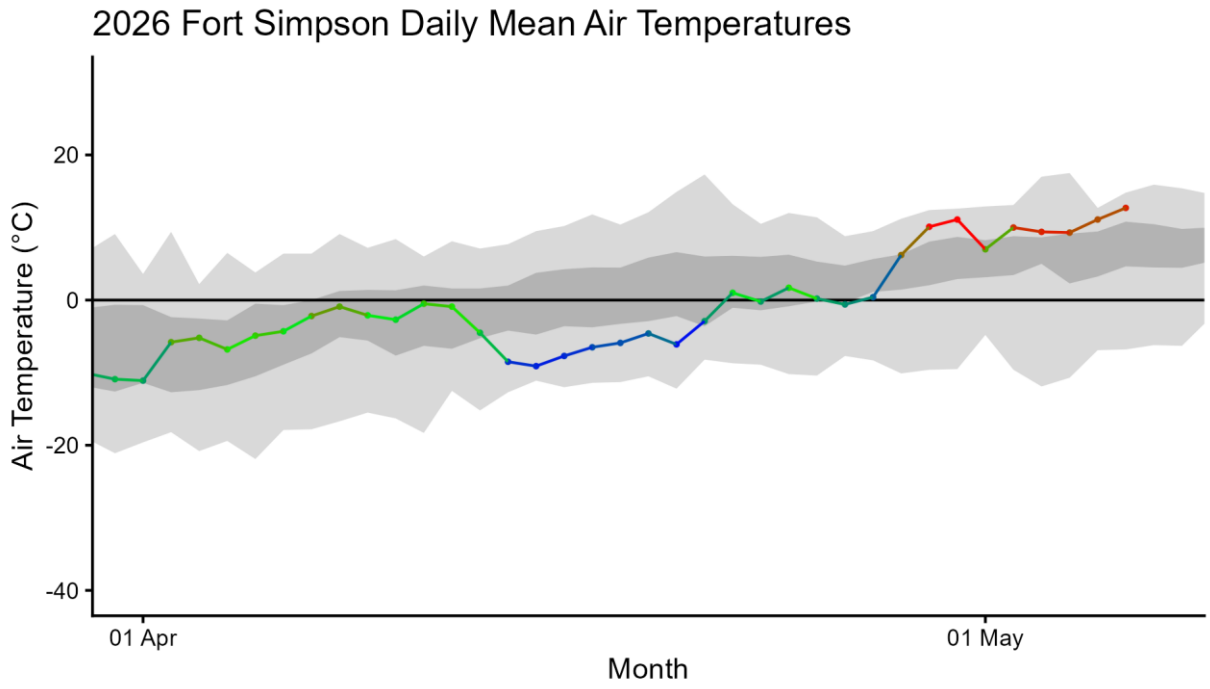
Above - Daily mean air temperature for High Level. Shaded areas represent the historical range (1991-2025).

Hay River Air Temperature



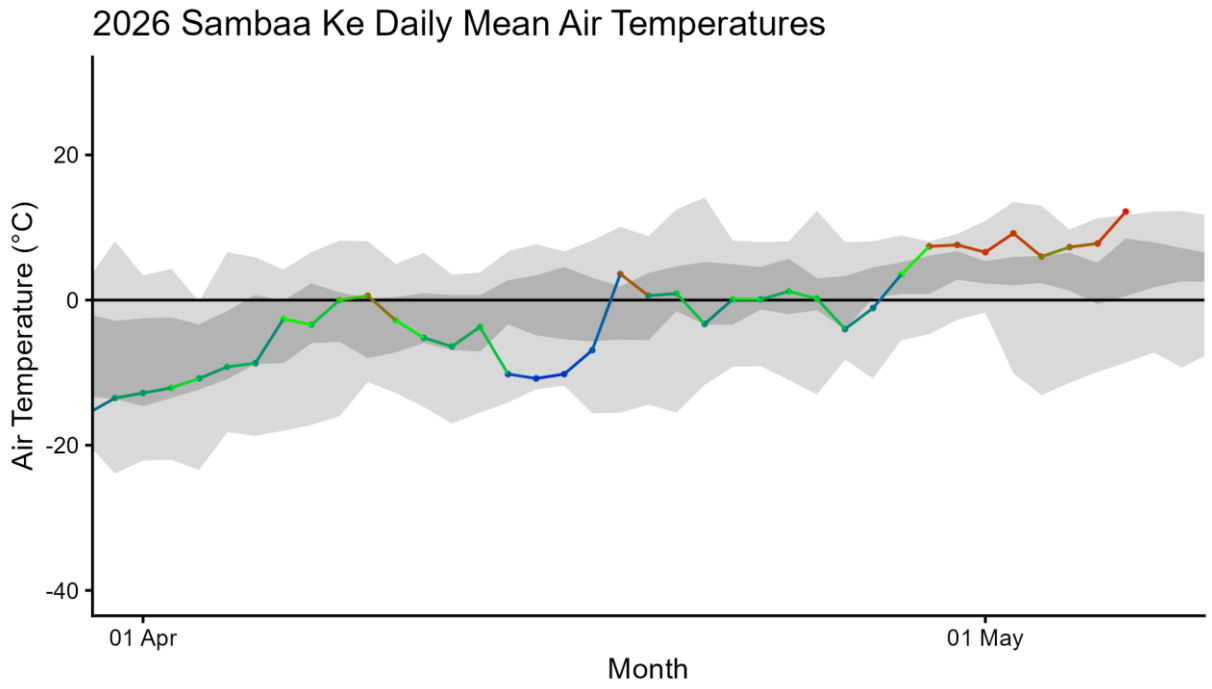
Above - Daily mean air temperature for Hay River. Shaded areas represent the historical range (1991-2025).

Fort Simpson Air Temperature



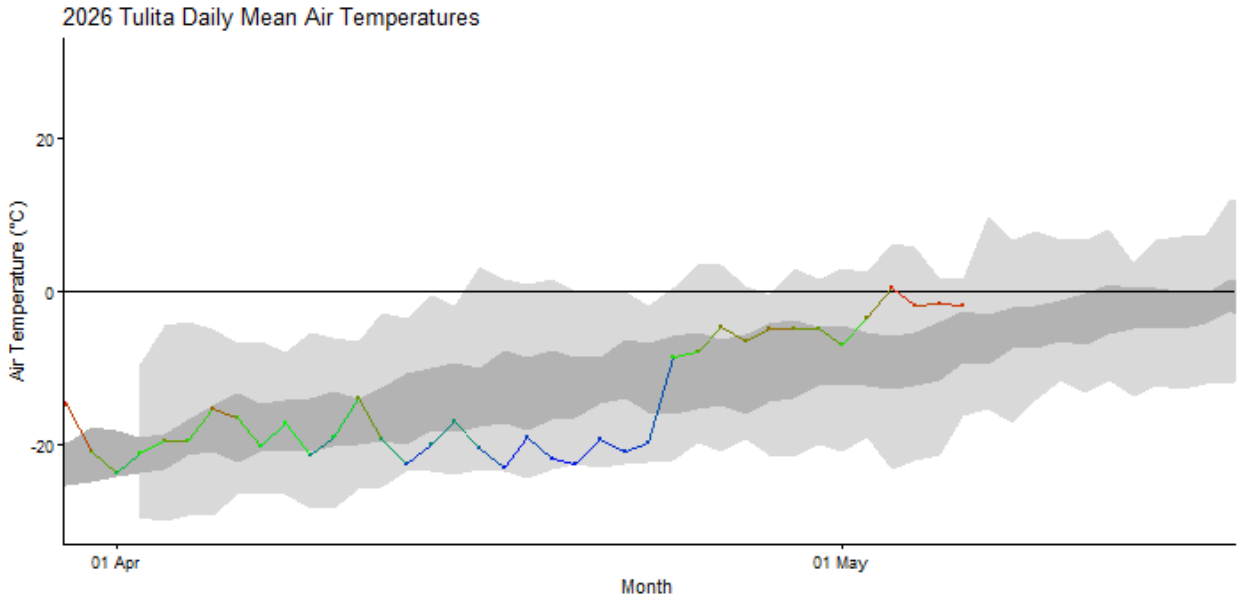
Above - Daily mean air temperature for Fort Simpson. Shaded areas represent the historical range (1991-2025).

Sambaa K'e Air Temperature



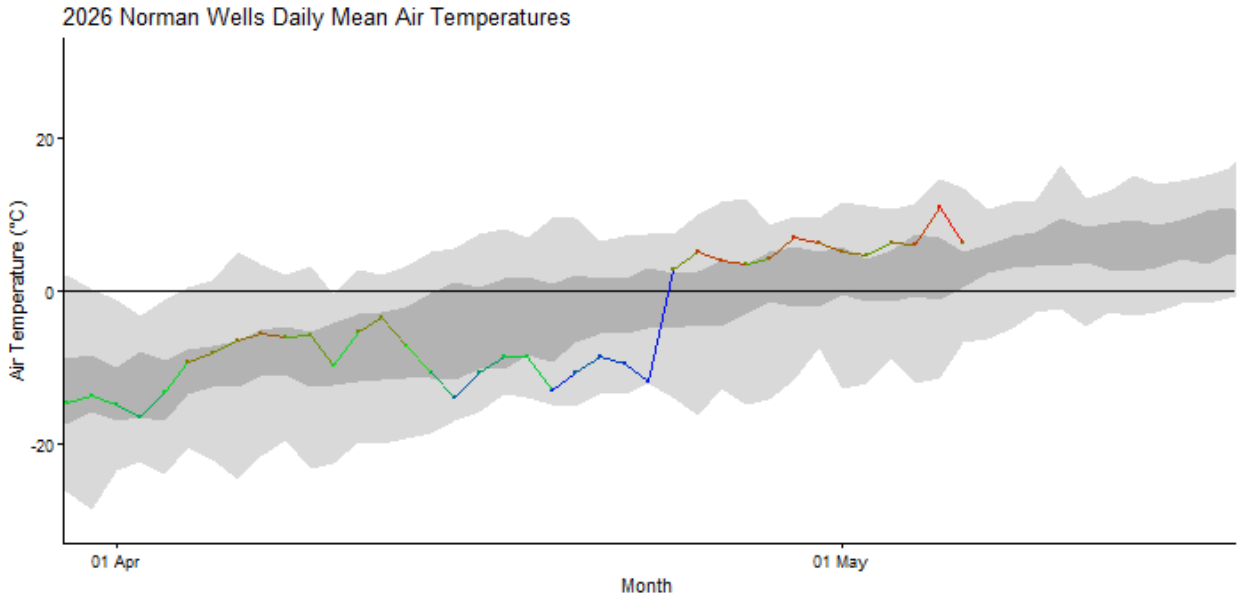
Above - Daily mean air temperature for Sambaa Ke. Shaded areas represent the historical range (1991-2025).

Tulita Air Temperature



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

Norman Wells Air Temperature

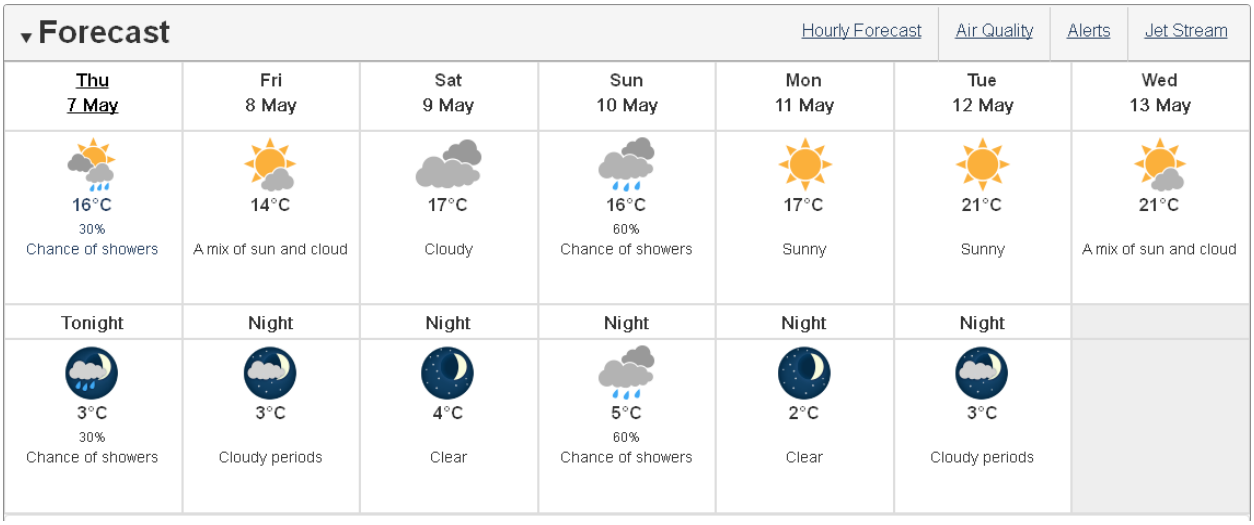


Above - Daily mean air temperature for Norman Wells. Shaded areas represent the historical range (1991-2025).

Weather Forecasts:

- In the Hay River basin, forecasted temperatures for the week of May 7-13 are mostly above average. Patches of rain are expected within the basin later today and forecasted for Sunday, with no significant impact on water levels anticipated.
- In the Dehcho Region, forecasted temperatures for the week of May 7-13 remain above average throughout the forecast period. The rain event occurring along the Mackenzie River from Fort Providence to Wrigley today, with moderate accumulated total precipitation (approximately 10-20 mm) is expected to end by this evening. Most of the rainfall is likely downstream of Fort Simpson, which should result in continued ice degradation and movement along the Mackenzie River, and there is no significant impact on water levels anticipated.
- In the Sahtu Region, forecasted temperatures for the week of May 7-13 indicate warming over the weekend with temperatures rising to above average by end of the forecast period.
- In the Peel River basin and Arctic Red River basin, forecasted temperatures for the week of May 7-13 are average. Modest precipitation is expected through Friday, falling mostly as snow or wet snow.

High Level seven-day weather forecast:

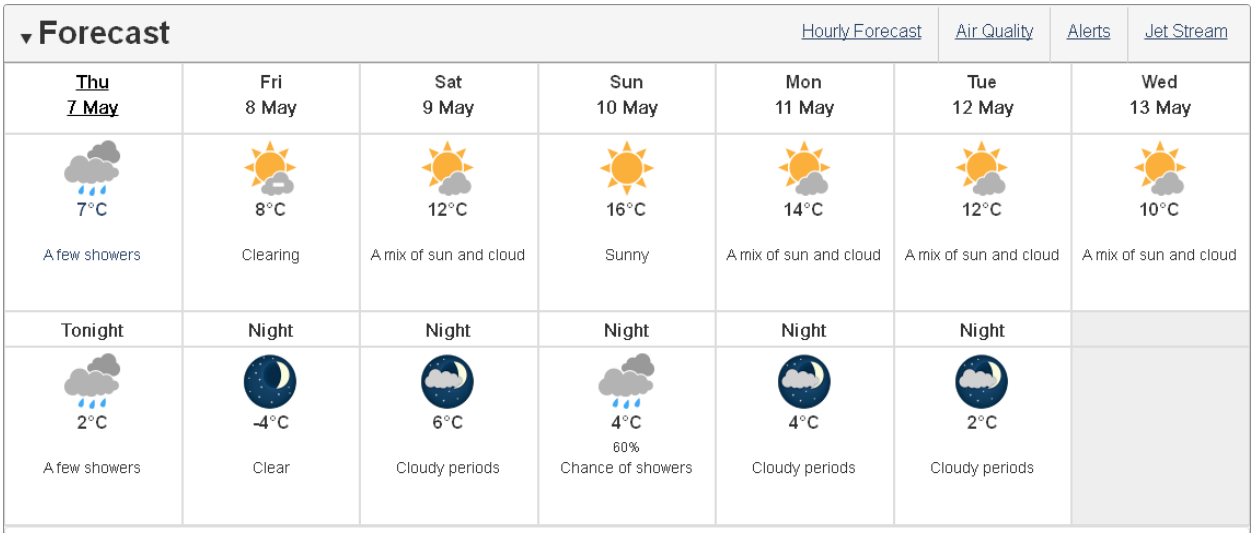


Forecast

Hourly Forecast | Air Quality | Alerts | Jet Stream

Thu 7 May	Fri 8 May	Sat 9 May	Sun 10 May	Mon 11 May	Tue 12 May	Wed 13 May
16°C 30% Chance of showers	14°C A mix of sun and cloud	17°C Cloudy	16°C 60% Chance of showers	17°C Sunny	21°C Sunny	21°C A mix of sun and cloud
Tonight	Night	Night	Night	Night	Night	
3°C 30% Chance of showers	3°C Cloudy periods	4°C Clear	5°C 60% Chance of showers	2°C Clear	3°C Cloudy periods	

Hay River seven-day weather forecast:

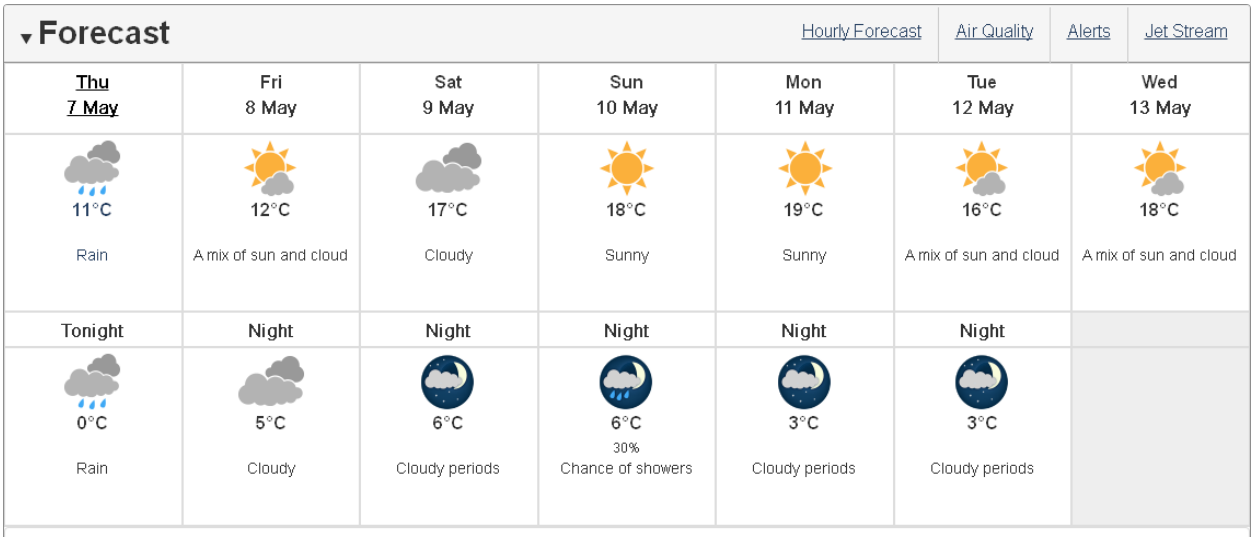


Forecast

Hourly Forecast | Air Quality | Alerts | Jet Stream

Thu 7 May	Fri 8 May	Sat 9 May	Sun 10 May	Mon 11 May	Tue 12 May	Wed 13 May
7°C A few showers	8°C Clearing	12°C A mix of sun and cloud	16°C Sunny	14°C A mix of sun and cloud	12°C A mix of sun and cloud	10°C A mix of sun and cloud
Tonight	Night	Night	Night	Night	Night	
2°C A few showers	-4°C Clear	6°C Cloudy periods	4°C 60% Chance of showers	4°C Cloudy periods	2°C Cloudy periods	

Fort Simpson seven-day weather forecast:

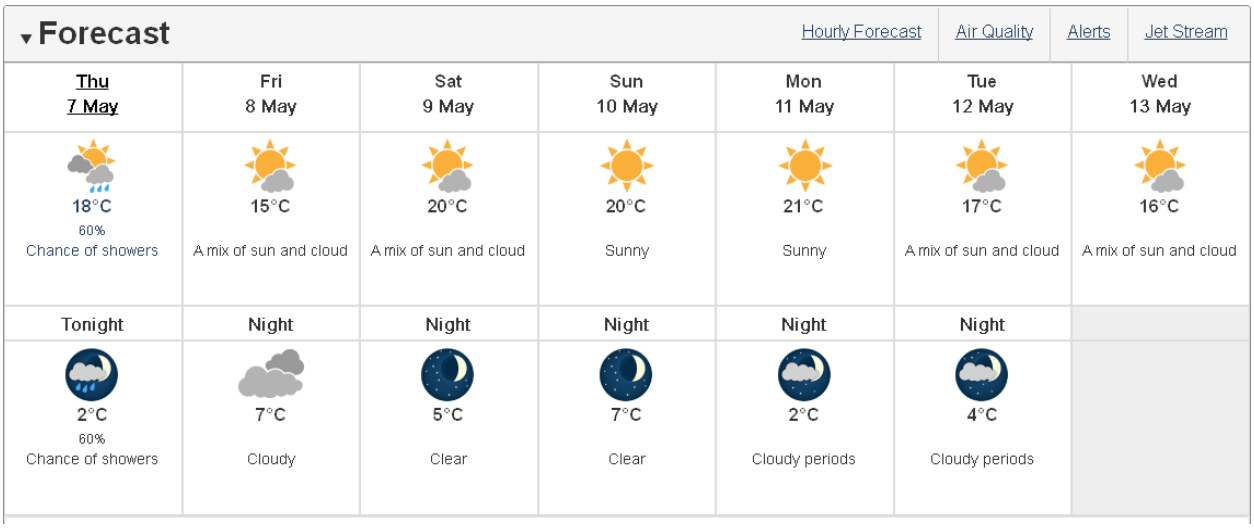


Forecast — Hourly Forecast | Air Quality | Alerts | Jet Stream

Thu 7 May	Fri 8 May	Sat 9 May	Sun 10 May	Mon 11 May	Tue 12 May	Wed 13 May
11°C	12°C	17°C	18°C	19°C	16°C	18°C
Rain	A mix of sun and cloud	Cloudy	Sunny	Sunny	A mix of sun and cloud	A mix of sun and cloud

Tonight	Night	Night	Night	Night	Night	
0°C	5°C	6°C	6°C	3°C	3°C	
Rain	Cloudy	Cloudy periods	30% Chance of showers	Cloudy periods	Cloudy periods	

Sambaa K'e seven-day weather forecast:

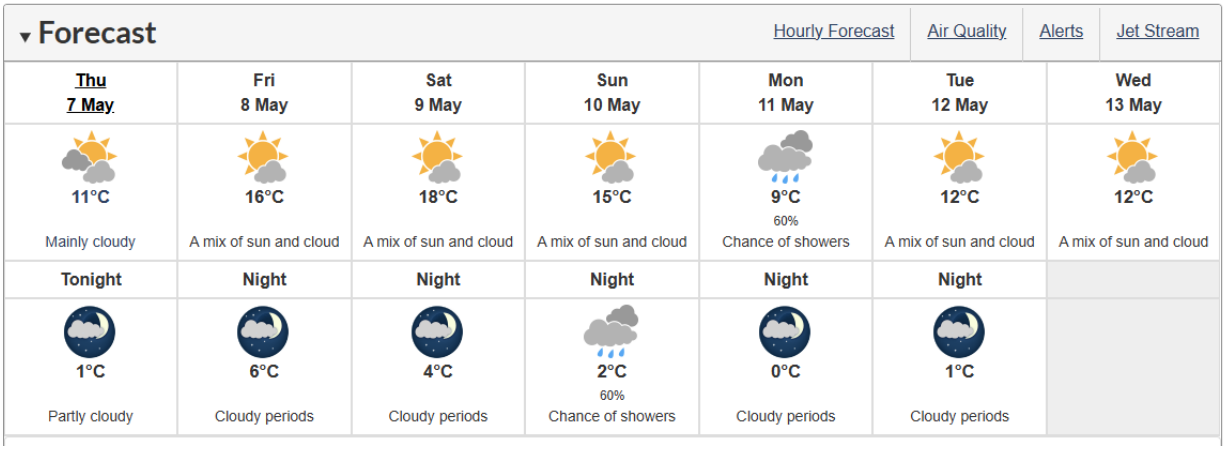


Forecast — Hourly Forecast | Air Quality | Alerts | Jet Stream

Thu 7 May	Fri 8 May	Sat 9 May	Sun 10 May	Mon 11 May	Tue 12 May	Wed 13 May
18°C	15°C	20°C	20°C	21°C	17°C	16°C
60% Chance of showers	A mix of sun and cloud	A mix of sun and cloud	Sunny	Sunny	A mix of sun and cloud	A mix of sun and cloud

Tonight	Night	Night	Night	Night	Night	
2°C	7°C	5°C	7°C	2°C	4°C	
60% Chance of showers	Cloudy	Clear	Clear	Cloudy periods	Cloudy periods	

Norman Wells seven-day weather forecast:



Forecast

Hourly Forecast | Air Quality | Alerts | Jet Stream

Thu 7 May	Fri 8 May	Sat 9 May	Sun 10 May	Mon 11 May	Tue 12 May	Wed 13 May
11°C	16°C	18°C	15°C	9°C	12°C	12°C
Mainly cloudy	A mix of sun and cloud	A mix of sun and cloud	A mix of sun and cloud	60% Chance of showers	A mix of sun and cloud	A mix of sun and cloud
Tonight	**Night**	**Night**	**Night**	**Night**	**Night**	
1°C	6°C	4°C	2°C	0°C	1°C	
Partly cloudy	Cloudy periods	Cloudy periods	60% 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**.

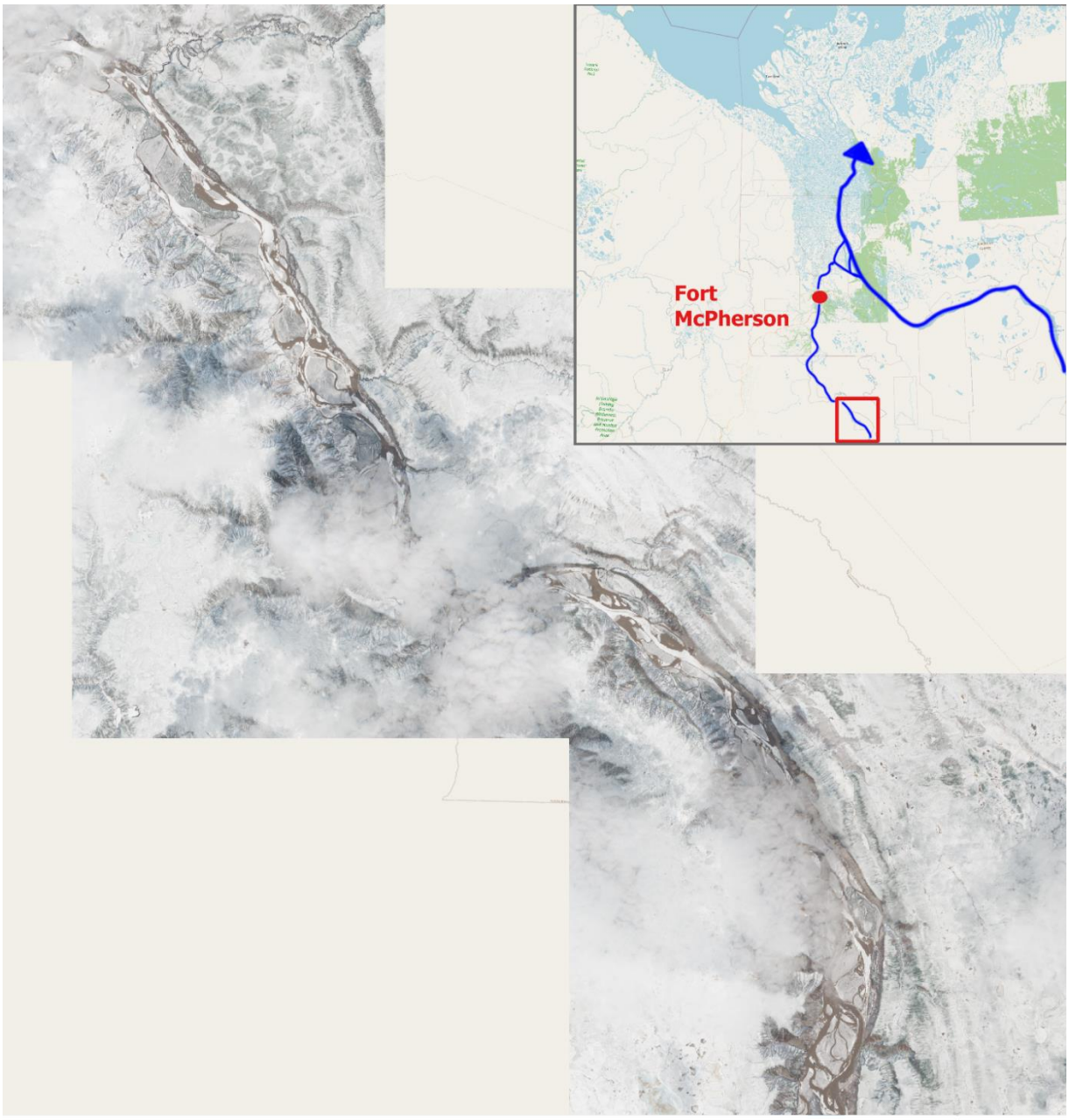
The causes of mechanical and thermal break-ups are usually dependent on the weather during early spring. Warm weather, sunshine, and rain on snow events are usually a good way to bring extra energy into the system to help melt the ice. Warm temperatures in the upstream part of a basin could also cause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

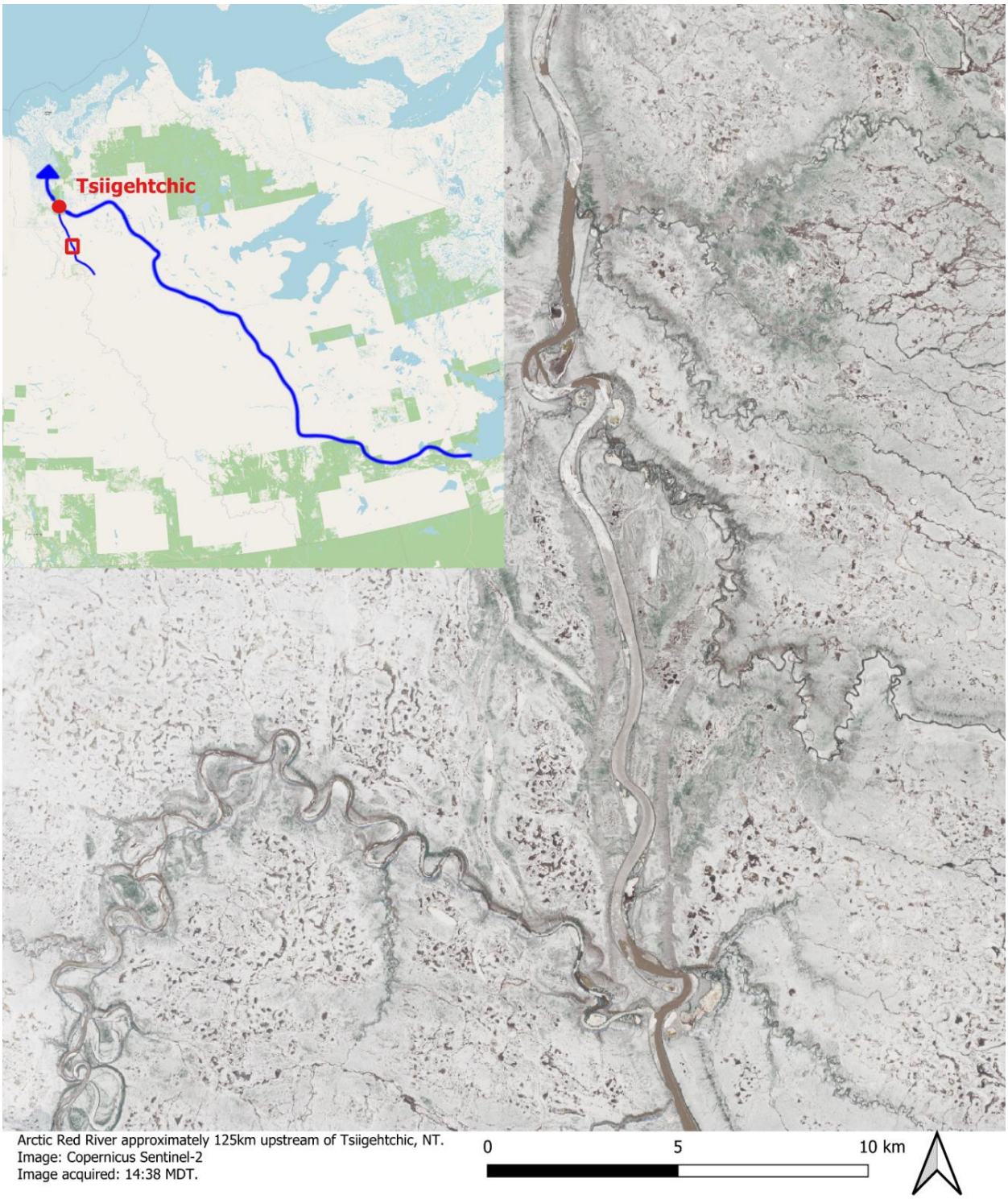
Technical Note:

- 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.

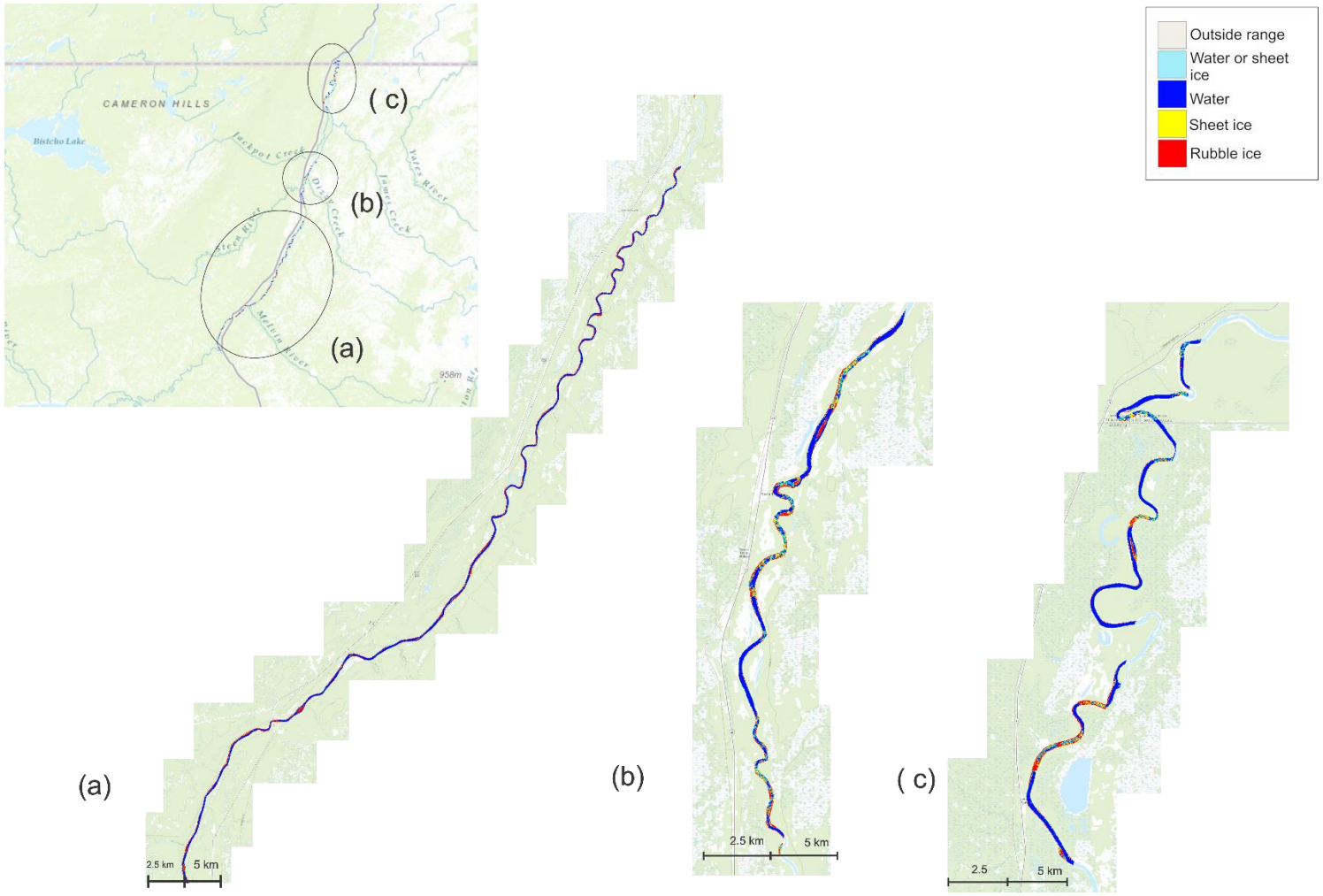
Appendix A: River Ice Imagery



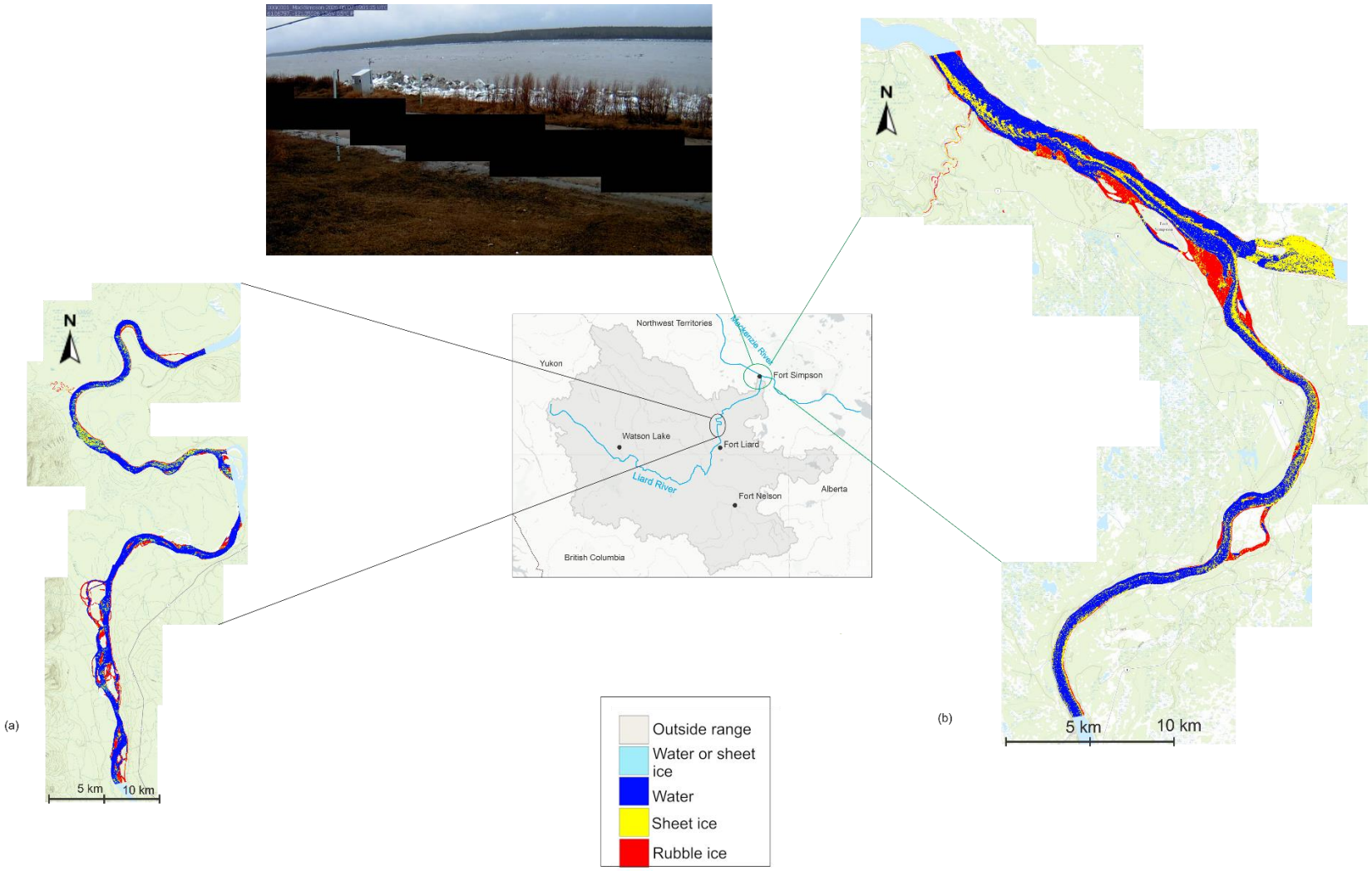
Above – Peel River near the Yukon/Northwest Territories border, approximately 150 km upstream of Fort McPherson. The image shows the approximate location of the ice front, with intact ice downstream (north), and increasing sections of open water upstream (south). Image acquired on May 6 at 14:38 MDT.



Above – Arctic Red River approximately 125 km upstream of Tsiigehtchic. A jam approximately 10 km long has formed at the ice front. Image acquired on May 6 at 14:38 MDT.



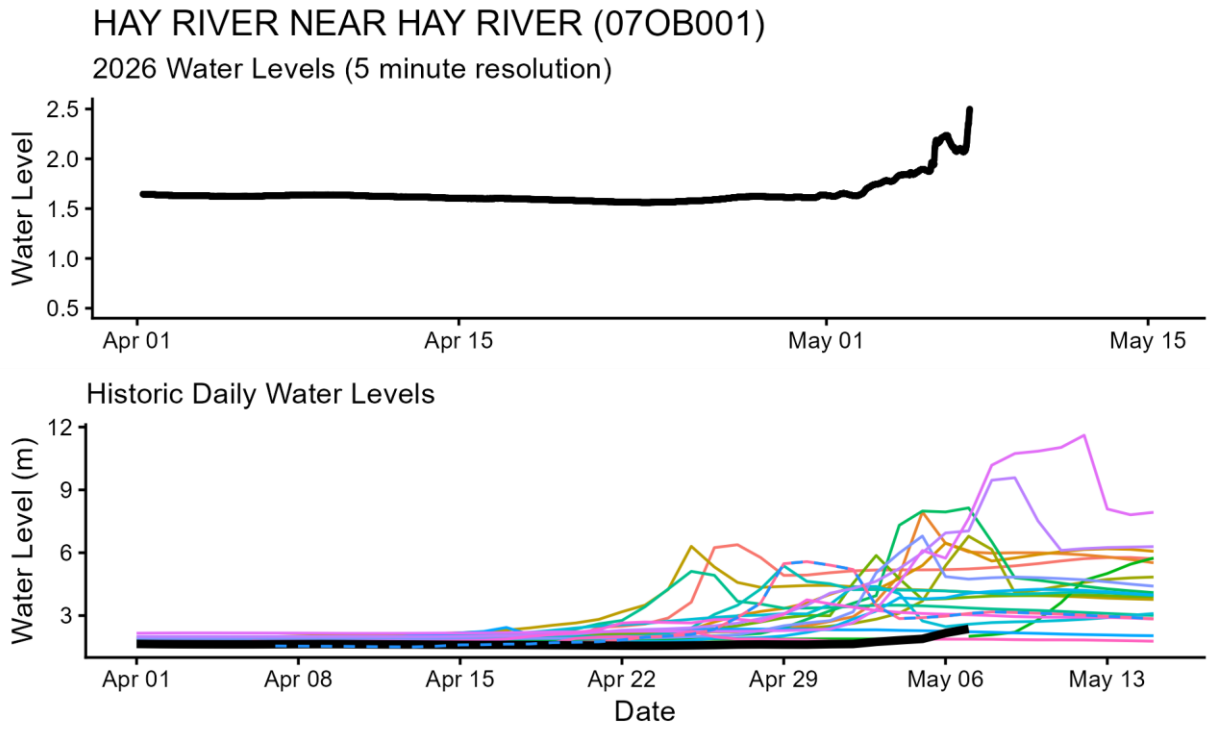
Above – Classified river ice images acquired at 08:21 MDT on May 7, 2026 on the Hay River, from the Meander River confluence to the AB/NWT border, in three sections: a) ~80 km around the Meander River confluence, b) ~30 km near Steen River, and c) 30 km close to the AB/NWT border. The classification shows predominantly open water sections along the river. The images are courtesy of the federal government's Government Operations Centre. The river ice classification was completed using the IceBC algorithm.



Above – Classified river ice images acquired at 19:46 MDT on May 6, 2026 showing (a) Liard River (~40 km downstream of Fort Liard) covering a ~70km section that is predominantly open water with sections of rubble ice on the banks, and (b) Liard/Mackenzie confluence showing predominantly open water downstream of Fort Simpson along the Mackenzie River (~15 km) and upstream along the Liard River (40 km), with ice still intact on the Mackenzie River upstream of Fort Simpson (~5 km). The images are courtesy of the federal government's Government Operations Centre. The river ice classification was completed using the IceBC algorithm.

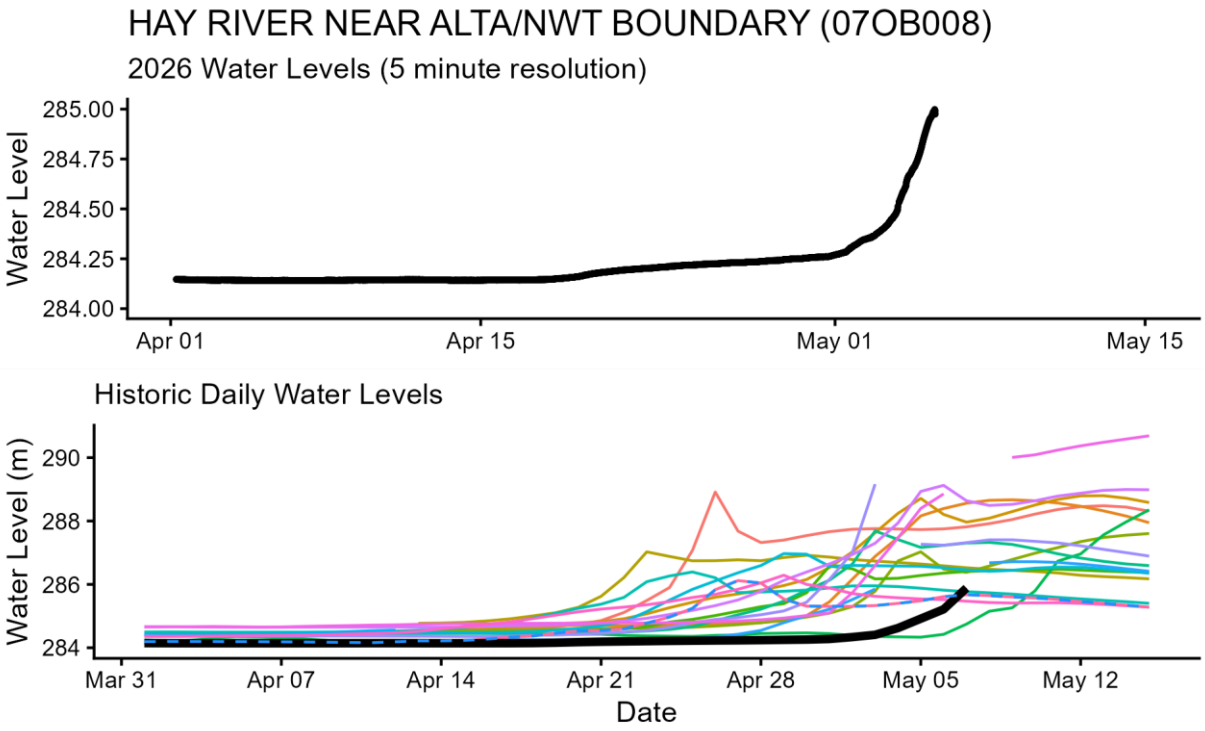
Appendix B: High resolution and historic water level plots

Hay River Near Hay River (07OB001)



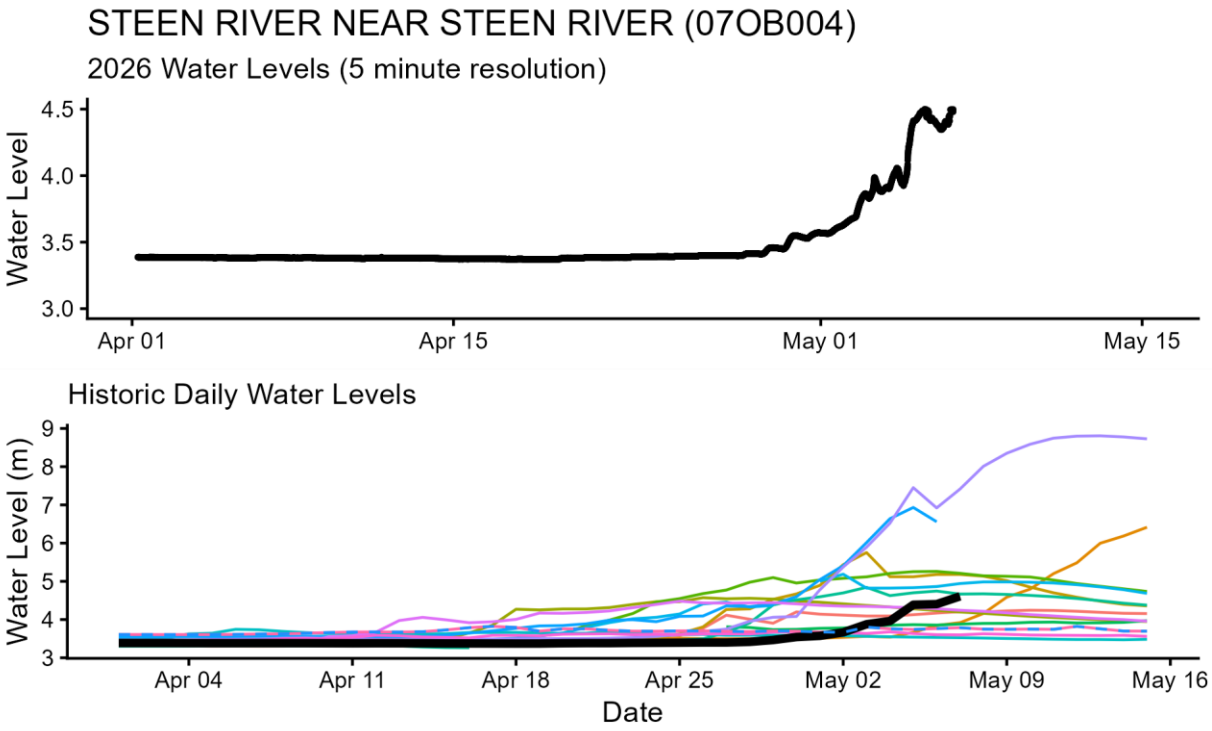
Above - The upper graph in the figure presents real time water level data at 5-minute resolution. The lower graph shows daily average levels relative to the previous 20 years (2026 levels: thick black; 2025 levels: dashed blue).

Hay River Near Alta/Nwt Boundary (07OB008)



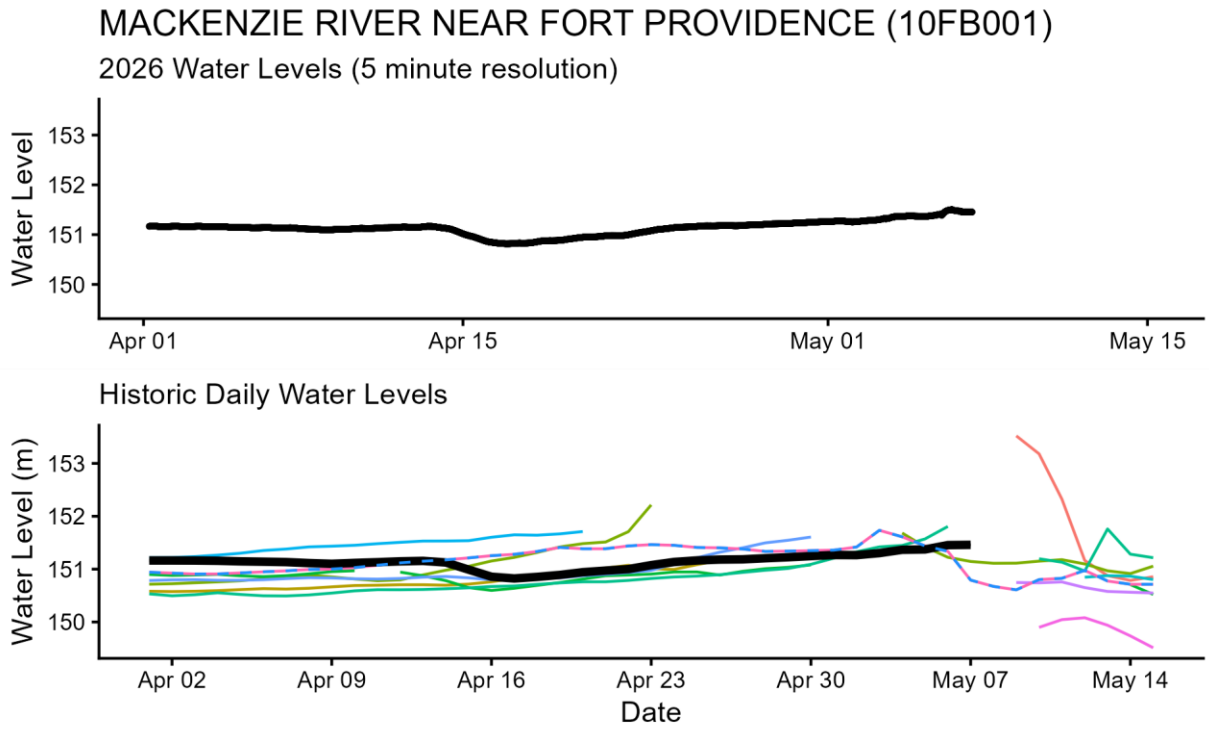
Above - The upper graph in the figure presents real time water level data at 5-minute resolution. The lower graph shows daily average levels relative to the previous 20 years (2026 levels: thick black; 2025 levels: dashed blue).

Steen River Near Steen River (07OB004)



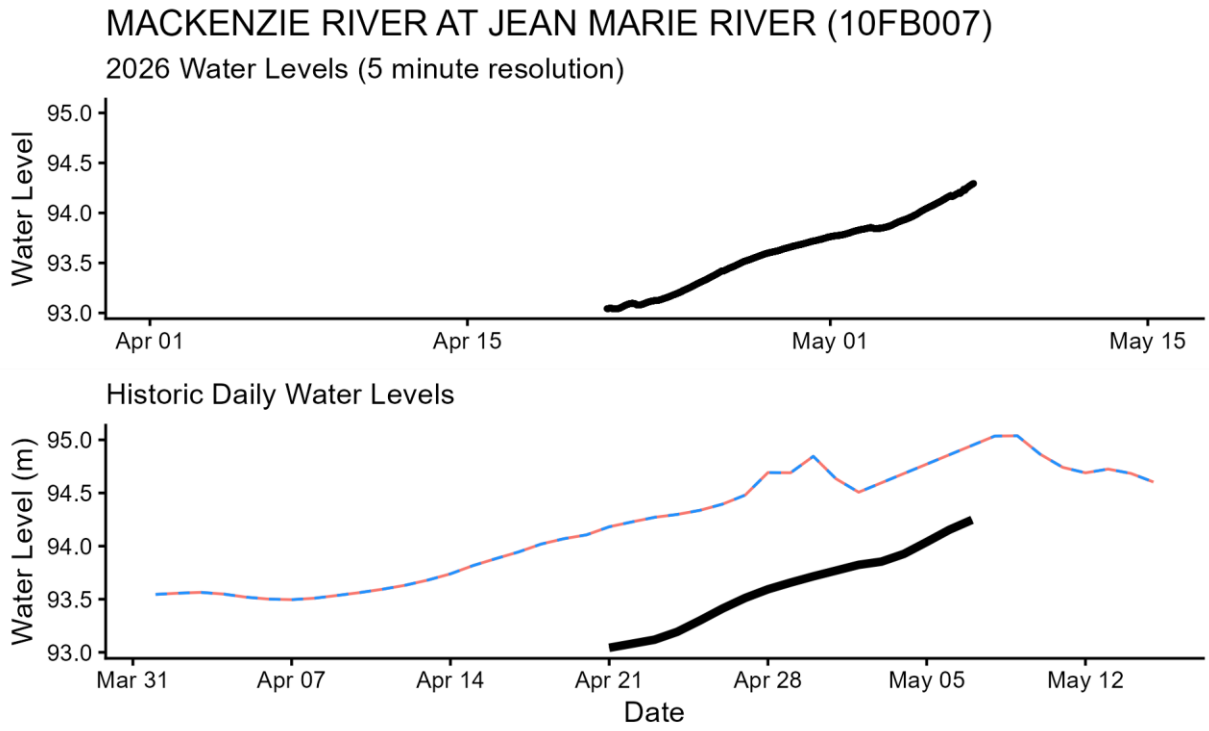
Above - The upper graph in the figure presents real time water level data at 5-minute resolution. The lower graph shows daily average levels relative to the previous 20 years (2026 levels: thick black; 2025 levels: dashed blue).

Mackenzie River Near Fort Providence (10FB001)



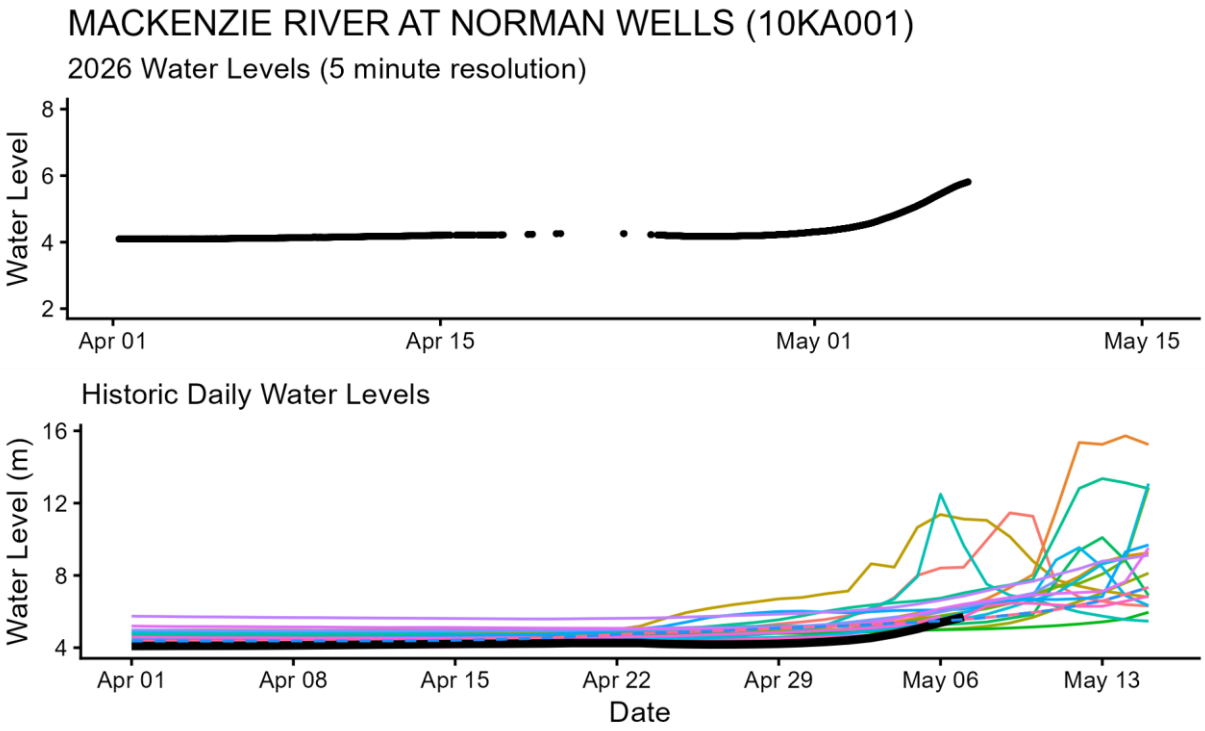
Above - The upper graph in the figure presents real time water level data at 5-minute resolution. The lower graph shows daily average levels relative to the previous 20 years (2026 levels: thick black; 2025 levels: dashed blue).

Mackenzie River At Jean Marie River (10FB007)



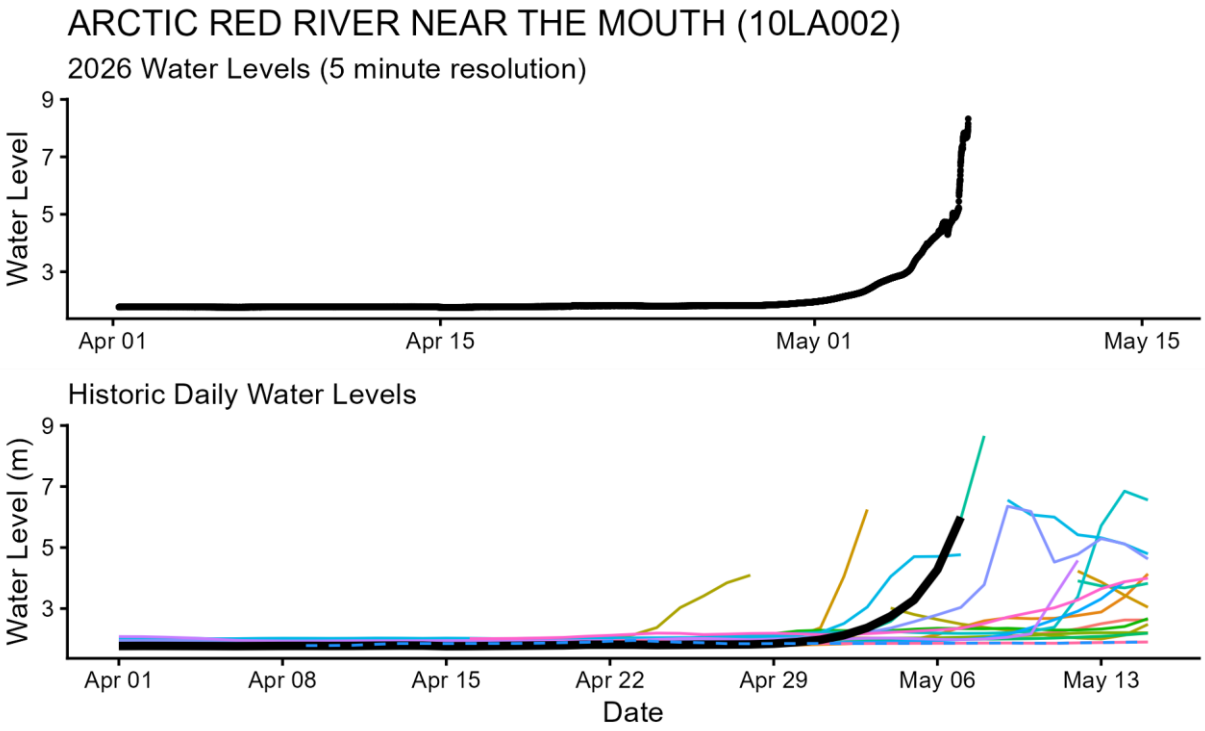
Above - The upper graph in the figure presents real time water level data at 5-minute resolution. The lower graph shows daily average levels relative to the previous 20 years (2026 levels: thick black; 2025 levels: dashed blue).

Mackenzie River At Norman Wells (10KA001)



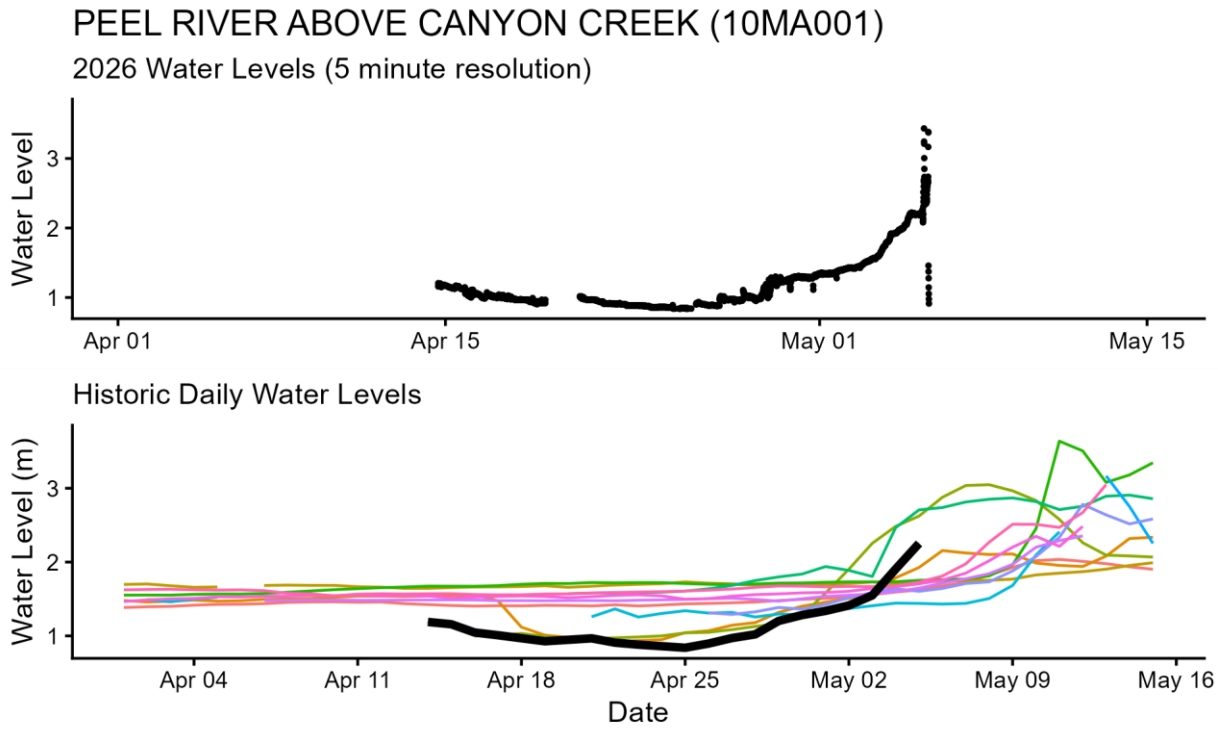
Above - The upper graph in the figure presents real time water level data at 5-minute resolution. The lower graph shows daily average levels relative to the previous 20 years (2026 levels: thick black; 2025 levels: dashed blue).

Arctic Red River Near The Mouth (10LA002)



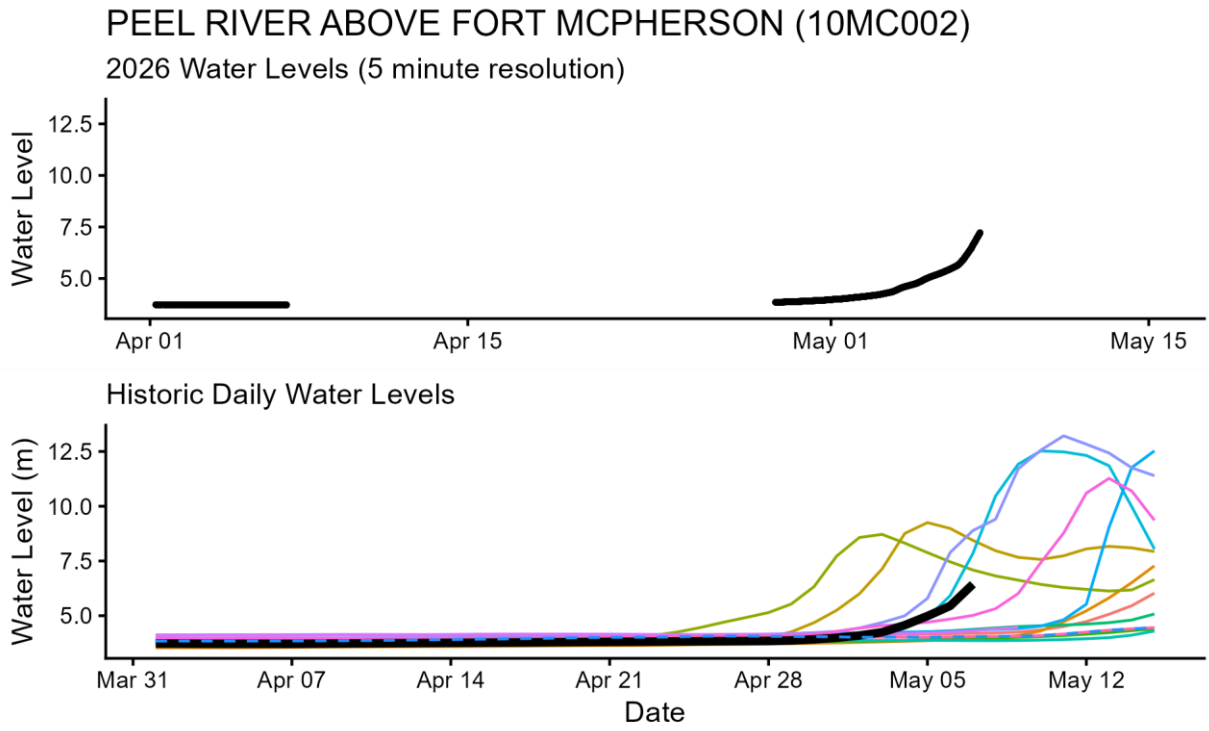
Above - The upper graph in the figure presents real time water level data at 5-minute resolution. The lower graph shows daily average levels relative to the previous 20 years (2026 levels: thick black; 2025 levels: dashed blue).

Peel River Above Canyon Creek (10MA001)



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 (2026 levels: thick black; 2025 levels: dashed blue).

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 (2026 levels: thick black; 2025 levels: dashed blue).